AGENDA
City Council Meeting
City Hall Council Chambers - Webster City, Iowa
June 17, 2024 6:00 p.m.

This meeting will be open to the public and can be viewed live on the City facebook page https://www.facebook.com/cityofwebstercity/ or viewed on the City of Webster City website https://webstercity.com/government/city-council/city-council-meetings/ the morning following the meeting.

CALL TO ORDER

ROLL CALL

PLEDGE OF ALLEGIANCE

Motion on Approval of Agenda

1. PETITIONS – COMMUNICATIONS – REQUESTS

This is the time of the meeting that a citizen may address the Council on a matter not on the Agenda. **(No more than five minutes per person)** Except in cases of emergency, the City Council will not take any action at this meeting, but may ask the City Staff to research the matter or have the matter placed on the Agenda for a future meeting.

a. Public Information

2. MINUTES, CLAIMS, REPORTS, LICENSES

The following items have been deemed to be non-controversial, routine actions to be approved by the Council in a single motion. If a Council member, or a member of the audience wishes to have an item removed from this list, it will be considered in its normal sequence on the Agenda.

a. Minutes of **JUNE 3, 2024** Regular City Council Meeting
b. **CLAIMS,** including Payroll ending June 1, 2024 and **FUND LIST**
c. **REPORTS** Wastewater, Electric, Water for May 2024
d. Police Department **ACTIVITY REPORT** for May 2024 **CITATIONS BY APPROACH** for May 2024
e. Fire Department **REPORT** for May 2024.
f. Recommend approval for issuance of Beer & Liquor Licenses by the Iowa Department of Commerce for the following:

Renewal of Class C Retail Alcohol License, Lomitas Mexican Restaurant, 500 Second Street

Amendment to Class C Retail Alcohol License to add Outdoor Service, 2nd Street Emporium, 615 Second Street for the following dates to participate in Webster City Market Nights: June 20 and 27, July 11, 18 and 25, and August 1, 8 and August 15.

g. Council Committee Reports
h. Other reports and recommendations

3. GENERAL AGENDA

PUBLIC HEARINGS

a. **Public Hearing** – 6:05 p.m. 2022 Electrical Underground Conversion Project (East Side Conversion Project), construction portion.

COUNCIL MEMORANDUM BID TAB ENGR LTR ENGR COST OPINION

RESOLUTION approving to Accept and Proceed with the bid submittal from Beckstrom Construction Inc., Elkhart, Iowa, for the 2022 Electrical Underground Conversion Project (East Side Conversion Project), Construction Portion, in the amount of $2,084,471.70.

b. **Public Hearing** – 6:05 p.m. – 2025 HMA Street Improvements Project

COUNCIL MEMORANDUM BID TAB ENGR LTR

RESOLUTION finally approving and confirming Plans, Specifications and Form of Contract and Estimate of Cost for FY 2025 HMA Street Improvements Project; Awarding Contract to Heartland Asphalt Inc., Mason City, in the amount of $858,016.01 and committing necessary Funds to complete the Project; and authorizing the Mayor and City Clerk to enter into contract with said contractor for the Project.

c. **Public Hearing** – 6:05 p.m. - Disposal of City-Owned Property in Brewer Creek Estates, 6th Addition.

COUNCIL MEMORANDUM AGREEMENT

RESOLUTION authorizing and approving Execution of a Purchase Agreement for the Sale of Lots in Brewer Creek Estates 6th Addition between the City of Webster City and Samann, L.C.

d. COUNCIL MEMORANDUM Request to Close Superior Street between Water Street and Bank Street from 4:30 p.m. to 7:30 p.m. August 6, 2024 for National Night Out.

e. COUNCIL MEMORANDUM RESOLUTION authorizing issuance of Cigarette/Tobacco/Nicotine/Vapor Permits for the 2024-2025 year.

f. COUNCIL MEMORANDUM RESOLUTION authorizing and approving a Loan Agreement and providing for the issuance of a $221,860 General Obligation Corporate Purpose Note. BANK LETTER

g. COUNCIL MEMORANDUM RESOLUTION authorizing the Purchase and Installation of a New Lime Slaker for the Water Treatment Plant from VESSCO Incorporated with total project cost not to exceed $150,000.
PROPOSAL

h. COUNCIL MEMORANDUM RESOLUTION approving the request to seek bids and schedule a Public Hearing for Furnishing a Control Enclosure for the Reisner Substation. *(August 5, 2024 - 6:05 p.m.)*
NOTICE OF HEARING NOTICE TO BIDDERS BID SPECIFICATIONS

i. **COUNCIL MEMORANDUM** **RESOLUTION** approving the request to seek bids and schedule a Public Hearing for Construction of the Reisner Substation. (*August 5, 2024 - 6:05 p.m.)*
NOTICE OF HEARING **NOTICE TO BIDDERS** **BID SPECIFICATIONS**

j. **COUNCIL MEMORANDUM** **RESOLUTION** approving the request to seek bids and schedule a Public Hearing for the Construction of the 69 kV Transmission Line Reconstruction Project. *(August 5, 2024 - 6:05 p.m.)*
NOTICE OF HEARING **NOTICE TO BIDDERS** **BID SPECIFICATIONS**

k. **COUNCIL MEMORANDUM** **RESOLUTION** approving the request to seek bids and schedule a Public Hearing for the Furnishing of Transmission Line Materials. *(August 5, 2024 - 6:05 p.m.)*
NOTICE OF HEARING **NOTICE TO BIDDERS** **BID SPECIFICATIONS**

l. **COUNCIL MEMORANDUM** **RESOLUTION** approving the request to seek bids and schedule a Public Hearing for Furnishing Major Materials for the Phase 1 Electric Distribution Improvements Project.
(August 5, 2024 - 6:05 p.m.)
NOTICE OF HEARING **NOTICE TO BIDDERS** **BID SPECIFICATIONS**

m. **COUNCIL MEMORANDUM** **RESOLUTION** authorizing the City Manager to sign and execute Amendment No. 33 with Snyder and Associates to provide Professional Services needed for the Beach Street PCC Rehabilitation Project. **AMENDMENT 33**

4. ADJOURN

NOTE: The Council may act by motion, resolution or ordinance on items listed on the Agenda.

CITY COUNCIL MEETING MINUTES
Webster City, Iowa June 3, 2024 – 6:00 p.m.

The City Council met in regular session at the City Hall, Webster City, Iowa at 6:00 p.m. on June 3, 2024 upon call of the Mayor and the advance agenda. The meeting was called to order by Mayor John Hawkins and roll being called there were present in Council Chambers the following Council Members: Abbie Hansen, Megan McFarland, Matt McKinney and Logan Welch.

This meeting was open to the public and could be viewed live on the City facebook page https://www.facebook.com/cityofwebstercity/ or can be viewed on the City of Webster City website https://webstercity.com/government/city-council/city-council-meetings/ the following morning.

Mayor John Hawkins led the Pledge of Allegiance.

It was moved by McFarland and seconded by Hansen to approve the agenda.
ROLL CALL: Hansen, Hawkins, McFarland, McKinney and Welch voting aye.

PETITIONS- COMMUNICATIONS- REQUESTS
Linda Philbrook, 115 Southfield Drive, spoke to Council on water/drainage issues in the Brewer Creek Estate Developments.

PUBLIC INFORMATION
Mayor Hawkins gave a Proclamation designating June as Webster City Community Beautification Month. The annual City CleanUp/DropOff Event will be held at the Webster City Middle School Parking Lot on Friday, June 7th, 2024 from noon to 4 p.m. and Saturday, June 8th, 2024 from 8 a.m. to noon.

MINUTES, CLAIMS, REPORTS, LICENSES
It was moved by Welch and seconded by McFarland that the following minutes, claims, reports and licenses (a-b) be approved collectively:
a. The minutes of May 16 and May 20, 2024 Meetings
b. The Claims including Payroll ending May 18, 2024 and Fund List.
c. Council Committee Reports – none brought forth.
d. Other reports and recommendations – none brought forth.
ROLL CALL: Hawkins, McFarland, McKinney, Welch and Hansen voting aye.

GENERAL AGENDA
PUBLIC HEARING 6:05 p.m.
a. June 3, 2024 at 6:05 p.m. in Council Chambers at City Hall, 400 Second Street, Webster City, Iowa being the time and place for a Public Hearing adopting the Budget Amendment for Fiscal Year ending June 30, 2024, the same was held. No written objections were received and no oral objections were presented.

It was moved by Hansen and seconded by McKinney that Resolution No. 2024-086 adopting the Budget Amendment for Fiscal Year ending June 30, 2024 be passed and adopted.
ROLL CALL: McFarland, McKinney, Welch, Hansen and Hawkins voting aye.
b. It was moved by McKinney and seconded by Hansen that the Third Reading of an Ordinance Amending the Code of Ordinances of the City of Webster City, Iowa, 2019, by amending Chapter 46, Article II, Division 2, Section 46-50 pertaining to Stop Requirement at Certain Streets be approved.
ROLL CALL: McKinney, Welch, Hansen, Hawkins and McFarland voting aye.

It was moved by McKinney and seconded by Hansen that Ordinance No. 2024-1873 amending the Code of Ordinances of the City of Webster City, Iowa, 2019, by amending Chapter 46, Article II, Division 2, Section 46-50 pertaining to Stop Requirement at Certain Streets be passed and adopted.
ROLL CALL: Welch, Hansen, Hawkins, McFarland and McKinney voting aye.

c. It was moved by McFarland and seconded by Hansen that Resolution No. 2024-087 setting June 17th, 2024 at 6:05 p.m. in Council Chambers at City Hall, 400 Second Street, Webster City, Iowa as the time and place for a Public Hearing pertaining to the Disposal of City-Owned Property in Brewer Creek Estates 6th Addition be passed and adopted.
ROLL CALL: Hansen, Hawkins, McFarland, McKinney and Welch voting aye.
d. It was moved by Welch and seconded by McFarland that Resolution No. 2024-088 establishing a Meter Inconvenience Fee be passed and adopted.
ROLL CALL: Hawkins, McFarland, McKinney, Welch and Hansen voting aye.
e. It was moved by McFarland and seconded by Hansen that Resolution No. 2024-089 relating to the financing of proposed projects to be undertaken by the City of Webster City, Iowa; establishing compliance with reimbursement bond regulations under the Internal Revenue Code. (HVAC City Hall) be passed and adopted.
ROLL CALL: McFarland, McKinney, Welch, Hansen and Hawkins voting aye.
f. It was moved by McKinney and seconded by Hansen that Resolution No. 2024-090 relating to the financing of proposed projects to be undertaken by the City of Webster City, Iowa; establishing compliance with reimbursement bond regulations under the Internal Revenue Code (Fair Meadow Drive Project [Phase 1]) be passed and adopted.
ROLL CALL: McKinney, Welch, Hansen, Hawkins and McFarland voting aye.
It was moved by Welch and seconded by Hansen that Resolution No. 2024-091 relating to the financing of proposed projects to be undertaken by the City of Webster City, Iowa; establishing compliance with reimbursement bond regulations under the Internal Revenue Code (Fair Meadow Drive Project [Phase 2]) be passed and adopted.
ROLL CALL: Welch, Hansen, Hawkins, McFarland and McKinney voting aye.
g. It was moved by McFarland and seconded by Hansen that Resolution No. 2024-092 authorizing execution of Deferred Loan Agreement Documents related to the Partial Rehabilitation of 608 2nd Street, Webster City, Iowa, with Local Initiative For Transformation-WC, Inc., an Iowa Nonprofit Corporation be passed and adopted.
ROLL CALL: Hansen, Hawkins, McFarland, McKinney and Welch voting aye.
h. It was moved by Hansen and seconded by McFarland that Resolution No. 2024-093 authorizing the City Manager to award bid for purchase of a new Pierce Enforcer Top Mount Pumper from Reliant Fire Apparatus, Inc., through Sourcewell, for the Webster City Fire Department and approve financing Option 1, (fully fund purchase from Speed Camera Revenue) be passed and adopted.
ROLL CALL: Hawkins, McFarland, McKinney, Welch and Hansen voting aye.
i. It was moved by Hansen and seconded by Welch that Resolution No. 2024-094 approving Amendment No. 1 to Task Order No. 6 to the DGR Engineering Master Agreement for Professional Services and authorizing the City Manager to sign and execute said Amendment be passed and adopted.
ROLL CALL: McFarland, McKinney, Welch, Hansen and Hawkins voting aye.
j. It was moved by McFarland and seconded by Hansen that Resolution No; 2024-095 authorizing the City Manager to sign and execute Change Order No. 8 and Council to authorize Final Payment and Retainage in thirty days to Rasch Construction, Fort Dodge, Iowa for the Completion of the 2021 Second Street Reconstruction Project be passed and adopted.
ROLL CALL: McKinney, Welch, Hansen, Hawkins and McFarland voting aye.
k. It was moved by McKinney and seconded by Hansen that Resolution No. 2024-096 authorizing the City Manager to Sign and Execute Amendment No. 10B with Snyder and Associates to Provide Professional Services for On-Call Street Paving Specialist be passed and adopted.
ROLL CALL: Welch, Hansen, Hawkins, McFarland and McKinney voting aye.

l. **APPOINTMENTS**
1. It was moved by Welch and seconded by McFarland that the appointment of Chris Kehoe to the Park & Recreation Advisory Commission for the four-year term beginning June 1, 2024 and ending May 31, 2028 be approved.
ROLL CALL: Hansen, Hawkins, McFarland, McKinney and Welch voting aye.

2. It was moved by McFarland and seconded by Welch that the appointment of Lynn Jaycox and Maggie Breitenkamp to the City Planning and Zoning Commission for the four-year terms beginning June 1, 2024 and ending May 31, 2028 be approved.
ROLL CALL: Hawkins, McFarland, McKinney and Welch voting aye. Hansen, Abstain.
3. It was moved by Welch and seconded by Hansen that the appointment of John Marvel to the Hotel/Motel Tax Board for an unexpired term beginning June 1, 2024 and ending May 31, 2027 be approved.
ROLL CALL: McFarland, McKinney, Welch, Hansen and Hawkins voting aye.
4. It was moved by McFarland and seconded by Hansen that the appointment of Kyle Kain to the Traffic Study Committee for the four-year term beginning June 1, 2024 and ending May 31, 2028 be approved.
ROLL CALL: McKinney, Welch, Hansen, Hawkins and McFarland voting aye.
5. It was moved by Hansen and seconded by McKinney that the appointment of Monica Haberman to the Zoning Board of Adjustment for the five-year term beginning June 1, 2024 and ending May 31, 2029 be approved.
ROLL CALL: Welch, Hansen, Hawkins, McFarland and McKinney voting aye.
m. It was moved by McKinney and seconded by Hansen that the First Reading of an Ordinance repealing Chapter 36, Division 4, Sections 36-139 through 36-142 and Reserved Sections 36-143 through 36-167 pertaining to Wilson Brewer Historic Park Committee, and Amending Chapter 2, Article III, Division 1, Section 2.71(11) Pertaining to Council Appointments be approved.
ROLL CALL: Hansen, Hawkins, McFarland, McKinney and Welch voting aye.

It was moved by McFarland and seconded by Hansen that the Second and Third Readings of an Ordinance repealing Chapter 36, Division 4, Sections 36-139 through 36-142 and Reserved Sections 36-143 through 36-167 pertaining to Wilson Brewer Historic Park Committee, and Amending Chapter 2, Article III, Division 1, Section 2.71(11) Pertaining to Council Appointments be waived.
ROLL CALL: Hawkins, McFarland, McKinney, Welch and Hansen voting aye.

It was moved by McKinney and seconded by Hansen that Ordinance No. 2024-1874 repealing Chapter 36, Division 4, Sections 36-139 through 36-142 and Reserved Sections 36-143 through 36-167 pertaining to Wilson Brewer Historic Park Committee, and Amending Chapter 2, Article III, Division 1, Section 2.71(11) Pertaining to Council Appointments be passed and adopted.
ROLL CALL: McFarland, McKinney, Welch, Hansen and Hawkins voting aye.

OTHER ITEMS SENT TO COUNCIL

a. The City Attorney report /update of May 29, 2024 was previously given to Council for review.

It was moved by McKinney and seconded by Hansen that council adjourn.
ROLL CALL: McKinney, Welch, Hansen, Hawkins and McFarland voting aye.
The June 3, 2024 City Council Meeting stood adjourned at 6:52 p.m.

_____ _____

John Hawkins, Mayor Karyl K. Bonjour, City Clerk.

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
ASTRA SECURITY (6495)							
052324	1	Invoice	50% DEPOSIT ON CEMETERY SECURITY SY	05/23/2024	5,456.00	12/24	100-23-42-5371-299
Total 052324:					5,456.00		
Total ASTRA SECURITY (6495):					5,456.00		
DRUMMER, SAMANTHA (7956)							
060324	1	Invoice	REFUND DUPLICATE UTILITY PAYMENT	06/03/2024	150.43	12/24	001-11100
Total 060324:					150.43		
Total DRUMMER, SAMANTHA (7956):					150.43		
LIFT-WC (7743)							
060424	1	Invoice	DEFERRED LOAN-608 2ND STREET	06/04/2024	100,000.00	12/24	100-23-36-5393-299
Total 060424:					100,000.00		
Total LIFT-WC (7743):					100,000.00		
RASCH CONSTRUCTION, INC. (6999)							
PYMT NO. 1	1	Invoice	2021 SECOND ST RECONST PYMT#16	06/03/2024	3,867.74	12/24	536-23-30-5310-299
Total PYMT NO. 16 (FINAL):					3,867.74		
Total RASCH CONSTRUCTION, INC. (6999):					3,867.74		
SOMVONG, PANGKHAM (4035)							
060324	1	Invoice	REFUND DUPLICATE UTILITY PAYMENT	06/03/2024	118.00	12/24	001-11100
Total 060324:					118.00		
Total SOMVONG, PANGKHAM (4035):					118.00		
Total 06/04/2024:					109,592.17		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
ABSTRACT ASSOC OF FRANKLIN CO (7960)							
40-2029	1	Invoice	LEIN SEARCH/HUBBARD	05/23/2024	300.00	12/24	100-24-18-5470-214
Total 40-2029:					300.00		
Total ABSTRACT ASSOC OF FRANKLIN CO (7960):					300.00		
ABSTRACT ASSOC OF HAMILTON CO (7961)							
40-2028	1	Invoice	LEIN SEARCH/PERGANDE	05/24/2024	300.00	12/24	100-24-18-5470-214
Total 40-2028:					300.00		
Total ABSTRACT ASSOC OF HAMILTON CO (7961):					300.00		
AFLAC, INC. (20)							
371950	1	Invoice	AFLAC PREMIUMS- JUNE	06/12/2024	2,119.64	12/24	902-11215
Total 371950:					2,119.64		
Total AFLAC, INC. (20):					2,119.64		
AGSOURCE (4458)							
PS-INV3418	1	Invoice	INDOOR POOL WATER TESTING	05/21/2024	28.00	12/24	100-22-42-5233-299
Total PS-INV341807:					28.00		
Total AGSOURCE (4458):					28.00		
AHLERS & COONEY, P.C. (22)							
866446	1	Invoice	LEGAL SERVICES - LABOR RELATIONS	05/30/2024	132.00	12/24	100-24-13-5460-212
866446	2	Invoice	LEGAL SERVICES - LABOR RELATIONS	05/30/2024	363.00	12/24	601-24-13-5460-212
866446	3	Invoice	LEGAL SERVICES - LABOR RELATIONS	05/30/2024	82.50	12/24	602-24-13-5460-212
866446	4	Invoice	LEGAL SERVICES - LABOR RELATIONS	05/30/2024	82.50	12/24	603-24-13-5460-212
Total 866446:					660.00		
Total AHLERS & COONEY, P.C. (22):					660.00		
ALEJO, ANTONIA (7962)							
061224	1	Invoice	ELECTRIC REFUND	06/12/2024	150.00	12/24	601-23-80-5903-980
Total 061224:					150.00		
Total ALEJO, ANTONIA (7962):					150.00		
ALTEC INDUSTRIES, INC. (35)							
51415530	1	Invoice	LABOR/REPAIR- TRK 4	04/17/2024	448.42	12/24	601-23-52-5935-227
Total 51415530:					448.42		
51421347	1	Invoice	ANNUAL DOT & ELECTRICAL INSPECTION -	04/25/2024	2,253.11	12/24	601-23-52-5935-227
Total 51421347:					2,253.11		
51425816	1	Invoice	ANNUAL DOT & ELECTRICAL INSPECTION -	05/02/2024	1,645.26	12/24	601-23-52-5935-227
Total 51425816:					1,645.26		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
51425858	1	Invoice	ANNUAL DOT & ELECTRICAL INSPECTION -	05/02/2024	1,372.75	12/24	601-23-52-5935-227
Total 51425858:					1,372.75		
Total ALTEC INDUSTRIES, INC. (35):					5,719.54		
AMAZON CAPITAL SERVICES (7618)							
11NY-LX7Y-7	1	Invoice	REPLACE OFFICE PRINTER - IT	06/01/2024	67.50	12/24	100-24-16-5420-317
11NY-LX7Y-7	2	Invoice	REPLACE OFFICE PRINTER - IT	06/01/2024	247.48	12/24	601-24-16-5921-317
11NY-LX7Y-7	3	Invoice	REPLACE OFFICE PRINTER - IT	06/01/2024	67.50	12/24	602-24-16-5921-317
11NY-LX7Y-7	4	Invoice	REPLACE OFFICE PRINTER - IT	06/01/2024	67.50	12/24	603-24-16-5921-317
11NY-LX7Y-7	5	Invoice	HANGING FOLDER TABS	06/01/2024	.63	12/24	100-24-14-5435-316
11NY-LX7Y-7	6	Invoice	HANGING FOLDER TABS	06/01/2024	4.54	12/24	601-23-80-5921-316
11NY-LX7Y-7	7	Invoice	HANGING FOLDER TABS	06/01/2024	1.40	12/24	602-23-80-5921-316
11NY-LX7Y-7	8	Invoice	HANGING FOLDER TABS	06/01/2024	.41	12/24	603-23-80-5921-316
Total 11NY-LX7Y-73TH:					456.96		
17P9-D7LQ-	1	Invoice	CLOCKS FOR BUILDINGS	06/01/2024	26.37	12/24	100-24-12-5430-318
17P9-D7LQ-	2	Invoice	CLOCKS FOR BUILDINGS	06/01/2024	72.52	12/24	601-23-81-5921-318
17P9-D7LQ-	3	Invoice	CLOCKS FOR BUILDINGS	06/01/2024	16.48	12/24	602-23-81-5921-318
17P9-D7LQ-	4	Invoice	CLOCKS FOR BUILDINGS	06/01/2024	16.48	12/24	603-23-81-5921-318
17P9-D7LQ-	5	Invoice	LAWN MOWER FILTERS-CITY HALL	06/01/2024	9.09	12/24	100-24-36-5480-318
17P9-D7LQ-	6	Invoice	LAWN MOWER FILTERS-CITY HALL	06/01/2024	6.50	12/24	601-23-36-5480-318
17P9-D7LQ-	7	Invoice	LAWN MOWER FILTERS-CITY HALL	06/01/2024	5.20	12/24	602-23-36-5480-318
17P9-D7LQ-	8	Invoice	LAWN MOWER FILTERS-CITY HALL	06/01/2024	5.19	12/24	603-23-36-5480-318
Total 17P9-D7LQ-7PD4:					157.83		
1G1J-3NMP-	1	Invoice	LATEX GLOVES/PD	06/01/2024	88.09	12/24	100-21-21-5110-318
Total 1G1J-3NMP-4KKW:					88.09		
1LYY-YKMQ-	1	Invoice	VEHICLE PARTS	06/01/2024	68.00	12/24	100-21-21-5110-315
1LYY-YKMQ-	2	Invoice	SERPA QUICK DISCONNECT	06/01/2024	59.98	12/24	100-21-21-5110-312
1LYY-YKMQ-	3	Invoice	SERPA QUICK DISCONNECT/TOURNIQUET	06/01/2024	84.10	12/24	100-21-21-5110-312
1LYY-YKMQ-	4	Invoice	RIFLE CASE/GUN SAFE DEHUMIDIFIERS	06/01/2024	70.95	12/24	100-21-21-5110-318
1LYY-YKMQ-	5	Invoice	DUTY HOLSTER/#675	06/01/2024	166.80	12/24	100-21-21-5110-312
1LYY-YKMQ-	6	Invoice	PROGRAMMING CABLE	06/01/2024	34.79	12/24	100-21-21-5110-318
1LYY-YKMQ-	7	Invoice	STRYKE PANTS/#625 & #686	06/01/2024	196.80	12/24	100-21-21-5110-312
1LYY-YKMQ-	8	Invoice	PISTOL SIGHT #685	06/01/2024	349.99	12/24	100-21-21-5110-312
1LYY-YKMQ-	9	Invoice	QUICK CONNECT MOUNTING SYSTEM/#625	06/01/2024	42.99	12/24	100-21-21-5110-312
1LYY-YKMQ-	10	Invoice	TASER HOLSTERS/#625 & #686	06/01/2024	179.98	12/24	100-21-21-5110-312
1LYY-YKMQ-	11	Invoice	MOTOROLA CHARGER REPLACEMENT/#686	06/01/2024	69.99	12/24	100-21-21-5110-318
1LYY-YKMQ-	12	Invoice	PISTOL HOLDER ADAPTER-#686/HUNTING G	06/01/2024	47.82	12/24	100-21-21-5110-312
1LYY-YKMQ-	13	Invoice	CAR CHARGER ADAPTER/#2301	06/01/2024	26.99	12/24	100-21-21-5110-318
1LYY-YKMQ-	14	Invoice	SPLITTERS/ADAPTERS FOR #1803, #1902	06/01/2024	9.88	12/24	100-21-21-5110-318
1LYY-YKMQ-	15	Invoice	MAGNETIC MOUNT ANTENNA FOR #2301	06/01/2024	23.75	12/24	100-21-21-5110-318
Total 1LYY-YKMQ-7DMF:					1,432.81		
1NDC-3HJ3-	1	Invoice	LED SHOP LIGHT/LITHIUM BATTERY FOR EL	06/01/2024	44.69	12/24	100-21-21-5110-318
Total 1NDC-3HJ3-6GP4:					44.69		
1NDM-T7VX-	1	Invoice	BIOHAZARD SIGNS/STICKERS	06/01/2024	12.44	12/24	100-22-42-5242-318
1NDM-T7VX-	2	Invoice	BIOHAZARD SIGNS/STICKERS	06/01/2024	12.44	12/24	100-22-42-5233-318
1NDM-T7VX-	3	Invoice	SHOWER CURTAINS/LINERS	06/01/2024	59.85	12/24	100-22-42-5242-318

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
1NDM-T7VX-	4	Invoice	SHOWER CURTAINS/LINERS	06/01/2024	59.85	12/24	100-22-42-5233-318
Total 1NDM-T7VX-34Q7:					144.58		
1TMP-N7QQ	1	Invoice	SMALL PUMP TO MOVE BOILER WATER	06/01/2024	1,150.76	12/24	603-23-70-5642-318
Total 1TMP-N7QQ-79CP:					1,150.76		
1VCG-3YTG-	1	Invoice	32" SMART TV/WARRANTY-FULLER HALL	06/01/2024	148.68	12/24	100-22-42-5233-318
Total 1VCG-3YTG-3TFQ:					148.68		
1VCG-3YTG-	1	Invoice	FLASH DRIVES/BINDERS/ENVELOPES/LITHI	06/01/2024	262.59	12/24	100-21-21-5110-316
Total 1VCG-3YTG-4WHG:					262.59		
1VCG-3YTG-	1	Invoice	USB GPS RECEIVERS-PD	06/01/2024	348.79	12/24	100-21-21-5110-318
Total 1VCG-3YTG-66PK:					348.79		
1VCG-3YTG-	1	Invoice	HEAVY DUTY NITRILE GLOVES - PD	06/01/2024	76.49	12/24	100-21-21-5110-318
Total 1VCG-3YTG-7T9Q:					76.49		
1WWW-JQR	1	Invoice	WALLMOUNT RACK & 24 PORT POE SWITCH	06/01/2024	81.00	12/24	100-24-16-5420-399
1WWW-JQR	2	Invoice	WALLMOUNT RACK & 24 PORT POE SWITCH	06/01/2024	296.98	12/24	601-24-16-5930-399
1WWW-JQR	3	Invoice	WALLMOUNT RACK & 24 PORT POE SWITCH	06/01/2024	81.00	12/24	602-24-16-5930-399
1WWW-JQR	4	Invoice	WALLMOUNT RACK & 24 PORT POE SWITCH	06/01/2024	81.00	12/24	603-24-16-5921-399
Total 1WWW-JQRV-6K9D:					539.98		
Total AMAZON CAPITAL SERVICES (7618):					4,852.25		
AMES ECONOMIC DEVELOPMENT COMMISSION (7957)							
158199	1	Invoice	ECONOMIC DEVELOPMENT CONTRACT	06/05/2024	18,125.00	12/24	242-23-36-5393-299
Total 158199:					18,125.00		
Total AMES ECONOMIC DEVELOPMENT COMMISSION (7957):					18,125.00		
ARIZA, TATIANA (7968)							
1434220320	1	Invoice	CUSTOMER DEPOSIT REFUND	06/11/2024	136.13	12/24	601-21011
Total 1434220320:					136.13		
Total ARIZA, TATIANA (7968):					136.13		
ARNOLD MOTOR SUPPLY (68)							
26NV103939	1	Invoice	NON CHLOR BRK CLNR-SHOP	05/30/2024	47.88	12/24	601-23-52-5588-318
Total 26NV103939:					47.88		
26NV104126	1	Invoice	2.5G DEF	06/04/2024	16.99	12/24	100-22-42-5210-315
26NV104126	2	Invoice	2.5G DEF	06/04/2024	16.99	12/24	100-23-42-5371-315
Total 26NV104126:					33.98		
26NV104199	1	Invoice	CONNECTOR- VAC TRK	06/05/2024	14.79	12/24	601-23-52-5935-314

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 26NV104199:					14.79		
26NV104442	1	Invoice	ANNUAL MAINT B33	06/11/2024	58.48	12/24	100-21-22-5140-314
Total 26NV104442:					58.48		
Total ARNOLD MOTOR SUPPLY (68):					155.13		
ARO CONSTRUCTION (7963)							
811730412	1	Invoice	CUSTOMER DEPOSIT REFUND	06/06/2024	174.48	12/24	601-21011
Total 811730412:					174.48		
Total ARO CONSTRUCTION (7963):					174.48		
ASTRA SECURITY (6495)							
55060	1	Invoice	WATER PLANT CAMERA SYSTEM SVC CALL	05/13/2024	172.50	12/24	602-23-61-5651-299
Total 55060:					172.50		
55061	1	Invoice	HARDWIRED 5MP CAMERA- STREET DEPT	05/13/2024	762.50	12/24	204-23-30-5310-226
Total 55061:					762.50		
55127	1	Invoice	FULLER HALL RECREATION CENTER SECU	05/29/2024	370.32	12/24	100-22-42-5233-299
Total 55127:					370.32		
Total ASTRA SECURITY (6495):					1,305.32		
BERENS-TATE CONSULTING GROUP (7958)							
5312024	1	Invoice	PARITY REPORT- ELECTRIC REVENUE BON	05/31/2024	2,500.00	12/24	601-23-98-5940-912
5312024	2	Invoice	PARITY REPORT- WATER REVENUE BOND S	05/31/2024	2,500.00	12/24	602-23-98-5940-912
Total 5312024:					5,000.00		
Total BERENS-TATE CONSULTING GROUP (7958):					5,000.00		
BLACK HILLS ENERGY (3466)							
0976116930	1	Invoice	GAS UTILITY/LINE DEPT	06/10/2024	35.98	12/24	601-23-51-5566-234
Total 0976116930 06/10/24:					35.98		
5978424719	1	Invoice	GAS UTILITY/WATER PLANT	06/10/2024	40.32	12/24	602-23-61-5642-234
Total 5978424719 06/10/24:					40.32		
6506969580	1	Invoice	GAS UTILITY/WATER PLANT	06/10/2024	55.53	12/24	602-23-61-5642-234
Total 6506969580 06/10/24:					55.53		
Total BLACK HILLS ENERGY (3466):					131.83		
BOMGAARS (5165)							
62133938	1	Invoice	IMPACT DRIVER/BIT TIPS	05/23/2024	144.38	12/24	204-23-30-5310-311

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 62133938:					144.38		
62134697	1	Invoice	FASTENERS/#27	05/24/2024	5.77	12/24	204-23-30-5310-315
Total 62134697:					5.77		
62137702	1	Invoice	METER CHANGE OUT SUPPLIES	05/30/2024	24.47	12/24	601-23-80-5905-318
62137702	2	Invoice	METER CHANGE OUT SUPPLIES	05/30/2024	24.48	12/24	602-23-80-5903-318
Total 62137702:					48.95		
62137884	1	Invoice	POLY SHEETING/CHARGER/CABLE	05/31/2024	98.97	12/24	204-23-30-5310-311
Total 62137884:					98.97		
62137946	1	Invoice	TOILET SEAT/MOUNTING TAPE-OD POOL	05/31/2024	24.38	12/24	100-22-42-5242-318
Total 62137946:					24.38		
62139271	1	Invoice	IMPACT WRENCH	06/03/2024	249.99	12/24	100-23-42-5371-311
Total 62139271:					249.99		
62139400	1	Invoice	DRINKING FOUNTAIN REPAIR-OD POOL	06/03/2024	6.49	12/24	100-22-42-5242-310
Total 62139400:					6.49		
62139722	1	Invoice	CUTTING WHEEL/WHEEL	06/04/2024	23.08	12/24	602-23-61-5642-318
Total 62139722:					23.08		
62139801	1	Invoice	LIFT ARM PIN	06/04/2024	4.79	12/24	204-23-30-5310-315
Total 62139801:					4.79		
62140001	1	Invoice	BANDSAW BLADES	06/04/2024	39.98	12/24	204-23-30-5310-311
Total 62140001:					39.98		
62140067	1	Invoice	K9 DOG FOOD	06/04/2024	47.00	12/24	214-21-21-5110-318
Total 62140067:					47.00		
62140550	1	Invoice	2 CYC OIL - FULLER HALL	06/06/2024	3.38	12/24	100-22-42-5233-315
62140550	2	Invoice	FULLER HALL SUPPLIES	06/06/2024	79.97	12/24	100-22-42-5233-318
Total 62140550:					83.35		
62140631	1	Invoice	METER CHANGE OUT SUPPLIES	06/06/2024	25.73	12/24	602-23-80-5903-318
62140631	2	Invoice	METER CHANGE OUT SUPPLIES	06/06/2024	25.73	12/24	601-23-80-5905-318
Total 62140631:					51.46		
62140923	1	Invoice	GREASE GUN	06/07/2024	25.98	12/24	602-23-61-5642-318
Total 62140923:					25.98		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
62140927	1	Invoice	FASTENERS/DUGOUTS	06/07/2024	15.87	12/24	100-22-42-5210-318
Total 62140927:					15.87		
62142417	1	Invoice	PTO PINS (SPURS)- TRK 3	06/10/2024	6.98	12/24	601-23-52-5588-318
Total 62142417:					6.98		
62142580	1	Invoice	BIT EXTENSION- TRK 5	06/10/2024	4.99	12/24	601-23-52-5588-318
Total 62142580:					4.99		
62142817	1	Invoice	BATTERY	06/11/2024	9.69	12/24	602-23-61-5642-318
Total 62142817:					9.69		
62142836	1	Invoice	MULTI TOOL KIT/BATTERY LOAD TESTER	06/11/2024	259.98	12/24	100-23-42-5371-311
Total 62142836:					259.98		
62142837	1	Invoice	PARACORD/TRASHBAGS	06/11/2024	20.98	12/24	100-22-42-5210-318
Total 62142837:					20.98		
62143394	1	Invoice	ANTI-SEIZE LUBRICANT/THREADLOCKER	06/12/2024	24.98	12/24	100-23-42-5371-318
Total 62143394:					24.98		
62143443	1	Invoice	BULK BOLTS	06/12/2024	2.27	12/24	100-22-42-5210-318
Total 62143443:					2.27		
Total BOMGAARS (5165):					1,200.31		
BROWN, LEORA (7964)							
011924	1	Invoice	ENERGY EFFICIENCY REBATE	01/19/2024	75.00	12/24	601-23-36-5930-979
011924	2	Invoice	ENERGY EFFICIENCY REBATE	01/19/2024	50.00	12/24	601-23-36-5930-979
Total 011924:					125.00		
Total BROWN, LEORA (7964):					125.00		
CAPITAL SANITARY SUPPLY (6096)							
C387470B	1	Invoice	CLEANING SUPPLIES- CITY HALL	05/29/2024	18.25	12/24	100-24-36-5480-318
C387470B	2	Invoice	CLEANING SUPPLIES- CITY HALL	05/29/2024	13.03	12/24	601-23-36-5480-318
C387470B	3	Invoice	CLEANING SUPPLIES- CITY HALL	05/29/2024	10.43	12/24	602-23-36-5480-318
C387470B	4	Invoice	CLEANING SUPPLIES- CITY HALL	05/29/2024	10.43	12/24	603-23-36-5480-318
Total C387470B:					52.14		
C387817A	1	Invoice	OD POOL LOCKER ROOM SUPPLIES	06/03/2024	229.62	12/24	100-22-42-5242-318
Total C387817A:					229.62		
C387817B	1	Invoice	OD POOL LOCKER ROOM SUPPLIES	06/05/2024	382.70	12/24	100-22-42-5242-318
Total C387817B:					382.70		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
C388446	1	Invoice	CUSTODIAL SUPPLIES/CITY HALL	06/05/2024	61.55	12/24	100-24-36-5480-318
C388446	2	Invoice	CUSTODIAL SUPPLIES/CITY HALL	06/05/2024	43.97	12/24	601-23-36-5480-318
C388446	3	Invoice	CUSTODIAL SUPPLIES/CITY HALL	06/05/2024	35.17	12/24	602-23-36-5480-318
C388446	4	Invoice	CUSTODIAL SUPPLIES/CITY HALL	06/05/2024	35.17	12/24	603-23-36-5480-318
Total C388446:					175.86		
C388604	1	Invoice	OD POOL SUPPLIES	06/05/2024	165.44	12/24	100-22-42-5242-318
Total C388604:					165.44		
Total CAPITAL SANITARY SUPPLY (6096):					1,005.76		
CARD SERVICES (140)							
0000 05/02/2	1	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	.99	12/24	100-21-18-5190-315
0000 05/02/2	2	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	3.89	12/24	100-21-22-5140-315
0000 05/02/2	3	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	13.65	12/24	100-24-14-5435-315
0000 05/02/2	4	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	19.47	12/24	601-23-52-5935-315
0000 05/02/2	5	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	1.22	12/24	601-23-80-5935-315
0000 05/02/2	6	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	1.22	12/24	602-23-80-5935-315
0000 05/02/2	7	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	27.59	12/24	100-21-21-5110-315
0000 05/02/2	8	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	8.80	12/24	100-22-42-5210-315
0000 05/02/2	9	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	8.80	12/24	100-23-42-5371-315
0000 05/02/2	10	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	.86	12/24	100-22-42-5233-315
0000 05/02/2	11	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	31.23	12/24	204-23-30-5310-315
0000 05/02/2	12	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	2.52	12/24	603-23-70-5935-315
0000 05/02/2	13	Invoice	FUEL CLOUD SUBSCRIPTION	06/02/2024	2.26	12/24	602-23-61-5935-315
Total 0000 05/02/24:					122.50		
0003 06/02/2	1	Invoice	GOOGLE WORKSPACE MONTHLY BILLING	06/02/2024	129.23	12/24	100-24-16-5420-215
0003 06/02/2	2	Invoice	GOOGLE WORKSPACE MONTHLY BILLING	06/02/2024	473.82	12/24	601-24-16-5930-215
0003 06/02/2	3	Invoice	GOOGLE WORKSPACE MONTHLY BILLING	06/02/2024	129.23	12/24	602-24-16-5930-215
0003 06/02/2	4	Invoice	GOOGLE WORKSPACE MONTHLY BILLING	06/02/2024	129.23	12/24	603-24-16-5930-215
0003 06/02/2	5	Invoice	GOOGLE WORKSPACE MONTHLY BILLING	06/02/2024	129.23	12/24	100-24-16-5420-215
0003 06/02/2	6	Invoice	GOOGLE WORKSPACE MONTHLY BILLING	06/02/2024	473.82	12/24	601-24-16-5930-215
0003 06/02/2	7	Invoice	GOOGLE WORKSPACE MONTHLY BILLING	06/02/2024	129.23	12/24	602-24-16-5930-215
0003 06/02/2	8	Invoice	GOOGLE WORKSPACE MONTHLY BILLING	06/02/2024	129.23	12/24	603-24-16-5930-215
0003 06/02/2	9	Invoice	CREXENDO-SENIOR CENTER/RSVP	06/02/2024	44.37	12/24	100-22-42-5280-230
Total 0003 06/02/24:					1,767.39		
0004 06/02/2	1	Invoice	ECON DEV MEETING EXP	06/02/2024	12.19	12/24	100-24-12-5430-232
0004 06/02/2	2	Invoice	ECON DEV MEETING EXP	06/02/2024	33.53	12/24	601-23-81-5926-232
0004 06/02/2	3	Invoice	ECON DEV MEETING EXP	06/02/2024	7.62	12/24	602-23-81-5926-232
0004 06/02/2	4	Invoice	ECON DEV MEETING EXP	06/02/2024	7.62	12/24	603-23-81-5926-232
0004 06/02/2	5	Invoice	LUNCH MTG-CITY MGR	06/02/2024	4.87	12/24	100-24-12-5430-232
0004 06/02/2	6	Invoice	LUNCH MTG-CITY MGR	06/02/2024	13.39	12/24	601-23-81-5926-232
0004 06/02/2	7	Invoice	LUNCH MTG-CITY MGR	06/02/2024	3.04	12/24	602-23-81-5926-232
0004 06/02/2	8	Invoice	LUNCH MTG-CITY MGR	06/02/2024	3.04	12/24	603-23-81-5926-232
0004 06/02/2	9	Invoice	TRAVEL EXP/GAS	06/02/2024	9.67	12/24	100-24-12-5430-232
0004 06/02/2	10	Invoice	TRAVEL EXP/GAS	06/02/2024	26.60	12/24	601-23-81-5926-232
0004 06/02/2	11	Invoice	TRAVEL EXP/GAS	06/02/2024	6.05	12/24	602-23-81-5926-232
0004 06/02/2	12	Invoice	TRAVEL EXP/GAS	06/02/2024	6.05	12/24	603-23-81-5926-232
0004 06/02/2	13	Invoice	MAYOR ASSOC DUES	06/02/2024	6.00	12/24	100-24-11-5410-215
0004 06/02/2	14	Invoice	MAYOR ASSOC DUES	06/02/2024	16.50	12/24	601-24-11-5410-215
0004 06/02/2	15	Invoice	MAYOR ASSOC DUES	06/02/2024	3.75	12/24	602-24-11-5410-215
0004 06/02/2	16	Invoice	MAYOR ASSOC DUES	06/02/2024	3.75	12/24	603-24-11-5410-215

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 0004 06/02/24:					163.67		
0189 06/02/2	1	Invoice	NOTARY RENEWAL/LESHER	06/02/2024	30.00	12/24	100-23-42-5371-215
Total 0189 06/02/24:					30.00		
0221 06/02/2	1	Invoice	IAFC MEMBERSHIP DUES	06/02/2024	215.00	12/24	100-21-22-5140-215
0221 06/02/2	2	Invoice	POSTAGE/RETURN	06/02/2024	6.75	12/24	100-21-22-5140-221
0221 06/02/2	3	Invoice	KITCHEN CHAIRS - HOME DEPOT	06/02/2024	432.71	12/24	100-21-22-5140-511
0221 06/02/2	4	Invoice	TRAVEL/CONF EXP	06/02/2024	575.48	12/24	100-21-22-5140-232
0221 06/02/2	5	Invoice	AWARDS	06/02/2024	74.95	12/24	100-21-22-5140-312
0221 06/02/2	6	Invoice	FLAGS	06/02/2024	83.44	12/24	100-21-22-5140-226
0221 06/02/2	7	Invoice	MEAL EXP/TRAINING	06/02/2024	78.76	12/24	100-21-22-5140-231
Total 0221 06/02/24:					1,467.09		
0338 06/02/2	1	Invoice	BUSINESS CARDS/NERLAND	06/02/2024	7.49	12/24	100-24-30-5380-318
0338 06/02/2	2	Invoice	BUSINESS CARDS/NERLAND	06/02/2024	7.49	12/24	601-24-30-5380-318
0338 06/02/2	3	Invoice	BUSINESS CARDS/NERLAND	06/02/2024	7.48	12/24	602-24-30-5380-318
0338 06/02/2	4	Invoice	BUSINESS CARDS/NERLAND	06/02/2024	7.48	12/24	603-24-30-5380-318
Total 0338 06/02/24:					29.94		
5427 06/02/2	1	Invoice	BIKE RODEO EXP	06/02/2024	50.87	12/24	232-21-21-5110-318
Total 5427 06/02/24:					50.87		
Total CARD SERVICES (140):					3,631.46		
CARDENAS CONCRETE, LLC (7929)							
INV-313	1	Invoice	FY24 CONCRETE PANEL REPLACEMENT - 2	06/06/2024	20,618.00	12/24	204-23-30-5310-299
Total INV-313:					20,618.00		
Total CARDENAS CONCRETE, LLC (7929):					20,618.00		
CARRICO AQUATIC RESOURCES (6820)							
20243147	1	Invoice	REPLACEMENT ACID PUMP	05/24/2024	460.27	12/24	100-22-42-5242-310
Total 20243147:					460.27		
Total CARRICO AQUATIC RESOURCES (6820):					460.27		
CASTOR CONSTRUCTION, LLC (6890)							
122.0346.01	1	Invoice	FAIR MEADOW DRIVE PROJECT # 9-23-001 -	06/07/2024	167,840.64	12/24	525-23-30-5310-299
Total 122.0346.01A - 2:					167,840.64		
Total CASTOR CONSTRUCTION, LLC (6890):					167,840.64		
CDW GOVERNMENT, INC. (149)							
RL30086	1	Invoice	REPLACEMENT BATTERIES FOR CHIEF'S G	05/23/2024	25.51	12/24	100-24-16-5420-317
RL30086	2	Invoice	REPLACEMENT BATTERIES FOR CHIEF'S G	05/23/2024	93.51	12/24	601-24-16-5921-317
RL30086	3	Invoice	REPLACEMENT BATTERIES FOR CHIEF'S G	05/23/2024	25.51	12/24	602-24-16-5921-317
RL30086	4	Invoice	REPLACEMENT BATTERIES FOR CHIEF'S G	05/23/2024	25.51	12/24	603-24-16-5921-317

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total RL30086:					170.04		
Total CDW GOVERNMENT, INC. (149):					170.04		
CENTRAL IOWA BLDG SUPPLY (1298)							
1021897	1	Invoice	CONDUIT 1/2" EMT	06/05/2024	60.50	12/24	603-23-71-5662-318
Total 1021897:					60.50		
Total CENTRAL IOWA BLDG SUPPLY (1298):					60.50		
CENTRAL IOWA DISTRIBUTING, INC (153)							
01009901	1	Invoice	TP & PT	06/04/2024	142.00	12/24	603-23-70-5642-318
Total 01009901:					142.00		
Total CENTRAL IOWA DISTRIBUTING, INC (153):					142.00		
CENTURY LINK (4614)							
E65-4065 06/	1	Invoice	ALARM CIRCUIT LINE	06/01/2024	148.00	12/24	100-21-22-5140-230
Total E65-4065 06/01/24:					148.00		
Total CENTURY LINK (4614):					148.00		
CLEAN ALL (7699)							
28776	1	Invoice	F.H. CLEANING SERVICE	05/31/2024	853.15	12/24	100-22-42-5233-299
Total 28776:					853.15		
Total CLEAN ALL (7699):					853.15		
COLUMN SOFTWARE PBC (7826)							
D1EC1C38-0	1	Invoice	PH - ELECTRICAL UNDERGROUND 5/30/24	05/14/2024	109.54	12/24	601-23-52-5588-871
Total D1EC1C38-0077:					109.54		
Total COLUMN SOFTWARE PBC (7826):					109.54		
CROMWELL, MARLIN (7970)							
210140205	1	Invoice	CUSTOMER DEPOSIT REFUND	06/12/2024	184.69	12/24	601-21011
Total 210140205:					184.69		
Total CROMWELL, MARLIN (7970):					184.69		
CROUSE, KAYLB (7971)							
1521600103	1	Invoice	CUSTOMER DEPOSIT REFUND	06/11/2024	41.12	12/24	601-21011
Total 1521600103:					41.12		
Total CROUSE, KAYLB (7971):					41.12		
CTI READY MIX, INC. (7518)							
117678	1	Invoice	2 YD C-4WR-C20-COLLINS & SASHI ST	05/24/2024	454.00	12/24	204-23-30-5330-318

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 117678:					454.00		
117806	1	Invoice	2.5 YD C-4WR-C20-SHASHI DR	05/29/2024	542.50	12/24	204-23-30-5330-318
Total 117806:					542.50		
117944	1	Invoice	DUGOUTS SOFTBALL FIELDS	05/31/2024	808.00	12/24	100-22-42-5222-310
Total 117944:					808.00		
Total CTI READY MIX, INC. (7518):					1,804.50		
CTS LANGUAGE LINK (6323)							
271315	1	Invoice	TELE LANGUAGE TRANSLATION/PD	06/01/2024	267.15	12/24	100-21-21-5110-299
Total 271315:					267.15		
Total CTS LANGUAGE LINK (6323):					267.15		
CULLIGAN FORT DODGE (207)							
53124	1	Invoice	AIRPORT-SOFT WATER SERVICE	05/31/2024	109.77	12/24	205-23-45-5372-299
Total 53124:					109.77		
Total CULLIGAN FORT DODGE (207):					109.77		
DAKOTA SUPPLY GROUP (3498)							
S103768746.	1	Invoice	PARTS FOR AOD/SLUDGE PUMP	05/30/2024	810.12	12/24	603-23-71-5662-318
Total S103768746.001:					810.12		
S103774567.	1	Invoice	RETURN- PARTS AOD/SLUDGE PUMP	05/31/2024	242.99-	12/24	603-23-71-5662-318
Total S103774567.001:					242.99-		
S103774579.	1	Invoice	6X4 FLG REDUCER- AOD/SLUDGE PUMP	06/03/2024	221.52	12/24	603-23-71-5662-318
Total S103774579.001:					221.52		
S103774579.	1	Invoice	6 IN FULL FACE RED RUBBER FLANGE- AOD	06/03/2024	105.04	12/24	603-23-71-5662-318
Total S103774579.002:					105.04		
S103774579.	1	Invoice	SIGMA 4IN FULL FACE RED RUBBER FLANG	06/03/2024	185.21	12/24	603-23-71-5662-318
Total S103774579.003:					185.21		
S103774579.	1	Invoice	SIGMA 4IN FULL FACE RED RUBBER FLANG	06/06/2024	92.60	12/24	603-23-71-5662-318
Total S103774579.004:					92.60		
Total DAKOTA SUPPLY GROUP (3498):					1,171.50		
DESIGNER GRAPHIX PLUS, INC (1214)							
2024-3517	1	Invoice	LOGOS ON EMPLOYEE SHIRTS	06/03/2024	8.00	12/24	100-22-42-5210-312

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 2024-3517:					8.00		
Total DESIGNER GRAPHIX PLUS, INC (1214):					8.00		
DGR ENGINEERING (5967)							
00268468	1	Invoice	ENG - ELECTRIC UTILITY POWER SUPPLY C	06/07/2024	47.43	12/24	601-23-36-5923-212
00268468	2	Invoice	ENG - ELECTRIC UTILITY POWER SUPPLY C	06/07/2024	85.37	12/24	601-23-51-5566-212
00268468	3	Invoice	ENG - ELECTRIC UTILITY POWER SUPPLY C	06/07/2024	569.10	12/24	601-23-52-5923-212
00268468	4	Invoice	ENG - ELECTRIC UTILITY POWER SUPPLY C	06/07/2024	170.73	12/24	601-23-80-5905-212
00268468	5	Invoice	ENG - ELECTRIC UTILITY POWER SUPPLY C	06/07/2024	75.87	12/24	601-23-81-5923-212
Total 00268468:					948.50		
Total DGR ENGINEERING (5967):					948.50		
DINGES FIRE COMPANY (7782)							
54534	1	Invoice	REPLACE BROKEN VALVE	06/07/2024	2,805.17	12/24	100-21-22-5140-227
Total 54534:					2,805.17		
Total DINGES FIRE COMPANY (7782):					2,805.17		
DJ'S TROPHY'S (237)							
630572	1	Invoice	SWIM TEAM RIBBONS	05/31/2024	1,800.00	12/24	100-22-42-5242-318
Total 630572:					1,800.00		
Total DJ'S TROPHY'S (237):					1,800.00		
DON'S PEST CONTROL (3349)							
7801	1	Invoice	PEST CONTROL/WATER PLANT	06/10/2024	51.00	12/24	602-23-61-5651-299
Total 7801:					51.00		
Total DON'S PEST CONTROL (3349):					51.00		
DORSEY & WHITNEY, LLP. (244)							
3980604	1	Invoice	LEGAL SVC 4/30/24 - WATER TOWER CONST	05/31/2024	2,260.00	12/24	602-23-61-5923-212
Total 3980604:					2,260.00		
3980605	1	Invoice	2022-2023 UR PLAN AMENDMENT & PCU TIF	05/31/2024	9,000.00	12/24	297-23-36-5391-212
Total 3980605:					9,000.00		
Total DORSEY & WHITNEY, LLP. (244):					11,260.00		
EAGLE, KRISTI (7972)							
714341330	1	Invoice	CUSTOMER DEPOSIT REFUND	06/05/2024	31.02	12/24	601-21011
Total 714341330:					31.02		
Total EAGLE, KRISTI (7972):					31.02		
ELECTRIC PUMP, INC. (1243)							
0906525-IN	1	Invoice	SVC CALL 5/23/24	05/29/2024	3,652.75	12/24	603-23-70-5652-229

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 0906525-IN:					3,652.75		
Total ELECTRIC PUMP, INC. (1243):					3,652.75		
FAREWAY STORES, INC. #395 (284)							
00081557	1	Invoice	LIFEGUARD WATER	06/06/2024	13.92	12/24	100-22-42-5242-318
Total 00081557:					13.92		
Total FAREWAY STORES, INC. #395 (284):					13.92		
FLETCHER-REINHARDT SERVICE COMPANY (305)							
S1316797.01	1	Invoice	Connectors TRANSFORMER 12-350	06/11/2024	1,290.84	12/24	601-23-52-5588-318
Total S1316797.012:					1,290.84		
S1323799.00	1	Invoice	100Watt HPS BULBS	05/30/2024	789.66	12/24	601-23-52-5588-318
Total S1323799.001:					789.66		
Total FLETCHER-REINHARDT SERVICE COMPANY (305):					2,080.50		
FORT DODGE ASPHALT COMPANY (313)							
123.1117.01-	1	Invoice	CONST SVC - 2024 HMA IMPROVEMENT 9-24	06/07/2024	115,726.72	12/24	525-23-30-5310-299
Total 123.1117.01-1:					115,726.72		
Total FORT DODGE ASPHALT COMPANY (313):					115,726.72		
FRAZER, DAKOTA (7969)							
1521700103	1	Invoice	CUSTOMER DEPOSIT REFUND	06/12/2024	107.84	12/24	601-21011
Total 1521700103:					107.84		
Total FRAZER, DAKOTA (7969):					107.84		
FRIZELL, MICHAEL (3945)							
053024	1	Invoice	ENERGY EFFICIENCY REBATE	05/30/2024	175.04	12/24	601-23-36-5930-979
Total 053024:					175.04		
Total FRIZELL, MICHAEL (3945):					175.04		
GALLS, LLC - DBA CARPENTER UNIFORM (331)							
027918937	1	Invoice	UNIFORM PANTS 686	05/13/2024	76.49	12/24	100-21-21-5110-312
Total 027918937:					76.49		
027918938	1	Invoice	GUN MOUNT/BELT KEEPERS- LUFT 686	05/13/2024	245.01	12/24	100-21-21-5110-312
Total 027918938:					245.01		
027931050	1	Invoice	UNIFORM SUPPLIES- 686	05/14/2024	83.61	12/24	100-21-21-5110-312
Total 027931050:					83.61		
027996750	1	Invoice	UNIFORM PANTS 691	05/21/2024	221.42	12/24	100-21-21-5110-312

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 027996750:					221.42		
Total GALLS, LLC - DBA CARPENTER UNIFORM (331):					626.53		
GERBER AUTO ELECTRIC (342)							
145856	1	Invoice	SANDBLAST STAND/WAYFINDING SIGNS	05/07/2024	343.67	12/24	100-21-30-5120-313
Total 145856:					343.67		
145933	1	Invoice	BATTERY FOR BOAT #1	05/13/2024	159.95	12/24	100-21-22-5140-227
Total 145933:					159.95		
145947	1	Invoice	SERVICE IMPALA/CITY MGR	05/14/2024	18.82	12/24	100-24-12-5430-227
145947	2	Invoice	SERVICE IMPALA/CITY MGR	05/14/2024	51.76	12/24	601-23-81-5935-227
145947	3	Invoice	SERVICE IMPALA/CITY MGR	05/14/2024	11.76	12/24	602-23-81-5935-227
145947	4	Invoice	SERVICE IMPALA/CITY MGR	05/14/2024	11.77	12/24	603-23-81-5935-227
Total 145947:					94.11		
146250	1	Invoice	DIAGNOSE NOISE/DODGE CHARGER #2306	06/04/2024	16.18	12/24	100-21-21-5110-227
Total 146250:					16.18		
146261	1	Invoice	DIAGNOSE CHECK ENGINE LIGHT/#1902	06/05/2024	59.24	12/24	100-21-21-5110-227
Total 146261:					59.24		
146271	1	Invoice	SERVICE 2022 RAM #2209	06/06/2024	72.57	12/24	100-21-21-5110-227
Total 146271:					72.57		
Total GERBER AUTO ELECTRIC (342):					745.72		
GOMEZ, IVAN (7973)							
051324	1	Invoice	ENERGY EFFICIENCY REBATE	05/13/2024	75.00	12/24	601-23-36-5930-979
051324	2	Invoice	ENERGY EFFICIENCY REBATE	05/13/2024	50.00	12/24	601-23-36-5930-979
Total 051324:					125.00		
Total GOMEZ, IVAN (7973):					125.00		
GREENFIELD, BRETT (7974)							
314840120	1	Invoice	CUSTOMER DEPOSIT REFUND	06/06/2024	132.05	12/24	601-21011
Total 314840120:					132.05		
Total GREENFIELD, BRETT (7974):					132.05		
HAMILTON COUNTY SOLID WASTE (375)							
340861	1	Invoice	POLES/DEBRIS	06/10/2024	47.58	12/24	601-23-52-5588-236
Total 340861:					47.58		
Total HAMILTON COUNTY SOLID WASTE (375):					47.58		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
HAWKINS, INC. (3668)							
6773686	1	Invoice	CHLORINE/SODIUM BISULFITE	06/04/2024	2,676.59	12/24	603-23-70-5641-318
Total 6773686:					2,676.59		
Total HAWKINS, INC. (3668):					2,676.59		
HEWETT WHOLESALE INC. (6097)							
207396	1	Invoice	OD POOL CONCESSIONS	05/30/2024	2,877.83	12/24	100-22-42-5242-323
Total 207396:					2,877.83		
207800	1	Invoice	OD POOL CONCESSIONS	06/06/2024	1,175.52	12/24	100-22-42-5242-323
Total 207800:					1,175.52		
Total HEWETT WHOLESALE INC. (6097):					4,053.35		
HIVIS SUPPLY (7482)							
473174A	1	Invoice	REFLECTIVE CLOTHING	05/22/2024	701.86	12/24	204-23-30-5310-312
Total 473174A:					701.86		
Total HIVIS SUPPLY (7482):					701.86		
INTERIOR SPACES, INC. (5977)							
1281	1	Invoice	SUN PROOF SATIN PAINT	05/15/2024	126.26	12/24	100-22-42-5242-880
Total 1281:					126.26		
1294	1	Invoice	GALLON OF SEAL GRIP-OD POOL PROJECT	05/21/2024	49.00	12/24	100-22-42-5242-880
Total 1294:					49.00		
1306	1	Invoice	SUN-PROOF SATIN PAINT	05/24/2024	29.00	12/24	100-22-42-5242-880
Total 1306:					29.00		
1313	1	Invoice	PASTEL SATIN EXT PAINT	05/28/2024	316.00	12/24	100-22-42-5242-880
Total 1313:					316.00		
1314	1	Invoice	GALLON OF SEAL GRIP-OD POOL PROJECT	05/28/2024	49.00	12/24	100-22-42-5242-880
Total 1314:					49.00		
Total INTERIOR SPACES, INC. (5977):					569.26		
IOWA COMMUNICATIONS NETWORK (7419)							
696183	1	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	06/04/2024	45.20	12/24	100-24-16-5420-299
696183	2	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	06/04/2024	45.20	12/24	204-24-16-5930-299
696183	3	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	06/04/2024	45.20	12/24	601-24-16-5935-299
696183	4	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	06/04/2024	45.20	12/24	602-24-16-5935-299
696183	5	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	06/04/2024	45.20	12/24	603-24-16-5935-299
Total 696183:					226.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total IOWA COMMUNICATIONS NETWORK (7419):					226.00		
IOWA PRISON INDUSTRIES (489)							
038923	1	Invoice	18X24 SIGNS	05/29/2024	291.72	12/24	100-21-30-5120-318
Total 038923:					291.72		
Total IOWA PRISON INDUSTRIES (489):					291.72		
K.C. NIELSEN LTD - WEBSTER CITY (7904)							
10703379	1	Invoice	SVC MOWER	05/31/2024	21.37	12/24	602-23-61-5935-314
Total 10703379:					21.37		
Total K.C. NIELSEN LTD - WEBSTER CITY (7904):					21.37		
KARIAN PETERSON POWER LINE CONTRACTING (7943)							
PAY EST #2	1	Invoice	PAY APP#2 - 69kV TRANSMISSION LINE REL	05/23/2024	2,378.25	12/24	601-23-51-5562-871
Total PAY EST #2:					2,378.25		
Total KARIAN PETERSON POWER LINE CONTRACTING (7943):					2,378.25		
LAMPERT LUMBER (564)							
2511222	1	Invoice	DUGOUTS- SOFTBALL FIELDS- NOKAMIS PA	05/29/2024	83.47	12/24	100-22-42-5222-310
Total 2511222:					83.47		
Total LAMPERT LUMBER (564):					83.47		
LEONARD MOSS ROOFING (6444)							
007392	1	Invoice	ROOF REPLACEMENT PROJECT-OD POOL	05/31/2024	300.00	12/24	100-22-42-5242-880
Total 007392:					300.00		
Total LEONARD MOSS ROOFING (6444):					300.00		
LIFT-WC (7743)							
052424	1	Invoice	HOTEL/MOTEL GRANT/RD 23	05/24/2024	15,000.00	12/24	208-23-36-5393-299
Total 052424:					15,000.00		
Total LIFT-WC (7743):					15,000.00		
LYNCH DALLAS, P.C./ATTY AT LAW (6336)							
217751	1	Invoice	ATTORNEY EXPENSES - WILSON BREWER P	06/06/2024	325.00	12/24	100-22-42-5221-299
Total 217751:					325.00		
217752	1	Invoice	ATTY/NUISANCES	06/06/2024	290.00	12/24	100-21-18-5190-212
Total 217752:					290.00		
Total LYNCH DALLAS, P.C./ATTY AT LAW (6336):					615.00		
MALUALDIT, AJAK (7976)							
315830025	1	Invoice	CUSTOMER DEPOSIT REFUND	06/03/2024	31.66	12/24	601-21011

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 315830025:					31.66		
Total MALUALDIT, AJAK (7976):					31.66		
MAVERICK MACHINE TOOL (1512)							
8884	1	Invoice	DRILL MOWER BLADES	05/30/2024	75.00	12/24	603-23-70-5642-318
Total 8884:					75.00		
Total MAVERICK MACHINE TOOL (1512):					75.00		
MENARDS (622)							
11686	1	Invoice	STOCK PARTS	05/23/2024	305.89	12/24	601-23-52-5588-318
11686	2	Invoice	PANEL & BREAKERS- CITY HALL	05/23/2024	124.75	12/24	100-24-36-5480-226
11686	3	Invoice	PANEL & BREAKERS- CITY HALL	05/23/2024	89.10	12/24	601-23-36-5480-226
11686	4	Invoice	PANEL & BREAKERS- CITY HALL	05/23/2024	71.29	12/24	602-23-36-5480-226
11686	5	Invoice	PANEL & BREAKERS- CITY HALL	05/23/2024	71.29	12/24	603-23-36-5480-226
Total 11686:					662.32		
1928	1	Invoice	CREDIT ON ACCOUNT	06/13/2024	.99-	12/24	601-23-52-5588-318
Total 1928:					.99-		
98273 CRED	1	Invoice	CREDIT ON ACCT	11/13/2023	44.54-	12/24	601-23-52-5588-318
Total 98273 CREDIT:					44.54-		
REBATE 302	1	Invoice	REBATE #3021 SPADE/SHIMS SANITARY SE	05/31/2024	12.42-	12/24	603-23-71-5662-318
Total REBATE 3021:					12.42-		
REBATE 302	1	Invoice	REBATE #3023 REF/WWTP	05/31/2024	65.89-	12/24	603-23-70-5642-319
Total REBATE 3023:					65.89-		
Total MENARDS (622):					538.48		
MEYER, DOUG (6140)							
060322	1	Invoice	BLACK DIRT (3 LOADS)	06/03/2022	540.00	12/24	204-23-30-5330-318
Total 060322:					540.00		
Total MEYER, DOUG (6140):					540.00		
MID IOWA GROWTH PARTNERSHIP (5344)							
003	1	Invoice	FY 24 MEMBERSHIP DUES	05/06/2023	125.00	12/24	100-23-36-5393-215
003	2	Invoice	FY 24 MEMBERSHIP DUES	05/06/2023	125.00	12/24	601-23-36-5393-215
Total 003:					250.00		
Total MID IOWA GROWTH PARTNERSHIP (5344):					250.00		
MIDAMERICAN ENERGY (629)							
553668871	1	Invoice	BOOSTER STATION ELECTRICITY	05/29/2024	133.88	12/24	602-23-62-5662-237

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 553668871:					133.88		
Total MIDAMERICAN ENERGY (629):					133.88		
MIDWEST FENCE & GATE CO., INC. (1479)							
515199	1	Invoice	DUGOUTS	06/05/2024	41.86	12/24	100-22-42-5222-310
Total 515199:					41.86		
515206	1	Invoice	DUGOUTS	06/06/2024	29.98	12/24	100-22-42-5222-310
Total 515206:					29.98		
Total MIDWEST FENCE & GATE CO., INC. (1479):					71.84		
MILLER, MELISSA (7975)							
051124	1	Invoice	ENERGY EFFICIENCY REBATE	05/11/2024	75.00	12/24	601-23-36-5930-979
051124	2	Invoice	CB EE RESIDENTIAL REBATE	05/11/2024	25.00	12/24	601-23-53-5930-979
Total 051124:					100.00		
Total MILLER, MELISSA (7975):					100.00		
MOORE CLEANING SERVICE, LLC (2902)							
061324	1	Invoice	CLEANING SERVICES FOR CITY HALL	06/13/2024	455.00	12/24	100-24-36-5480-299
061324	2	Invoice	CLEANING SERVICES FOR CITY HALL	06/13/2024	325.00	12/24	601-23-36-5480-299
061324	3	Invoice	CLEANING SERVICES FOR CITY HALL	06/13/2024	260.00	12/24	602-23-36-5480-299
061324	4	Invoice	CLEANING SERVICES FOR CITY HALL	06/13/2024	260.00	12/24	603-23-36-5480-299
Total 061324:					1,300.00		
Total MOORE CLEANING SERVICE, LLC (2902):					1,300.00		
MUNICIPAL SUPPLY, INC. (672)							
0908577-IN	1	Invoice	Add'l ACTIVATION DEVICE - COMPATIBLE W/	05/28/2024	337.50	12/24	601-23-52-5586-871
0908577-IN	2	Invoice	Add'l ACTIVATION DEVICE - COMPATIBLE W/	05/28/2024	337.50	12/24	602-23-62-5935-870
Total 0908577-IN:					675.00		
0909390-CM	1	Invoice	CREDIT AMI WATER SUPPLIES	06/06/2024	534.10-	12/24	602-23-62-5935-870
Total 0909390-CM:					534.10-		
Total MUNICIPAL SUPPLY, INC. (672):					140.90		
NAPA AUTO PARTS (677)							
985783	1	Invoice	HYD HOSE FITTINGS/12 MXTX REEL TRK 4	05/30/2024	134.63	12/24	601-23-52-5935-314
Total 985783:					134.63		
986180	1	Invoice	ANNUAL MAINT ON R33	06/07/2024	15.88	12/24	100-21-22-5140-314
Total 986180:					15.88		
986183	1	Invoice	ANNUAL MAINT ON E33	06/07/2024	6.17	12/24	100-21-22-5140-314

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 986183:					6.17		
986198	1	Invoice	ANNUAL MAINT ON E33	06/07/2024	22.66	12/24	100-21-22-5140-314
Total 986198:					22.66		
986222	1	Invoice	RETURN ON R33	06/07/2024	12.68-	12/24	100-21-22-5140-314
Total 986222:					12.68-		
Total NAPA AUTO PARTS (677):					166.66		
NEWMAN SIGNS, INC. (7530)							
TRFIN05413	1	Invoice	SIGN POSTS	05/29/2024	7,551.18	12/24	100-21-30-5120-314
Total TRFIN054132:					7,551.18		
Total NEWMAN SIGNS, INC. (7530):					7,551.18		
NORTH CENTRAL TURF, INC. (703)							
11734	1	Invoice	CEMETERY SOD	06/05/2024	745.50	12/24	100-23-42-5371-318
Total 11734:					745.50		
Total NORTH CENTRAL TURF, INC. (703):					745.50		
NORTHERN SAFETY CO, INC. (1129)							
906239217	1	Invoice	FIRST AID SUPPLIES-LINE DEPT	06/04/2024	302.61	12/24	601-23-52-5588-318
Total 906239217:					302.61		
906241765	1	Invoice	SCRUBS HAND TOWELS	06/04/2024	18.02	12/24	601-23-52-5588-318
Total 906241765:					18.02		
Total NORTHERN SAFETY CO, INC. (1129):					320.63		
ONE SOURCE (7527)							
2022154924	1	Invoice	BACKGROUND CHECK	06/01/2024	19.00	12/24	100-23-42-5371-299
Total 2022154924:					19.00		
Total ONE SOURCE (7527):					19.00		
O'REILLY AUTOMOTIVE, INC. (727)							
0357-194445	1	Invoice	ANNUAL MAINT	06/07/2024	16.99	12/24	100-21-22-5140-314
Total 0357-194445:					16.99		
Total O'REILLY AUTOMOTIVE, INC. (727):					16.99		
ORTIZ, MARIA (7977)							
1511420521	1	Invoice	CUSTOMER DEPOSIT REFUND	06/05/2024	4.47	12/24	601-21011
Total 1511420521:					4.47		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total ORTIZ, MARIA (7977):					4.47		
ORTON, RYAN (3080)							
112023	1	Invoice	ENERGY EFFICIENCY REBATE	11/20/2023	250.00	12/24	601-23-36-5930-979
Total 112023:					250.00		
Total ORTON, RYAN (3080):					250.00		
PAGEL REPAIR (3497)							
6324-6	1	Invoice	KYP BATHROOM DOOR-SCREEN REPAIR	06/03/2024	28.80	12/24	100-22-42-5210-226
Total 6324-6:					28.80		
Total PAGEL REPAIR (3497):					28.80		
PEPSI-COLA (7435)							
59735003	1	Invoice	POP & GATORADE FOR RESALE-OD POOL	05/30/2024	779.28	12/24	100-22-42-5242-323
Total 59735003:					779.28		
Total PEPSI-COLA (7435):					779.28		
PFM FINANCIAL ADVISORS LLC (7566)							
130690	1	Invoice	MUNICIPAL ADVISOR SERVICES-ELECTRIC	05/21/2024	22,979.59	12/24	601-23-98-5940-912
Total 130690:					22,979.59		
130691	1	Invoice	MUNICIPAL ADVISOR SERVICES-WATER RE	05/21/2024	22,815.83	12/24	602-23-98-5940-912
Total 130691:					22,815.83		
Total PFM FINANCIAL ADVISORS LLC (7566):					45,795.42		
PLATINUM CONNECT, LLC. (7663)							
1022285	1	Invoice	TELEPHONE SERVICE	06/01/2024	9.04	12/24	100-24-12-5430-230
1022285	2	Invoice	TELEPHONE SERVICE	06/01/2024	24.85	12/24	601-23-81-5921-230
1022285	3	Invoice	TELEPHONE SERVICE	06/01/2024	5.65	12/24	602-23-81-5921-230
1022285	4	Invoice	TELEPHONE SERVICE	06/01/2024	5.64	12/24	603-23-81-5921-230
1022285	5	Invoice	TELEPHONE SERVICE	06/01/2024	4.07	12/24	100-24-14-5435-230
1022285	6	Invoice	TELEPHONE SERVICE	06/01/2024	29.37	12/24	601-23-80-5903-230
1022285	7	Invoice	TELEPHONE SERVICE	06/01/2024	9.04	12/24	602-23-80-5921-230
1022285	8	Invoice	TELEPHONE SERVICE	06/01/2024	2.70	12/24	603-23-80-5921-230
1022285	9	Invoice	TELEPHONE SERVICE	06/01/2024	11.29	12/24	100-24-30-5380-230
1022285	10	Invoice	TELEPHONE SERVICE	06/01/2024	11.29	12/24	601-24-30-5380-230
1022285	11	Invoice	TELEPHONE SERVICE	06/01/2024	11.30	12/24	602-24-30-5380-230
1022285	12	Invoice	TELEPHONE SERVICE	06/01/2024	11.30	12/24	603-24-30-5380-230
1022285	13	Invoice	TELEPHONE SERVICE	06/01/2024	45.18	12/24	100-23-42-5371-230
1022285	14	Invoice	TELEPHONE SERVICE	06/01/2024	45.18	12/24	601-23-52-5588-230
1022285	15	Invoice	TELEPHONE SERVICE	06/01/2024	45.18	12/24	100-22-42-5233-230
1022285	16	Invoice	TELEPHONE SERVICE	06/01/2024	45.18	12/24	204-23-30-5310-230
1022285	17	Invoice	TELEPHONE SERVICE	06/01/2024	45.18	12/24	603-23-70-5642-230
1022285	18	Invoice	TELEPHONE SERVICE	06/01/2024	45.18	12/24	602-23-61-5642-230
1022285	19	Invoice	TELEPHONE SERVICE	06/01/2024	18.85	12/24	100-21-22-5140-230
1022285	20	Invoice	TELEPHONE SERVICE	06/01/2024	142.02	12/24	100-21-21-5110-230
Total 1022285:					567.49		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total PLATINUM CONNECT, LLC. (7663):					567.49		
PLEASANT HILL (2166)							
060724	1	Invoice	STREET LIGHTS/PH LINE/VIRGINIA PKWY	06/07/2024	314.43	12/24	100-21-30-5160-233
Total 060724:					314.43		
Total PLEASANT HILL (2166):					314.43		
POSTMASTER (766)							
217 6/1/24	1	Invoice	ANNUAL BOX RENT #217	06/01/2024	154.00	12/24	601-23-80-5931-224
Total 217 6/1/24:					154.00		
Total POSTMASTER (766):					154.00		
PRAIRIE ENERGY COOPERATIVE (768)							
22685 06/07/	1	Invoice	AIRPORT ELECTRICITY/FIVE METERS	06/07/2024	428.73	12/24	205-23-45-5372-237
Total 22685 06/07/24:					428.73		
Total PRAIRIE ENERGY COOPERATIVE (768):					428.73		
QUILL LLC (7936)							
38765757	1	Invoice	COPY PAPER/MISC OFFICE SUPPLIES	05/21/2024	55.52	12/24	100-24-12-5430-316
38765757	2	Invoice	COPY PAPER/MISC OFFICE SUPPLIES	05/21/2024	152.68	12/24	601-23-81-5921-316
38765757	3	Invoice	COPY PAPER/MISC OFFICE SUPPLIES	05/21/2024	34.70	12/24	602-23-81-5921-316
38765757	4	Invoice	COPY PAPER/MISC OFFICE SUPPLIES	05/21/2024	34.70	12/24	603-23-81-5921-316
Total 38765757:					277.60		
38827585	1	Invoice	BROTHER P-TOUCH LABEL	05/24/2024	10.24	12/24	100-24-12-5430-316
38827585	2	Invoice	BROTHER P-TOUCH LABEL	05/24/2024	28.15	12/24	601-23-81-5921-316
38827585	3	Invoice	BROTHER P-TOUCH LABEL	05/24/2024	6.40	12/24	602-23-81-5921-316
38827585	4	Invoice	BROTHER P-TOUCH LABEL	05/24/2024	6.40	12/24	603-23-81-5921-316
Total 38827585:					51.19		
Total QUILL LLC (7936):					328.79		
RASCH CONSTRUCTION, INC. (6999)							
052824	1	Invoice	2021 SECOND ST RECONST - FINAL RETAIN	05/28/2024	132,355.00	12/24	536-23-30-5310-299
Total 052824:					132,355.00		
Total RASCH CONSTRUCTION, INC. (6999):					132,355.00		
RAYMUNDO, ANA LOPEZ (7966)							
413224222	1	Invoice	CUSTOMER DEPOSIT REFUND	06/11/2024	121.99	12/24	601-21011
Total 413224222:					121.99		
Total RAYMUNDO, ANA LOPEZ (7966):					121.99		
RELIABLE1 HEATING / AC / PLUMBING (6716)							
38891674	1	Invoice	INSTALL BACK FLOW PREVENTER	05/23/2024	6,187.27	12/24	603-23-70-5653-299

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 38891674:					6,187.27		
Total RELIABLE1 HEATING / AC / PLUMBING (6716):					6,187.27		
RIVER CITY COMMUNICATIONS, INC (818)							
103730	1	Invoice	REPLACE PHONE- CITY HALL	05/31/2024	50.05	12/24	100-24-36-5480-226
103730	2	Invoice	REPLACE PHONE- CITY HALL	05/31/2024	35.75	12/24	601-23-36-5480-226
103730	3	Invoice	REPLACE PHONE- CITY HALL	05/31/2024	28.60	12/24	602-23-36-5480-226
103730	4	Invoice	REPLACE PHONE- CITY HALL	05/31/2024	28.60	12/24	603-23-36-5480-226
Total 103730:					143.00		
Total RIVER CITY COMMUNICATIONS, INC (818):					143.00		
ROTO ROOTER OF IOWA FALLS (826)							
009321	1	Invoice	CLEAN OUT SINKS/POLICE DEPT	05/29/2024	285.00	12/24	100-21-21-5110-226
Total 009321:					285.00		
Total ROTO ROOTER OF IOWA FALLS (826):					285.00		
S & K TRAILERS (7978)							
5141	1	Invoice	BEHNKE TRAILER	06/12/2024	17,950.00	12/24	100-22-42-5210-515
Total 5141:					17,950.00		
Total S & K TRAILERS (7978):					17,950.00		
SAFE BUILDING LLC (7669)							
04092041	1	Invoice	CITY CODE INSPECTION AT MULTIPLE PRO	05/31/2024	799.69	12/24	100-21-18-5190-299
Total 04092041:					799.69		
Total SAFE BUILDING LLC (7669):					799.69		
SANCHEZ, GUSTAVO TORRES (7967)							
1015460305	1	Invoice	CUSTOMER DEPOSIT REFUND	06/11/2024	75.39	12/24	601-21011
Total 1015460305:					75.39		
Total SANCHEZ, GUSTAVO TORRES (7967):					75.39		
SNYDER & ASSOCIATES (2951)							
123.0256.01-	1	Invoice	ENG SVC - SPLASH PAD	05/30/2024	1,122.25	12/24	100-22-42-5210-880
Total 123.0256.01-9:					1,122.25		
124.0071.01-	1	Invoice	ON CALL ENG SVC 2024 #4	05/30/2024	14,347.50	12/24	204-23-30-5310-212
Total 124.0071.01-4:					14,347.50		
Total SNYDER & ASSOCIATES (2951):					15,469.75		
STATE HYGIENIC LABORATORY (423)							
280322	1	Invoice	WASTEWATER TESTING	05/31/2024	1,347.50	12/24	603-23-70-5923-212

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 280322:					1,347.50		
280323	1	Invoice	WATER TESTING FEES	05/31/2024	403.50	12/24	602-23-61-5651-299
Total 280323:					403.50		
Total STATE HYGIENIC LABORATORY (423):					1,751.00		
STOREY KENWORTHY (5937)							
PINV117445	1	Invoice	#9 REPLY ENVELOPES	05/07/2024	221.13	12/24	100-24-14-5435-221
PINV117445	2	Invoice	#9 REPLY ENVELOPES	05/07/2024	491.40	12/24	602-23-80-5921-221
PINV117445	3	Invoice	#9 REPLY ENVELOPES	05/07/2024	147.42	12/24	603-23-80-5921-221
PINV117445	4	Invoice	#9 REPLY ENVELOPES	05/07/2024	1,597.05	12/24	601-23-80-5921-221
Total PINV1174450:					2,457.00		
PINV117968	1	Invoice	UTILITY BILLS	06/03/2024	285.12	12/24	100-24-14-5435-221
PINV117968	2	Invoice	UTILITY BILLS	06/03/2024	2,059.20	12/24	601-23-80-5921-221
PINV117968	3	Invoice	UTILITY BILLS	06/03/2024	633.60	12/24	602-23-80-5921-221
PINV117968	4	Invoice	UTILITY BILLS	06/03/2024	190.08	12/24	603-23-80-5921-221
Total PINV1179680:					3,168.00		
Total STOREY KENWORTHY (5937):					5,625.00		
STREICHER'S (917)							
I1702246	1	Invoice	MAGAZINE 9MM 21-RND	06/03/2024	438.00	12/24	100-21-21-5110-312
Total I1702246:					438.00		
Total STREICHER'S (917):					438.00		
SURVEYING & MAPPING, LLC (7245)							
201223452	1	Invoice	ANNUAL GIS MAINTENANCE	06/12/2024	900.00	12/24	100-23-31-5420-299
201223452	2	Invoice	ANNUAL GIS MAINTENANCE	06/12/2024	900.00	12/24	601-23-31-5420-299
201223452	3	Invoice	ANNUAL GIS MAINTENANCE	06/12/2024	900.00	12/24	602-23-31-5420-299
201223452	4	Invoice	ANNUAL GIS MAINTENANCE	06/12/2024	900.00	12/24	603-23-31-5420-299
Total 201223452:					3,600.00		
Total SURVEYING & MAPPING, LLC (7245):					3,600.00		
TERMINAL SUPPLY CO. (6527)							
39736-00	1	Invoice	DRILL BITS, FLAT WASHERS, HEX HEAD CA	05/24/2024	124.63	12/24	204-23-30-5310-311
Total 39736-00:					124.63		
Total TERMINAL SUPPLY CO. (6527):					124.63		
THE IOWA OUTDOORS STORE, LLC (7104)							
07351200	1	Invoice	472 GRAVELY MOWER PARTS	06/05/2024	69.90	12/24	100-22-42-5210-314
Total 07351200:					69.90		
Total THE IOWA OUTDOORS STORE, LLC (7104):					69.90		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
THE TRASHMAN, LLC (943)							
765-1698	1	Invoice	ROLLOFF/LANDFILL FEES - OD POOL	05/31/2024	199.72	12/24	100-22-42-5242-236
Total 765-1698:					199.72		
765-1699	1	Invoice	TRASH SERVICE	05/31/2024	17.50	12/24	100-24-36-5480-236
765-1699	2	Invoice	TRASH SERVICE	05/31/2024	12.50	12/24	601-23-36-5480-236
765-1699	3	Invoice	TRASH SERVICE	05/31/2024	10.00	12/24	602-23-36-5480-236
765-1699	4	Invoice	TRASH SERVICE	05/31/2024	10.00	12/24	603-23-36-5480-236
765-1699	5	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	100-22-42-5280-236
765-1699	6	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	204-23-30-5310-236
765-1699	7	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	100-21-22-5140-236
765-1699	8	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	100-22-42-5233-236
765-1699	9	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	601-23-52-5588-236
765-1699	10	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	603-23-70-5642-236
765-1699	11	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	100-22-42-5210-236
765-1699	12	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	602-23-61-5642-236
765-1699	13	Invoice	TRASH SERVICE	05/31/2024	50.00	12/24	205-23-45-5372-236
Total 765-1699:					500.00		
765-1700	1	Invoice	DROP BOX CHARGES	05/31/2024	264.00	12/24	100-23-30-5340-235
Total 765-1700:					264.00		
765-1701	1	Invoice	EXTRA SERVICE/CEMETERY	05/31/2024	35.00	12/24	100-22-42-5210-236
Total 765-1701:					35.00		
765-1702	1	Invoice	CURB RECYCLING - MAY 2024	05/31/2024	12,652.50	12/24	100-23-30-5340-235
Total 765-1702:					12,652.50		
Total THE TRASHMAN, LLC (943):					13,651.22		
TIELKE, BIANCA (7965)							
1512180818	1	Invoice	CUSTOMER DEPOSIT REFUND	06/11/2024	31.61	12/24	601-21011
Total 1512180818:					31.61		
Total TIELKE, BIANCA (7965):					31.61		
T-MOBILE (7288)							
973411563 0	1	Invoice	PHONE SVC/INSPECTION	05/21/2024	25.80	12/24	100-21-18-5190-230
973411563 0	2	Invoice	PHONE SVC/PD CAR PHONES	05/21/2024	154.80	12/24	100-21-21-5110-230
973411563 0	3	Invoice	PHONE SVC/INVESTIGATOR	05/21/2024	33.46	12/24	100-21-21-5110-230
973411563 0	4	Invoice	TABLET-BASINGER/MORK-NUISANCES	05/21/2024	52.52	12/24	100-21-18-5190-230
973411563 0	5	Invoice	PD - GETAC/TOUGHBOOKS	05/21/2024	253.20	12/24	100-21-21-5110-230
973411563 0	6	Invoice	ST DEPT (LOCATES)	05/21/2024	10.69	12/24	204-23-30-5310-230
973411563 0	7	Invoice	ST DEPT (LOCATES)	05/21/2024	10.68	12/24	602-23-62-5662-230
973411563 0	8	Invoice	INSPECTION IPAD SVC	05/21/2024	21.37	12/24	100-21-18-5190-230
973411563 0	9	Invoice	HOT SPOT - BETH	05/21/2024	6.23	12/24	100-24-12-5430-230
973411563 0	10	Invoice	HOT SPOT - BETH	05/21/2024	17.13	12/24	601-23-81-5921-230
973411563 0	11	Invoice	HOT SPOT - BETH	05/21/2024	3.90	12/24	602-23-81-5921-230
973411563 0	12	Invoice	HOT SPOT - BETH	05/21/2024	3.89	12/24	603-23-81-5921-230
Total 973411563 05/21/24:					593.67		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
974816802 0	1	Invoice	PHONE SVC/ORTON	05/21/2024	14.99	12/24	601-23-52-5588-230
974816802 0	2	Invoice	PHONE SVC/ORTON	05/21/2024	14.98	12/24	601-23-51-5566-230
974816802 0	3	Invoice	PHONE SVC/ARIEL	05/21/2024	46.15	12/24	100-24-18-5470-230
974816802 0	4	Invoice	PHONE SVC/BRANDON	05/21/2024	40.19	12/24	204-23-30-5310-230
974816802 0	5	Invoice	PHONE SVC/BREANNE	05/21/2024	15.39	12/24	100-22-42-5210-230
974816802 0	6	Invoice	PHONE SVC/BREANNE	05/21/2024	15.38	12/24	100-22-42-5233-230
974816802 0	7	Invoice	PHONE SVC/BREANNE	05/21/2024	15.38	12/24	100-23-42-5371-230
974816802 0	8	Invoice	PHONE SVC/JAKE RODEN	05/21/2024	34.33	12/24	100-23-42-5371-230
974816802 0	9	Invoice	PHONE SVC/JAKE RODEN	05/21/2024	34.33	12/24	100-22-42-5210-230
974816802 0	10	Invoice	ON-CALL PHONE SVC/WATER	05/21/2024	44.44	12/24	602-23-61-5642-230
974816802 0	11	Invoice	ON-CALL PHONE SVC/WWTP	05/21/2024	44.44	12/24	603-23-70-5642-230
974816802 0	12	Invoice	PHONE SVC/NICK	05/21/2024	22.22	12/24	602-23-61-5642-230
974816802 0	13	Invoice	PHONE SVC/NICK	05/21/2024	22.22	12/24	603-23-70-5642-230
974816802 0	14	Invoice	PHONE SVC/INTERIM CITY MGR	05/21/2024	13.73	12/24	100-24-12-5430-230
974816802 0	15	Invoice	PHONE SVC/INTERIM CITY MGR	05/21/2024	37.76	12/24	601-23-81-5921-230
974816802 0	16	Invoice	PHONE SVC/INTERIM CITY MGR	05/21/2024	8.58	12/24	602-23-81-5921-230
974816802 0	17	Invoice	PHONE SVC/INTERIM CITY MGR	05/21/2024	8.58	12/24	603-23-81-5921-230
974816802 0	18	Invoice	SCADA TABLET	05/21/2024	19.97	12/24	602-23-61-5642-230
974816802 0	19	Invoice	METER IPAD SVC	05/21/2024	9.98	12/24	602-23-80-5902-299
974816802 0	20	Invoice	METER IPAD SVC	05/21/2024	9.99	12/24	601-23-80-5905-299
974816802 0	21	Invoice	RIGHT OF WAY IPAD SVC	05/21/2024	4.99	12/24	100-24-30-5380-230
974816802 0	22	Invoice	RIGHT OF WAY IPAD SVC	05/21/2024	4.99	12/24	601-24-30-5380-230
974816802 0	23	Invoice	RIGHT OF WAY IPAD SVC	05/21/2024	4.99	12/24	602-24-30-5380-230
974816802 0	24	Invoice	RIGHT OF WAY IPAD SVC	05/21/2024	5.00	12/24	603-24-30-5380-230
974816802 0	25	Invoice	CAMERAS	05/21/2024	9.99	12/24	100-24-16-5420-215
974816802 0	26	Invoice	CAMERAS	05/21/2024	9.99	12/24	601-24-16-5930-215
974816802 0	27	Invoice	CAMERAS	05/21/2024	9.98	12/24	602-24-16-5930-215
974816802 0	28	Invoice	CAMERAS	05/21/2024	9.98	12/24	603-24-16-5930-215
974816802 0	29	Invoice	STREET IPAD SVC	05/21/2024	39.94	12/24	204-23-30-5310-230
974816802 0	30	Invoice	STREET IPAD SVC	05/21/2024	39.93	12/24	602-23-62-5662-230
Total 974816802 05/21/24:					612.81		
Total T-MOBILE (7288):					1,206.48		
TOLLE AUTOMOTIVE, INC. (3188)							
1564	1	Invoice	GRAVELY TIRE	05/29/2024	129.99	12/24	100-22-42-5210-314
Total 1564:					129.99		
Total TOLLE AUTOMOTIVE, INC. (3188):					129.99		
ULTIMATE JUNK & DEMO, LLC (7955)							
1005	1	Invoice	PROPERTY CLEANUP - 614 FIRST ST	06/03/2024	2,650.00	12/24	100-21-18-5190-299
Total 1005:					2,650.00		
1006	1	Invoice	JUNK REMOVAL - 930 WATER ST	06/03/2024	3,200.00	12/24	100-21-18-5190-299
Total 1006:					3,200.00		
1007	1	Invoice	JUNK REMOVAL - 408 GROVE ST	06/06/2024	3,500.00	12/24	100-21-18-5190-299
Total 1007:					3,500.00		
Total ULTIMATE JUNK & DEMO, LLC (7955):					9,350.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
UNION PACIFIC RAILROAD (7303)							
333187627	1	Invoice	ENCROACHMENT PERMIT - 333187627	06/13/2024	6,560.00	12/24	601-23-51-5562-871
Total 333187627:					6,560.00		
333188245	1	Invoice	ENCROACHMENT PERMIT - 333188245	06/13/2024	6,560.00	12/24	601-23-51-5562-871
Total 333188245:					6,560.00		
333309895	1	Invoice	CROSSING PERMIT - 333309895	06/13/2024	755.00	12/24	601-23-51-5562-871
Total 333309895:					755.00		
333310038	1	Invoice	CROSSING PERMIT - 333310038	06/13/2024	755.00	12/24	601-23-51-5562-871
Total 333310038:					755.00		
333310362	1	Invoice	CROSSING PERMIT - 333310362	06/13/2024	755.00	12/24	601-23-51-5562-871
Total 333310362:					755.00		
Total UNION PACIFIC RAILROAD (7303):					15,385.00		
UNITY POINT CLINIC-OCC MEDICINE (5263)							
226396	1	Invoice	2ND QTR DT/PRE-EMPLOYMENT	06/03/2024	42.00	12/24	100-23-42-5371-212
226396	2	Invoice	2ND QTR DT/PRE-EMPLOYMENT	06/03/2024	42.00	12/24	204-23-30-5310-212
226396	3	Invoice	2ND QTR DT/PRE-EMPLOYMENT	06/03/2024	84.00	12/24	601-23-52-5923-212
226396	4	Invoice	2ND QTR DT/PRE-EMPLOYMENT	06/03/2024	42.00	12/24	602-23-61-5923-212
226396	5	Invoice	2ND QTR DT/PRE-EMPLOYMENT	06/03/2024	42.00	12/24	603-23-70-5923-212
Total 226396:					252.00		
Total UNITY POINT CLINIC-OCC MEDICINE (5263):					252.00		
US CELLULAR (986)							
0655504587	1	Invoice	CELLULAR SERVICE	05/20/2024	45.96	12/24	204-23-30-5310-230
0655504587	2	Invoice	CELLULAR SERVICE	05/20/2024	22.98	12/24	601-23-52-5588-230
0655504587	3	Invoice	CELLULAR SERVICE	05/20/2024	22.98	12/24	601-23-51-5566-230
0655504587	4	Invoice	CELLULAR SERVICE	05/20/2024	11.49	12/24	100-24-30-5380-230
0655504587	5	Invoice	CELLULAR SERVICE	05/20/2024	11.49	12/24	601-24-30-5380-230
0655504587	6	Invoice	CELLULAR SERVICE	05/20/2024	11.49	12/24	602-24-30-5380-230
0655504587	7	Invoice	CELLULAR SERVICE	05/20/2024	11.49	12/24	603-24-30-5380-230
0655504587	8	Invoice	INSP TABLET SVC	05/20/2024	45.29	12/24	100-21-18-5190-230
0655504587	9	Invoice	METER I-PAD SVC	05/20/2024	22.64	12/24	602-23-80-5902-299
0655504587	10	Invoice	METER I-PAD SVC	05/20/2024	22.64	12/24	601-23-80-5905-299
0655504587	11	Invoice	FIRE I-PAD SVC	05/20/2024	45.29	12/24	100-21-22-5140-230
0655504587	12	Invoice	LINE I-PADS SVC	05/20/2024	181.16	12/24	601-23-52-5588-230
Total 0655504587:					454.90		
Total US CELLULAR (986):					454.90		
VERMEER IOWA & N. MISSOURI (6073)							
P0615805	1	Invoice	SIGHT GLASS/LUBRICANT- VAC UNIT	06/04/2024	266.72	12/24	601-23-52-5935-314
Total P0615805:					266.72		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total VERMEER IOWA & N. MISSOURI (6073):					266.72		
VISUAL EDGE IT, INC. (3995)							
24AR167459	1	Invoice	PRINTER CONTRACT - STREET DEPT	04/05/2024	42.09	12/24	204-23-30-5310-299
Total 24AR1674596:					42.09		
24AR176505	1	Invoice	PRINTER CONTRACT - WATER DEPT	05/10/2024	42.58	12/24	602-23-61-5931-225
Total 24AR1765054:					42.58		
24AR178301	1	Invoice	PRINTER CONTRACT - WWTP	05/20/2024	25.26	12/24	603-23-70-5931-225
Total 24AR1783017:					25.26		
24AR181865	1	Invoice	PRINTER CONTRACT - CEMETERY	06/03/2024	27.12	12/24	100-23-42-5371-299
Total 24AR1818655:					27.12		
24AR181865	1	Invoice	PRINTER CONTRACT - PUBLIC WORKS	06/03/2024	19.27	12/24	100-24-30-5380-225
24AR181865	2	Invoice	PRINTER CONTRACT - INSPECTION	06/03/2024	19.28	12/24	100-21-18-5190-225
Total 24AR1818656:					38.55		
24AR181865	1	Invoice	PRINTER CONTRACT - LINE DEPT	06/03/2024	29.91	12/24	601-23-52-5931-225
Total 24AR1818657:					29.91		
24AR181865	1	Invoice	PRINTER CONTRACT - FULLER HALL	06/03/2024	78.78	12/24	100-22-42-5233-299
Total 24AR1818658:					78.78		
24AR184016	1	Invoice	PRINTER CONTRACT - WATER DEPT	06/10/2024	44.81	12/24	602-23-61-5931-225
Total 24AR1840165:					44.81		
24AR184250	1	Invoice	PRINTER CONTRACT - FINANCE/UTILITY OF	06/11/2024	5.84	12/24	100-24-14-5435-225
24AR184250	2	Invoice	PRINTER CONTRACT - FINANCE/UTILITY OF	06/11/2024	42.20	12/24	601-23-80-5931-225
24AR184250	3	Invoice	PRINTER CONTRACT - FINANCE/UTILITY OF	06/11/2024	12.98	12/24	602-23-80-5931-225
24AR184250	4	Invoice	PRINTER CONTRACT - FINANCE/UTILITY OF	06/11/2024	3.90	12/24	603-23-80-5931-225
Total 24AR1842508:					64.92		
Total VISUAL EDGE IT, INC. (3995):					394.02		
WAHLTEK SALES & SERVICES (2468)							
IN29724	1	Invoice	EVENTIDE VOICE LOGGING RECORDER SY	04/17/2024	14,595.00	12/24	100-41-21-5110-513
Total IN29724:					14,595.00		
Total WAHLTEK SALES & SERVICES (2468):					14,595.00		
WALKER PROCESS EQUIPMENT (1625)							
INV025754	1	Invoice	WORM SHAFT- CLARIFIER	04/16/2024	10,147.76	12/24	603-23-70-5641-318
Total INV025754:					10,147.76		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total WALKER PROCESS EQUIPMENT (1625):					10,147.76		
WC COMMUNITY THEATRE (1323)							
30424	1	Invoice	CITY CONTRIBUTION TO HELP PAY FOR SID	03/04/2024	3,069.50	12/24	208-23-36-5393-213
Total 30424:					3,069.50		
Total WC COMMUNITY THEATRE (1323):					3,069.50		
WCAD - CHAMBER OF COMMERCE (3486)							
968	1	Invoice	CHAMBER NETWORKING EVENT	06/04/2024	400.00	12/24	242-23-36-5393-213
Total 968:					400.00		
Total WCAD - CHAMBER OF COMMERCE (3486):					400.00		
WEBER-MAXTED, ELISABETH (4922)							
053024	1	Invoice	ENERGY EFFICIENCY REBATE	05/30/2024	75.00	12/24	601-23-36-5930-979
053024	2	Invoice	CB EE RESIDENTIAL REBATE	05/30/2024	25.00	12/24	601-23-53-5930-979
Total 053024:					100.00		
Total WEBER-MAXTED, ELISABETH (4922):					100.00		
WEBSTER CITY TRUE VALUE (2155)							
2405-044926	1	Invoice	OD POOL SUPPLIES	05/29/2024	33.05	12/24	100-22-42-5242-318
Total 2405-044926:					33.05		
2405-045263	1	Invoice	3/4 QTR HOSE BIBB VALVE	05/30/2024	10.99	12/24	601-23-52-5935-314
Total 2405-045263:					10.99		
2406-045876	1	Invoice	OD POOL SUPPLIES	06/03/2024	5.49	12/24	100-22-42-5242-318
Total 2406-045876:					5.49		
2406-046166	1	Invoice	OUTSIDE PLANTS-CITY HALL	06/04/2024	4.90	12/24	100-24-36-5480-226
2406-046166	2	Invoice	OUTSIDE PLANTS- CITY HALL	06/04/2024	3.50	12/24	601-23-36-5480-226
2406-046166	3	Invoice	OUTSIDE PLANTS- CITY HALL	06/04/2024	2.80	12/24	602-23-36-5480-226
2406-046166	4	Invoice	OUTSIDE PLANTS- CITY HALL	06/04/2024	2.79	12/24	603-23-36-5480-226
Total 2406-046166:					13.99		
2406-046367	1	Invoice	1/2" EMT CONNECTOR	06/05/2024	8.58	12/24	603-23-70-5642-318
Total 2406-046367:					8.58		
2406-046516	1	Invoice	SHOP SUPPLIES	06/06/2024	99.72	12/24	603-23-70-5642-318
Total 2406-046516:					99.72		
2406-047594	1	Invoice	SHIPPING/RETURN PHONE	06/11/2024	21.39	12/24	100-22-42-5242-230
Total 2406-047594:					21.39		
Total WEBSTER CITY TRUE VALUE (2155):					193.21		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
WOOLSTOCK MUTUAL TELEPHONE ASN (1054)							
8391086 06/	1	Invoice	INTERNET SERVCE	06/01/2024	3.03	12/24	100-24-14-5435-230
8391086 06/	2	Invoice	INTERNET SERVCE	06/01/2024	21.90	12/24	601-23-80-5903-230
8391086 06/	3	Invoice	INTERNET SERVCE	06/01/2024	6.74	12/24	602-23-80-5921-230
8391086 06/	4	Invoice	INTERNET SERVCE	06/01/2024	2.02	12/24	603-23-80-5921-230
8391086 06/	5	Invoice	INTERNET SERVCE	06/01/2024	3.61	12/24	100-24-12-5430-230
8391086 06/	6	Invoice	INTERNET SERVCE	06/01/2024	12.03	12/24	601-23-81-5921-230
8391086 06/	7	Invoice	INTERNET SERVCE	06/01/2024	7.22	12/24	602-23-81-5921-230
8391086 06/	8	Invoice	INTERNET SERVCE	06/01/2024	1.20	12/24	603-23-81-5921-230
8391086 06/	9	Invoice	INTERNET SERVCE	06/01/2024	6.02	12/24	100-24-30-5380-230
8391086 06/	10	Invoice	INTERNET SERVCE	06/01/2024	6.02	12/24	601-24-30-5380-230
8391086 06/	11	Invoice	INTERNET SERVCE	06/01/2024	6.02	12/24	602-24-30-5380-230
8391086 06/	12	Invoice	INTERNET SERVCE	06/01/2024	6.01	12/24	603-24-30-5380-230
8391086 06/	13	Invoice	INTERNET SERVCE	06/01/2024	14.44	12/24	100-21-22-5140-230
8391086 06/	14	Invoice	INTERNET SERVCE	06/01/2024	38.50	12/24	100-21-21-5110-230
8391086 06/	15	Invoice	INTERNET SERVCE	06/01/2024	7.22	12/24	601-23-52-5588-230
8391086 06/	16	Invoice	INTERNET SERVCE	06/01/2024	7.22	12/24	601-23-51-5566-230
8391086 06/	17	Invoice	INTERNET SERVCE	06/01/2024	14.44	12/24	602-23-61-5642-230
8391086 06/	18	Invoice	INTERNET SERVCE	06/01/2024	4.81	12/24	100-23-43-5361-230
8391086 06/	19	Invoice	INTERNET SERVCE	06/01/2024	19.25	12/24	100-22-42-5233-230
8391086 06/	20	Invoice	INTERNET SERVCE	06/01/2024	118.62	12/24	601-24-16-5921-230
8391086 06/	21	Invoice	INTERNET SERVCE	06/01/2024	20.84	12/24	602-24-16-5921-230
8391086 06/	22	Invoice	INTERNET SERVCE	06/01/2024	20.84	12/24	603-24-16-5921-230
8391086 06/	23	Invoice	INTERNET SERVICE-SCADA	06/01/2024	55.00	12/24	602-23-61-5642-230
Total 8391086 06/01/24:					403.00		
8393034 06/	1	Invoice	INTERNET SERVICE/RSVP	06/01/2024	45.00	12/24	100-22-42-5280-230
Total 8393034 06/01/24:					45.00		
83979810 6/	1	Invoice	INTERNET SERVCE/FULLER HALL	06/01/2024	30.00	12/24	100-22-42-5280-230
Total 83979810 6/01/24:					30.00		
Total WOOLSTOCK MUTUAL TELEPHONE ASN (1054):					478.00		
ZEHNER SAFETY (1067)							
2625	1	Invoice	ANNUAL CHECK & TAG- FH	04/12/2024	45.00	12/24	100-22-42-5233-299
Total 2625:					45.00		
2627	1	Invoice	ANNUAL CHECK & TAG-PARKS	04/11/2024	153.00	12/24	100-22-42-5210-299
Total 2627:					153.00		
2628	1	Invoice	ANNUAL CHECK & TAG-SENIOR CENTER	04/11/2024	27.00	12/24	100-22-42-5280-299
Total 2628:					27.00		
Total ZEHNER SAFETY (1067):					225.00		
ZIEGLER, INC. (1071)							
SI000472834	1	Invoice	REPAIRS - 420F2	04/11/2024	531.41	12/24	204-23-30-5310-227
Total SI000472834:					531.41		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total ZIEGLER, INC. (1071):					531.41		
Total 06/17/2024:					722,865.50		
Grand Totals:					832,457.67		

Report GL Period Summary

GL Period	Amount
12/24	832,457.67
Grand Totals:	832,457.67

Vendor number hash:	1032265
Vendor number hash - split:	2092052
Total number of invoices:	249
Total number of transactions:	501

Terms Description	Invoice Amount	Net Invoice Amount
Open Terms	832,457.67	832,457.67
Claims Total:	832,457.67	832,457.67
Payroll Ending June 1, 2024	201,849.03	
Grand Total:	**$ 1,034,306.70**	

FUND LIST TOTALS FOR BILLS June 17, 2024

Account	Fund	Total Amount
001	Cash Account	268.43
100	General	198,960.73
204	Road Use Tax Funds	39,308.77
205	Airport Fund	588.50
208	Hotel/Motel Tax Fund	18,069.50
214	K9 Trust SP Rev Trust Fund	47.00
232	Blue Program Fund	50.87
242	Economic Development	18,525.00
297	TIF – People's Credit Union	9,000.00
525	Street Improvement	283,567.36
536	2020 Second Street Reconstruction Project	136,222.74
601	Electric Utility	64,384.79
602	Water Utility	32,059.71
603	Sewer Fund	29,284.63
902	Medical/Flex	2,119.64
	Claims Total	$ 832,457.67

PAYROLL

Payroll Ending June 1, 2024	$ 201,849.03
Grand Total	$1,034,306.70

WASTEWATER TREATMENT PLANT REPORT FOR THE MONTH OF May 2024

	MONTH May	Year to Date 2024	MONTH May	Year to Date 2023	
Total gallons flow	92,262,000	233,770,000	42,522,000	202,085,000	gal
Average daily flow	2,976,000		1,371,600		gal/da
Percentage treated	100		100		%
Total gallons raw sludge	119,639	493,398	78,160	370,071	gal
Total gallons digested sludge out	0		0		gal
Total gallons sludge transferred to storage tank	126,900		137,240		gal
Total gallons supernatant returned	80,725		71,038		gal
Methane gas produced	0		0		cu.ft.
Average effluent CBOD (25 mg/l aver. 40 mg/l max.)	6.5		13.4		mg/l
Number of days max. limit was exceeded	0		0		da
Average % removal	96.8		96.9		%
Average effluent suspended solids (30 mg/l aver. 45 mg/l max.)	7.12		6.3		mg/l
Number of days max. limit was exceeded	0		0		da
Average percent removal	96.8		98.3		%
Average effluent ammonia nitrogen <1.0(mg/l average,15.2 mg/l max.limitation	<1		<1		mg/l
Number of days max. limit was exceeded	0		0		da

ELECTRIC REPORT FOR THE MONTH OF May 2024

(Production Month-April 2024; Billing Month (Due) - May 2024

	MONTH May	Year to Date 2024	MONTH May	Year to 2023
TOTAL PURCHASED POWER K.W.	7,528,880	40,675,904	7,618,328	43,232,281
Gross K.W. Generated For Maint.	0	6,150	0	372,790
For Corn Belt	0	113,550	0	0
Station Power K.W.	16,034	115,200	19,086	148,855
NET K.W.TO BOARD	7,512,846	40,560,704	7,599,242	43,083,426
Billed by Clerk's Office to Customers K.W:				
Commercial Sales	2,042,889	10,642,978	2,179,749	11,727,050
Industrial Sales	2,497,062	11,795,829	2,268,124	11,694,741
City Departments & Street Lights	293,042	1,936,109	331,636	2,046,717
Residential Sales	1,912,464	11,650,722	1,940,598	12,457,687
Sales for Resale-Wholesale	485,600	3,008,800	485,000	3,433,300
KILOWATTS UNACCOUNTED	*281,789*	*1,526,266*	394,135	1,723,931
Percentage of Unaccounted for	3.75%	3.76%	5.19%	4.00%

LOAD COMPARISON	2024	2023
Peak K.W. Demand	14,812	14,976
Purchased Power	7,528,880	7,618,328
Net to Board	7,512,846	7,599,242

REMARKS:

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CITY OF WEBSTER CITY, IOWA - UTILITY REPORT
ELECTRIC UTILITY PURCHASES & SALES - 2024

Purch. Power Period	Billing Month (Due)	Month Purch.Power kWh	Pur Pwr lessStaPwr = Net to Board kWh	Month Billed KWh less StaPwr	Col D Net to Board less Col E Mo billed Mo Unaccounted For	Month Unaccounted For %	Yr To Date Purch.Power less sta pwrkWh	Yr To Date Billed &SPwr kWh	Yr To Date Unaccounted kWh	Yr To Date Unaccounted For %
Dec	Jan 2024	8,260,174	8,234,298	8,411,893	*(177,595)*	*-2.16%*	8,234,298	8,411,893	*(177,595)*	*-2.16%*
Jan	Feb 2024	9,305,951	9,276,242	8,356,871	919,371	9.91%	17,510,540	16,768,764	741,776	4.24%
Feb	Mar 2024	7,756,168	7,732,782	7,540,821	191,961	2.48%	25,243,322	24,309,585	933,737	3.70%
Mar	Apr 2024	7,824,731	7,804,536	7,493,796	310,740	3.98%	33,047,858	31,803,381	1,244,477	3.77%
Apr	May 2024	7,528,880	7,512,846	7,231,057	281,789	3.75%	40,560,704	39,034,438	1,526,266	3.76%
May	Jun 2024									
Jun	July 2024									
July	Aug 2024									
Aug	Sept 2024									
Sep	Oct 2024									
Oct	Nov 2024									
Nov	Dec 2024									
	TOTALS	40,675,904	40,560,704	39,034,438	1,526,266					

Billings By Type of Serv-kWh	Commercial	Industrial	City Depts & Street Lights	Residential	Wholesale	Station Power-N/C	Billed & Sta. Pwr Total	Previous Year Bill&Sta.Pwr Tot
Jan 2024	2,247,629	2,216,617	454,244	2,786,103	707,300	25,876	8,437,769	9,149,683
Feb 2024	2,212,465	2,422,324	415,946	2,592,136	714,000	29,709	8,386,580	8,903,311
Mar 2024	2,065,559	2,327,148	374,694	2,211,720	561,700	23,386	7,564,207	8,000,608
Apr 2024	2,074,436	2,332,678	398,183	2,148,299	540,200	20,195	7,513,991	8,230,555
May 2024	2,042,889	2,497,062	293,042	1,912,464	485,600	16,034	7,247,091	7,224,193
Jun 2024								
July 2024								
Aug 2024								
Sep 2024								
Oct 2024								
Nov 2024								
Dec 2024								
TOTALS	10,642,978	11,795,829	1,936,109	11,650,722	3,008,800	115,200	39,149,638	41,508,350

BILLING AMOUNT	Commercial Sales	Industrial Sales	City Depts. & St. Light Sales	Residential Sales	Wholesale Sales	Station Power	TOTAL SALES	PREVIOUS YEAR
Jan 2024	$272,870.82	$234,055.84	$49,468.04	$370,926.29	$68,689.01	N/C	$996,010.00	$973,456.49
Feb 2024	$269,096.16	$201,006.47	$45,795.93	$351,549.58	$70,310.33	N/C	$937,758.47	$997,484.42
Mar 2024	$254,927.96	$212,660.18	$42,301.36	$313,240.78	$58,951.91	N/C	$882,082.19	$915,334.40
Apr 2024	$255,582.97	$235,311.00	$44,603.07	$310,071.41	$56,709.32	N/C	$902,277.77	$910,025.77
May 2024	$252,174.37	$242,413.72	$39,824.47	$274,002.81	$53,152.23	N/C	$861,567.60	$874,954.84
Jun 2024								
July 2024								
Aug 2024								
Sep 2024								
Oct 2024								
Nov 2024								
Dec 2024								
TOTALS	$1,304,652.28	$1,125,447.21	$221,992.87	$1,619,790.87	$307,812.80		$4,579,696.03	$4,671,255.92

Number of Customers	Commercial	Industrial	City Depts & St. Lights	Residential	Wholesale	Total	Previous Year
Jan 2023	534	7	49	3,865	3	4,458	4,482
Feb 2023	533	7	49	3,877	3	4,469	4,482
Mar 2023	530	7	49	3,881	3	4,470	4,474
Apr 2023	534	7	51	3,905	3	4,500	4,481
May 2023	526	7	51	3,871	3	4,458	4,472
Jun 2023							
July 2023							
Aug 2023							
Sep 2023							
Oct 2023							
Nov 2023							
Dec 2023							

WATER PLANT REPORT FOR THE MONTH OF May 2024

(Production Month-April 2024 Billing Month (Due) -May 2024)

	MONTH May	Year to Date 2024	MONTH May	Year to Date 2023
Total Gallons Pumped from Wells(Inf)	26,039,000	112,432,000	26,676,000	115,589,000
Average Gallons Pumped	(867,966)		(860,516)	
Gallons for Sludge	47,000	291,400	61,100	291,400
Total Gallons to Water Plant	25,992,000	112,140,600	26,614,900	115,297,600
Gallons to Distribution System From From Water Plant (Effluent reading)	24,315,000	116,208,000	26,176,000	123,408,000
TOTAL TO SYSTEM - CUBIC FEET	3,250,442	15,534,749	3,499,222	16,497,249
Billed by Clerk's Office to Customers Cubic Feet	2,694,700	11,986,500	2,368,700	11,600,700
Billed by City Departments Cubic Feet	499,000	1,295,400	268,900	1,285,800
Used by City Departments, but not billed-estimated Cubic Feet				
Fire	0	0	0	0
Meter	0	0	0	0
Sew. Disp.	0	0	0	0
Street,Water,SewerDistribution,Line est *(main breaks,hydrant flush,sewer,valve rpr,w.tower, line dept*	13,368	66,840	1,464	54,936
Water Plant filter backwash	32,489	158,042	46,942	347,662
Ground storage tank loss				
Recreation-Drink.Fount.	4,547	4,547	4,547	4,547
Cemetery	400	400	400	400
Change in Distribution System	0	0	0	0
Used by Contractor	0	0	0	0
CUBIC FEET UNACCOUNTED FOR	5,938	2,023,020	808,269	3,203,204
Percentage of Unaccounted for	0.18%	13.02%	23.10%	19.42%

NOTE: 20 loads of lime sludge hauled to farm ground

NOTE: 26 loads of lime sludge hauled to farm ground

REMARKS:

WATER UTILITY PRODUCTION SALES & USAGE 2024

Prod Mo.	Billing Month (Due)	Month to Distribution System C/F	Month Billed & Unbilled Usage C/F	Month Unaccounted For C/F	Month Unaccounted For %	Yr to DateTo Distribution System C/F	Yr to Date Billed & Unbilled C/F	Yr To Date Unaccounted For C/F	Yr To Date Unaccounted For %
Dec	Jan 2024	3,160,342	2,634,612	525,730	16.64%	3,160,342	2,634,612	525,730	16.64%
Jan	Feb 2024	3,118,901	2,586,126	532,775	17.08%	6,279,243	5,220,738	1,058,505	16.86%
Feb	Mar 2024	3,007,144	2,358,034	649,110	21.59%	9,286,387	7,578,772	1,707,615	18.39%
Mar	Apr 2024	2,997,920	2,688,453	309,467	10.32%	12,284,307	10,267,225	2,017,081	16.42%
Apr	May 2024	3,250,442	3,244,504	5,938	0.18%	15,534,749	13,511,729	2,023,020	13.02%
May	Jun 2024								
June	July 2024								
July	Aug 2024								
Aug	Sep 2024								
Sep	Oct 2024								
Oct	Nov 2024								
Nov	Dec 2024								
	TOTALS	15,534,749	13,511,729	2,023,020					

Billings & Usage By Type of Service-C/F	Commercial	Industrial	City Depts.	Residential	Used by City Dep i.e. water breaks flush.etc. Not metered	Total	Previous Year	Previous Year Produced
Jan 2024	634,200	437,100	243,500	1,279,700	40,112	2,634,612	2,692,282	3,407,918
Feb 2024	669,300	385,800	183,100	1,311,600	36,326	2,586,126	2,588,413	3,279,852
Mar 2024	632,700	446,200	72,200	1,147,600	59,334	2,358,034	2,480,000	2,899,531
Apr 2024	670,400	405,900	297,600	1,271,300	43,253	2,688,453	2,842,397	3,410,725
May 2024	791,200	537,700	499,000	1,365,800	50,804	3,244,504	2,690,953	3,499,222
Jun 2024								
July 2024								
Aug 2024								
Sep 2024								
Oct 2024								
Nov 2024								
Dec 2024								
TOTALS	3,397,800	2,212,700	1,295,400	6,376,000	229,829	13,511,729	13,294,045	16,497,248

BILLING AMOUNT	Commercial Sales	Industrial Sales	City Depts. Sales	Residential Sales	City Depts Not Sold	TOTAL SALES	PREVIOUS YEAR
Jan 2024	$55,029.99	$26,113.01	$14,402.76	$176,535.56	N/C	$272,081.32	$ 209,127.27
Feb 2024	$57,247.43	$24,384.12	$11,188.04	$176,580.23	N/C	$269,399.82	$ 202,913.33
Mar 2024	$54,544.93	$26,114.06	$5,176.82	$164,130.96	N/C	$249,966.77	$ 194,397.02
Apr 2024	$57,311.60	$24,463.99	$17,402.07	$174,716.42	N/C	$273,894.08	$ 209,826.64
May 2024	$64,364.91	$31,537.95	$18,472.42	$174,281.55	N/C	$288,656.83	$ 209,062.30
Jun 2024							
July 2024							
Aug 2024							
Sep 2024							
Oct 2024							
Nov 2024							
Dec 2024							
TOTALS	$288,498.86	$132,613.13	$66,642.11	$866,244.72		$1,353,998.82	$ 1,025,326.56

Number of Customers	Commercial	Industrial	City Depts.	Residential		Previous Year
Jan 2023	350	7	15	3,168	3,540	3,554
Feb 2023	349	7	15	3,166	3,537	3,544
Mar 2023	350	7	15	3,169	3,541	3,542
Apr 2023	354	7	19	3,141	3,521	3,559
May 2023	350	7	19	3,117	3,493	3,557
Jun 2023						
July 2023						
Aug 2023						
Sept 2023						
Oct 2023						
Nov 2023						
Dec 2023						

CALLS FOR SERVICE

wcpd

5/1/2024 to 5/31/2024

Printed 6/4/2024

Alarm Actual/False	18
All Other Offenses	1
Animal Complaint	75
Assault	2
Assist Sheriffs Office	9
Assist VDMC	32
Assistance Public	86
Asssit Other Agency	14
Bicycle Violations	1
Burg/Breaking & Entering	5
Burning Complaint	1
Civil Disputes	5
Commercial/Resd Patrol	128
Criminal Trespass	7
Debris/Street Problems	31
Directed Assignment	127
Disorderly Conduct	1
Domestic Disturbances	8
Downtown Foot Patrol	20
Driving Complaints	22
Escort	1
Escort/Funeral	2
Fire	9
Follow Up	34
Foot Patrol	9
Fraud	5
Harassement	4
Intoxication	3

Juveniles	10
Lost/Found Property	22
Missing Person	6
Motorist Assist	15
Noise Complaints	15
Notification	3
Nuisance Calls	21
Open Window/Door	6
Operating While Intoxicat	2
Parking Violations	26
Project Awareness	4
Public Window Assist	32
Robbery	1
Runaway	4
School Foot Patrol	17
Sex Abuse	1
Shoplifting	1
Signs/Signals	1
Staionary Patrol	1
STEP Wave	21
Suicide/Attempted	1
Suspicious Activity	59
Theft	23
Tip	3
Tobacco Violation	1
Traffic Control/School	30
Traffic Stop	69
Transient	2
Trash Violation	2
Trees/Wires Down	3
Utility Problems	30
Vacation House Watch	4

Vandalism		3
Vehicle Unlock		14
Warrant Served		4
Welfare Check		18
	TOTAL	1,135

Issued Citations by Approach

Selection Criteria:

Citation Issue Date From: 05/01/2024
Citation Issue Date To: 05/31/2024
Approach (Sensor): ALL
Include Warning Notices: NO

Site: EB US 20 @ MM 141 (US20EB)

Citation Type		Count
Speed		1025
	Total for Approach	1025

Site: NB Briggs Woods Rd @ Millards Ln (BWMLNB)

Citation Type		Count
Speed		59
	Total for Approach	59

Site: SB Briggs Woods Rd @ Millards Ln (BWMLSB)

Citation Type		Count
Speed		462
	Total for Approach	462

Site: WB US 20 @ MM 141 (US20WB)

Citation Type		Count
Speed		1643
	Total for Approach	1643
	Total	**3189**

FIRE DEPARTMENT REPORT

May 2024

ALARMS

DATE	TIME	ADDRESS	TYPE OF SITUATION FOUND	CITY, MUTUAL AID, DISTRICT
05-01	1035	1229 Kathy Ln.	Hazmat unknown	City
05-01	1820	1501 Wall St.	Cooking Fire	City
05-05	2220	1414 Divison	House Fire	Mutual
05-09	1501	Whitefox Rd.	Standby Law Enforcement	City
05-10	1247	250th st.	Grass fire	Mutual
05-11	0732	1111 Second st.	Trash fire	City
05-14	1823	900 Park Ave.	Trash fire	City
05-19	2321	104 Southfield Dr.	Carbon Monoxide incident	City
05-21	0315	2235 Edgewood dr.	Smoke detector activation	City
05-21	1608	611 Second st.	Smoke in house	City
05-21	2024	Broadway and Elm st.	Power line down	City
05-24	1801	Beach st.	Vehicle accident clean up	City
05-25	1724	2600 Inkpaduta	Swift Water Rescue	City
05-26	1036	1333 Collins	Gas Leak	City
05-27	1125	1004 Fair Meadow dr.	Smoke detector activation	City
05-27	1534	1021 James st.	Carbon Monoxide incident	City
05-29	1254	411 Closz st.	Elevator rescue	City

05-30	2040	1200 Bluff st.	Chemical Hazard	City

Year to Date Total = 77

May Total =18
City- =16
Mutual- =2
District- =0

TRAINING

	TIME	TYPE OF TRAINING	HOURS	PERSONNEL
05-01		Staff meeting	2	11
05-13		Swift water rescue training/ hose	2	27

Year to Date Total = 371 **May Total = 76**

INSPECTIONS

DATE	BUSINESS	REASON FOR INSPECTION
05-01	Wildcat Distillary Parklet	Annual
05-03	Grid Iron	Annual
05-07	St. Pauls	Annual
05-31	New building inspection questions Career Ag	Plan Review

Year to Date Total = 21 **May Total =04**

MISCELLANEOUS

DATE	TIME	EVENT
05-02		Organize Inspection process
05-03		Tour of firehouse with 4-5 year olds
		Fit test Firefighter Staley
05-04		Test outdoor warning signals

05-05		Wagner in for work on Firefighter II skills
05-06		Truck pump testing
05-07		Complete pump testing
05-08		Iowa flooring finishes kitchen and bathroom floors
05-09		Repair pressure relief valve on E33
05-13		Replace boat battery
05-15		Assist Street department monitoring a manhole
05-16		Career on wheels at ICCC
		Boy scouts in park
05-20		Work on preparing for annual maintenance of trucks
05-21		Set off outside warning system
05-23		Work on New Pumper purchase
05-27		Memorial day parade
05-31		Flush for street department 10,000 gallons

MEETING ROOM

DATE	TIME	USED BY
05-21		Union meeting

WEBSTER CITY
Opportunity Awaits

MEMORANDUM

TO: Mayor and City Council

FROM: Adam Dickinson, Electric Utility Supervisor

DATE: June 17, 2024

RE: Award 2022 Electrical Underground Conversion Project (East Side Conversion Project), construction portion, to Beckstrom Construction Inc., Elkhart, Iowa

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SUMMARY: Requesting approval to accept and proceed with bid submittal from Beckstrom Construction Inc., Elkhart, Iowa for the 2022 Electrical Underground Conversion Project (East Side Conversion Project), construction portion in the amount of $2,084,471.70.

PREVIOUS COUNCIL ACTION:

- At the February 27, 2022 Council Meeting, the Council rejected all bids on the 2022 Electrical Underground Conversion Project.
- On September 19, 2022 Council approved 32 electrical easements in preparation for this project, with 1 additional easement approved October 17, 2022.
- On October 3, 2022 staff was granted permission to submit an order for materials as bid by Wesco Distribution in the amount of $427,706.17. At that time, transformers were excluded from proposals.
- Transformers and associated materials were later bid and were awarded January 16, 2023 to two (2) separate vendors; RESCO (approx. $355,500.00) and WESCO (approx. $10,500.00). At that time, transformers were reported to have a 60-week lead time.
- On April 24, 2024 staff was provided with information of an expected due date of the transformers to be 11/11/24.
- On May 6, 2024 Council passed and adopted Resolution No. 2024-067 setting a Public Hearing for June 17, 2024 at 6:05 p.m. on proposed plans, specifications, form of contract and estimate of cost for the 2022 Electrical Underground Conversion Project (East Side Conversion Project), construction portion. Bid letting for the project was held June 5th, 2024 at 3:00 p.m. with four bids being submitted for consideration.

BACKGROUND/DISCUSSION: The project converts the overhead electrical to URD as part of our URD 25 Year Plan. The project will not only alleviate overhead outage problems ranging from old copper wire lines needing replacement, to weather influences, to animals climbing resulting in outages and in costly maintenance and repairs, but also help toward obtaining our goal of converting the entire distribution system from overhead to URD.

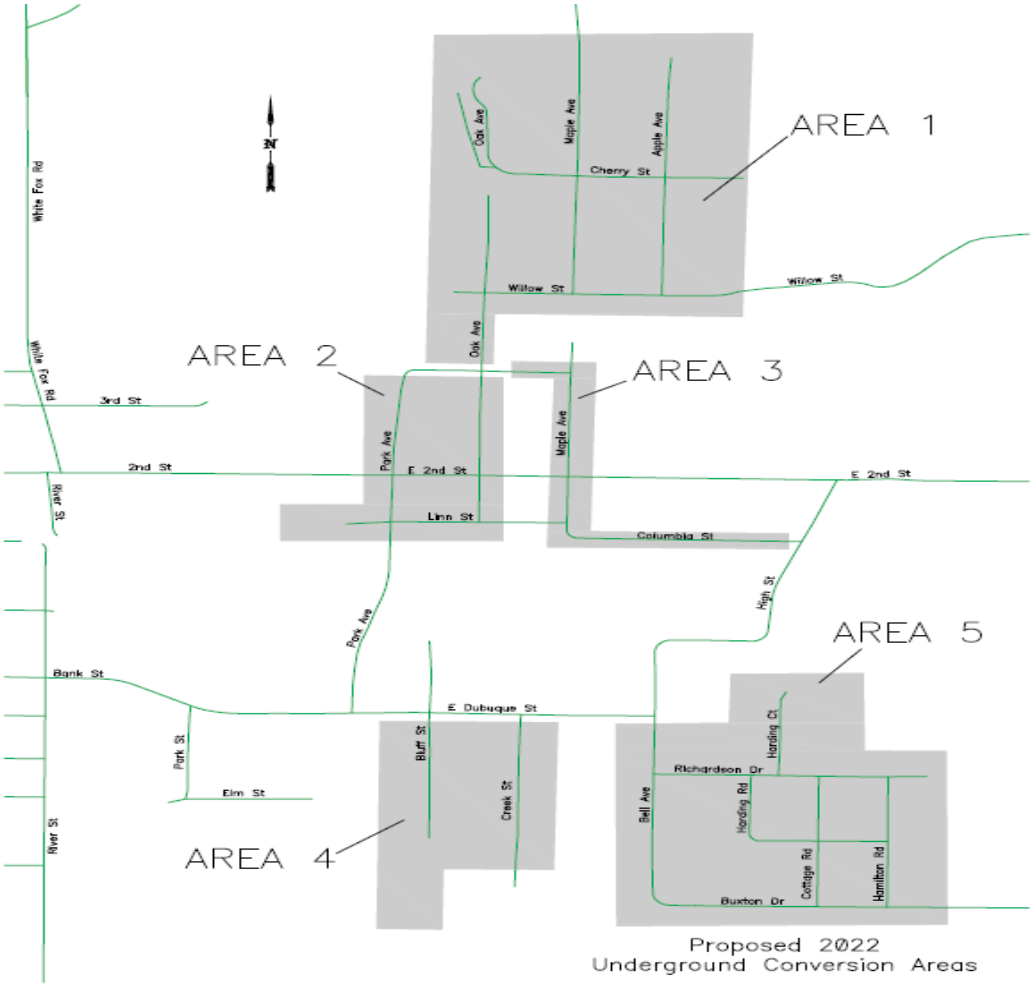
Other than the transformers, all previously ordered materials have been awarded and received. This area (see map on following page) was first presented in the FY20 Capital Improvement Plan,

projected for FY22-23. Then COVID happened and the inflation of materials and construction costs grew immensely. As time has passed, the Electric Department has slowly continued moving forward with this project. We are to the final phase of the project now.

The permit the City obtained in 2022 with Chicago, Central & Pacific Railroad Company will expire December 15, 2024.

FINANCIAL IMPLICATIONS: To date, the City has paid $546,063.42 with an additional $355,435.04 (+/- for escalation) for transformers previously ordered, not yet received. In FY25, $1.9 was budgeted for the construction portion of this project. On April 29, 2024 the engineer for this project, P&E Engineering Co., provided staff with an opinion of probable cost estimate at $2,250,000.

RECOMMENDATION: Staff requests approval to award and proceed with the 2022 Electrical Underground Conversion Project (East Side Conversion Project), Construction Phase with Beckstrom Construction Inc., Elkhart, Iowa in the amount of $2,084,471.70 and authorize the City Manager to make any needed budget amendments for completion of this project.



Proposed 2022
Underground Conversion Areas

Bid Tabulation

City of Webster City

East Side Conversion Project

Bid Opening 3:00 PM June 5, 2024

Contract Construction

	Bidder	Satisfactory Bid Bond	Ack Addenda 1&2	Base Bid	Added UG Services: Unit price per service (U1)	Added UG Services: Unit Price for 10 ft extension (U2)	Added UG Services: Total for 15 Services and 10 extensions	Total Bid	% of Estimate
1	Michels Underground Cable, Inc., Brownsville, WI	X	X	$2,652,311.89	$6,256.79	$758.67	$101,438.55	$2,753,750.44	122.4%
2	Intren, LLC, Des Moines, IA	X	X	$2,362,755.00	$1,915.00	$270.00	$31,425.00	$2,394,180.00	106.4%
3	Beckstrom Construction Inc, Elkhart, IA	X	X	$2,043,971.70	$2,500.00	$300.00	$40,500.00	$2,084,471.70	92.6%
4	TMM2, Clearfield, IA	X	X	$2,541,720.70	$3,305.22	$269.92	$52,277.50	$2,593,998.20	115.3%
5									
6									
	Estimate of probable cost of contract			$2,250,000.00					

P&E ENGINEERING CO.
POWER SYSTEMS ANALYSIS AND DESIGN
Richard D. Kline, P.E. Timothy G. Ernst, P.E.
Jared A. Kline, P.E. Mark C. Reisinger, P.E.
500 SW 7th Street, Suite 100, Des Moines, IA 50309
p. 515-989-3083 pe@peengr.com

June 10, 2024

Ms. Dedra Nerland
City of Webster City
400 2nd St.
Webster City, IA 50595

Dear Dedra:

Bids were received at 3:00 PM on June 5 for the installation contract for the East Side Conversion Project. Four bids were received for the contract, as follows.

		Added UG Services			
Bidder	**Base Bid**	**Unit price per service (U1)**	**Unit Price for 10 ft extension (U2)**	**Total for 15 Services and 10 extensions**	**Total Bid**
Michels Underground Cable, Inc., Brownsville, WI	$2,652,311.89	$6,256.79	$758.67	$101,438.55	$2,753,750.44
Intren, LLC, Des Moines, IA	$2,362,755.00	$1,915.00	$270.00	$31,425.00	$2,394,180.00
Beckstrom Construction Inc, Elkhart, IA	$2,043,971.70	$2,500.00	$300.00	$40,500.00	$2,084,471.70
TMM2, Clearfield, IA	$2,541,720.70	$3,305.22	$269.92	$52,277.50	$2,593,998.20

The lump sum bid price covers all labor and materials (except for the materials that have been purchased by Webster City) to complete the work based on the current design. The Unit Price items are to cover additional underground services that will be added to the contract if customers in the area elect to upgrade their meter settings to accommodate an underground service.

My estimate for the value of the base contract was $2,250,000. The low bid from Beckstrom Construction is 91% of my estimated cost. The other bids ranged from 105% to 118% of my estimate.

Beckstrom Construction is located in Elkhart, IA. They specialize in the installation of underground utilities by directional boring. They have been in business since 2003, and have completed projects for utilities throughout the Midwest. Recent work has included

projects for the city of Onawa, City of Breda, Consumer's Energy, and MidAmerican Energy.

Beckstrom will utilize Liberty Line Builders from Montezuma, IA as a sub-contractor for the cable and equipment installation, and for removal of existing overhead facilities. Liberty Line Builders has been in business since 2018, with capability for overhead and underground distribution work and overhead sub-transmission work. They have recently completed projects for Grundy County REC, Montezuma Light & Power, and MidAmerican Energy.

I have talked to several of the references provided by both Beckstrom and Liberty Line Builders. All confirmed the information provided by the contractors was accurate, and that the work was performed satisfactorily.

Beckstrom is ready to start the work as soon as the contract is approved and conduit can be delivered. The completion date is specified as December 31, 2025. Beckstrom has assured me that this schedule is realistic but is dependent on the availability of materials.

I recommend that Webster City accept the Beckstrom Construction bid and enter into a contract with them for this project.

If the Council accepts this recommendation, I will prepare a Notice of Award and send it to Beckstrom, and request that they provide the required bonds and insurance certificates. I will also send you two copies of the Contract ready for signatures, after the bonds and insurance certificates are received and approved. I will then issue the Notice to Proceed, after the contracts have been signed by both Webster City and Beckstrom.

The value of the materials that were purchased earlier for this project is $769,255. Including the cost of these materials, the total construction cost for this project is $2,853,727.

Please let me know if you have any questions concerning this recommendation.

Sincerely,

Allan Powers, P.E.

cc: Adam Dickinson

P&E ENGINEERING CO.
POWER SYSTEMS ANALYSIS AND DESIGN

Richard D. Kline, P.E. Timothy G. Ernst, P.E.
Jared A. Kline, P.E. Mark C. Reisinger, P.E.

500 SW 7th Street, Suite 100, Des Moines, IA 50309
p. 515-989-3083 pe@peengr.com

April 29, 2024

Ms. Dedra Nerland
Webster City
400 2nd St.
Webster City, IA 50595

Dear Dedra:

The following opinion of probable cost is my best estimate of the value of the bids that I anticipate you will receive for the installation contract for the East Side Conversion Project.

My estimate based on historical costs, recent bid results, and inflation is $2,250,000.

Please note that I have no control over the cost or availability of labor, equipment, or materials, or over market conditions, and that this opinion of probable cost is made solely on the basis of my professional judgment and experience. I do not make any warranty, express or implied, that the bids will not vary from this opinion of probable cost.

Sincerely,

Allan Powers, P.E.

cc: Mr. Adam Dickinson

RESOLUTION NO. 2024 - xxx

RESOLUTION APPROVING TO ACCEPT AND PROCEED WITH THE BID SUBMITTAL FROM BECKSTROM CONSTRUCTION INC., ELKHART, IOWA, FOR THE 2022 ELECTRICAL UNDERGROUND CONVERSION PROJECT (EAST SIDE CONVERSION PROJECT), CONSTRUCTION PORTION, IN THE AMOUNT OF $2,084,471.70

WHEREAS, the City Council of Webster City previously rejected all bids for the 2022 Electrical Underground Conversion Project at the Council Meeting on February 27, 2022; and

WHEREAS, on September 19, 2022, the City Council approved 32 electrical easements in preparation for this project, with one additional easement approved on October 17, 2022; and

WHEREAS, on October 3, 2022, the City staff was granted permission to submit an order for materials as bid by Wesco Distribution in the amount of $427,706.17, with transformers excluded from the proposals; and

WHEREAS, the permit the City obtained in 2022 with Chicago, Central & Pacific Railroad Company will expire December 15, 2024; and

WHEREAS, transformers and associated materials were later bid and awarded on January 16, 2023, to RESCO and WESCO with reported transformer lead times of 60 weeks, and

WHEREAS, the City has already paid $546,063.42 and expects to pay an additional $355,435.04 for transformers previously ordered with an expected delivery date of November 11, 2024; and

WHEREAS, on June 5, 2024, Beckstrom Construction Inc., Elkhart, Iowa, submitted the lowest bid of $2,084,471.70 for the 2022 Electrical Underground Conversion Project (East Side Conversion Project), construction portion; and

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa, as follows:

Section 1. The City Council hereby approves and accepts the bid submittal from Beckstrom Construction, Inc., Elkhart, Iowa for the 2022 Electrical Underground Conversion Project (East Side Conversion Project), construction portion, in the amount of $2,084,471.70.

Section 2. The City Manager is hereby authorized to make any needed budget amendments and to take all necessary actions to proceed with the completion of the 2022 Electrical Underground Conversion Project (East Side Conversion Project), construction portion.

Passed and adopted this 17th day of June, 2024.

_____
John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Brandon Bahrenfuss, Street Department Supervisor
John Harrenstein, City Manager

DATE: June 17, 2024

RE: Adopt a Resolution finally approving and confirming Proposed Plans and Specifications and Proposed Form of Contract and Estimate of Cost for the Construction of the FY 2025 HMA Street Improvements Project and Award of Contract to Heartland Asphalt Inc., Mason City, Iowa.

SUMMARY: Two bids were received at the bid opening on June 11, 2024. The two bids received were from Heartland Asphalt Inc., Mason City, at $858.016.01 and Fort Dodge Asphalt, Fort Dodge at $946,541.25, for the base bid plus all four bid additive alternates A, B, C and D. Both bids came in under the engineers estimate for construction of $973,115 (base plus all alternates).

PREVIOUS COUNCIL ACTION:

- The Council approved an agreement with Snyder & Associates to provide On-Call Paving Specialist Services on February 6, 2017.
- City Council Approved CIP-CEP Plan for FY 2024-2025 through 2028-2029 on April 15, 2024.
- City Council Approved Amendment 27 to the On-Call Street Paving Specialist Agreement with Snyder & Associates on September 5, 2023.
- City Council Adopted Resolution No. 2024-085 on May 20, 2024 setting June 17, 2024 at 6:05 p.m. for Public Hearing on Proposed Plans and Specifications and Proposed Form of Contract and Estimate of Cost for the Construction of the FY 2025 HMA Improvements Project.

BACKGROUND/DISCUSSION: There are five locations in this project that are part of the base bid: Water Street (Funk St to Prospect St), Boone Street (Grove St to Des Moines St), East Street (300' N/O Lucas St to Des Moines St), Bell Ave and High Street, and Third Street (Grove St to Broadway St). There are four locations in this project that are bid alternatives: Water Street (Willson Ave to Seneca St), Nokomis Park Parking Lot, Boone Street (Des Moines St to Wilson Ave), and Buxton Drive (Bell Ave to City Limits).

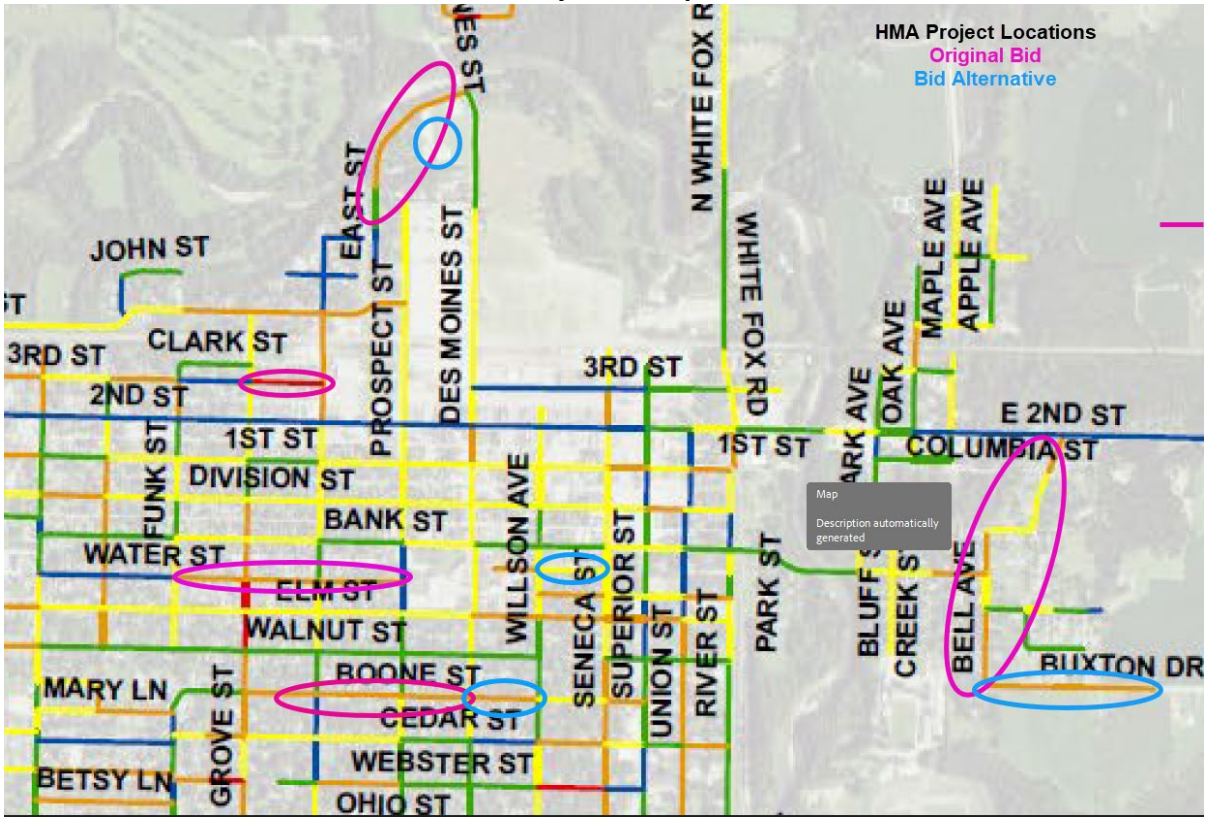
The project includes limited segments of curb and gutter replacement, pavement milling, HMA resurfacing, traffic control and staging plans, and utility fixture adjustments such as sewer manhole boxouts and Water valve extensions. Utility pipe or structure replacements are not anticipated for this Project. City staff will core out all sub-base material that appears to be failing or causing settling. New sub-base material will be supplied by the City from recycled concrete and asphalt millings.

Snyder & Associates provided the City with a Pavement Management Report on January 29, 2021 with the report being updated on October 15, 2021. The report rated City streets into 5 categories using a PCI Range (Pavement Condition Index & Classification). The Pavement Condition Index (PCI) rating schedule from 0 to 100 with 100 being representative of a brand-new pavement with no distress. A pavement with an excellent condition has a PCI in the range of 81 to 100 and is displayed in blue. A very poor pavement has a PCI of 0 to 20 and is shown in red. Boone Street (Grove Street to Willson Ave & 900 Blk of Third St) has a PCI rating of "Poor" being in the 21-40 range, while Elm Street (Funk St to Prospect St & Willson Ave to Seneca St) has a PCI rating of "Very Poor" being in the 0-20 range. Bell Ave., Buxton Dr., and High St. has a PCI rating of Fair to Poor condition. Pavement repairs will include core out removals for poor sub-base locations, thin resurfacing (3"), no subsurface drainage improvement, which is not considered to be the design standard that would produce a full life pavement (25+ years). The City has had good experience with this approach.

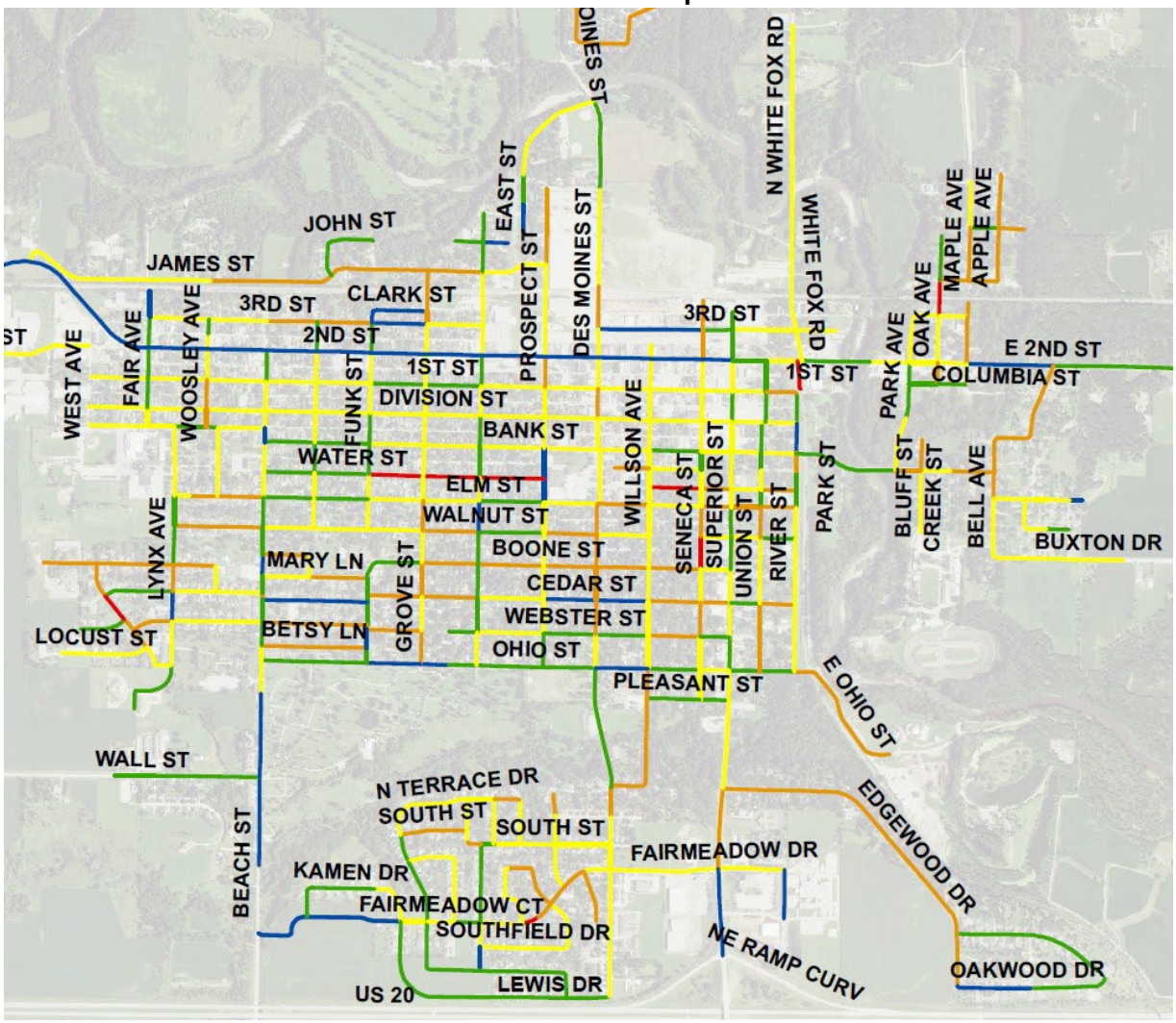
Table 1- Pavement Condition Index (PCI) & Classification

PCI Range	Condition Classification
81-100	Excellent
61-80	Good
41-60	Fair
21-40	Poor
0-20	Very Poor

January 2021 Report



October 2021 Report



The anticipated schedule for the project is as follows:

Task Completion	Completion Date
PMT Meeting	April 26, 2024
95% Check Plan, Contract Documents	May 3, 2024
City Final Comments	May 10, 2024
Complete Final Plans and Contract Documents	May 20, 2024
City Council sets Hearing Dates	May 20, 2024
Bid Letting	June 11, 2024
City Council Review Bids Received / Contract Award	June 17, 2024
City begins core out	June 18, 2024
Early Start Construction	July 1, 2024
Late Start Construction	September 3, 2024
Completion of Construction	Mid-October

FINANCIAL IMPLICATIONS: The contracted amount for the project is $858,016.01.

RECOMMENDATION: Staff recommends the City Council adopt a resolution finally approving and confirming plans, specifications and form of contract and estimate of cost for the FY 2025 HMA Street Improvements Project and awarding contract base and alternates A, B, C and D to Heartland Asphalt Inc., Mason City, in the Amount of $858,016.01 and committing necessary funds to complete the project.

TABULATION OF BIDS
2025 HMA Improvements Project
City of Webster City
Project No. 124.0534.01A
Bid Date/Time: June 11, 2024 at 2:00 PM

				ENGINEER'S ESTIMATE		1 HEARTLAND ASPHALT, INC. MASON CITY, IOWA		2 FORT DODGE ASPHALT FORT DODGE, IOWA	
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
	EARTHWORK								
2.1	Granular Shoulder Finishing, City Furnished Material	STA	68.2	$ 350.00	$ 23,870.00	$ 141.65	$ 9,660.53	$ 76.25	$ 5,200.25
	STRUCTURES FOR SANITARY AND STORM								
6.1	Manhole Adjustment, Minor	EA	19	$ 1,500.00	$ 28,500.00	$ 2,630.00	$ 49,970.00	$ 2,300.00	$ 43,700.00
	STREETS AND RELATED WORK								
7.1	Curb and Gutter, 2.5' Width, 6 Inch Thickness	LF	494	$ 45.00	$ 22,230.00	$ 33.75	$ 16,672.50	$ 32.00	$ 15,808.00
7.2	HMA & PCC Pavement Samples and Testing	LS	1	$ 10,000.00	$ 10,000.00	$ 13,200.00	$ 13,200.00	$ 14,615.50	$ 14,615.50
7.3	HMA Overlay, 1/2" Agg, ST, PG 58-28S, 1.5 In. Thickness	TON	3971	$ 105.00	$ 416,955.00	$ 100.95	$ 400,872.45	$ 106.00	$ 420,926.00
7.4	HMA Fillet, Place Only	SY	1065	$ 12.00	$ 12,780.00	$ 1.00	$ 1,065.00	$ 69.00	$ 73,485.00
7.5	Milling, 3" Nominal Depth	SY	12555	$ 7.00	$ 87,885.00	$ 3.33	$ 41,808.15	$ 5.45	$ 68,424.75
7.6	Milling, Variable Depth	SY	866	$ 10.00	$ 8,660.00	$ 3.33	$ 2,883.78	$ 5.45	$ 4,719.70
7.7	Remove Curb and Gutter	LF	494	$ 12.00	$ 5,928.00	$ 23.05	$ 11,386.70	$ 16.00	$ 7,904.00
7.8	HMA Surface Patch	TON	190	$ 250.00	$ 47,500.00	$ 174.30	$ 33,117.00	$ 106.00	$ 20,140.00
	TRAFFIC CONTROL								
8.1	Temporary Traffic Control	LS	1	$ 5,000.00	$ 5,000.00	$ 11,400.00	$ 11,400.00	$ 10,000.00	$ 10,000.00
	SITE WORK AND LANDSCAPING								
9.1	Filter Sock, 12" Dia	LF	400	$ 3.00	$ 1,200.00	$ 5.00	$ 2,000.00	$ 1.00	$ 400.00
9.2	Remove Filter Sock	LF	400	$ 1.00	$ 400.00	$ 1.00	$ 400.00	$ 1.00	$ 400.00
	MISCELLANEOUS								
11.1	Mobilization	LS	1	$ 45,000.00	$ 45,000.00	$ 35,230.00	$ 35,230.00	$ 13,805.00	$ 13,805.00
11.2	Maintenance of Solid Waste Collection	LS	1	$ 2,000.00	$ 2,000.00	$ 1,500.00	$ 1,500.00	$ 500.00	$ 500.00
	TOTAL CONSTRUCTION COST BASE BID:				$ 717,908.00		$ 631,166.11		$ 700,028.20

Bid Additive Alternate A: Water Street - Willson to Seneca

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
A6.1	Manhole Adjustment, Minor	EA	2	$ 1,500.00	$ 3,000.00	$ 2,630.00	$ 5,260.00	$ 2,300.00	$ 4,600.00
A7.1	Curb and Gutter, 2.5' Width, 6 Inch Thickness	LF	194	$ 45.00	$ 8,730.00	$ 37.00	$ 7,178.00	$ 32.00	$ 6,208.00
A7.3	HMA Overlay, 1/2" Agg, ST, PG 58-28S, 1.5 In. Thickness	TON	257	$ 105.00	$ 26,985.00	$ 100.95	$ 25,944.15	$ 106.00	$ 27,242.00
A7.5	Milling, 3" Nominal Depth	SY	1485	$ 7.00	$ 10,395.00	$ 3.33	$ 4,945.05	$ 5.45	$ 8,093.25
A7.7	Remove Curb and Gutter	LF	194	$ 10.00	$ 1,940.00	$ 23.05	$ 4,471.70	$ 16.00	$ 3,104.00
A8.1	Temporary Traffic Control	LS	1	$ 2,500.00	$ 2,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00
	TOTAL CONSTRUCTION COST BID ADDITIVE ALTERNATE A:				$ 53,550.00		$ 49,298.90		$ 50,747.25

Bid Additive Alternate B: Nokomis Park Parking Lot

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
B2.1	Granular Shoulder Finishing, City Furnished Material	STA	6.4	$ 350.00	$ 2,240.00	$ 141.65	$ 906.56	$ 76.25	$ 488.00
B7.3	HMA Overlay, 1/2" Agg, ST, PG 58-28S, 1.5 In. Thickness	TON	537	$ 105.00	$ 56,385.00	$ 100.95	$ 54,210.15	$ 106.00	$ 56,922.00
	TOTAL CONSTRUCTION COST BID ADDITIVE ALTERNATE B:				$ 58,625.00		$ 55,116.71		$ 57,410.00

Bid Additive Alternate C - Boone Street Des Moines to Willson

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
C6.1	Manhole Adjustment, Minor	EA	1	$ 1,500.00	$ 1,500.00	$ 2,630.00	$ 2,630.00	$ 2,300.00	$ 2,300.00
C7.1	Curb and Gutter, 2.5' Width, 6 Inch Thickness	LF	120	$ 45.00	$ 5,400.00	$ 38.50	$ 4,620.00	$ 32.00	$ 3,840.00
C7.3	HMA Overlay, 1/2" Agg, ST, PG 58-28S, 1.5 In. Thickness	TON	280	$ 105.00	$ 29,400.00	$ 100.95	$ 28,266.00	$ 106.00	$ 29,680.00
C7.5	Milling, 3" Nominal Depth	SY	1613	$ 7.00	$ 11,291.00	$ 3.33	$ 5,371.29	$ 5.45	$ 8,790.85
C7.7	Remove Curb and Gutter	LF	120	$ 10.00	$ 1,200.00	$ 23.05	$ 2,766.00	$ 16.00	$ 1,920.00
C8.1	Temporary Traffic Control	LS	1	$ 2,500.00	$ 2,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00
	TOTAL CONSTRUCTION COST BID ADDITIVE ALTERNATE C:				$ 51,291.00		$ 45,153.29		$ 48,030.85

Bid Additive Alternate D: Buxton Drive Bell to City Limit

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
D2.1	Granular Shoulder Finishing, City Furnished Material	STA	25.8	$ 350.00	$ 9,030.00	$ 141.65	$ 3,654.57	$ 76.25	$ 1,967.25
D7.3	HMA Overlay, 1/2" Agg, ST, PG 58-28S, 1.5 In. Thickness	TON	695	$ 105.00	$ 72,975.00	$ 100.95	$ 70,160.25	$ 106.00	$ 73,670.00
D7.4	HMA Fillet, Place Only	SY	148	$ 12.00	$ 1,776.00	$ 1.00	$ 148.00	$ 69.00	$ 10,212.00
D7.6	Milling, Variable Depth	SY	546	$ 10.00	$ 5,460.00	$ 3.33	$ 1,818.18	$ 5.45	$ 2,975.70
D8.1	Temporary Traffic Control	LS	1	$ 2,500.00	$ 2,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00
	TOTAL CONSTRUCTION COST BID ADDITIVE ALTERNATE D:				$ 91,741.00		$ 77,281.00		$ 90,324.95

TOTAL BASE BID AND ALTERNATES A, B, C, AND D:	$ 973,115.00	$ 858,016.01	$ 946,541.25
BID SECURITY:		10%	10%

June 11, 2024

Brandon Bahrenfuss
Derrick Drube
City of Webster City
400 East Second Street
Webster City, Iowa 50595

RE: CITY PROJECT 9-24-001: FY 2025 HMA STREET IMPROVEMENTS PROJECT
BID LETTING RESULTS AND RECOMMENDATION FOR APPROVAL

Dear Brandon and Derrick:

The bid letting for the FY 2025 HMA Street Improvements Project was held Tuesday, June 11, 2024, producing two bidders, Fort Dodge Asphalt Company and Heartland Asphalt Incorporated. Heartland Asphalt Incorporated of Mason City, Iowa was the apparent low bid for combined base bid plus all four alternates at $858,016.01.

The project had four bid alternates and the bids are summarized below:

Bid Component	Engineer's Estimate	Fort Dodge Asphalt	**Heartland Asphalt, Inc.**
Base Bid	$ 717,908.00	$ 700,028.20	$631,166.11
Alt A	$ 53,550.00	$ 50,747.25	$ 49,298.90
Alt B	$ 58,625.00	$ 57,410.00	$ 55,116.71
Alt C	$ 51,291.00	$ 48,030.85	$ 45,153.29
Alt D	$ 91,741.00	$ 90,324.95	$ 77,281.00
Recommended Award Base +All Alts	$973,115.00	$ 946,541.25	**$858,016.01**

The bids were reviewed and tabulated (refer to attached tabulation). The engineer's estimated cost was $973,115. Bids were competitive, given the region's contractor pool.

Snyder & Associates has worked with Heartland Asphalt Incorporated successfully in the past on similar projects such as the 2022 HMA Improvements. Heartland Asphalt Incorporated has completed numerous projects in the region with success. We believe that Heartland Asphalt Incorporated can successfully complete this project.

Snyder & Associates recommends the City Council award this contract to Heartland Asphalt Company for the bid of $858,016.01 for Base Bid Plus Alternates A, B, C and D.

Respectfully,

SNYDER & ASSOCIATES, INC.

Laura C. Lamberty, P.E.
Project Manager

Cc: John Haldeman, P.E.

RESOLUTION NO. 2024 - xxx

RESOLUTION FINALLY APPROVING AND CONFIRMING PLANS, SPECIFICATIONS AND FORM OF CONTRACT AND ESTIMATE OF COST FOR FY 2025 HMA STREET IMPROVEMENTS PROJECT; AWARDING CONTRACT TO HEARTLAND ASPHALT INC., MASON CITY, IN THE AMOUNT OF $858,016.01 AND COMMITTING NECESSARY FUNDS TO COMPLETE THE PROJECT; AND AUTHORIZING MAYOR AND CITY CLERK TO ENTER INTO CONTRACT WITH SAID CONTRACTOR FOR THE PROJECT

WHEREAS, the City Council of the City of Webster City, Iowa, has determined that it is necessary and desirable that a public improvement be done as described in the proposed plans and specifications and form of contract, which may be hereafter referred to as the FY 2025 HMA Street Improvements Project, (and is hereinafter referred to as the "Project"), which proposed plans, specifications and form of contract and estimate of cost are on file with the City Clerk; and,

WHEREAS, this Council has heretofore approved plans, specifications and form of contract for the proposed construction of the FY 2025 HMA Street Improvements Project, as described in the resolution providing for a notice of hearing on proposed plans and specifications and proposed form of contract for such 2025 HMA Street Improvements Project and the taking of bids therefor; and,

WHEREAS, hearing has been held on objections to the proposed plans, specifications, and form of contract and to the cost of the FY 2025 HMA Street Improvements Project, and no objections were provided; and,

WHEREAS, pursuant to notice duly published in the manner and form prescribed by resolution of this Council and as required by law, bids and proposals were received by this Council for the FY 2025 HMA Street Improvements Project; and,

WHEREAS, all of the said bids and proposals have been carefully considered, and it is necessary and advisable that provision be made for the award of the contract for the project; and,

WHEREAS, the bid for the project submitted by the following contractor is fully responsive to the plans and specifications for the project, heretofore approved by the Council, and is the lowest responsible bid received, such bid being as follows: Heartland Asphalt Inc., Mason City, in the amount of $858,016.01; and,

WHEREAS, the contract for the Project be and the same is hereby awarded to such contractor at the total estimated cost set out above, the final settlement to be made on the basis of the unit prices therein set out and the actual final quantities of each class of materials furnished, the said contract to be subject to the terms of the aforementioned resolution, the notice of hearing and letting, the plans and specifications and the terms of the bidder's written proposal; and,

WHEREAS, the amount of the contractor's performance and/or payment bonds is hereby fixed and determined to be 100% of the amount of the contract;

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa, as follows:

Section 1. That the plans, specifications and form of contract, and estimate of cost referred to in the preamble hereof be and the same are hereby finally approved by Council and the aforementioned public improvement to be constructed in accordance with the plans, specifications and form of contract is necessary and desirable.

Section 2. Approves the commitment of $858,016.01 needed to complete the project and award the Contract for the FY 2025 HMA Street Improvements Project to Heartland Asphalt Inc., Mason City, Iowa.

Section 3. The Mayor and City Clerk are hereby authorized and directed to enter into a written contract with said contractor for the project.

Passed and adopted this 17th day of June, 2024.

_____
John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Ariel Bertran, Community Development Director

DATE: June 17, 2024

RE: Adopt a Resolution Authorizing and Approving Execution of a Purchase Agreement for the Sale of Lots in Brewer Creek Estates 6th Addition Between the City of Webster City and Samann, L.C.

SUMMARY: A public hearing needs to be held for the disposal of City-owned property located in Brewer Creek Estates 6th Addition.

PREVIOUS COUNCIL ACTION: A public hearing was held on November 6, 2017, establishing lot prices in Brewer Creek Estates 5th and 6th Additions. On June 3, 2024, Council approved a resolution to set the date of June 17, 2024 at 6:05 p.m. to hold the Public Hearing on the disposal of City-owned property.

BACKGROUND/DISCUSSION: The City has been approached by a prospective developer, Samann L.C., to purchase four lots in Brewer Creek Estates 6th Addition; lot 22 ($15,995.00), lot 23 ($15,995.00), lot 28 ($19,995.00) and lot 29. ($24,995.00). The Developer will purchase the lots at full asking price originally established by Council in 2017, with $500 down per lot at the time the purchase agreement is executed and the remaining balance of each lot price paid after each home is built and sold. A Purchase Agreement has been developed by the City Attorney in the amount of $76,980.00 for the total price of all four lots. If the purchase agreement is approved, closing on the four lots in the Brewer Creek Estate 6th Addition will commence immediately.

As with all lot purchases in the Brewer Creek Additions, the covenants set forth require the developer to have the lots developed within eighteen months of purchase unless an extension is granted by the City. If the lots are not developed within eighteen months, and the property has reverted back to the City, the developer has the option to purchase the lot(s) with any and all improvements made, at the same price as originally purchased from the City. The lot prices

were established on November 6, 2017 for both the 5th and 6th Additions of Brewer Creek, which would allow the City to sell these lots without holding a public hearing for each lot sold. However, to execute this purchase agreement for the disposal of City-owned property, with the special exception request made by the developer to pay after the sale of the homes, a public hearing is required.

By entering this purchase agreement, it will be the responsibility of City Staff to keep City Council informed of the progress of the development of the lots. If the lots are not developed within the eighteen-month timeframe that is in place by restrictive covenants, it will be the responsibility of City Staff and City Council to ensure the property reverts back to the City, by way of a deed held in escrow. We are also taking the precaution of stating that there may be no mortgages placed on the property until construction has begun. If the purchase agreement is approved, deeds, mortgages, promissory notes and escrow agreements will be prepared for all parties to sign.

FINANCIAL IMPLICATIONS: Taxes will be generated once these lots are sold and the houses are constructed.

RECOMMENDATION: City Staff recommends City Council adopt a resolution authorizing and approving the execution of a purchase agreement for the sale of lots 22, 23, 28 and 29 in Brewer Creek Estates 6th Addition between the City of Webster City and Samann L.C.

RESIDENTIAL PURCHASE AGREEMENT

TO: City of Webster City, Iowa, a Municipal Corporation (SELLER)

The undersigned BUYER hereby offer to buy and the undersigned SELLER by their acceptance agree to sell the real property situated in Hamilton County, Iowa, legally described as:

Lots 22, 23, 28, and 29, Brewer Creek Estates 6th Addition, Webster City, Iowa.

together with any easements and appurtenant servient estates, but subject to any reasonable easements of record for public utilities or roads, any zoning restrictions, customary restrictive covenants and mineral reservations of record, if any, herein referred to as the "Property," upon the following terms and conditions provided BUYER, on possession, are permitted to use the Property for residential purposes:

1. PURCHASE PRICE. The Purchase Price shall be $**76,980.00** and the method of payment shall be as follows:

$2,000.00 ($500.00 per lot noted above) with this offer to be upon acceptance of this offer and the balance of the Purchase Price: in cash, in accordance with the terms of this Agreement herein or any subsequent agreement entered into between the parties. This Agreement is not contingent upon BUYER obtaining such funds.

2. REAL ESTATE TAXES. A. SELLER shall pay all real estate taxes that are due and payable as of the date of possession and constitute a lien against the Property, including any unpaid real estate taxes for any prior years.

B. SELLER shall pay their prorated share, based upon the date of possession, of the real estate taxes for the fiscal year in which possession is given (ending June 30, 2023) due and payable in the subsequent fiscal year (commencing July 1, 2023).

BUYER shall be given a credit for such proration at closing (unless this agreement is for an installment contract) based upon the last known actual net real estate taxes payable according to public record. However, if such taxes are based upon a partial assessment of the present property improvements or a changed tax classification as of the date of possession, such proration shall be based on the current millage rate, the assessed value, legislative tax rollbacks and real estate tax exemptions that will actually be applicable as shown by the Assessor's Records on the date of possession.

C. BUYER shall pay all subsequent real estate taxes.

3. SPECIAL ASSESSMENTS. A. SELLER shall pay in full all special assessments which are a lien on the Property as of the date of acceptance.

B. All charges for solid waste removal, sewage and maintenance that are attributable to SELLER' possession, including those for which assessments arise after closing, shall be paid by SELLER.

C. Any preliminary or deficiency assessment which cannot be discharged by payment shall be paid by SELLER through an escrow account with sufficient funds to pay such liens

when payable, with any unused funds returned to SELLER. BUYER shall pay all other special assessments.

4. RISK OF LOSS AND INSURANCE. SELLER shall bear the risk of loss or damage to the Property prior to closing or possession, whichever first occurs. SELLER agree to maintain existing insurance and BUYER may purchase additional insurance. In the event of substantial damage or destruction prior to closing, this Agreement shall be null and void; provided, however, BUYER shall have the option to complete the closing and receive insurance proceeds regardless of the extent of damages. The property shall be deemed substantially damaged or destroyed if it cannot be restored to its present condition on or before the closing date.

5. POSSESSION AND CLOSING. If BUYER timely perform all obligations, possession of the Property shall be delivered to BUYER on or before **June 28, 2024**, and any adjustments of rent, insurance, taxes, interest and all charges attributable to the SELLER' possession shall be made as of the date of possession. Closing shall occur after approval of title by BUYER' attorney and vacation of the Property by SELLER, but prior to possession by BUYER. SELLER agree to permit BUYER to inspect the Property within 48 hours prior to closing to assure that the premises are in the condition required by this Agreement. If possession is given on a day other than closing, the parties shall make a separate agreement with adjustments as of the date of possession. This transaction shall be considered closed upon the filing of title transfer documents and receipt of all funds then due at closing from BUYER under the Agreement.

6. CONDITION OF PROPERTY. The property as of the date of this Agreement including buildings, grounds, and all improvements will be preserved by the SELLER in its present condition until possession, ordinary wear and tear excepted.

7. ABSTRACT AND TITLE. SELLER, at their expense, shall promptly obtain an abstract of title to the Property continued through the date of acceptance of this Agreement and deliver it to BUYER' attorney for examination. It shall show merchantable title in SELLER in conformity with this Agreement, Iowa law, and Title Standards of the Iowa State Bar Association. The SELLER shall make every reasonable effort to promptly perfect title. If closing is delayed due to SELLER' inability to provide marketable title, this Agreement shall continue in force and effect until either party rescinds the Agreement after giving ten days written notice to the other party. The abstract shall become the property of BUYER when the purchase price is paid in full. SELLER shall pay the costs of any additional abstracting and title work due to any act or omission of SELLER, including transfers by or the death of SELLER or their assignees.

8. SURVEY. BUYER may, at BUYER' expense prior to closing, have the property surveyed and certified by a Registered Land Surveyor. If the survey shows any encroachment on the Property or if any improvements located on the Property encroach on lands of others, the encroachments shall be treated as a title defect. If the survey is required under Chapter 354, SELLER shall pay the cost thereof.

9. ENVIRONMENTAL MATTERS. (a) SELLER warrant to the best of their knowledge and belief that there are no abandoned wells, solid waste disposal sites, hazardous wastes or substances, or underground storage tanks located on the Property, the Property does not contain levels of radon gas, asbestos or urea-formaldehyde foam insulation which require remediation under current governmental standards, and SELLER have done nothing to contaminate the Property with hazardous wastes or substances. SELLER warrant that the Property is not subject to any local, state, or federal judicial or administrative action,

investigation or order, as the case may be, regarding wells, solid waste disposal sites, hazardous wastes or substances, or underground storage tanks. SELLER shall also provide BUYER with a properly executed GROUNDWATER HAZARD STATEMENT showing no wells, private burial sites, solid waste disposal sites, private sewage disposal system, hazardous waste and underground storage tanks on the Property unless disclosed here:

(b) BUYER may at their expense, within 7 days after the date of acceptance, obtain a report from a qualified engineer or other person qualified to analyze the existence or nature of any hazardous materials, substances, conditions or wastes located on the Property. In the event any hazardous materials, substances, conditions or wastes are discovered on the Property, BUYER' obligation hereunder shall be contingent upon the removal of such materials, substances, conditions or wastes or other resolution of the matter reasonably satisfactory to BUYER. However, in the event SELLER are required to expend any sum in excess of $ 0.00 to remove any hazardous materials, substances, conditions or wastes, SELLER shall have the option to cancel this transaction and refund to BUYER all Earnest Money paid and declare this Agreement null and void. The expense of any inspection shall be paid by BUYER. The expense of any action necessary to remove or otherwise make safe any hazardous material, substance, conditions or waste shall be paid by SELLER, subject to SELLER' right to cancel this transaction as provided above.

10. DEED. Upon execution of this Agreement and payment of deposit noted in Paragraph 1 above, SELLER shall convey the Property to BUYER by Corporate Warranty Deed, free and clear of all liens, restrictions, and encumbrances except as provided in this Agreement. General warranties of title shall extend to the time of delivery of the deed excepting liens or encumbrances suffered or permitted by BUYER.

11. STATEMENT AS TO LIENS. If BUYER intend to assume or take subject to a lien on the Property, SELLER shall furnish BUYER with a written statement prior to closing from the holder of such lien, showing the correct balance due.

12. USE OF PURCHASE PRICE. At time of settlement, funds of the purchase price may be used to pay taxes and other liens and to acquire outstanding interests, if any, of others.

13. REMEDIES OF THE PARTIES. A. If BUYER fail to timely perform this Agreement, SELLER may forfeit it as provided in the Iowa Code (Chapter 656), and all payments made shall be forfeited; or, at SELLER' option, upon thirty days written notice of intention to accelerate the payment of the entire balance because of BUYER' default (during which thirty days the default is not corrected), SELLER may declare the entire balance immediately due and payable. Thereafter this agreement may be foreclosed in equity and the Court may appoint a receiver.

B. If SELLER fail to timely perform this Agreement, BUYER have the right to have all payments made returned to them.

C. BUYER and SELLER are also entitled to utilize any and all other remedies or actions at law or in equity available to them and shall be entitled to obtain judgment for costs and attorney fees as permitted by law.

14. NOTICE. Any notice under this Agreement shall be in writing and be deemed served when it is delivered by personal delivery or by certified mail return receipt requested, addressed to the parties at the address given below.

15. CERTIFICATION. BUYER and SELLER each certify that they are not acting, directly or indirectly, for or on behalf of any person, group, entity or nation named by any Executive Order or the United States Treasury Department as a terrorist, "Specially Designated National and Blocked Person" or any other banned or blocked person, entity, nation or transaction pursuant to any law, order, rule or regulation that is enforced or administered by the Office of Foreign Assets Control; and are not engaged in this transaction, directly or indirectly on behalf of, any such person, group, entity or nation. Each party hereby agrees to defend, indemnify and hold harmless the other party from and against any and all claims, damages, losses, risks, liabilities and expenses (including attorney's fees and costs) arising from or related to my breach of the foregoing certification.

16. GENERAL PROVISIONS. In the performance of each part of this Agreement, time shall be of the essence. Failure to promptly assert rights herein shall not, however, be a waiver of such rights or a waiver of any existing or subsequent default. This Agreement shall apply to and bind the successors in interest of the parties. This Agreement shall survive the closing. Paragraph headings are for convenience of reference and shall not limit or affect the meaning of this Agreement. Words and phrases herein shall be construed as in the singular or plural number, and as masculine, feminine or neuter gender according to the context.

17. INSPECTION OF PRIVATE SEWAGE DISPOSAL SYSTEM. Seller represents and warrants to Buyer that the Property is not served by a private sewage disposal system, and there are no known private sewage disposal systems on the property.

18. ADDITIONAL PROVISIONS: (check if applicable)

[X] A. NO REAL ESTATE AGENT OR BROKER. Neither party has used the services of a real estate agent or broker in connection with this transaction. Each party agrees to indemnify and save harmless the other party from and against all claims, costs, liabilities and expense (including court costs and reasonable attorney's fees) incurred by the other party as a result of a breach of this representation, which shall survive closing.

[X] B. SEPARATE MORTGAGE AND PROMISSORY NOTE. BUYER agrees to execute a separate mortgage(s) and promissory note(s) between BUYER and SELLER securing the SELLER'S interest in said Agreement and providing that upon the sale of each individual lot noted below, BUYER shall, at closing, immediately pay to the SELLER the per lot price noted below:

Lot 22, Brewer Creek Estates 6th Addition in Webster City, Iowa - $15,995.00
Lot 23, Brewer Creek Estates 6th Addition in Webster City, Iowa - $15,995.00
Lot 28, Brewer Creek Estates 6th Addition in Webster City, Iowa - $19,995.00
Lot 29, Brewer Creek Estates 6th Addition in Webster City, Iowa - $24,995.00

Failure by either party to execute a separate mortgage(s) and promissory note(s) shall deem this Purchase Agreement null and void.

[X] C. DEED BACK HELD IN ESCROW. BUYER herein agrees to execute and place in escrow, at First State Bank, Webster City, Iowa, a warranty deed(s) back to SELLER for all the above-noted lots. In the event that BUYER fails to construct a principal structure on each of the lots, in accordance with the Protective Covenants and Conditions for Brewer Creek Estates 6th Addition in Webster City, Iowa, specifically Section I(5), the parties hereto agree

that SELLER shall be entitled to said warranty deed(s), which shall be recorded, transferring ownership of said lot back to the SELLER. In such a scenario, BUYER herein agrees to forfeit the earnest funds provided for above.

[X] D. NO OTHER ENCUMBRANCES OF PROPERTY WITHOUT SELLER APPROVAL. Both parties hereto agree that BUYER shall not place on or encumber said above noted lots with any mortgages, liens, judgments or other encumbrance without first obtaining SELLER'S written approval. Once construction has begun on said lots, SELLER herein agrees to not unreasonably withhold approval of additional encumbrances on said lots.

ACCEPTANCE. When accepted, this Agreement shall become a binding contract. If not accepted and delivered to BUYER **on or before May 22, 2024** this Agreement shall be null and void and all payments made shall be returned immediately to BUYER.

_____ _____

City of Webster City, Iowa, (SELLER) Date Accepted
a Municipal Corporation
By: John Hawkins, Mayor
Address: 400 Second Street
Webster City, Iowa 50595
Telephone: (515) 832-9141

ATTEST:

_____

City of Webster City, Iowa,
A Municipal Corporation
By: Karyl Bonjour, City Clerk

_____ _____

Samann L.C. (BUYER) Date
By: Steven R. Smith, Manager

EIN: _____

Address: _____

RESOLUTION NO. 2024 - xxx

RESOLUTION AUTHORIZING AND APPROVING EXECUTION OF A PURCHASE AGREEMENT FOR THE SALE OF LOTS IN BREWER CREEK ESTATES 6TH ADDITION BETWEEN THE CITY OF WEBSTER CITY AND SAMANN, L.C.

WHEREAS, The City of Webster City, Iowa did hold a public hearing on the proposed sale of the following described property:

Lots in Brewer Creek Estates 6th Addition in Webster City, Iowa
more specifically herein described as:

Lots 22, 23, 28 and 29 In Brewer Creek Estates 6th Addition
to Webster City, Iowa.

WHEREAS, public notice was given as required by law and a public hearing was held on June 17, 2024, and no written or oral objections were presented to the proposed sale of the City owned property described above; and

WHEREAS, this Council proposes to sell these lots for $76,980.00 plus all legal and associated costs, subject to the terms as outlined in the executed Purchase Agreement.

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Webster City, Iowa, that the Mayor and City Clerk are hereby authorized and directed to execute the Purchase Agreement between both parties.

Passed and adopted this 17th of June, 2024.

_____

John Hawkins, Mayor

ATTEST:

_____

Karyl K. Bonjour, City Clerk

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Shiloh B. Mork, Chief of Police

DATE: June 17, 2024

RE: Street Closure for National Night Out

SUMMARY:
I am requesting the Council's consideration in closing Superior Street between Water Street and Bank Street to accommodate National Night Out on August 6, 2024.

PREVIOUS COUNCIL ACTION:
This request has not come before the council previously.

BACKGROUND/DISCUSSION:
The Police Department is again hosting National Night Out this year. The event will be held on August 6th from 5pm to 7pm in East and West Twin Parks.

Since taking the event over, it has grown and is anticipated to be even larger than it was last year. Due to the projected increase in participants and the greater draw for the public, we have chosen to spread the event to East Twin Park to keep the event centralized. Both parks have many amenities that will aid in drawing people to the event and we wish to capitalize on them to present a fun night of activity with something for everyone.

Due to the event spreading over to East Twin Park, we are requesting Superior Street be closed from Water Street to Bank Street. This closure will allow for attendees to safely walk from one park to the other without the concern of traffic. We believe this is the best way to ensure the safety of those who come out to attend the event.

Our request is to close Superior Street from 4:30 p.m. to 7:30 p.m. August 6th to allow for setup and take down of the event. If approved, large equipment from the Webster City Line, Street and Parks and Recreation Departments, along with vehicles and equipment from Hamilton County will be parked in the closed section of the roadway to allow for show and tell and to provide an additional level of protection for those attending by providing a stationary blockade of the roadway.

FINANCIAL IMPLICATIONS:
There are no financial implications as a result of this request.

RECOMMENDATION:
I recommend closing Superior Street between Water and Bank Streets from 4:30 p.m. to 7:30 p.m. on August 6, 2024 for the safety of all during the National Night Out event.

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Karyl Bonjour, City Clerk

DATE: June 17, 2024

RE: Resolution for Renewal of 2024-2025 Cigarette/Tobacco/Nicotine/Vapor Permits

---

SUMMARY: This Resolution is for eleven businesses in Webster City that wish to renew their Cigarette/Tobacco/Nicotine/Vapor Permit.

PREVIOUS COUNCIL ACTION: These businesses were approved for the renewal of their annual permits at the June 19th, 2023 meeting. One new permit was issued to Cards Tan-N-Fold, LLC this past year and one business ceased operation during the previous year as well.

BACKGROUND/DISCUSSION: These Permits are renewed annually in June of each year for the fiscal year beginning in July. The City Clerk reviews the applications and upon approval from Council, issues the renewal permits. A copy of the applications are also sent to the Iowa Alcohol Beverage Division for their records. Compliance checks on these businesses are done randomly throughout the year to make sure they are following the law of selling the products. The last compliance checks were performed in February, 2024 and all businesses were found to be in compliance.

FINANCIAL IMPLICATIONS: The annual renewal fee for the Permit is $75.00 each and the money goes into the General Fund.

RECOMMENDATION: Providing the application and fee for each business is presented to me by the end of June, I recommend that you renew these Cigarette/Tobacco/Nicotine/Vapor permits for fiscal year 2024-2025. If the application and payment are not received, I will not issue the permit until both are received, which may cause a lapse in their permit to sell.

ALTERNATIVES: Do not renew all or selected Cigarette/Tobacco/Nicotine/Vapor Permits.

RESOLUTION NO. 2024 - xxx

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WEBSTER CITY, IOWA:

That the City Clerk be authorized to issue Cigarette/Tobacco/Nicotine/Vapor permits to the following:

Cards Tan-N-Fold, 917 Seneca Street
Casey's General Store #1828, 1300 Second Street
Casey's General Store #3054, 700 Superior Street
Dollar General, 814 Superior Street
Fareway Stores, Inc., 942 Second Street
Fast and Fresh (Hy-Vee, Inc.), 819 Second Street
Hiway 20 Liquor & Tobacco, 1345 Second Street
Hy-Vee Food Stores, 823 Second Street
Kwik Star #924, 505 Fair Meadow Drive
Yesway Store #1018, 1803 Superior Street
Yesway Store #1021, 1102 Second Street

Passed and adopted this 17th day of June, 2024.

_____
John Hawkins, Mayor

ATTEST:

_____
Karyl K. Bonjour, City Clerk

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM : Dodie Wolfgram, Finance Director

DATE: June 17, 2024

RE: Equipment Loan Agreement

SUMMARY: Staff requests City Council approve a 0% interest short-term equipment loan agreement with Availa Bank for $221,860 plus processing costs of $500.

BACKGROUND/DISCUSSION: City Council approved and adopted Resolution 2023-068 on April 3, 2023 authorizing the levy of an amount not to exceed $300,000 for vehicles & equipment within the Police, Fire and Street Departments in the 2023-24 budget year. The utilization of the debt service levy to purchase public safety and street equipment will free up those dollars to be used for other projects and/or expenses. State statutes allow municipalities to bond for essential corporate purposes without a community vote which include Public Safety and Streets.

The chart below shows the items that were planned to be purchased with the proceeds, budgeted amount, actual amount and notes:

Department/Equipment	Budget	Actual	Notes
Fire Department			
Battery Operated PPV Fan	7,000	6,006	
Digital Pager	10,000	-	County purchased
Mobile Radio	6,000	5,994	On order
Portable Radio	10,500	11,120	
PPE Washing Machine	8,000	-	Donated
Police Department			
Police Tasers	8,000	-	Did not purchase
Police Vehicles (prior loan and/or new vehicle)	129,400	131,131	
Police Vehicle In-Car Cameras	20,000	20,000	
Police Department Toughbooks	11,900	9,755	
Eventide Call Recorder	-	29,190	Not part of original budget
Street Department			
Crack Seal Machine	65,000	-	
Paint Machine	10,000	8,664	
TOTALS	285,800	221,860	

Original budgeted items that will not be included in this borrowing include digital pagers, a PPE washing machine, tasers and a crack seal machine which were used to offset the purchase of the unbudgeted Eventide Call Recorder.

FINANCIAL IMPLICATIONS: The expenses of the vehicles and equipment that are a part of this loan total $221,860. The proceeds will be deposited to the General Fund to offset the expenses, in turn freeing up cash to spent on other projects and/or operations within this fund.

A check will be given to Availa the day of closing for the full amount of the loan and an additional $500 for processing fees which will be paid from our Debt Service Fund. The Debt Service Fund has received tax dollars monthly for the general obligation debt which included this loan. The $77,640 difference in the levy amount of $300,000 and the amount needed of $221,860 will remain in the Debt Service Fund and be used for legal fees from this issue as well as other general obligation debt expenses.

RECOMMENDATION: Staff recommends proceeding with entering into a loan agreement with Availa Bank in the amount of $221,860.

RESOLUTION NO. 2024 - XXX

Resolution authorizing and approving a Loan Agreement and providing for the issuance of a $221,860 General Obligation Corporate Purpose Note

WHEREAS, the City of Webster City (the "City"), in Hamilton County, State of Iowa, heretofore proposed to enter into a General Obligation Loan Agreement (the "Loan Agreement"), pursuant to the provisions of Section 384.24A of the Code of Iowa, and to borrow money thereunder in a principal amount not to exceed $300,000 for the purpose of paying the costs, to that extent, of acquiring vehicles and equipment for the municipal public works/street, police, fire and emergency services departments, and pursuant to law and duly published notice of the proposed action has held a hearing thereon on April 3, 2023; and

WHEREAS, the City intends to enter into the Loan Agreement in the future and to issue General Obligation Corporate Purpose Bonds or Notes (the "Bonds") in evidence of its obligations thereunder and anticipates that principal and interest will come due on the Bonds before July 1, 2024; and

WHEREAS, on April 3, 2023 the City Council adopted a resolution (the "Prelevy Resolution") anticipating the future authorization of the Loan Agreement and providing for the levy of taxes to pay principal thereunder, and said taxes have been collected in the 2023-2024 fiscal year of the City; and

WHEREAS, it is necessary at this time to authorize and approve the Loan Agreement and to make provision for the issuance of the General Obligation Corporate Purpose Note in evidence of the obligation of the City under the Loan Agreement;

NOW, THEREFORE, Be It Resolved by the City Council of the City of Webster City, Iowa, as follows:

Section 1. The City hereby determines to enter into the Loan Agreement with Availa Bank, Webster City, Iowa (the "Lender"), providing for a loan to the City in the principal amount of $221,860 for the purpose or purposes set forth in the preamble hereof.

The Mayor and City Clerk are hereby authorized and directed to sign the Loan Agreement on behalf of the City, and the Loan Agreement is hereby approved.

Section 2. The Note is hereby authorized to be issued in the principal amount of $221,860, shall be dated as of the date of its delivery to the Lender (such date is anticipated to be June 25, 2024) and shall be payable in the manner hereinafter specified.

The City Clerk is hereby designated as the registrar and paying agent for the Note and may be hereinafter referred to as the "Registrar" or the "Paying Agent."

Principal of the Note shall not bear interest. All of the principal of the Note and a loan initiation fee of $500 shall be payable directly to the Lender on June 25, 2024.

The Note shall be executed on behalf of the City with the official manual or facsimile signature of the Mayor and attested with the official manual or facsimile signature of the City Clerk and shall be a fully registered Note without interest coupons. In case any officer whose signature or the facsimile of whose signature appears on the Note shall cease to be such officer before the delivery of the Note, such signature or such facsimile signature shall nevertheless be valid and sufficient for all purposes, the same as if such officer had remained in office until delivery.

The Note shall be fully registered as to principal in the name of the owner on the registration books of the City kept by the Registrar, and after such registration, payment of the principal thereof shall be made only to the registered owner or its legal representatives or assigns. The Note shall be transferable only upon the registration books of the City upon presentation to the Registrar, together with either a written instrument of transfer satisfactory to the Registrar or the assignment form thereon completed and duly executed by the registered owner or the duly authorized attorney for such registered owner.

The record and identity of any owners of the Note shall be kept confidential as provided by Section 22.7 of the Code of Iowa.

Section 3. The Note shall be in substantially the following form:

(Form of Note)
UNITED STATES OF AMERICA
STATE OF IOWA HAMILTON COUNTY
CITY OF WEBSTER CITY

GENERAL OBLIGATION CORPORATE PURPOSE NOTE

No. 1 $221,860

RATE	MATURITY DATE	NOTE DATE
0%	June 25, 2024	June 25, 2024

The City of Webster City (the "City"), in Hamilton County, State of Iowa, for value received, promises to pay in the manner hereinafter provided to

Availa Bank
Webster City, Iowa

or registered assigns (the "Lender"), the principal sum of TWO HUNDRED TWENTY-ONE THOUSAND EIGHT HUNDRED AND SIXTY DOLLARS.

Principal of this Note shall not bear interest. All of the principal of this Note and a loan initiation fee of $500 shall be payable directly to the Lender on June 25, 2024.

This Note is issued by the City to evidence its obligation under a certain Loan Agreement, dated as of the date hereof (the "Loan Agreement") entered into by the City for the purpose of acquiring vehicles and equipment for the municipal public works/street, police, fire and emergency services departments.

This Note is issued pursuant to and in strict compliance with the provisions of Chapter 76 and Chapter 384 of the Code of Iowa, 2023, and all other laws amendatory thereof and supplemental thereto, and in conformity with a resolution of the City Council authorizing and approving the Loan Agreement and providing for the issuance and securing the payment of this Note (the "Resolution"), and reference is hereby made to the Resolution and the Loan Agreement for a more complete statement as to the source of payment of this Note and the rights of the Holder of this Note.

This Note is fully negotiable but shall be fully registered as to principal in the name of the owner on the books of the City in the office of the Registrar, after which no transfer shall be valid unless made on said books and then only upon presentation of this Note to the Registrar, together with either a written instrument of transfer satisfactory to the Registrar or the assignment form hereon completed and duly executed by the registered owner or the duly authorized attorney for such registered owner.

The City, the Registrar and the Paying Agent may deem and treat the registered owner hereof as the absolute owner for the purpose of receiving payment of or on account of principal hereof and for all other purposes, and the City, the Registrar and the Paying Agent shall not be affected by any notice to the contrary.

And It Is Hereby Certified and Recited that all acts, conditions and things required by the laws and Constitution of the State of Iowa, to exist, to be had, to be done or to be performed precedent to and in the issue of this Note were and have been properly existent, had, done and performed in regular and due form and time; that provision has been made for the levy of a sufficient continuing annual tax on all the taxable property within the City for the payment of the principal of this Note as the same will respectively become due; that the faith, credit, revenues and resources and that the total indebtedness of the City, including this Note, does not exceed any constitutional or statutory limitations.

IN TESTIMONY WHEREOF, the City of Webster City, Iowa, by its City Council, has caused this Note to be executed by its Mayor and attested by its City Clerk, on June 25, 2024.

CITY OF WEBSTER CITY, IOWA

By (DO NOT SIGN)
Mayor

Attest:

(DO NOT SIGN)
City Clerk

ABBREVIATIONS

The following abbreviations, when used in this Note, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	-	as tenants in common	UTMA	_____ (Custodian)
TEN ENT	-	as tenants by the entireties	As Custodian for	_____ (Minor)
JT TEN	-	as joint tenants with right of survivorship and not as tenants in common	under Uniform Transfers to Minors Act	_____ (State)

Additional abbreviations may also be used though not in the list above.

ASSIGNMENT

For valuable consideration, receipt of which is hereby acknowledged, the undersigned assigns this Note to

_____

(Please print or type name and address of Assignee)

_____

PLEASE INSERT SOCIAL SECURITY OR OTHER
IDENTIFYING NUMBER OF ASSIGNEE

and does hereby irrevocably appoint _____, Attorney, to transfer this Note on the books kept for registration thereof with full power of substitution.

Dated: _____

Signature guaranteed:

_____
_____
_____

_____

NOTICE: The signature to this Assignment must correspond with the name of the registered owner as it appears on this Note in every particular, without alteration or enlargement or any change whatever.

Section 4. The Note shall be executed as herein provided as soon after the adoption of this resolution as may be possible and thereupon shall be delivered to the Registrar for registration and delivery to the Lender on June 25, 2024, upon receipt of the loan proceeds, and all action heretofore taken in connection with the Loan Agreement is hereby ratified and confirmed in all respects.

Section 5. The City hereby pledges the debt service property taxes received pursuant to the Prelevy Resolution for the full and prompt payment of the principal of the Note.

Section 6. All resolutions or parts thereof in conflict herewith are hereby repealed to the extent of such conflict.

Section 7. This resolution shall be in full force and effect immediately upon approval and adoption, as provided by law.

Passed and adopted on June 17, 2024.

_____
John Hawkins, Mayor

Attest:

_____
Karyl K. Bonjour, City Clerk

Availa Bank

Insert Street.
Insert City, State, Zip
Insert Phone
availa.bank

City of Webster City
Karyl K. Bonjour
PO Box 217
Webster City, IA, 50595

June 11, 2024

RE: Short Term Loan

Dear City Council of Webster City:

Availa Bank is pleased to confirm its willingness to provide a loan (the "Loan") subject to the terms, conditions and limitations set forth in this letter (the "Commitment Letter") and the other documents related to the Loan (the "Loan Documents"). Basic items of the Loan include:

I. Insert Product Type: General Obligation Bond

1. **Borrower:**	City of Webster City	
2. **Purpose:**	Purchase Vehicles and Equipment	
3. **Amount:**	$221,860.00	
4. **Collateral:**	General Obligation Bond	
5. **Interest Rate:**	0.00%	
6. **Payments:**	Single Payment	
7. **Term:**	1 Day	
8. **Prepayment:**	N/A	
9. **Default Interest Rate:**	N/A	
10. **Cost and Fees:**	Loan Initiation Fee:	$500.00

This letter is intended to provide an outline of the Bank's commitment and significant terms of the proposed loan. It is not intended to detail all of the terms, conditions and documentation that will be required in connection with the loan. The commitment to make any loan is subject to complete execution of the loan documents satisfactory to the Borrower and the Bank. No person or entity other than Borrower and the Bank have any rights or benefits related to this letter. It is not assignable.

This letter shall not be effective until the Bank has received the unconditional acceptance of its terms and conditions by the Borrower. If it is not executed and returned by Insert Date, this letter shall expire. This letter sets forth the entire understanding between the parties and supersedes any and all agreements, understandings, statements or representations, whether oral or written by the Bank, or anyone acting on its behalf. The terms and conditions set forth in this letter cannot be modified, changed, waived or extended unless agreed to in writing and signed by the Bank. The loan contemplated by this letter must be completed within 7 Days of this letter, or the rate and terms shall have no further force or effect, **provided that** the expiration of that period shall not affect the obligation of the Borrower to pay any costs and expenses described in this letter.

If the terms of this letter are acceptable, please sign, date and return a copy to me. We are pleased to offer this credit accommodation to you and look forward to working with you. Please contact me if you have any questions.

Sincerely,

Scott L Bargfrede

Scott L. Bargfrede
VP Loan Officer

THE TERMS AND CONDITIONS OF THIS COMMITMENT ARE ACCEPTED AND AGREED TO ON THE _____ DAY OF _____, 2024.

BORROWER:

City of Webster City, Iowa

By:_____
John C. Hawkins, Mayor

WEBSTER CITY
Opportunity Awaits

MEMORANDUM

TO: Mayor and City Council

FROM : Nicholas Knowles, Water/Wastewater Supervisor
John Harrenstein, City Manager

DATE: June 17, 2024

RE: Replacement of Water Plant Lime Slaker

SUMMARY: Staff is requesting permission to proceed with the purchase of a new Integrity Lime Slaker for the Water Treatment Plant from Vessco Incorporated as quoted and complete project not to exceed $150,000.00. Given the specialized nature of this equipment and its critical role in water treatment, Vessco Inc. stands as the sole source provider for this specific type of lime slaker.

BACKGROUND/DISCUSSION: The current Water Plant's Lime Slaker is reaching the end of its useful life. It was purchased for $125,000 and installed in late 2014 as part of a Water Filter Project at that time.

The current Water Plant's Lime Slaker will soon become unreliable as it needs to be replaced due to corrosion. The walls of the Slaking tub are starting to get very thin due to constantly crushing lime stone and the corrosion on the outside of the unit. For the last several years the Water Plant has had to make several repairs to the slaker as parts have worn out. Unfortunately, due to the highly corrosive environment, the body and the frame of the slaker has started to rust and corrode to the point that the useful life of the unit is nearing its end. To prevent this issue in the future, it is recommended that the new Lime Slaker unit be made of stainless steel opposed to the current one made of high carbon steel.

A lime slaker is a critical piece of equipment in a water treatment facility that is used to produce slaked lime (calcium hydroxide) from quicklime (calcium oxide). The primary purposes of a lime slaker in a water treatment facility are as follows:

1. **Water Softening**: Slaked lime is used to remove hardness-causing minerals such as calcium and magnesium from the water. This process, known as lime softening, helps to reduce scale formation in pipes and improves the quality of the water for domestic and industrial use.

2. **pH Adjustment**: Slaked lime is used to adjust the pH of the water. Maintaining the correct pH level is crucial for effective water treatment, as it helps in the coagulation and flocculation processes, enhances the efficiency of disinfectants, and prevents corrosion in the distribution system.

3. **Coagulation and Flocculation**: In the coagulation process, slaked lime can be used to enhance the removal of suspended particles by neutralizing the charges on colloidal particles, allowing them to aggregate and form larger particles that can be more easily removed.

4. **Alkalinity Addition**: Slaked lime adds alkalinity to the water, which is important for maintaining a stable pH level and providing the necessary conditions for effective water treatment processes.

By performing these functions, a lime slaker helps to ensure that the water treatment facility produces safe, high-quality water for its consumers while protecting the infrastructure of the treatment plant and the distribution system.

The Water Plant operators will facilitate the tear out of the old slaker and the installation of the new slaker, along with the associated plumbing. Staff will coordinate with the City's Electrician to run power and communication wires for the new unit to the control panel. This swap out would be planned during the Water Plant's normally scheduled yearly plant shut down for maintenance, typically late fall.

FINANCIAL IMPLICATIONS: Staff obtained a quote for replacing the Lime Slaker for $130,000.00 from Vessco Inc. With all associated electrical and plumbing materials, we anticipate this project not to exceed $150,000.00.

This was budgeted in FY25 in the Water Plant Capital Improvement Plan. This expense is tied to the Series 2024 Water Revenue Bond.

RECOMMENDATION: Staff recommends the City Council authorize the City Manager to approve the replacement of the Lime Slaker, along with needed in house materials, with final project completion not to exceed $150,000.00.

RESOLUTION NO. 2024 - xxx

RESOLUTION AUTHORIZING THE PURCHASE AND INSTALLATION OF A NEW LIME SLAKER FOR THE WATER TREATMENT PLANT FROM VESSCO INCORPORATED WITH TOTAL PROJECT COST NOT TO EXCEED $150,000

WHEREAS, the City Council has been informed that the current Water Plant's Lime Slaker, which was purchased for $125,000 and installed in late 2014, is reaching the end of its useful life due to corrosion and wear; and

WHEREAS, the Lime Slaker is a critical piece of equipment in the water treatment process, performing essential functions such as water softening, pH adjustment, coagulation, flocculation, and alkalinity addition; and

WHEREAS, the current Lime Slaker has become increasingly unreliable and requires replacement to ensure the continued effective operation of the Water Treatment Plant; and

WHEREAS, it is recommended that the new Lime Slaker be made of stainless steel to prevent future corrosion issues; and

WHEREAS, staff has obtained a quote from Vessco Incorporated for the replacement of the Lime Slaker at a cost of $130,000.00, with the total project cost, including associated electrical and plumbing materials, not to exceed $150,000.00; and

WHEREAS, this expenditure has been budgeted in the FY25 Water Plant Capital Improvement Plan and is tied to the Series 2024 Water Revenue Bond.

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa, as follows:

Section 1. Authorization to Purchase and Install New Lime Slaker: The City Council hereby authorizes the City Manager to approve the purchase of a new Lime Slaker from Vessco Incorporated as quoted, and to proceed with the installation of the new unit.

Section 2. Project Cost: The total cost of the project, including the Lime Slaker, associated electrical and plumbing materials, and any necessary in-house materials, shall not exceed $150,000.00.

Section 3. Coordination of Installation: The Water Plant operators are authorized to facilitate the tear-out of the old Lime Slaker and the installation of the new Lime Slaker. The City's Electrician is authorized to run power and communication wires for the new unit to the control panel.

Section 4. Timing of Installation: The installation of the new Lime Slaker shall be planned to coincide with the Water Plant's normally scheduled yearly maintenance shutdown, typically occurring in late fall.

Section 5. The project shall be funded as budgeted in the FY25 Water Plant Capital Improvement Plan and through the Series 2024 Water Revenue Bond.

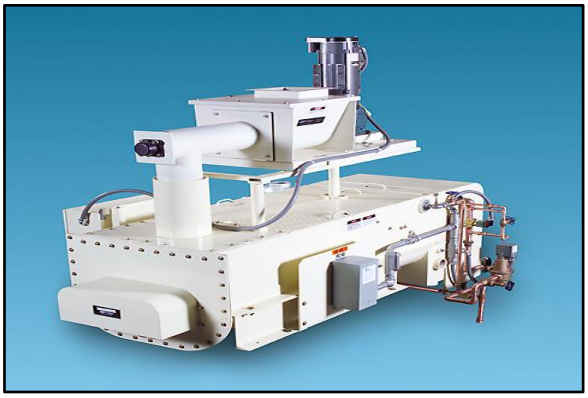
Passed and adopted this 17th day of June, 2024.

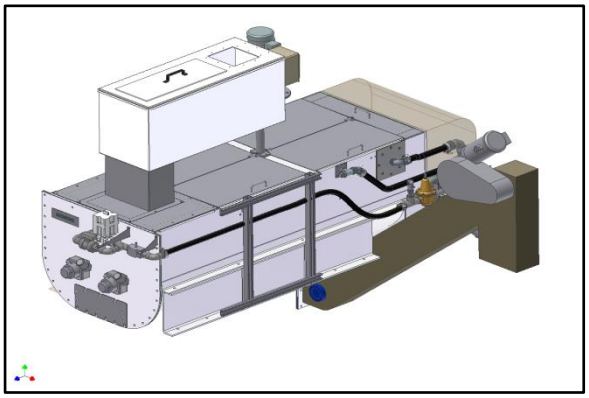
_____
John Hawkins, Mayor

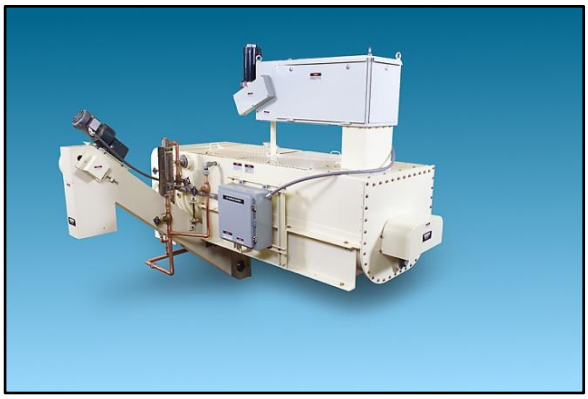
ATTEST: _____
Karyl K. Bonjour, City Clerk

COST PROPOSAL

LIME SLAKING SYSTEM
FOR
WEBSTER CITY, IA







IMS File No.: D24-009

Prepared on: March 26, 2024

IMS SALES CONTACT
Khaled Roueiheb
Integrity Municipal Systems
13135 Danielson St., Suite 204
Poway, CA 92064
Cell: (858)-248-7834
Email: khaled@integrityms.net

TABLE OF CONTENTS

March 26, 2024

Jon Harger
Vessco, Inc.
2740 Ford Street
Ames, IA 50010
Cell: 612-805-6383
Work: 515-233-8599
Email: jharger@ vessco.com

RE: Lime Slaking System
Webster City, IA

Dear Jon,

Per your request, we have prepared this cost proposal for providing one (1) Lime Slaking System for Webster City, IA. Our proposal is based on the following design criteria:

Design Criteria

Quicklime Feed Rate, lb/hr	1,000
Slaker Maximum Capacity, lb/hr	1,000
Maximum Output Lime Slurry Concentration, %	18%

Our lime slaking system is a packaged system. It consists of a lime slaker, grit remover, piping, valves, and instrumentation to make a complete and functional system.

The IMS A-758 Lime Slaker System incorporates many features and advantages, including:

- Economical, consistent and reliable on-site slaking
- Proven track record with 40 years of experience
- Easy to install
- Tested at the factory
- Robust construction
- Superior paste slaking process (2:1 water to lime ratio)
- Faster slaking (5 minutes)
- More reactive lime slurry
- Compact size
- External heat source not required
- Saves water, heat and power
- Completely automatic system
- Flexible configurations
- Flexible controls

We have attached our commercial proposal in Section 1 and equipment drawings and brochures in Section 2.

We look forward to working with you on this project. If we can be of any further assistance, please do not hesitate to contact me at (858) 248-7834.

Thank you.

Sincerely,

Khaled Roueiheb
Director of Sales

EQUIPMENT SELECTION SHEET

FEEDER ACCESSORIES

☐ Inlet Rotary Valve ☐ Rotary Valve Adapter ☐ Inlet Flexible Connector

FEEDER

☐ Volumetric Screw (32-300SP) ☐ Volumetric Belt (32-215) ☐ Gravimetric Belt (31-165)

Feeder Material of Construction

☐ Carbon Steel ☐ 304SS ☐ 316SS

☐ Unpainted ☐ Painted

SLAKER MAXIMUM CAPACITY

☒ 1,000 lb/hr ☐ 2,000 lb/hr ☐ 4,000 lb/hr ☐ 8,000 lb/hr

Slaker Material of Construction

☐ Carbon Steel ☒ 304SS ☐ 316SS

☒ Unpainted ☐ Painted

GRIT REMOVER

☐ Conveyor ☒ Screw ☐ Screen

Grit Remover Material of Construction

☐ Carbon Steel ☒ 304SS ☐ 316SS

☒ Unpainted ☐ Painted

WATER SUPPLY OPTIONS

Water Valve:	☒ Mechanical	☐ Electronic
Water Piping Selection:	☒ Slaker-Mounted Piping	☒ Water Panel
Water Piping Material:	☐ Copper	☒ PVC
Water Panel Location (If Applicable):	☐ Unit-Mounted ☐ Local Freestanding	☒ Remote

POWER SUPPLY

☒ 480V/3ph/60Hz ☐ 230V/3ph/60Hz ☐ 120V/1ph/60Hz ☐ 230V/1ph/60Hz

CONTROL PANEL

☐ Mounted on Slaker ☐Remote-Mounted

☐ Relay Logic Based ☐ PLC Based

SECTION 1

COMMERCIAL PROPOSAL

Proposal D24-009

Date: March 26, 2024

ORDER

The undersigned authorized representative of the below named purchaser ("Buyer") hereby orders the Equipment described in the accompanying Seller's Documentation on the terms and conditions specified therein.

Buyer: _____

Signed by:_____

Print Name: _____

Print Title: _____

All orders are subject to prior acceptance by Integrity Municipal Systems LLC at its offices in Poway, CA.

SCOPE OF WORK BY INTEGRITY MUNICIPAL SYSTEMS LLC ("SELLER")

The following equipment and services are included in Seller's scope of work. All equipment will be manufactured in accordance with Seller's standard equipment specifications and installed in a non-hazardous area. Please see attached equipment general arrangement drawing for illustration and reference.

No.	Item Description	Qty.
1.	**Series A-758 Lime Paste Slaker – 1,000 PPH Capacity**, including: a) Unpainted 304SS Trough b) 1/2 HP Paddle Shaft Motor – 230/460V, 3 ph, 60 Hz c) Mechanical Torque Operated Water Valve d) Vapor & Dust Arrestor e) Pre-Assembled PVC Water Panel (Remote-Mounted), including: i. Water Pressure Reducing Valve, Water Strainer, Pressure Gauge, Water Low Pressure Switch ii. Solenoid Valve for Auto Batching f) Slaker delivers up to 18% Lime Slurry Concentration g) Unit is Shipped Assembled and Tested at the Factory	1
2.	**Screw Type Grit Remover – 1,000 PPH Capacity**, including: a) Unpainted 304SS Housing Construction b) 1/2 HP Grit Remover Motor – 230/460V, 3 ph, 60 Hz, TEFC & Gearbox c) Grit Remover Screw, Grit Remover Flowmeter, Valves & Piping	1
3.	**Junction Box for Remote Mounting of Control Panel – Unpainted 304SS**	1
4.	**Manufacturer's Services for Installation Inspection, System Start-Up and Operator Training (1 Trip for up to 3 Days at the Jobsite)**	Included
5.	**Design Submittal and Operation and Maintenance Manuals**	Included
6.	**F.O.B. Factory with Full Freight Allowed to Jobsite, Webster City, IA**	Included
	EQUIPMENT PRICE [ITEMS 1-6]	**$130,000**

SCOPE OF WORK BY BUYER

1. Equipment unloading and installation
2. All civil works and concrete pad for equipment including anchor bolts supply
3. Reuse of the existing controls and feeder
4. Electrical power to existing slaker control panel (480V/3 ph/60Hz)
5. Interconnecting electrical conduit, wiring, electrical material, etc. from exisitng control panel to junction box, etc.
6. All electrical conduit, wiring, electrical material, etc. from existing control panel to plant SCADA, etc.
7. Process signal and wiring from process for feeder operation

8. All overflow drain piping from slaker to plant drain
9. Quicklime supply equipment to slaker inlet. Existing feeder to remain and be reused.
10. Vent piping from vapor & dust arrestor connection onwards (3")
11. Lime slurry discharge piping from slaker connection to process (2")
12. Remote installation of water panel and interconnecting piping from remote-mounted water panel to slaker
13. 1 ½" water supply piping to water connection- **18 gpm at 75 psi**
14. Room ventilation, air conditioning, or lighting
15. Any items not explicitly listed under Integrity Municipal Systems LLC's scope of work

SHIPPING INFORMATION

Estimated Shipping Weight: 2,400 lbs.

FIELD SERVICES

Should additional services be required for work beyond Seller's Scope of Work, Buyer may purchase such services from Seller at a standard rate of $1,500 per eight (8) hour day, plus expenses.

WARRANTY TERM

The Warranty Period is one (1) year from Equipment acceptance or 18 months from shipment, whichever occurs first, and is subject to the Standard Terms of Sale included with this Proposal.

TAXES

Seller's Proposal does not include any sales, use, federal, state, local, excise, or other similar taxes or duties unless expressly stated in this quotation. All applicable taxes shall be paid by Buyer. Upon acceptance of an order by Seller, Buyer shall provide a resale certificate or tax exemption certificate, whichever is applicable, to Seller.

PAYMENT TERMS

Subject to prior credit approval, the terms of payment are:

20% upon submittal approval, Net 30 days
75% upon equipment shipment (or offer to ship), Net 30 days
5% upon beneficial occupancy, or 120 days after shipment, whichever occurs first

PROPOSAL VALIDITY

Seller's Cost Proposal dated March 26, 2024 is valid until June 30, 2024. The stated price is predicated on shipment no later than June 30, 2025. In the event Buyer desires to extend the delivery date or the Warranty Period beyond the time period set forth in this Proposal, Seller can offer extended terms for an additional charge which will be provided upon request.

SCHEDULE

As part of any binding Agreement that results from this proposal, Seller and Buyer shall mutually agree upon a production and delivery schedule (not to exceed the outside delivery date stated above). Our normal lead time for this type of equipment is:

Design Submittal:	6 weeks after receipt of a fully executed purchase order
Equipment Shipment:	16-18 weeks after seller's written receipt of submittal approval and release for fabrication.

TERMS & CONDITIONS

NOTE: Seller's Standard Terms of Sale, attached to this Proposal and incorporated herein by this reference, will apply to any order resulting from this Proposal and are factored into the purchase price set forth in this Proposal.

Integrity
MUNICIPAL SYSTEMS

STANDARD TERMS OF SALE

1. Applicable Terms. These terms govern the purchase and sale of the equipment and related services, if any (collectively, "Equipment"), referred to in Seller's quotation, proposal or acknowledgment, as the case may be ("Seller's Documentation"). These terms together with Seller's Documentation comprise the complete and exclusive agreement between the parties (the "Agreement"). The Agreement may only be modified by a written instrument signed by authorized representatives of both parties. Any additional, different or conflicting terms contained in Buyer's request for proposal, specifications, purchase order or in any other written or oral communication from Buyer are hereby rejected by Seller and shall not be binding in any way on Seller.

2. Price and Payment. Buyer shall pay Seller the full purchase price as set forth in Seller's Documentation. Unless Seller's Documentation provides otherwise, freight, storage, insurance and all taxes, duties or other governmental charges relating to the Equipment shall be paid by Buyer. If Seller is required to pay any such charges, the amount so paid shall become immediately due and payable to Seller by Buyer. Unless otherwise stated in Seller's Documentation, all payments are due within 30 days after receipt of invoice. Buyer shall be charged 1½% interest per month on all amounts not received by the due date and shall pay all of Seller's costs (including attorneys' fees) of collecting amounts due but unpaid. If Buyer fails to make any payment when due, Seller may, without advance notice, terminate this order without liability; or condition such order on such modifications to the terms of payment as Seller, in its discretion, deems appropriate. In such case, Seller may also, in its discretion, withhold further manufacture or shipment; require immediate cash payments for past and future shipments; or require other security satisfactory to Seller before further manufacture or shipment is made.

3. Delivery. Delivery of the Equipment shall be in material compliance with the schedule in Seller's Documentation. Unless Seller's Documentation provides otherwise, delivery terms are F.O.B. Seller's facility. Risk of loss shall transfer to the Buyer upon tender of goods to Buyer, Buyer's representative, or common carrier. Claims for damage, shortage or errors in shipping must be reported within two business days following delivery to Buyer. Buyer shall have one business day from the date Seller completes start-up of the Equipment to inspect such Equipment for defects and nonconformance which are not due to damage, shortage or errors in shipping, and notify Seller, in writing, of any defects, nonconformance or rejection of such Equipment. After such one business day period, Buyer shall be deemed to have irrevocably accepted the Equipment, if not previously accepted. After such acceptance, Buyer shall have no right to reject the Equipment for any reason or to revoke acceptance.

4. Ownership of Materials. All devices, designs (including drawings, plans and specifications), estimates, prices, notes, electronic data and other documents or information prepared or disclosed by Seller, and all related intellectual property rights, shall remain Seller's property. Seller grants Buyer a non-exclusive, non-transferable license to use any such material solely in connection with Buyer's use of the Equipment. Buyer shall not disclose any such material to third parties without Seller's prior written consent.

5. Changes. Seller shall not implement any changes in the scope of work described in Seller's Documentation unless Buyer and Seller agree in writing to the details of the change and any resulting price, schedule or other contractual modifications. This includes any changes necessitated by a change in applicable law occurring after the effective date of the Agreement.

6. Warranty. Seller warrants to Buyer that during the period that ends18 months from delivery or one year from acceptance, whichever occurs first (the "Warranty Period"), the Equipment shall materially conform to the specifications set forth in Seller's Documentation and shall be free from defects in material and workmanship. If Buyer gives Seller prompt written notice of breach of this warranty within the Warranty Period, Seller shall, at its sole option and as Buyer's sole and exclusive remedy, repair or replace the Equipment or any non-conforming parts thereof. If Seller determines that any claimed breach is not, in fact, covered by this warranty, Buyer shall pay Seller's then customary charges for any repair or replacement made by Seller. The warranty on repaired or replaced Equipment or parts is limited to the remainder of the Warranty Period. The foregoing warranty shall not apply to any Equipment or part thereof (x) that is (a) not operated and maintained in accordance with Seller's instructions, (b) damaged as a result of any unauthorized repairs or alterations, (c) damaged by chemical action or abrasive material, misuse, (d) damaged by improper installation (unless installed by Seller), and (e) specified or otherwise demanded by Buyer and is not manufactured or selected by Seller, as to which Seller hereby assigns to Buyer, to the extent assignable, any warranties made to Seller; and (y) if Buyer is in default of any payment obligation to Seller under this Agreement. Seller's warranty does not cover any adsorbing media or other consumables used in the Equipment, regardless of whether such media or consumables were supplied by Seller. THE WARRANTIES SET FORTH IN THIS SECTION ARE SELLER'S SOLE AND EXCLUSIVE WARRANTIES AND ARE SUBJECT TO SECTION 9 BELOW. SELLER MAKES NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE. The warranty set forth herein, subject to any limitations set forth elsewhere in Seller's Documentation, shall be transferable during the Warranty Period to the initial end-user of the Product.

7. Force Majeure. Neither Seller nor Buyer shall have any liability for any breach (except for breach of payment obligations) caused by extreme weather or other act of God, strike or other labor shortage or disturbance, fire, accident, war or civil disturbance, delay of carriers, failure of normal sources of supply, act of government or any other cause beyond such party's reasonable control.

8. Cancellation. If Buyer cancels or suspends its order for any reason other than Seller's breach, Buyer shall promptly pay Seller the greater of (i) the value of the work performed prior to cancellation or suspension plus any other direct costs incurred by Seller as a result of such cancellation or suspension, and (ii) 20% of the total order value, excluding freight and sales taxes.

9. LIMITATION OF LIABILITY. NOTWITHSTANDING ANYTHING ELSE TO THE CONTRARY, SELLER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE OR OTHER INDIRECT DAMAGES, AND SELLER'S TOTAL LIABILITY ARISING AT ANY TIME FROM THE SALE OR USE OF THE EQUIPMENT OR PARTS SHALL NOT EXCEED TEN PERCENT (10%) OF THE PURCHASE PRICE PAID UNDER THIS AGREEMENT. THESE LIMITATIONS APPLY WHETHER THE LIABILITY IS BASED ON CONTRACT, TORT, STRICT LIABILITY, OR ANY OTHER THEORY. THE REMEDIES SET FORTH IN THIS AGREEMENT ARE INTENDED TO CONSTITUTE A COMPLETE ALLOCATION OF THE RISKS BETWEEN THE PARTIES AND LIMITS THE REMEDIES THAT MIGHT OTHERWISE BE AVAILABLE. BECAUSE THIS AGREEMENT AND THE PRICE PAID REFLECT SUCH ALLOCATION, THE REMEDIES PROVIDED TO BUYER HEREUNDER WILL NOT HAVE FAILED OF THEIR ESSENTIAL PURPOSE EVEN IF THEY OPERATE TO BAR RECOVERY FOR CERTAIN DAMAGES THAT BUYER MAY INCUR.

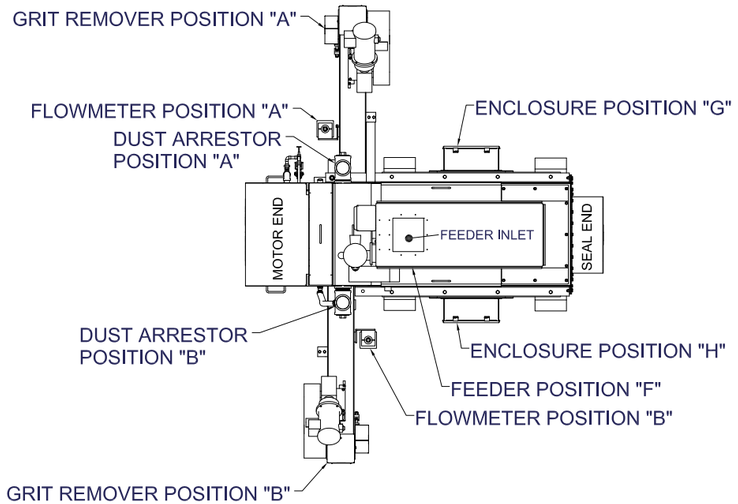
10. Set-off and Backcharges. Buyer will not be entitled to set-off any amounts due Buyer against any amount due Seller from Buyer. Seller will not be responsible for any backcharges unless approved in writing in advance by an authorized representative of Seller. Any request for backcharges must be submitted by Buyer to Seller at least three business days prior to the date on which Buyer desires to assess such backcharge to enable Seller to conduct a site visit or to conduct such other investigation as it deems reasonably appropriate.

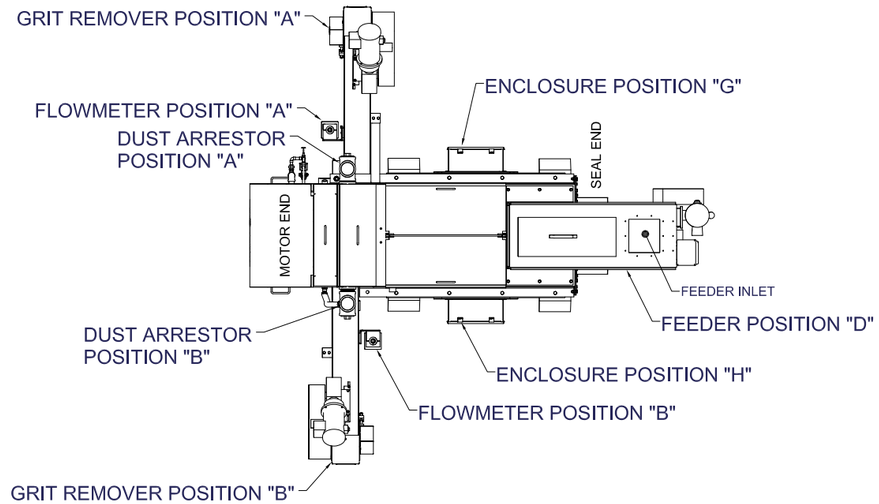
11. Export Compliance: Buyer acknowledges that Seller is required to comply with applicable export laws and regulations relating to the sale, exportation, transfer, assignment, disposal and usage of the Equipment provided under this Agreement, including any export license requirements. Buyer agrees that such Equipment shall not at any time directly or indirectly be used, exported, sold, transferred, assigned or otherwise disposed of in a manner which will result in non-compliance with such applicable export laws and regulations.

12. Miscellaneous. If these terms are issued in connection with a government contract, they shall be deemed to include those federal acquisition regulations that are required by law to be included. If any provision of the Agreement is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions thereof will not in any way be affected or impaired, and such provision will be deemed to be restated to reflect the original intentions of the parties as nearly as possible in accordance with applicable law. Buyer may not assign or permit any other transfer of the Agreement without Seller's prior written consent. The Agreement shall be governed by the laws of the State of California without regard to its conflict of law provisions. The application of the United Nations Convention on Contracts for the International Sale of Goods is specifically disclaimed and excluded.

SECTION 2

GENERAL ARRANGEMENT SELECTION, DRAWINGS, AND BROCHURES

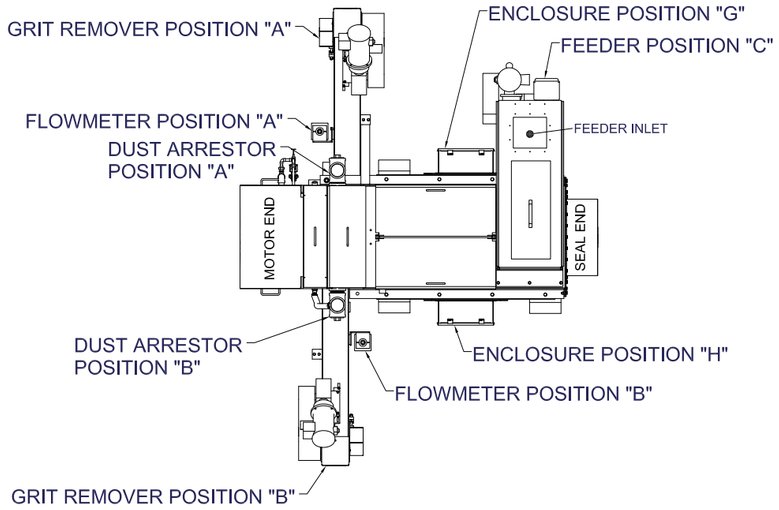


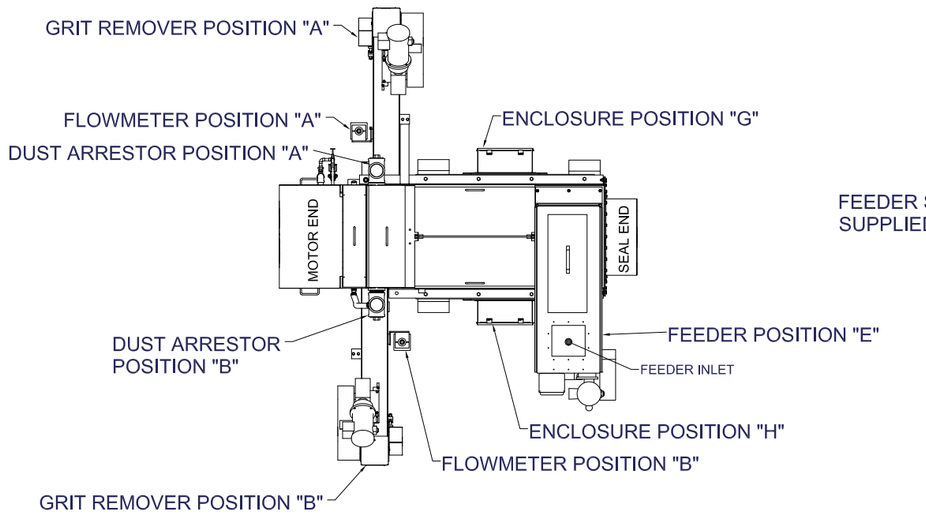


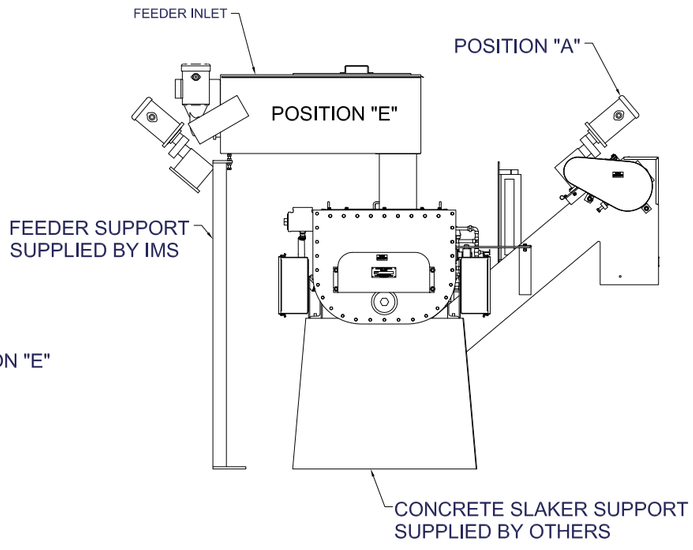
SLAKER SYSTEM COMPONENTS LOCATION GUIDELINES				
FEEDER LOCATION		C		
		D		
		E		
		F		
CONVEYOR GRIT REMOVER LOCATION	OPTION (#1)	A		
	DUST ARRESTOR	B		STANDARD
	WATER FLOW METER	A		STANDARD
CONVEYOR GRIT REMOVER LOCATION	OPTION (#2)	B		
	DUST ARRESTOR	A		STANDARD
	WATER FLOW METER	B		STANDARD
JUNCTION BOX LOCATION		G		
		H		

CUSTOMER TO SELECT:

- FEEDER
- CONVEYOR GRIT REMOVER &
- JUNCTION BOX LOCATION







THIRD ANGLE PROJECTION

ALL WELD SYMBOL DIMENSIONS ARE MINIMUM. DIMENSIONS IN [mm] ARE MILLIMETERS. DO NOT SCALE DRAWING

DRAWN PER ASME Y14.5M
UNLESS OTHERISE SPECIFIED
ALL DIMENSIONS ARE INCHES
AND TOLERANCES TO BE AS FOLLOWS.

FABRICATION	MACHINE
.XX +/- .06	.XXX +/-.005
.X +/- .13	.XX +/-.01
[X +/- .25]	.X +/- .03
< +/- .5	[X +/- .05]

STD: BORDER-11X17MI

BAR = 1" AT PLOT SCALE

REV	DESCRIPTION	DATE	DWN	CHKD	APVD	ECN
00	RELEASE FOR SALES USE	6/24/13	KAL			

DESIGNER	KAL	DATE 6/12/2013
CHECKER		DATE 6/24/2013
ENGINEER	KAL	DATE 6/24/2013
MANAGER		DATE 6/24/2013
FILE:		
SCALE: NONE		

TITLE: STANDARD GENERAL ARRANGEMENT SELECTION

CLIENT

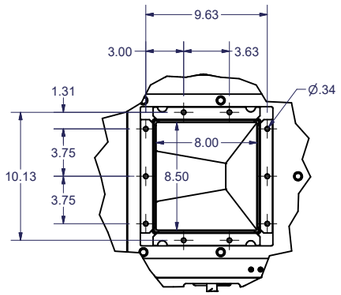
Integrity MUNICIPAL SYSTEMS
500 E. WASHINGTON AVE., SUITE 80
ZEELAND, MI 49464, USA
TEL: 858-486-1620

PROJECT	CODE	DRAWING	SHEET	REV
		F4038	1 OF 1	00

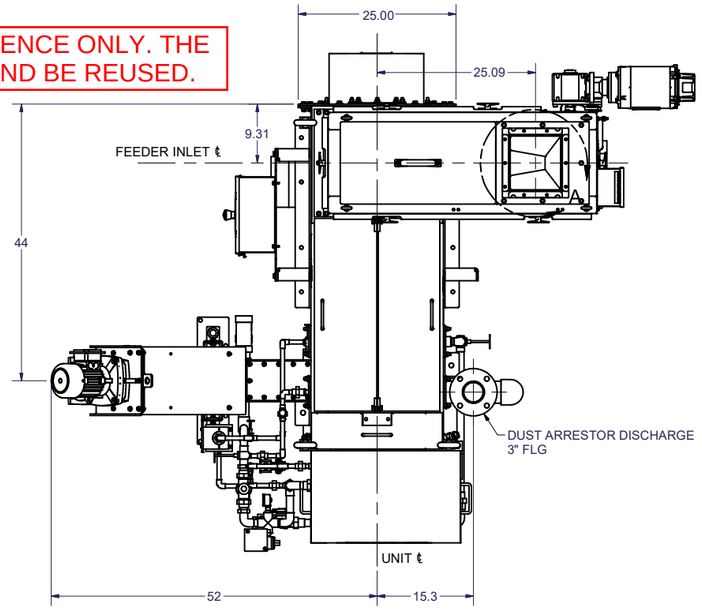
DRAWING FOR SALES PURPOSES ONLY

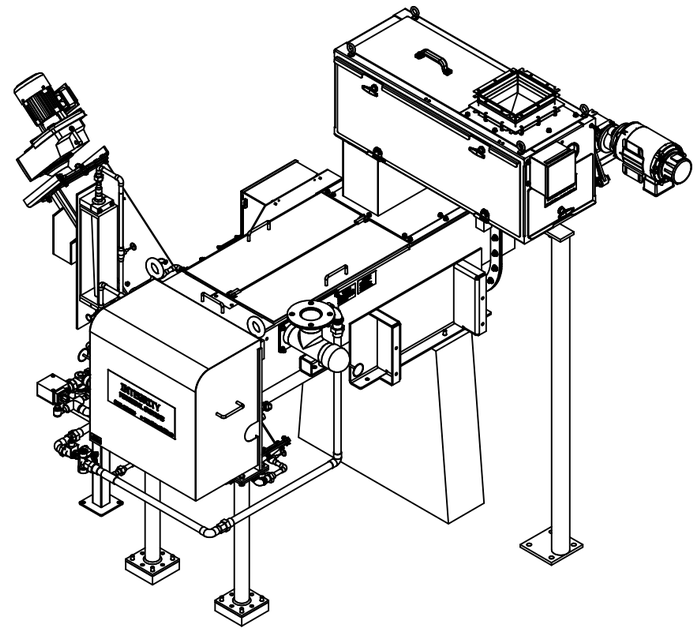
UNIT SHOWN CONSISTS OF:
1000 PPH BASE SLAKER
31-165 BELT FEEDER
SCREW TYPE GRIT REMOVER
JUNCTION BOX - UNIT MOUNTED

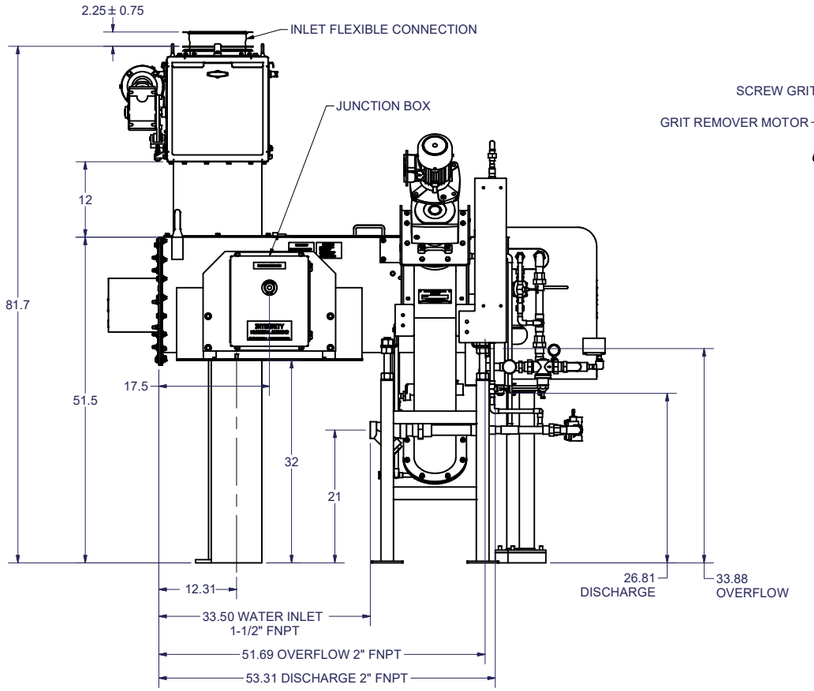
NOTE: FEEDER SHOWN FOR REFERENCE ONLY. THE EXISTING FEEDER SHALL REMAIN AND BE REUSED.

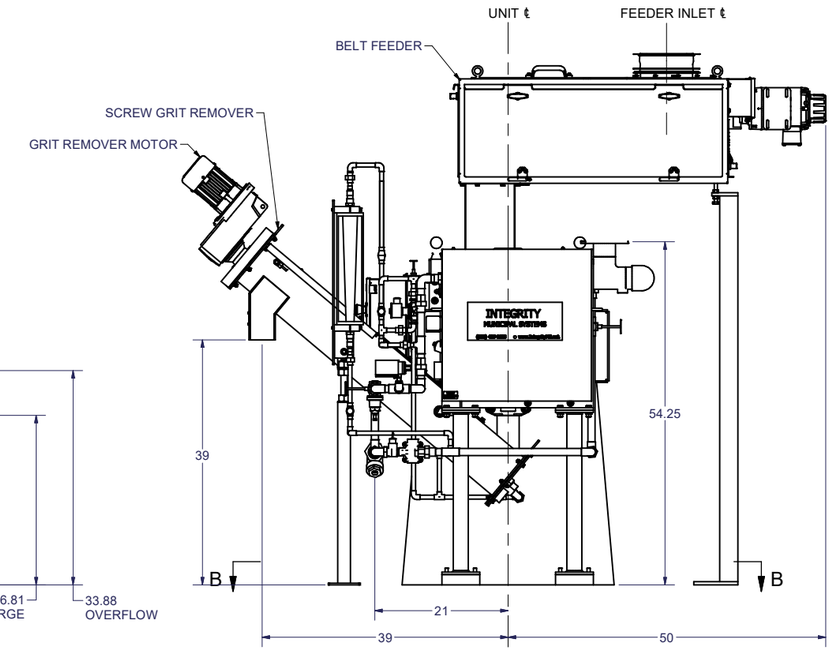


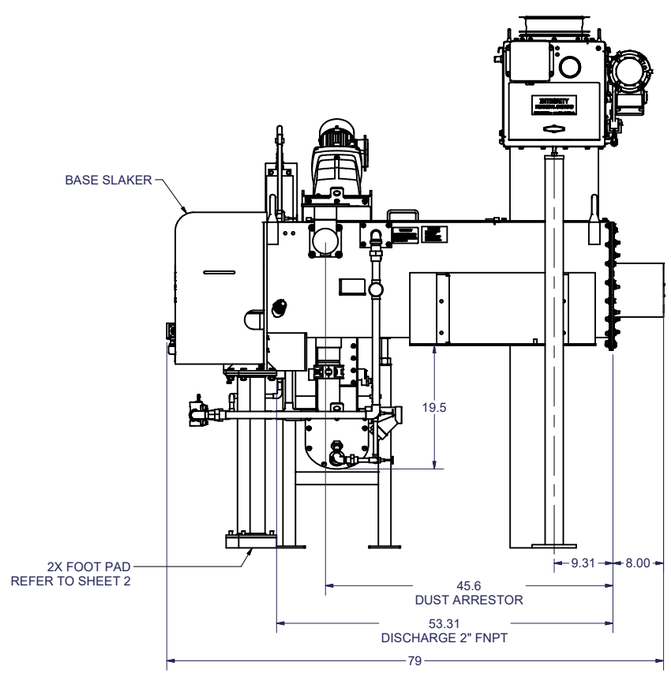
DETAIL A
INLET CONNECTION DETAIL
NTS











THIRD ANGLE PROJECTION

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DO NOT SCALE DRAWING

DRAWN PER ASME Y14.5M
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ALL DIMENSIONS ARE INCHES
AND TOLERANCES TO BE AS FOLLOWS.

FABRICATION	MACHINE
.XX +/- .06	.XXX +/-.005
.X +/- .13	.XX +/-.01
[X +/- .25]	.X +/- .03
< +/- .5	[X +/- .05]

STD: BORDER-11X17MI

BAR = 1" AT PLOT SCALE

REV	DESCRIPTION	DATE	DWN	CHKD	APVD	ECN
3	UPDATED TO LATEST VERSION	6/6/23	NAT	KAL	KAL	
2	UPDATE GRIT REMOVER	5/3/21	CMW	KAL	KAL	
1	UPDATE GRIT REMOVER	8/17/17	CMW	KAL	KAL	
0	RELEASE FOR SALES PURPOSES ONLY	12/23/15	KAL			

		DATE
DESIGNER	KAL	12/23/2015
CHECKER		DATE
ENGINEER		DATE
MANAGER		DATE
FILE:		
SCALE:	NONE	

TITLE: SALES DRAWING 1000PPH W/ SG & 31-165

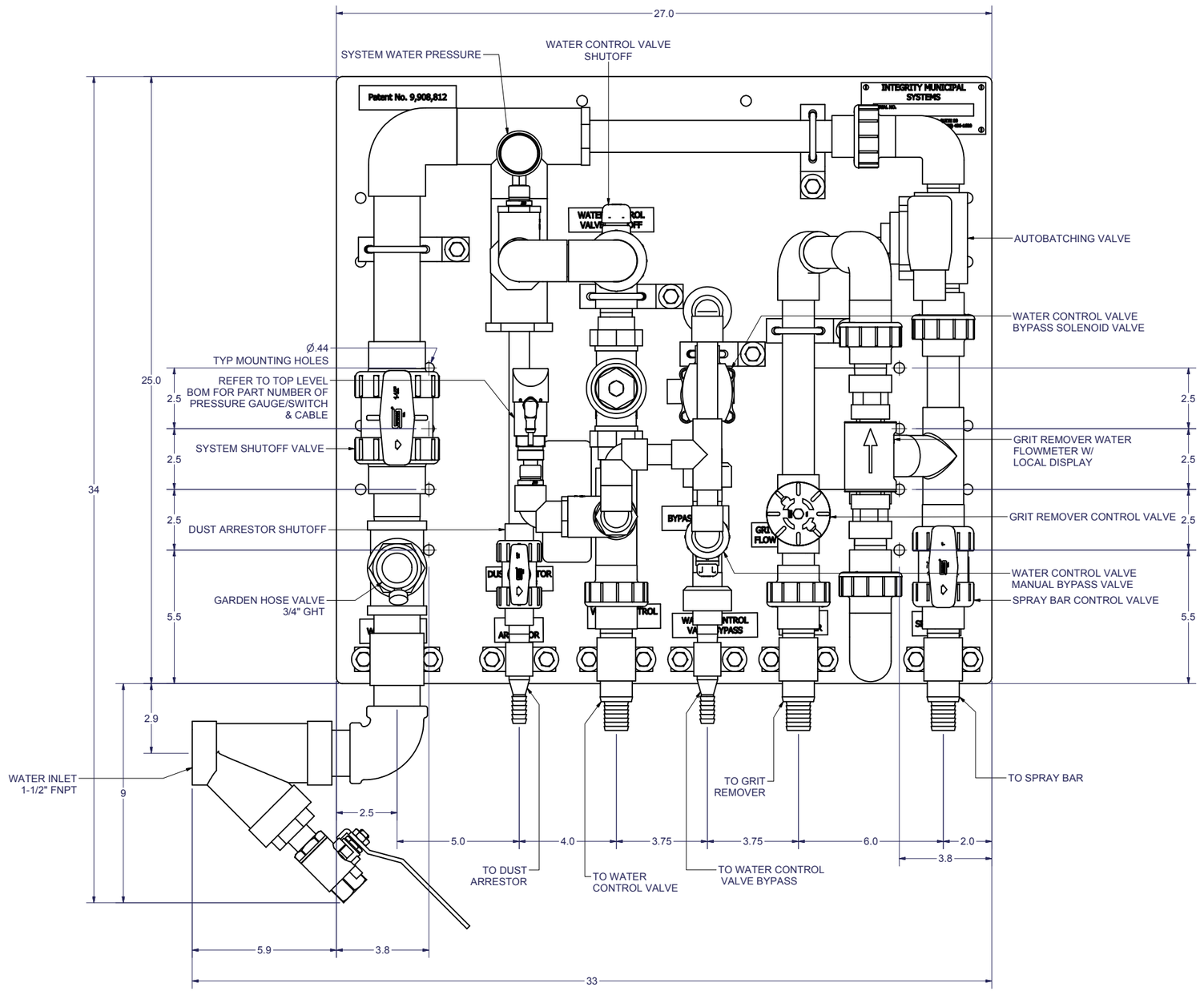
CLIENT

Integrity MUNICIPAL SYSTEMS
500 E. WASHINGTON AVE., SUITE 80
ZEELAND, MI 49464, USA
TEL: 858-486-1620

PROJECT	CODE	DRAWING	SHEET	REV
	F4682	F4682	1 OF 2	3

DRAWING SHOWN CONSISTS OF:
WATER PANEL

FEATURES INCLUDE:
120 VAC OR 24 VDC PRESSURE SWITCH AND INDICATOR WITH LOCAL DISPLAY
MAGNETIC FLOW METER WITH LOCAL DISPLAY OF GRIT WASH WATER
BARBED HOSE CONNECTIONS FOR CONNECTION TO SLAKER
LABELS FOR EASY IDENTIFICATION OF FEATURES
GARDEN HOSE VALVE FOR WASHDOWN
PRESSURE GAUGE FOR SYSTEM PRESSURE
SUPPLIED WITH HEAVY DUTY WATER HOSE FOR CONNECTION TO SLAKER
MOUNT ON SLAKER, WALL OR LEGS
ASSEMBLED FROM GLUED PVC AND RIGIDLY SUPPORTED
UNIONIZED ASSEMBLY FOR EASY MAINTENANCE
HOLES AROUND PERIMETER FOR MOUNTING OPTIONAL JUNCTION BOX



Y-STRAINER SHIPPED LOOSE

PATENT NO. 9,908,812

THIRD ANGLE PROJECTION

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[X +/- .25]	.X +/- .03
< +/- .5	[X +/- .05]

STD: BORDER-11X17MI

BAR = 1" AT PLOT SCALE

REV	DESCRIPTION	DATE	DWN	CHKD	APVD	ECN
2	ADDED PATENT NO. & STRAINER VALVE	2/21/18	KAL			
1	ADDED SHEET 3	3/1/16	KAL			
0	RELEASE FOR SALES PURPOSES ONLY	1/6/16	KAL			

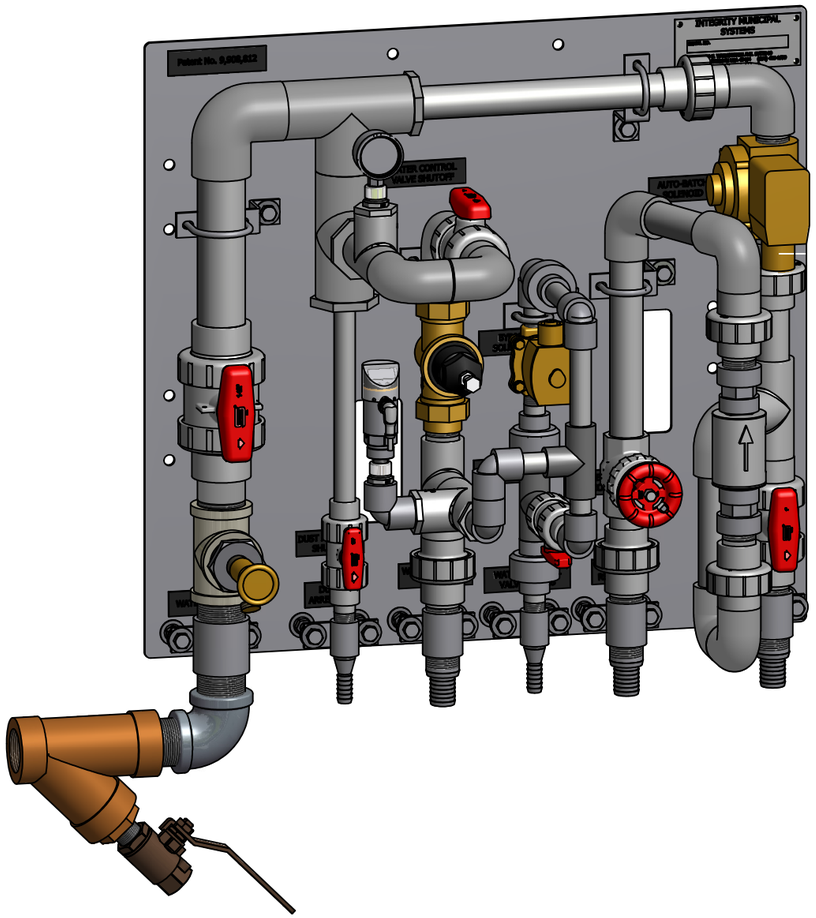
DESIGNER	KAL	DATE 1/5/2016
CHECKER		DATE
ENGINEER		DATE
MANAGER		DATE
FILE:		
SCALE:	NONE	

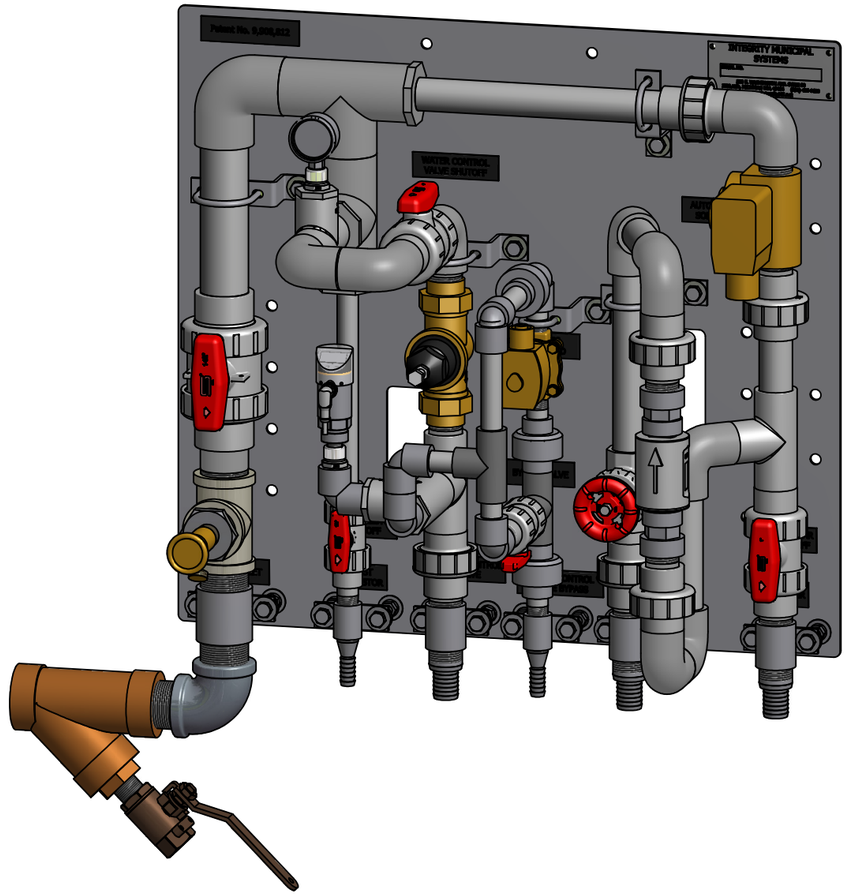
TITLE: SALES DRAWING WATER PANEL 1-4K A758 PVC

CLIENT

Integrity MUNICIPAL SYSTEMS
500 E. WASHINGTON AVE., SUITE 80
ZEELAND, MI 49464, USA
TEL: 858-486-1620

PROJECT	CODE	DRAWING	SHEET	REV
	F4690	F4690	1 OF 3	2





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.X +/- .13	.XX +/-.01
[X +/- .25]	.X +/- .03
< +/- .5	[X +/- .05]

STD: BORDER-11X17MI

BAR = 1" AT PLOT SCALE

REV	DESCRIPTION	DATE	DWN	CHKD	APVD	ECN

DESIGNER	KAL	DATE 1/5/2016
CHECKER		DATE
ENGINEER		DATE
MANAGER		DATE
FILE:		
SCALE:	NONE	

TITLE: SALES DRAWING WATER PANEL 1-4K A758 PVC

CLIENT

Integrity MUNICIPAL SYSTEMS
500 E. WASHINGTON AVE., SUITE 80
ZEELAND, MI 49464, USA
TEL: 858-486-1620

PROJECT	CODE	DRAWING	SHEET	REV
	F4690	F4690	2 OF 3	2

NEW WATER PANEL DESIGN [PATENT NO. 9,908,812]

The new water panel design provides all water piping preassembled in a water panel that can be freestanding next to the slaker or remote-mounted.

Features & Advantages:

1. **Minimized Installation Time:**

   With the water panel design, the water piping does not need to be re-assembled at the jobsite as is the case with the on-unit water supply piping, which requires disassembly for shipment to prevent damage during transit from the factory. The water panel design provides all water piping preassembled in a water panel that can be quickly installed and connected at the jobsite (One (1) water supply connection from water source and five (5) water connections from water panel to slaker [control valve, control valve bypass, spray bar, dust arrestor, and grit remover]).

2. **Reduction of Equipment Manufacturing Lead Time:**

   The water panel can be assembled ahead of time (not at the same time as the slaker), reducing equipment lead time by up to 2-3 weeks.

3. **Remote Installation of Water Panel (Option):**

   The water panel provides flexible installation configurations for different installation requirements and preferences. The water panel can be installed freestanding next to the slaker unit or remote-mounted.

4. **Ease of Maintenance:**

   All parts are easily accessible on the water panel and are therefore easier to maintain.

5. **Ease of Connections:**

   All water connections are in one area (on the water panel) - Much easier to connect.

6. **Improved Slaker Access:**

   The removal of the water piping from the slaker and its relocation to the water panel, frees up space in front of the slaker, improving ease of slaker access, ease of maintenance, etc.

7. **Design Repeatability and Consistency:**

   A more consistent product can be produced, which in turn results in high quality equipment.

8. **Decreased Likelihood of Damage:**

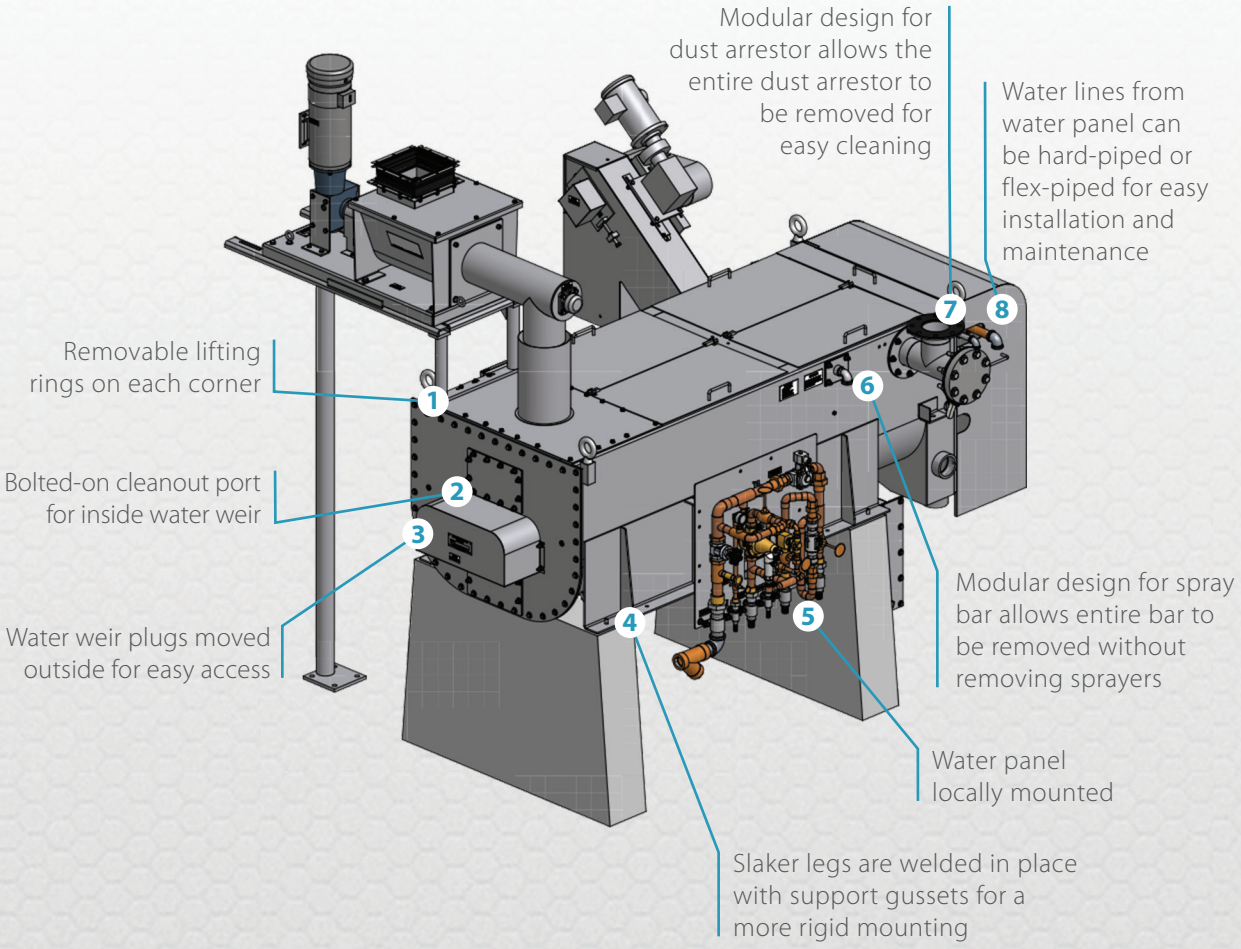
   The water piping is less likely to be damaged during shipping and, more importantly, during operation due to the improved access for maintenance and increased space around the slaker and water panel.

INTRODUCING THE IMPROVED

A-758™ AND ***A-758 PLUS™*** LIME SLAKER:

EASIER. FASTER.

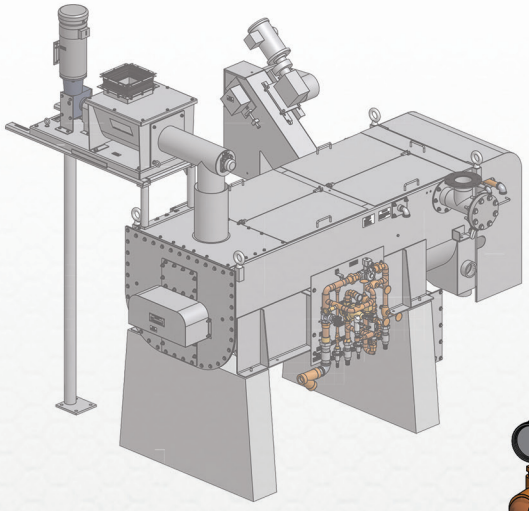
INNOVATIVE.

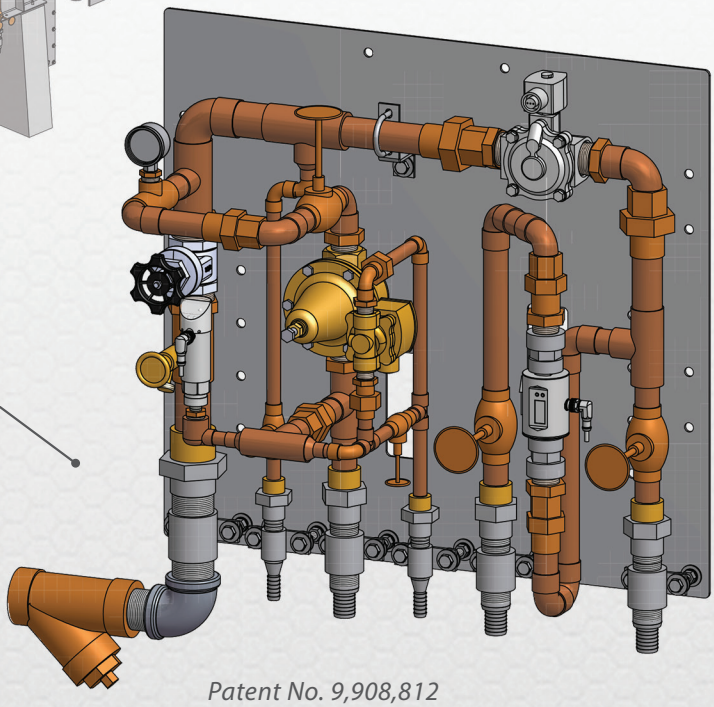


Integrity MUNICIPAL SYSTEMS

EASIER. FASTER. INNOVATIVE.

THE IMPROVED IMS LIME SLAKER





PRE-ASSEMBLED WATER PANEL

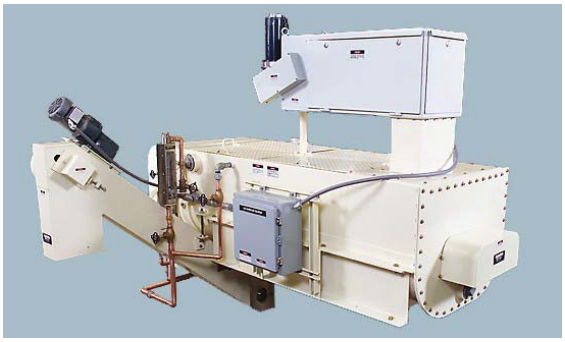
- Minimizes installation time
- Reduces manufacturing lead time
- Enables remote installation of water panel
- Makes maintenance easier
- Eases connection complexity
- Enhances slaker access
- Decreases risk of damage
- PVC or copper construction

Patent No. 9,908,812

Integrity MUNICIPAL SYSTEMS

Integrity Municipal Systems
13135 Danielson St, Suite 204 Poway, CA 92064
www.integrityms.net | ***phone*** (858) 486-1620 | ***fax*** (858) 486-1659

Lime is one of the most common and economical chemicals used in the water and wastewater treatment process. The cost of commercial bulk hydrated lime or prepared lime slurry solutions, however, becomes prohibitive for installations requiring a continuous, high volume supply, typically greater than 45 kgs/hr (100 lbs/hr). To help alleviate this cost, on-site slaking or hydration is the ideal solution. The Series A-758 lime slaker provides for reliable, efficient slaking of various grades of quicklime (CaO) at a substantial savings over other slaking methods. Through the pioneering use of paste-type slaking technology, the Series A-758 lime slaker consistently produces a more reactive lime slurry requiring less energy and less operator attention. The compact size and flexible configuration make this pre-engineered system ideal for new and retrofit installations.



KEY BENEFITS

- Saves water, heat and power
- Economical and reliable on-site slaking
- Easy to install, unit is factory pre-tested
- Choice of final slurry concentration
- Flexible controls: manual, flow proportional, and automatic start-stop

FEATURES

Superior Paste-Slaking Process
Utilizing a 2:1 water-to-lime ratio, the A-758 unit slakes lime as paste which provides a number of benefits over the more traditional 4:1 water-to-lime or slurry slaking process. This includes less power, faster slaking, a smaller footprint and, most importantly, a more reactive lime slurry solution.

Saves Power
The 2:1 paste slaking process generates its own slaking heat from the hydration heat of reaction ($CaO+H_20 = Ca(OH)_2$ + Heat (490 btu/lb)). This avoids the need and expense of an external heat source, internal heat exchangers, and temperature control systems. Additionally, slow speed agitation requires one-half the horsepower of equivalent sized slurry slakers.

Fast Slaking
The low water-to-lime ratio and high self-generating heat of reaction completes the slaking process in approximately five minutes. This short retention time leads to efficient start-stop or batching operation and rapid changes in lime concentration when required.

Compact Size
The 2:1 slaking ratio and short retention time allows for a smaller slaking compartment without bulky insulation or any need for a water jacket. The A-758 lime slaker takes about 20% less floor space than other designs.

More Reactive Hydrate Particles
The intense heat [>82° C(180° F)] generated by the 2:1 slaking ratio subjects the quicklime to steam penetration. The resulting internal pressure promotes the fracturing of the quicklime into smaller, highly reactive particles. This means more surface area for more efficient lime usage.

Controlled Consistency
An automatic, torque-actuated water inlet valve provides precise, continuous control of paste consistency and, therefore, the slaking process. Variations in lime quality and feed rate are quickly recognized and the optimum slaking rate is maintained, without operator intervention.

Integrated System Design
The pre-engineered A-758 lime slaker system is available with a broad range of capacities, capabilities and control options:

- Four different capacities from 450 to 3600 kgs/hr (1000 to 8000 lbs/hr)
- Specific gravity classification or screen-type grit removal technology
- Gravimetric or volumetric belt-type lime feeders or screw-type lime feeder
- PLC or relay logic controls with an optional automatic batching function

DESIGN AND OPERATION

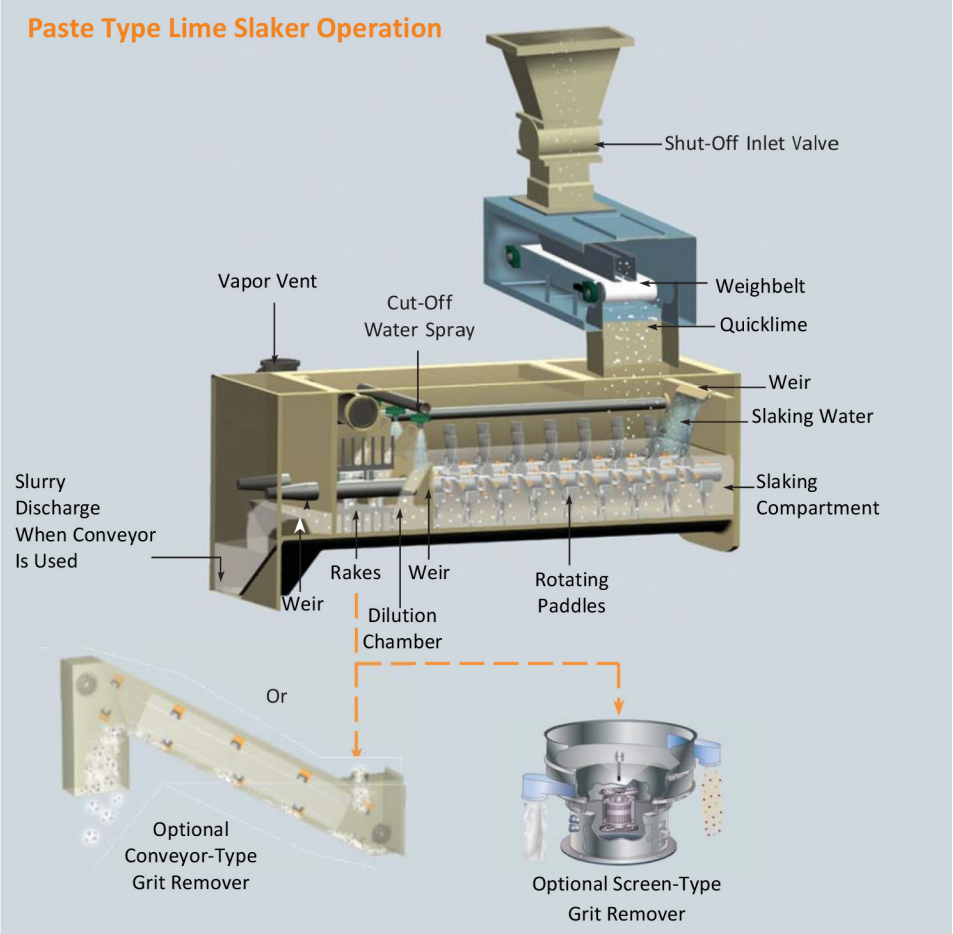
Water and quicklime (CaO) are fed into the slaker mixing compartment at an approximate 2:1 ratio. The lime is metered by either a gravimetric weighbelt feeder or a volumetric screw or belt-type feeder. Controlling the lime feedrate determines the output of the slaker system. The water flow is automatically controlled by a torque-sensitive water adjusting valve.

In the slaking compartment, two intermeshing paddle shafts, rotating in counter-clockwise directions, mix the quicklime and water into a paste-type composition, controlled by the torque valve to the 2:1 slaking ratio. Any variation in the paste consistency caused by vapor loss, lime quality or size fluctuations, or changes in the lime feed rate, results in a different torque load on the paddle shafts. This causes the torque valve to adjust the water flow to maintain the desired paste consistency.

The paste and entrained inert grit moves forward in a plug-flow fashion. After approximately 5 minutes, the completely slaked lime paste flows over a weir into the dilution compartment. Here water nozzles direct a cut-off spray to dilute the paste into a lime slurry at an approximate 4:1 concentration. This also releases the grit from the lime paste so that it can be removed. Two sets of rotating rakes keep the lime in suspension and help move the grit to the grit separator.

Dust and steam, generated by the exothermic reaction of the lime and water, are drawn off by an integral, water operated vapor-dust arrestor. The steam and dust are condensed and returned to the dilution compartment. Excess steam and water vapor are vented outside of the slaker.

A low water pressure switch in the torque valve piping is designed to stop the lime feeder when the supply pressure falls below the minimum operating requirement. This avoids heat build-up due to insufficient slaking water. The feeder automatically restarts when the pressure is restored.



CHOICE OF LIME FEEDERS

Reliable lime feed is required for proper operation of the lime slaker system. A selection of standard feeders is available to provide accurate CaO feed over a range of up to 20:1. This determines the operating range of the slaker along with lime reactivity.

Series 31-165 Gravimetric Weighbelt Feeder

A microprocessor controller unit that delivers an accuracy better than 1% of set rate over a 20:1 range. It features direct measurement of throughput for inventory control and complete alarm monitoring for any off-feed condition.

Series 32-215 Volumetric Belt-Type Feeder

Simple controls with a quick speed of response for changing feed rates. A no-feed alarm is available as an option.

Series 32-300 Volumetric Screw-Type Feeder

A rugged, heavy duty variable speed feeder with only five moving parts provides low maintenance and simple service.

CHOICE OF GRIT REMOVERS

All quicklime (CaO) contains a small amount of inert grit or unslaked material. To protect lime slurry pumps and piping, it is necessary to remove this grit as the slurry exits the slaker. The A-758 lime slaker is available with a choice of two different grit remover technologies:

Conveyor-Type Grit Remover

Grit particles are separated from the lime slurry based on their specific gravity. An up-flow of water is introduced into the dilution compartment of the slaker. The heavier grit particles fall through this flow to be subsequently removed by the chain and flight scraper. The operator can adjust the water flow to determine the size and amount of grit that is to be removed.

An accurate glass-tube flow meter is used to provide a fine degree of control and repeatability. This system removes virtually all grit down to 10 mesh in size and some portion of finer grit down to 40 mesh. Slurry concentrations up to 18% are achievable. Operation is simple and efficient with very low maintenance.

Screen-Type Grit Remover

In this system, grit particles are separated by size through a vibrating screen separator to provide positive grit removal. The lime slurry discharge passes through a 20 mesh screen (40 mesh optional), where grit is removed through an exit port. The slurry passes through the screen where it is delivered to the process or a stabilization tank. Slurry concentrations up to 20% are achievable. A high-strength slurry concentration, up to 28% at maximum feed rate, is available with this type of grit remover. This utilizes optional high velocity spray nozzles and a booster pump to decrease the amount of dilution water. This is ideal for installations where storage space is a consideration or in applications where excess water is limited in the process.

AUTOMATIC START-STOP CONTROL

The paste-type lime slaker is ideally suited for all types of control systems. In a continuous process, slaker operation remains constant. Lime slurry is continuously discharged while the lime feed rate can be varied to account for flow or process variations. Lime can be gravity flow, directly to the point of application without the need for costly slurry handling equipment. For batching applications, the slaker system can be automatically stopped and started from a single contact closure. The low water to lime ratio ensures a fast start-up to bring the slaker on line quickly. Both long-term (> 8 hours) and short-term (< 8 hours) shutdown modes are operator selectable.

Capacities
450, 900, 1800, and 3600 kg of quicklime per hour (1000, 2000, 4000, and 8000 lbs/hr).

Operating Range
Up to 20:1

Slaking Ratio
Approximately 2:1 water to lime by weight before dilution.

Lime Feeder
Three types of feeders available: Series 31-165 Gravimetric weighbelt feeder; Series 32-215 Volumetric belt-type feeder; and/or Series 32-300 screw-type feeder.

Control Panel
For local or remote mounting. NEMA 12; 230/460 VAC, 3 ph, standard; 115 VAC, 1 ph, optional (not available with 3600 kg/hr (8000 lb/hr) capacity).

Paddle Shaft Mixer Motors
452 kgs/hr (1000 lbs/hr) capacity - 1/2 hp;
900 kgs/hr (2000 lbs/hr) capacity - 1 hp;
1800 kgs/hr (4000 lbs/hr) capacity - 1-1/2 hp;
3600 kgs/hr (8000 lbs/hr) capacity - 2 hp;
Standard is 230/460 VAC, 60 hz, 3 ph.
Single phase motors are available up to 1800 kgs/hr (4000 lbs/hr).

Conveyor-Type Grit Remover Motors
1/4 hp, 230/460 VAC, 60 hz, 3 ph, totally enclosed. Also available in single phase up to 1800 kgs/hr (4000 lbs/hr) capacity units.

Screen-Type Grit Remover
450 kgs/hr (1000 lbs) slaker - 1/3 hp;
900 and 1800 kgs/hr (2000 lbs & 4000 lbs/hr) slakers –1/2 hp;
3600 kgs/hr (8000 lbs) slaker - 2-1/2 hp;
All motors are 230/460 VAC, 60 hz, 3 ph, 1200 RPM TENV.

Booster Pump Motors (High Slurry Concentration Option)
450 and 900 kgs/hr (1000 and 2000 lbs) slakers - 1/2 hp;
1800 kgs/hr (4000 lbs) slakers - 1 1/2 hp;
3600 kgs/hr (8000 lbs) slaker - 2 hp;
All motors are 230/460 VAC, 50/60 hz, 3 ph, TE turbine, all bronze housing. Note: Only available with screen-type grit remover.

Water Requirements
Recommended supply pressure for 450 to 1800 kgs/hr (1000, to 4000 lbs/hr) slakers, 2.7 bar (40 psi) minimum and 5.2 bar (75 psi) maximum; for the 3600 kgs/hr (8000 lbs/hr) slaker, 3.8 bar (55 psi) minimum and 5.2 bar (75 psi) maximum.

Control options

- Manual speed control of feeder via a potentiometer on the control panel.
- Automatic speed control of the lime feeder via a 4-20 mA input signal.
- Automatic batching and automatic system shut-down via optional start-stop configuration.

Dimensions
Complete dimension details can be found in catalog numbers WT.330.100.100.UA.CN to WT.330.100.126.UA.CN.

Total Slaker System Water Input at 40 psi (2.7 bar)

Slaker Size		Conveyor-Type Grit Remover (max 18% slurry concentration)		Screen-Type Grit Remover (max 20% slurry concentration)		Screen-Type Grit Remover (max 28% slurry concentration)	
Kg/hr	lbs/hr	lpm	gpm	lpm	gpm	lpm	gpm
450	1,000	57	15	45	12	34	9
900	2,000	91	24	76	20	64	17
1800	4,000	178	47	148	39	125	33
3600	8,000	405	107	360	95	246	65

Shipping and Operating Weights
Includes slaker, grit remover and feeder.

Capacities		Shipping		Operating	
Kg/hr	lbs/hr	kgs	lbs	kgs	lbs
450	1,000	1,900	2,400	1,410	3,110
900	2,000	1,330	2,930	1,895	4,180
1800	4,000	1,640	3,620	2,660	5,860
3600	8,000	3,335	7,350	6,160	13,580

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Building on Tradition: Integrity Municipal Systems Brings Innovation to Legendary Lime Slaking Systems

Lime is one of the most common chemicals used in water and wastewater treatment processes, but the cost of bulk hydrated lime solutions becomes prohibitive as usage increases. On-site slaking – or hydration – is the ideal solution to keep costs manageable.

The A-758™ Lime Slaking System – introduced for sale in 1959 – has established itself as the industry baseline for continuous paste lime slaking. The system's continuous lime slaking process slakes quicklime with water to form hydrated lime. Paste slakers utilize half the water of slurry slakers, leading to higher slaking temperatures, shorter retention time, a smaller equipment footprint, and – most importantly – smaller hydrate particle size for greater process chemical reactivity. The A-758™ and A-758 Plus™ systems come equipped with a conveyor or screen to remove grit after the slaking process.

"The IMS slakers greatly exceeded my expectations. The quality of the equipment, coupled with IMS's knowledgeable staff, resulted in a first class project. IMS demonstrated why it is an elite organization on this project."

Blake Pitts
Vice President
Matous Construction, Ltd.

Although the A-758™ and A-758 Plus™ Lime Slaking Systems are time-tested, proven products, recent enhancements have further improved the operability and effectiveness of these systems. Several features have been modularized, such as the dust arrestor and spray-bar; and select components have been redesigned to allow ease of maintenance and easier replacement of high-wear parts. IMS also modified the water management for the system, replacing on-site, custom-constructed copper piping with a compact, pre-packaged, controlled water panel that can be placed on the unit or mounted remotely to meet the operator's space and operational requirements (see inset). The A-758™ continuous lime slaking system can also be coupled with several different quicklime feeders.

The A-758™ and A-758 Plus™ Lime Slaking Systems have long been the industry standard for on-site lime slaking. Integrity Municipal Systems has taken that standard to a higher level with new features that extend equipment life, reduce maintenance costs, and improve control and reliability. The tradition continues, with legendary design now united with the superior quality, service, and support of IMS.

A-758™/A-758 Plus™ Lime Slaking Systems

Continuous Paste Lime Slaking – higher slurry concentrations with a lower cost and smaller footprint than batch slaking systems

Paste Slakers – faster slaking with a more reactive lime slurry solution than slurry slaking systems

Ease of Maintenance – redesigned with the operator in mind for cleaning and high-wear parts replacement

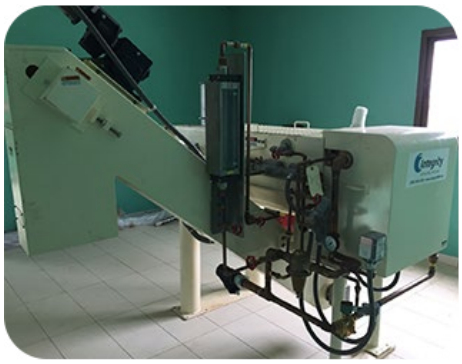
Plug-and-Play Installation – each system is piped, wired and tested at the factory before shipment

Campbell's Soup Manufacturing Plant, Napoleon OH

Public Water Supply District #2, Defiance MO

Edmond, OK

Nebraska City WWTP, NE



Cote D'Ivoire

Fort Pierce Utilities Authority, FL

Jackson, MI

Davis WTP, Austin TX

Integrity Municipal Systems (IMS) is a specialty engineering company devoted to the design and supply of innovative, pre-assembled, process solutions for the water and wastewater industry. With over 25 years of systems engineering innovation and project execution, the IMS team has the knowledge and dedication to tackle your odor control and chemical feed needs. IMS has achieved a reputation for producing unique, practical, and cost-effective solutions for our customers. We are committed to providing quality, service, and overall value that exceed your expectations.

Lime Slaker Systems (A-758 & A-758 Plus)

The A-758 and A-758 Plus IMS Lime Slaker Systems provide continuous high volume lime slurries (up to 8,000 lbs/hour) for industrial and municipal process pH adjustment, flocculation, and chemical reaction. The superior paste-type slaking technology consistently produces a higher strength and more reactive lime slurry resulting in more efficient and more economical use of the quicklime. Systems are factory assembled and tested for quick and easy installation, and include options for lime feed and grit removal.

Lime Slaker Feeders

Series 31-165 Gravimetric Feeder

Series 32-215 Volumetric Feeder

Series 32-300 Volumetric Feeder

Chemical Feed Systems

IMS chemical feed systems are pre-assembled, fully-functional chemical delivery systems for water treatment applications. These compact, user-friendly chemical skids include local storage tanks, full secondary containment, dosing pumps, instrumentation and controls. Systems are piped and wired at the factory for easy and quick hook-up.

Fluoride Feed System

IMS Fluoride Feed Systems use sodium fluoride for community water fluoridation. They are designed with separate saturator and solution tanks, unlike conventional methods, to assure complete saturation, high reliability, low maintenance and ease of use.

Aqueous Ammonia Feed System

IMS packaged Aqueous Ammonia Feed Systems are used in the formation of chloramines for disinfection. The system includes a heavy-duty pressure rated aqueous ammonia storage tank, integral ammonia fume scrubber, peristaltic dosing pump, instrumentation and controls in a fully contained, pre-assembled skid. Optional enclosure, shown right, is ideal for outdoor or remote locations. The FRP shelter houses the equipment in an air conditioned environment and comes complete with lighting, ventilation fan, and breaker panel.

Odor Control Systems

Standardized, pre-engineered, factory assembled odor control systems for treating odors at sewage pump stations and wastewater treatment plants. Systems are simple to install, reducing installed cost and delivery time.

Biological Odor Control Systems

The I-BOx™ Biological Odor Control System (Patent Pending) uses a two-stage process with a biological stage to remove 99% of the hydrogen sulfide (H_2S), followed by an activated carbon polishing stage to remove residual H_2S and organic odors. Standard models are available to treat up to 5,000 cfrm (8,500 m^3/h) of odorous air.

Carbon Odor Control Systems

The carbon adsorber odor control systems consist of an exhaust fan, damper, interconnecting ductwork, vessel with activated carbon (3 ft. bed) and a control panel. The carbon odor control systems are designed to work with a wide selection of media: virgin activated carbon for low odor level, and high capacity carbon for higher H_2S concentrations.

MCS Carbon Odor Control System

Standard models are available to treat up to 1,400 cfm (2400 m^3/h) of odorous air in a single carbon stage.

BCS Carbon Odor Control System

Standard models treat up to 6,800 cfm (11600 m^3/h) in a single carbon stage and up to 20,000 cfm (34000 m^3/h) in a dual carbon bed system.

Emergency Chlorine Scrubbers

IMS wet emergency chlorine scrubber systems contain and treat accidental releases of chlorine gas, limiting the atmospheric release of chlorine to less than 1 ppm. The compact scrubber systems are factory pre-assembled, piped, wired and tested, with a low profile suitable for either indoor or outdoor installation. The system design surpasses the requirements of the Uniform Fire Code.

EVS-150

This multi-stage wet scrubber system treats chlorine vapors from a bank of 150lb (70kg) chlorine cylinders, at leak rates of 28 lbs/min or more.

EVS-2000

This multi-stage wet scrubber system treats up to 3 tons of chlorine vapor, at leak rates of 100 lbs/min or more.

EVS-2000C

The EVS-2000C emergency chlorine scrubber is a multi-stage wet scrubber system designed to treat up to 1 ton of chlorine vapor, at leak rates of 100 lbs/min or more.

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Integrity MUNICIPAL SYSTEMS

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Adam Dickinson, Line Department Superintendent
John Harrenstein, Interim City Manager

DATE: June 17, 2024

RE: Bidding Package: Furnishing a Control Enclosure – Reisner Substation

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SUMMARY: Requesting permission to seek bids and schedule a Public Hearing for a Control Enclosure as defined in the attached bidding documents to furnish said enclosure for the Reisner Substation.

PREVIOUS COUNCIL ACTION: The City Council has previously approved the contract for the new Power Transformer, authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.), approved the contract for the new 69 kV Circuit Breakers, approved contracts for miscellaneous materials, and approved the Grading Contract for the new Reisner Substation.

BACKGROUND/DISCUSSION: The equipment to be supplied is described in general as follows:

> Furnishing and installing a new 40' x 28' control enclosure with related accessories and auxiliary equipment.

The attached bidding documents reference in more detailed and complete description of the material specifications. At the proposed Public Hearing on August 5th, 2024 at 6:05 P.M., the City Council will also receive and consider any objection to said plans, specifications and form of contract or cost of the materials made by any interested party.

FINANCIAL IMPLICATIONS: The cost of these materials will be shared between Corn Belt Power Cooperative and the City of Webster City, based on an allocation between transmission facilities (Corn Belt portion) and distribution facilities (City portion).

The estimated cost of this portion of the project, along with the breakdown of the responsibility for those costs, is as follows:

Portion of Project	Total Project Cost Estimate	Estimated City of Webster City Portion	Estimated Corn Belt Power Co-op Portion
Reisner Substation – Control Enclosure	$470,000 (excluding taxes)	$423,000	$47,000*

***** These funds will initially be provided by the City but will be fully reimbursed by Corn Belt.

The costs shown above are estimates; the agreement with Corn Belt and NIMECA includes a provision that actual reimbursement will be made on the basis of actual final project costs.

PROJECT TIMELINE:

The current timeline for the Control Enclosure is as follows:

- Bid Opening: Tuesday, July 23, 2024 @ 1:15 PM at City Hall
- Desired Delivery Date: April 15, 2025

RECOMMENDATION: Approve the request to set public hearing for August 5th, 2024 at 6:05 P.M. at which the City Council will consider the plans and specifications, proposed form of contract and the estimate of cost to furnish the Control Enclosure for the Reisner Substation as defined.

RESOLUTION NO. 2024 - xxx

RESOLUTION APPROVING THE REQUEST TO SEEK BIDS AND SCHEDULE A PUBLIC HEARING FOR FURNISHING A CONTROL ENCLOSURE FOR THE REISNER SUBSTATION

WHEREAS, the City Council of Webster City has previously approved the contract for the new Power Transformer, authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.), approved the contract for the new 69 kV Circuit Breakers, approved contracts for miscellaneous materials, and approved the Grading Contract for the new Reisner Substation; and

WHEREAS, the equipment to be supplied is described in general as furnishing and installing a new 40' x 28' control enclosure with related accessories and auxiliary equipment; and

WHEREAS, the attached bidding documents provide a more detailed and complete description of the material specifications; and

WHEREAS, the proposed Public Hearing on August 5th, 2024, at 6:05 P.M. will allow the City Council to receive and consider any objections to said plans, specifications, form of contract, or cost of the materials made by any interested party; and

WHEREAS, the cost of these materials will be shared between Corn Belt Power Cooperative and the City of Webster City, based on an allocation between transmission facilities (Corn Belt portion) and distribution facilities (City portion); and

WHEREAS, the funds will initially be provided by the City but will be fully reimbursed by Corn Belt. The agreement with Corn Belt and NIMECA includes a provision that actual reimbursement will be made based on actual final project costs.

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa, as follows:

Section 1. Approval to Seek Bids: The City Council hereby approves the request to seek bids for furnishing a Control Enclosure for the Reisner Substation.

Section 2. Public Hearing Scheduled: The City Council hereby schedules a Public Hearing for August 5th, 2024, at 6:05 P.M. at which time the Council will consider the plans and specifications, proposed form of contract, and the estimate of cost to furnish the Control Enclosure for the Reisner Substation as defined.

Section 3. Authorization: Authorize the City Manager to take all necessary actions to proceed with the bidding process for furnishing a Control Enclosure for the Reisner Substation and Authorize the City Clerk to ensure proper notice of the Public Hearing as required.

Passed and adopted this 17th day of June, 2024.

_____
John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PLANS AND SPECIFICATIONS, PROPOSED FORM OF CONTRACT, AND ESTIMATE OF COST FOR FURNISHING A CONTROL ENCLOSURE - REISNER SUBSTATION FOR THE CITY OF WEBSTER CITY, IOWA.

Notice is hereby given that the City Council of Webster City, Iowa will meet in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595 on August 5, 2024 at 6:05 PM, at which time and place the City Council will consider the adoption of plans and specifications and proposed form of contract for the above referenced materials, which are now on file in the City Offices. At said meeting the City Council will receive and consider any objections to said plans, specifications, form of contract and estimate of cost made by any interested party.

The equipment to be supplied is described in general as follows:

> **Furnishing and installing a new control enclosure with related accessories and auxiliary equipment.**

Publication upon order of the City Council of Webster City, Iowa.

Dated this 19th day of July 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

NOTICE TO BIDDERS

Notice is hereby given that sealed bids will be received by the City Clerk of the City of Webster City, Iowa, at City Hall, 400 Second Street, Webster City, Iowa 50595, before **1:15 P.M. on July 23, 2024**, for Furnishing a Control Enclosure for Reisner Substation for the City of Webster City, Iowa. At said time, the bids will be publicly opened and read aloud in the Council Chambers, 400 Second Street, Webster City, Iowa 50595. Bids will be considered by the City Council at its meeting at 6:05 PM on August 5, 2024 in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595. The City Council may award the contract at said meeting or at such other time and place as shall then be announced.

The equipment to be supplied is described in general as follows:

Furnishing and installing a new control enclosure with related accessories and auxiliary equipment.

The above equipment shall be in accordance with the specifications and proposed form of contract now on file in the office of the Municipal Electric Utility in said City of Webster City, Iowa, by this reference made a part hereof, as though fully set out and incorporated herein.

Complete digital project bidding documents are available at www.questcdn.com. You may download the digital plan documents at no charge by inputting **Quest project #9124153** on the website's Project Search page. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information. An optional paper set of the proposal forms and specifications at no charge for individual use may be obtained from the office of the Engineer, DGR Engineering, 1302 South Union, P.O. Box 511, Rock Rapids, Iowa 51246, telephone 712-472-2531, Fax 712-472-2710, e-mail: dgr@dgr.com.

Each bid shall be made out on a blank form furnished by the Utility and must contain bid security as required by Iowa Code Section 26.8. The bidder's security shall be in the form of either (1) a cashier's check or certified check drawn on a state-chartered or federally chartered bank, in an amount equal to ten (10) percent of the amount of the Bid; or (2) a certified share draft drawn on a state-chartered or federally chartered credit union, in an amount equal to ten (10) percent of the amount of the Bid; or (3) a bid bond executed by a corporation authorized to contract as a surety in the State of Iowa, in an amount equal to ten (10) percent of the amount of the Bid. The bid security shall be made payable to the City of Webster City, Iowa. The bid security must not contain any conditions either in the body or as an endorsement thereon. Such bid security shall be forfeited to the City as liquidated damages in the event the successful bidder fails or refuses to enter into a contract within fifteen (15) days after the award of contract and post a satisfactory Performance Bond.

The sealed envelope containing the bid shall be clearly marked "BID ENCLOSED – FURNISHING A CONTROL ENCLOSURE – REISNER SUBSTATION" on the outside of the envelope.

Payment to the Supplier will be made as described in the Material Agreement.

Delivery of the Control Enclosure shall be by the date set in the General Requirements.

By virtue of statutory authority, a preference will be given to products and provisions grown, and coal produced within the State of Iowa, and preference shall be given to Iowa domestic labor in the construction of said improvements. The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

The City Council reserves the right to defer acceptance of any proposal for a period not to exceed thirty (30) days after the date proposals are received and no proposal may be withdrawn during this period. The City Council also reserves the right to reject any or all bids, to waive informalities and irregularities in the form of the bid, and enter into such contract as it shall deem to be in the best interest of the Utility.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

Bidding Documents

Furnishing a Control Enclosure
Reisner Substation

WEBSTER CITY

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

DGR Project No. 428403
City Project No. 9-23-011

DGR ENGINEERING

Bidding Documents

Furnishing a Control Enclosure
Reisner Substation

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by

Ryan D. Kleinjan, P.E. on 6-11-2024

The official copy of this engineering document is on file at the office of the Owner.

Pages or sheets covered by this seal: All bound pages.

DGR Project No. 428403

DGR Engineering
1302 South Union Street
Rock Rapids, IA
(712) 472-2531
dgr@dgr.com

Bidding Documents

Furnishing a Control Enclosure
Reisner Substation

City of Webster City/Municipal Utilities
Webster City, Iowa

Contact persons for this project are as follows:

Owner's Representative:

City of Webster City/Municipal Utilities
400 Second Street
Webster City, IA 50595
Telephone: 515-832-9151

Adam Dickinson, Electric Utility Supervisor
Telephone: 515-832-9159
Cell: 515-297-1307
E-mail: adam@webstercity.com

Ryan Orton, Utility Technician
Telephone: 515-832-9159
Cell: 515-297-0820
E-mail: rorton@webstercity.com

Engineer:

DGR Engineering
1302 South Union Street
Rock Rapids, Iowa 51246
Telephone 712-472-2531

Andy Koob, P.E.
Project Principal
E-mail: andy.koob@dgr.com

Ryan Kleinjan, P.E.
Project Manager
E-mail: ryan.kleinjan@dgr.com

Bidding Documents

Furnishing a Control Enclosure
Reisner Substation

City of Webster City/Municipal Utilities
Webster City, Iowa

Table of Contents

NOTICE TO BIDDERS

Notice is hereby given that sealed bids will be received by the City Clerk of the City of Webster City, Iowa, at City Hall, 400 Second Street, Webster City, Iowa 50595, before **2:00 P.M. on August 6, 2024**, for Furnishing 69 kV Control Panels for Reisner Substation for the City of Webster City, Iowa. At said time, the bids will be publicly opened and read aloud in the Council Chambers, 400 Second Street, Webster City, Iowa 50595. Bids will be considered by the City Council at its meeting at 6:05 PM on August 5, 2024 in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595. The City Council may award the contract at said meeting or at such other time and place as shall then be announced.

The equipment to be supplied is described in general as follows:

Furnishing and installing four (4) 69 kV control panels.

The above equipment shall be in accordance with the specifications and proposed form of contract now on file in the office of the Municipal Electric Utility in said City of Webster City, Iowa, by this reference made a part hereof, as though fully set out and incorporated herein.

Complete digital project bidding documents are available at www.questcdn.com. You may download the digital plan documents at no charge by inputting **Quest project #9124149** on the website's Project Search page. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information. An optional paper set of the proposal forms and specifications at no charge for individual use may be obtained from the office of the Engineer, DGR Engineering, 1302 South Union, P.O. Box 511, Rock Rapids, Iowa 51246, telephone 712-472-2531, Fax 712-472-2710, e-mail: dgr@dgr.com.

Each bid shall be made out on a blank form furnished by the Utility and must contain bid security as required by Iowa Code Section 26.8. The bidder's security shall be in the form of either (1) a cashier's check or certified check drawn on a state-chartered or federally chartered bank, in an amount equal to ten (10) percent of the amount of the Bid; or (2) a certified share draft drawn on a state-chartered or federally chartered credit union, in an amount equal to ten (10) percent of the amount of the Bid; or (3) a bid bond executed by a corporation authorized to contract as a surety in the State of Iowa, in an amount equal to ten (10) percent of the amount of the Bid. The bid security shall be made payable to the City of Webster City, Iowa. The bid security must not contain any conditions either in the body or as an endorsement thereon. Such bid security shall be forfeited to the City as liquidated damages in the event the successful bidder fails or refuses to enter into a contract within fifteen (15) days after the award of contract and post a satisfactory Performance Bond.

The sealed envelope containing the bid shall be clearly marked "BID ENCLOSED – FURNISHING 69 kV CONTROL PANELS – REISNER SUBSTATION" on the outside of the envelope.

Payment to the Supplier will be made as described in the Material Agreement.

Delivery of the Control Panels shall be by the date set in the General Requirements.

By virtue of statutory authority, a preference will be given to products and provisions grown, and coal produced within the State of Iowa, and preference shall be given to Iowa domestic labor in the construction of said improvements. The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

The City Council reserves the right to defer acceptance of any proposal for a period not to exceed thirty (30) days after the date proposals are received and no proposal may be withdrawn during this period. The City Council also reserves the right to reject any or all bids, to waive informalities and irregularities in the form of the bid, and enter into such contract as it shall deem to be in the best interest of the Utility.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 25th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PLANS AND SPECIFICATIONS, PROPOSED FORM OF CONTRACT, AND ESTIMATE OF COST FOR FURNISHING 69 kV CONTROL PANELS - REISNER SUBSTATION FOR THE CITY OF WEBSTER CITY, IOWA.

Notice is hereby given that the City Council of Webster City, Iowa will meet in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595 on August 5, 2024 at 6:05 PM, at which time and place the City Council will consider the adoption of plans and specifications and proposed form of contract for the above referenced materials, which are now on file in the City Offices. At said meeting the City Council will receive and consider any objections to said plans, specifications, form of contract and estimate of cost made by any interested party.

The equipment to be supplied is described in general as follows:

Furnishing and installing four (4) 69 kV control panels.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 19th day of July 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

INSTRUCTIONS TO BIDDERS

1.01 FAMILIARITY OF CONDITIONS:

A. Bidders are required to examine to their satisfaction, the plans and specifications and to make sure that the requirements are fully understood. The failure or omission of any Bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation regarding their bid.

1.02 BIDDERS QUALIFICATIONS:

A. Bidder must be capable of performing the work bid upon. The lowest responsive Bidders will be required to satisfy the Owner as to their integrity, experience, number of employees, equipment, personal, and financial ability to perform and ability to finance the cost of the work.

B. If the information and data requested by the Owner is not furnished, the Owner may consider the Bidder non-responsive or non-responsible. The Owner reserves the right, in its sole and absolute discretion, to accept the bid of a Bidder despite the fact that said Bidder has not submitted any information, list, data or statement requested.

C. The Owner reserves the right to reject any bid if the Owner determines, in its sole and absolute discretion, that the Bidder is not properly qualified to carry out the obligations of the Contract and/or to complete the work contemplated by the Contract. Conditional bids will not be accepted.

1.03 METHOD OF BIDDING:

A. Bids shall be submitted on a unit price or lump sum basis as stated on the Bid Form. In preparing a bid, the Bidder shall specify the price, written legibly in ink or typewritten, at which the Bidder proposes to do each item of work. The price shall be stated with respect to each and every alternate item, whether an add alternate, or a deduct alternate. Failure to state a price for any alternate bid item shall constitute a non-responsive bid that will not be considered. The prices shall be stated in figures. In items where unit price is required, the total amount for each item shall be computed at the unit prices bid for the quantities given in the estimate. In the event of discrepancies in the unit price extensions listed in the bid, unit prices shall govern.

B. For all work let on a unit price basis, the Engineer's estimate of quantities shown on the bid is understood to be approximate only and will be used only for the purpose of comparing bids. For work let on a lump sum basis, any estimate of quantities provided is furnished for the convenience of Bidders and is not guaranteed.

1.04 **BID SECURITY:**

A. Each bid shall be accompanied by bid security as specified in the Notice to Bidders and made payable to the Owner. Should the bidder receiving the award fail to execute a satisfactory contract and file acceptable bonds within fifteen (15) days after the award of contract, the Owner may consider Bidder to be in default, annul the Notice of Award, and the bid security of that Bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if Bidder defaults.

B. The bid security of unsuccessful Bidders will be returned promptly after the award has been made. In no case will the bid security be held longer than thirty (30) days without written permission of the Bidder, except that the bid security of the Bidder to whom the contract is awarded will be retained until he or she has entered into contract and filed an acceptable bond.

1.05 **TAXES:**

A. The prices for material items in all bids shall not include provisions for the payment of any taxes to the State of Iowa.

1.06 **ALTERNATE MATERIALS:**

A. Requests for approval of 'or-equal' materials and equipment shall be submitted to the Engineer in writing at least fifteen (15) days prior to receipt of bids. Each request shall conform to the terms and conditions of the bidding documents and to the type, function, and quality standards of approved materials and equipment. The burden of proof of the merit of proposed 'or-equal' materials and equipment is upon the Bidder. The engineer's decision of approval or disapproval of a proposed 'or-equal' item will be final. No substitution shall be approved except by a written addendum issued to all prospective Bidders.

B. Bidders may submit bids for alternate materials which do not meet all of the detailed requirements of the specifications. Such submissions shall be in addition to the basic bid which shall comply with all requirements of the specifications. Bid evaluation and contract award will be made on the basis of the base bid. Alternate materials will then be considered, and the final contract amount adjusted accordingly if the Owner decides to accept bids for alternate materials. In submitting bids for alternate materials, Bidders shall submit manufacturer's data and note the exceptions to the requirements of the plans and specifications.

C. Additionally, as part of evaluating 'or-equal' requests, engineer will consider the following:

1. Manufacturer's ability to conform with the project specifications.

2. Manufacturer's relevant experience.

3. Manufacturer's support capabilities.

4. The Owner's and Engineer's experience with the proposed equipment.

1.07 **TERMS AND CONDITIONS:**

A. The Bidder is invited to attach their standard patent protection and liability limitation conditions, but shall not include any other terms and conditions to this bid. Attachment of additional terms and conditions shall be grounds for disqualification of the submitted bid.

1.08 **CHANGES IN QUANTITIES:**

A. Not Applicable.

1.09 **SUBMISSION OF BIDS:**

A. Bidders will be furnished with Bid Form(s) giving the estimate of quantities needed to complete the work. Two (2) copies of the completed Bid Form(s) and all supporting documentation shall be included with the bid.

B. If the bid is made by an individual, his or her name and post office address must be shown. If made by a firm or partnership, the name and post office address of the firm or partnership must be shown. If made by a corporation, the person signing the bid must name the state under the laws of which the corporation is chartered, and the name, title, and business address of the executive head of the corporation. Anyone signing a bid as agent may be required to submit satisfactory evidence of his or her authority to do so.

C. Any changes or alterations made in the official Bid Form, or any additions thereto, may result in the rejection of the bid. No bid will be considered which contains a clause in which the Bidder reserves the right to accept or reject a contract awarded by the Owner. Bids in which the unit prices are obviously unbalanced may be rejected.

D. Should the Bidder find discrepancies, ambiguities or omissions from these documents, they should immediately notify the Engineer and an addendum will be sent to all known entities holding copies of the Bidding Documents.

E. Two (2) copies of each Bid Form and all supporting documentation shall be provided. Bids shall be placed in an opaque envelope and the envelope sealed and marked "Bid Enclosed – Furnishing a Control Enclosure – Reisner Substation" to indicate its contents. If forwarded by mail, the envelope shall be mailed to the following address:

City of Webster City
Attn: Dedra Nerland, Public Works Management Assistant
400 Second Street
Webster City, IA 50595

F. Receipt of any Addenda must be acknowledged on the Bid Form or a copy of any addenda relating to the bid shall be signed and attached to the bid.

G. No oral, facsimile, e-mail, telegraphic or telephonic bids or modifications will be considered.

1.10 MODIFICATION OR WITHDRAWAL OF BIDS:

A. A bid may be withdrawn by an appropriate document duly executed in the same manner that a bid must be executed and delivered to the place where bids are to be submitted prior to the date and time for the opening of bids. Upon receipt of such notice, the unopened bid will be returned to the Bidder.

B. If a Bidder wishes to modify its bid prior to bid opening, Bidder must withdraw its initial bid and submit a new bid prior to the date and time for the opening of bids.

C. No bid may be withdrawn for a period of thirty (30) days after the scheduled date and time for the receipt of bids.

1.11 CONTRACT AWARD:

A. Award of the Contract, if an award is made, will be on the basis of the base bid and/or any alternate bid(s) chosen by the Owner, as is in the best interest of the Owner. It is the intent of the Owner to award one (1) Contract for the Control Enclosure as is deemed to be in the best interest of the Owner. The effect of the guaranteed delivery date, dimensions and the experience record of the Bidder on units of similar size will also be considered in evaluating the bids. This may also include location of manufacturing and assembly, and preference may be given to units manufactured and assembled in the USA. The Owner reserves the right to reject any or all bids, waive technicalities, and make award(s) as deemed to be in the best interest of the Owner. In addition to cost, other items that will impact the award decision include the following:

1. Relevant experience with installations of similar size and type.

2. Support capabilities.

3. Ability to meet specified delivery schedule.

4. Conformance to project specifications.

5. Life cycle and maintenance costs.

6. The Owner's and Engineer's experience with the units manufactured by the Bidder.

1.12 **PERFORMANCE BOND:**

A. Should the total value of the awarded work to any Bidder be equal to or greater than $25,000, the Bidder to whom the contract is awarded shall furnish a Performance Bond in an amount equal to the total amount of the bid guaranteeing the faithful performance of the work in accordance with the terms of the contract. Such bond shall be with a surety company authorized to do business in the State of Iowa and in form acceptable to the Owner. Any costs associated with procuring the necessary bond shall be included in the bid prices. Bidder may furnish a Supply Bond in lieu of a Performance Bond.

1.13 **EXECUTION OF CONTRACT:**

A. The Bidder to whom the contract has been awarded shall enter into contract with the Owner within fifteen (15) days after the award has been made.

B. No bid shall be considered binding upon the Owner until the contract is properly executed by both parties and all required bonds are filed.

C. The contract, when executed, shall be combined with all the Contract Documents identified in the Material Agreement representing the entire agreement between parties. The Bidder shall not claim any modification resulting from representation or promise made by representative of the Owner or other persons.

1.14 **DELIVERY/INSTALLATION DATE:**

A. The desired delivery date for the Control Enclosure is desired to be **no later than April 15, 2025**. **Based on current material availability, both later and earlier delivery dates will be considered by the Owner and should be listed on the Bid Form.**

B. The Owner agrees to indemnify the Supplier for circumstances beyond his control, including acts of God, acts of government, and related circumstances. Actions that cause delivery delays that are under the control of the Supplier are failure to allow sufficient time for manufacturing, failure to inform the Engineer of changes in the manufacturing schedule, or lack of cooperation in establishing effective measures by which delays could be minimized.

C. The Supplier shall provide monthly progress reports to the Engineer during the manufacturing of the equipment.

* * * END OF SECTION * * *

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name, and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name— Include Location)*:

BOND

Bond Number:

Date:

Penal sum _____ $ _____

(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
Title	Title

Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

_____

2. Does your company's home state or foreign country offer preferences to resident bidders, resident labor force preferences or any other type of preference to bidders or laborers? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156. This form has been approved by the Iowa Labor Commissioner.

309-6001 (09-15)

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

BID FORM
Control Enclosure

TO: City Council
Webster City, Iowa

FROM: Bidders Name_____

Address_____

_____

Pursuant to and in compliance with the Notice to Bidders, the Notice of Public Hearing, and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the seller on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the equipment. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the Owner.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa as detailed in the specifications. The guaranteed delivery date of the control enclosure shall be included in this Bid.

4. Title to the equipment shall pass to the Owner upon completion of the contract and acceptance by the Owner.

5. This bid is void unless a materials contract based on this bid is entered into by the Owner and the Supplier within thirty (30) days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to City of Webster City, in strict conformance with the specifications and Bidding Documents, to-wit:

Item No.	Qty	Description	Extended Price
1	1	One (1) control enclosure, related equipment, and drawings (as req'd)	$_____
2	1	Delivery to and installation at the site of Item 1 (as req'd)	$_____
		TOTAL BID:	**$_____**

Manufacturer and Location:_____

Approximate Weight:_____

Delivery Date:_____

Approximate Dimensions: H:_____

W:_____

D:_____

(A sketch of the proposed building configuration with all dimensions must be attached.)

* All materials shall be F.O.B. Webster City, Iowa.

Bidder Status Form Enclosed _____

Bid Security Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Dated this _____ day of _____, 2024

Bidder_____

Address_____

Authorized Officer_____

Signature_____

Title_____

Telephone Number_____

E-Mail_____

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:
   3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
   3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
   3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
   5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
   5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
   5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
   5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
      5.4.1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
      5.4.2. Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
   7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
   7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
   7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Definitions
   14.1. Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
   14.2. Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
   14.3. Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
   14.4. Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
   14.5. Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
16. Modifications to this Bond are as follows:

GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY:

A. Materials shall be supplied as specified herein, and shall be in accordance with the applicable NEMA, ANSI, IEEE, IPCEA, ASTM Standards, NEC, and the Standards of the Underwriter's Laboratory.

1.02 CONTRACT AWARD:

A. The Owner will award one (1) contract for the Control Enclosure as deemed in the best interest of the Owner. The following dates represent the proposed schedule for this Contract:

July 23, 2024	Bid Opening
August 5, 2024	City Council Awards Contract
August 6, 2024	Notice of Award Issued
August 21, 2024	Supplier furnishes bonds and signs contract(s)
September 6, 2024*	Contract executed by Owner
November 1, 2024	Drawing Submittal
November 22, 2024	Delivery of AC/DC panel to Control Enclosure Mfr.
April 15, 2025 (no later than)	Delivery of Control Enclosure to Substation Site

* Date subject to change.

Delivery of the Control Enclosure is desired to be no later than April 15, 2025. Based on current material availability, both later and earlier delivery dates will be considered by the Owner.

1.03 SUBMITTALS:

A. In addition to any drawings and data submitted with the bid, the Supplier, after award of the contract and before proceeding with the manufacture of the material, shall furnish the Engineer electronic copies of all design calculations, data sheets and drawings covering the design and installation of the material for approval.

B. The Supplier shall submit structural details and drawings of the control enclosure outline, interior and exterior profile views, electrical schematics, wiring diagrams, and bill of materials for approval. All drawings shall be approved prior to fabrication.

C. The Supplier shall supply to the Engineer an electronic copy in .pdf and an AutoCAD compatible format of each of the above-mentioned drawings for all submittals.

D. Drawings submitted shall be in 11 x 17 format.

E. Drawings shall be transmitted with a cover letter and such letter shall indicate the number of copies forwarded to the Engineer.

F. Approval of final Supplier's drawings or data by the Engineer shall not relieve the Supplier of any part of his responsibility to meet all the requirements of this specification or as to the correctness of his drawings and data. Further, approval of the Engineer does not relieve the Supplier of responsibility for the adequacy of the design.

G. Shop drawings for all material shall be submitted within 6 weeks of award.

H. Allow 2-3 weeks for the Engineer's review of the shop drawings.

I. See the Technical Specifications for additional submittal requirements.

1.04 SHIPPING AND ASSEMBLY PROCEDURES:

A. The Bid(s) shall include F.O.B to the project location in Webster City, IA. The project site address is as follows:

Reisner Substation
City of Webster City
OFFICIAL ADDRESS TO BE DETERMINED
Webster City, IA 50595

B. Supplier shall notify the Owner and Engineer when equipment is ready for shipment **at least 7 days prior to delivery**. In addition, seller shall advise the Engineer of method of shipment, projected routing and estimated time in shipment.

C. Supplier shall notify the Electric Utility Supervisor or Utility Technician by telephone when equipment is ready for shipment, **AT LEAST 48 HOURS PRIOR TO DELIVERY**. Contact information is provided at the beginning of this document.

D. Title to the equipment shall pass to the Owner upon acceptance testing and checkout of the equipment and receipt of all required documentation.

E. Deliveries Accepted: Monday-Friday, 8:00 AM – 4:00 PM, working days only.

F. The supplier shall investigate all limitations in regard to shipping the equipment. The equipment shall be shipped as completely assembled as transportation limits allow.

G. Supplier shall also coordinate delivery in advance with the substation construction Contractor to ensure the Contractor can schedule to be on-site during delivery of the equipment.

H. The Supplier shall coordinate delivery locations with the Owner and Engineer.

I. Bid shall include delivery and installation. Provide rigging and other necessary equipment to perform the installation.

1.05 INSURANCE REQUIREMENTS:

A. General - The Supplier shall secure and maintain such insurance policies as will protect that Supplier and unless otherwise specified, the Owner and its agents, from claims for bodily injuries, death or property damage, which may arise from operations under this contract whether such operations be by the Supplier or anyone employed directly or indirectly by them. The Supplier shall not commence work under this contract until the Supplier has obtained all insurance required herein and such insurance has been approved by the Owner. The Supplier shall deliver to the Owner executed copies of all policies or a certificate of insurance. No policy shall be canceled until thirty (30) days after notice of cancellation is given to the Owner in writing. The Supplier agrees to hold harmless, indemnify and defend the Owner and its agents from all loss and damage, including damage to person or property, arising from any act by, or negligence of, Supplier or its subcontractors or the officers, agents, or employees of either while engaged in the performance of this contract, or while in or about the building or premises, or rising from accident or any injury not caused by act of Owner or Owner's agents, its agents or servants, or anyone employed by Owner, other than this Supplier, to any Supplier or officer, agent, or employee of a subcontractor while engaged in or about the performance of this contract, or while in or about Owner's premises, or arising from liens or claims for services rendered or labor or materials furnished in or for the performance of this contract.

B. Coverages and Limits: The Supplier shall provide insurance to include a minimum of the following coverages and associated limits:

Coverage	Limits
Worker's Compensation	Statutory
Employer's Liability	$1,000,000 each employee
	$1,000,000 each disease
	$1,000,000 each accident

Comprehensive General Liability- Combined Single Limit	$2,000,000 each occurrence $2,000,000 aggregate
Automobile Liability- Combined Single Limit	$1,000,000 each occurrence
Umbrella (Excess) Liability	$2,000,000 each occurrence $2,000,000 aggregate

B. Casualty Insurance: Except when the risk of loss of the Equipment is with Owner, Supplier shall maintain on the Equipment insurance against loss or damage by fire, lightning and all other risks covered by the so-called extended coverage insurance endorsement in an amount equal to the full insurable value of the Equipment. Upon the request of Owner, Supplier shall deliver to Owner a certificate of insurance evidencing the insurance required by this section.

C. Risk of Loss: Risk of loss of the Equipment shall remain with Supplier until the Equipment has been unloaded, inspected, and accepted by the Owner or Owner's Representative, at which time risk of loss shall pass to Owner. Notwithstanding the foregoing, if Owner rejects the Equipment as non-conforming, risk of loss of the Equipment shall be and remain with Supplier until Supplier corrects the non-conformity or Owner accepts the Equipment.

D. Additional Insured: The Owner, Engineer, and each of their employees, officers or agents shall be named as an additional insured as their interest may appear under this agreement under the prime Supplier's insurance policies.

Owner: City of Webster City/Municipal Utilities
400 Second Street
Webster City, IA 50595
Telephone: (515) 832-9151

Engineer: DeWild Grant Reckert and Associates Company
dba DGR Engineering
1302 South Union Street
Rock Rapids, IA 51246

1.05 WARRANTY:

A. A warranty package shall be furnished with the control enclosure. The warranty shall be in effect for 18 months after date of delivery of control enclosure as part of this proposal.

B. The warranty shall be comprehensive, without deductibles, and shall cover all equipment supplied by the Bidder, whether or not it was manufactured by the Bidder.

C. All repair parts, labor, and travel expenses necessary for repairs at the job site shall be included.

D. The Supplier shall repair or replace any materials found to be defective at no cost to the Owner.

E. Any costs incurred by the Owner due to defective materials supplied by the Supplier shall be reimbursed to the Owner by the Supplier.

1.06 TERMS AND CONDITIONS:

A. The Bidder is invited to attach their standard patent protection and liability limitation conditions, but shall not include any other terms and conditions to this bid. **Any terms or conditions submitted with the Bid other than the terms or conditions herein listed shall be grounds for disqualification of bid. All additional costs required to meet this specification shall be deemed to be included in the base bid.**

* * * END OF SECTION * * *

TECHINCAL SPECIFICATIONS

CONTROL ENCLOSURE

PART 1 - GENERAL

1.01 SCOPE:

A. The Notice to Bidders, Instructions to Bidders, Bid Form, and General Requirements of the Contract are hereby made part of this section.

B. Work under this Section includes furnishing and placing the control enclosure as herein specified and shown on the Drawings. Work includes, but is not limited to, the following:

1. Furnish complete plan views, elevations, schematics, and other drawings for the enclosure and associated equipment.

C. Material furnished and installed by Others:

1. 15 kV switchgear
2. 69 kV control panels
3. Control enclosure foundation and associated equipment installed in tunnel
4. AC compressor slab on grade
5. Station power transformer
6. External wiring as show in the drawings and specified herein.
7. Eye-face-body wash.
8. Fire extinguisher.
9. 125 VDC battery bank system, including batteries, and charger
10. Stoop grates
11. Manhole access covers
12. Splash blocks

D. Material furnished by Others and installed by this Contractor:

1. AC and DC panels

1.02 SUBMITTALS:

A. See General Requirements, for submittal procedures.

B. Shop Drawings:

1. Within 3 weeks after award of contract:

a. Anchor bolt setting.

b. Sidewall, endwall, interior wall, and roof framing.

c. Transverse cross-sections.

d. Covering and flashing details.

e. Accessory installation details.

2. For approval prior to fabrication:

a. Bill of material.

b. Dimensions.

c. Descriptive data.

d. Performance data.

e. Electrical schematics.

3. Drawing titles shall clearly indicate Webster City Municipal Utilities, Webster City, Iowa Reisner Substation, the structure type identification and such other notations as shall be necessary to properly identify drawings with this specification and contract.

4. Enclosure Supplier shall supply plans and calculations stamped by a Registered Professional Engineer for the State where enclosure is to be installed, and is responsible for obtaining any State Industrial Building Commission Approvals and Third Party Inspections if required by the State where the enclosure is to be installed.

1.03 PAYMENT:

A. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See General Requirements, for warranty requirements.

1.05 REFERENCES:

A. Control enclosure shall comply with the following documents:

1. American Society of Civil Engineers (ASCE), "Minimum Design Loads for Buildings and Other Structures", current edition and revision.

2. Metal Building Manufacturers Association (MBMA), "Recommended Design Practices Manual", current edition and revision.

3. International Building Code (IBC), current edition and revision.

4. International Mechanical Code (IMC), current edition and revision.

5. National Electric Code (NEC), current edition and revision.

6. Underwriters Laboratory (UL), various standards, current edition and revision.

7. American Society for Testing and Materials (ASTM), various standards, current edition and revision.

8. American Institute of Steel Construction (AISC), "Specification for the Design of Light-Gauge, Cold-Formed Steel Structural Members", current edition. "Specification for the Design, Fabrication, and Erection of Steel for Buildings", current edition and revision.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Trachte Inc. – Oregon, WI.

B. Atkinson Buildings – Pittsburg, KS.

C. PTMW – Topeka, KS.

D. Thermobond – Elk Point, SD.

E. No Equal.

2.02 CONTROL ENCLOSURE CONSTRUCTION:

A. General:

1. Shall be structurally steel framed.

2. Shall be complete with all materials and accessories as needed for a complete enclosure as shown on the project Drawings and as specified herein.

3. Shall include all primary and secondary structural framing members, connection bolts, covering, roof, doors, interior walls, flashing, fasteners, closures, sealer, painting and other miscellaneous items as called for in the specification.

4. Minimum interior free space shall be as shown on the Drawings.

5. This building shall meet the state of Iowa energy Code. If changes to the specifications are required to meet this code the enclosure manufacturer shall consult with the Engineer.

B. Loading:

1. Roof load – 50 psf (40 psf live load and 10 psf dead load).

2. Ceiling dead load – 10 psf.

3. Wall load – 31 psf (110 mph).

4. Seismic zone: Per UBC for site location.

C. Materials:

1. Shall be new, unused, and fabricated in a workmanlike manner in a factory environment.

2. Structural steel sections and welded plate members shall be designed in accordance with the references listed in Section 1.05.

3. Light-gauge, cold-formed structural members and exterior covering shall be designed in accordance with the references listed in Section 1.05.

4. Hot rolled steel, as a minimum, shall meet standard ASTM-A36.

5. Galvanized steel, at a minimum, shall meet standard ASTM-653.

D. Perimeter Angle Base:

1. Shall have a hot rolled steel angle framework, welded, primed, and painted.

2. Shall be predrilled for anchoring to a concrete slab with expansion anchors.

E. Structural Framing:

1. Frame shall be complete, internal, and self-supporting, and include posts and horizontal wall girts.

2. Building shall not rely on the exterior panels or roof cover panels for its structural strength.

3. Structural members shall be 8 to 16 gauge, cold-formed, galvanized steel.

4. Framework shall have a flush wall, post and beam format with girts and purlins, and full trusses on both end walls, which easily allows for future expansion and/or modifications.

5. Wall and Ceiling Structural Support System:

   a. Shall be designed to provide load carrying capability for anticipated equipment loads.

   b. Shall be 16 gauge galvanized steel hat channels behind liner panel for reinforcement as needed, with locations shown on shop drawings.

6. Roof shall have 8 to 14 gauge solid web hot rolled steel trusses.

7. Hot Rolled Steel Sheet, Plate, and Strip:

   a. Shall conform to the requirements of ASTM Specification A36, A529, or A572 except that the minimum yield point shall be 42,000 psi if it is 1/8 inch thick or thicker.

   b. Shall conform to the requirements of ASTM Specification A570 Grade “D” if less than 1/8 inch thick.

      (1) In addition, Strip that is 14 or 15 gauge that is used for the manufacture of 8” x 2-1/2” ‘Z’ sections shall have a minimum yield point of 50,000 psi and a minimum strength of 62,500 psi.

c. Galvanized sheet and strip shall conform to ASTM Specification A446, Grade "A", coating class G90.

8. Minimum thickness of framing members unless otherwise specified:

Cold-formed primary members	14 gauge
Cold-formed secondary framing members	16 gauge
Web of welded built-up members	1/8 inch
Flanges of welded built-up members	3/16 inch
Bracing rods	1/2 inch dia.

9. Framing members for all openings shall be adequate for the specified design loads.

10. Members which are exposed to the weather shall be painted galvanized steel.

F. Roof:

1. A roof pitched 2 inch in 12 or greater shall have a covering of overlapping, 18 gauge, G-90 galvanized, ribbed steel panels with a baked-on Kynar 500, PVDF resin-based finish in manufacturer's standard colors.

2. Overlapping roof panels shall be installed with appropriate self-tapping fasteners with integral gaskets.

3. Roof to include a matching, die-formed ridge cap, and a fully supported 3" overhang.

4. Properly sized attic space ventilation shall be provided.

G. Insulation:

1. Exterior walls shall have fiberglass insulation with 4 mil Visqueen vapor barrier at all sidewalls and roof.

2. Minimum Thickness:

a. Sidewalls: 4 inches (R-19).

b. Roof: 10 inches (R-34).

3. Fasten insulation to prevent sagging.

4. Joints shall be completely sealed with adhesive or tape.

H. Interior Finish:

1. Interior Walls:

a. Shall be lined with a minimum 24 gauge smooth metal wall and ceiling liner panels.

b. Liners shall be flush-fit, concealed fastener type. Color shall be white.

c. Interior metal liners shall be pre-coated with white polyester enamel.

d. Equipment mounting boards shall be ¾-inch plywood with trim, all painted white.

I. Interior Dimensions:

1. Shall be as indicated on the Drawings.

2. Minimum floor to ceiling height shall be 10 feet nominal.

J. Exterior Walls:

1. Shall be 18 gauge ribbed G-90 galvanized steel panels with a PVDF resin-based finish in manufacturer's standard colors.

2. Exterior siding panels to be overlapped and installed with appropriate self-tapping fasteners with integral gaskets, and shall be removable without any disturbance to interior panels.

3. Openings in wall are to be structurally framed, sleeved, trimmed, and provided with external drip caps.

4. Repair or replacement of exterior panels must be able to be done entirely from the outside.

K. Finish Work:

1. Un-galvanized structural framing members shall be cleaned to remove all dirt, grease, oil, and loose mill scale and given one shop coat of zinc chromate iron oxide primer conforming to Federal Specification TTP63b.

2. Fasteners:

a. Self-tapping sheet metal screws.

b. Where required for weather tightness, screws shall be equipped with 5/8 inch diameter metal and neoprene washers.

c. Visible wall screws and metal washers shall be color coated to match roof and wall covering.

3. Flashing and/or trim shall be furnished at the rake, corners, and eaves; at framed openings, and wherever necessary to provide weather tightness and a finished appearance.

4. Roof and wall panels, flashing, trim gutters, downspouts, and other exposed galvanized steel surfaces:

a. Shall be color coated with the coating factory applied.

b. Coating shall be a resin based PVDF coating such as KYNAR 500.

c. Color coating shall have a 20-year guarantee against fading and chalking and a 25 year guarantee against peeling flaking and checking.

d. Glavalume substrates shall have a 25 year guarantee against rust perforation.

5. Exterior Color and Gloss: As selected by the Owner from manufacturer's standard color chart.

L. Doors, Frames, and Windows:

1. Doors:

a. Hollow metal panel door shall be 1-3/4 inch thick “flush”, fabricated from #18 gauge galvanized steel sheets.

b. Shall have full styrofoam insulation core and edges shall be mechanically locked and welded to assure structural rigidity.

c. Shall be bonderized and painted with one shop coat of epoxy base neutral gray primer.

d. Shall have flush channel at top and bottom of door for weather seal.

e. Shall swing out and be equipped with a low profile panic-type door opener on the inside face.

2. Frames:

a. Shall be 16 gauge hollow metal frames 6 inches deep, 2 inches wide, and attached to the perimeter angle base.

b. Shall have fiberglass insulation.

c. Drip shield shall be provided above each door.

d. Shall be painted with two (2) finish coats of paint, color as selected by Owner.

3. Windows:

a. Shall be tempered glass thermopane window complete with all necessary aluminum framing, weatherstripping, and sealing.

b. Exposed frame shall be finished the same color as the doors.

4. Removable Panel:

a. The building shall have a removable door (9'x9'-6") as shown on the drawings.

M. Door Hardware:

1. Locksets:

a. Shall be manufactured by Schlage Lock Company or equal.

b. Keys and cylinders shall be coordinated with Owner at the completion of the project. Provide temporary keys and cylinders during construction.

c. Only doors indicated on Drawings shall receive locksets.

d. Two (2) keys shall be provided with each lockset.

e. Contractor shall furnish a tamper proof shield on all outside doors that covers the gap between the door and jamb near the handle.

2. Hinges:

a. Stainless steel ball bearing NRP type.

b. Shall be interlocking to prevent removal of the door when the door is locked.

c. Each door shall be erected with three (3) hinges, unless over 7' then four (4) hinges shall be used.

3. Closer:

a. LCN 4111 with a hold open arm.

b. Shall be equipped with a magnetic dry contact entry alarm.

4. Threshold:

a. Interlocking, aluminum type.

b. Shall be anchored to concrete floor with countersunk screws.

c. Shall be designed to counterflash the door to provide a weathertight seal.

5. Install 3/16 inch foam type weatherstripping at head, foot, and jambs of door to provide a weathertight seal.

6. Install rubber "sweep" full length at the bottom of the door.

N. Gutters, Downspouts, and Splashblocks:

1. Gutters:

a. Minimum 24 gauge made from galvanized steel sheets conforming to ASTM Specification A361, formed in a box section of at least 29 square inches of cross sectional area.

b. Support at 2'-0" centers with 20 gauge straps projecting between the eave strut and roof sheet.

c. Shall be securely attached to eave strut and the outer leg of the gutter to insure proper alignment and support of the gutter.

2. Downspouts:

a. Rectangular in shape and shall be made of 26 gauge galvanized steel sheets conforming to ASTM Specification A361.

b. Shall have a minimum cross-sectional area of 14 square inches.

c. Place to have adequate drainage.

d. Attach to the wall panels with 18 gauge straps at 10'-0" centers securely fastened to the wall covering with self-tapping screws.

e. Shall have a 45 degree elbow at the bottom to direct the flow of water away from the enclosure.

O. Electric Heater Units:

1. Provide 5 kW heaters with fans.

2. 240 Volt, single-phase.

3. Provide one central thermostat for all the 5 kW heaters. Supplier shall verify sizing.

4. Provide adjustable direction flow.

5. Unit shall be manufactured by QMark type MUH, or equal.

P. Overhead Cable Tray

1. Shall be made of straight sections, fittings, supports, bends, tees, and accessories as shown on the Drawings to make a complete system.

2. Conform to the latest NEMA standards, publication VE-1.

3. Overhead and suspended from ceiling as shown on the Drawings.

4. Shall be listed by UL as equipment grounding conductor.

5. Fabricated of extruded aluminum type 6063-T6

6. Ladder type furnished with drop-out plates to protect all cables exiting the tray.

7. Shall be incorporated with two side rails connected by lateral rungs.

8. Rungs shall be installed on 6” centers and shall not extend below the bottom of the side rails.

9. Width: 24”

10. Side Rail Height:

a. Horizontal tray: 4”

b. Vertical riser tray: 7”

11. Splice Plates: Bolted type

12. Tray shall be designed so that a splice plate locate anywhere along the span shall not decrease the strength of the cable tray system.

13. Loading:

    a. Shall support 200 lbs. of concentrated load at mid-point without any permanent distortion to the tray.

    b. Design to support a tray that is filled to 100% capacity with a minimum safety factor of 1.5.

    c. Supplier shall verify loading prior to placing cable tray order.

14. Grounding:

    a. Tray shall contain a #4/0 bare copper cable attached to the tray utilizing cable tray clamps.

    b. Tray ground conductor shall be connected to the station service ground and any other panel/cabinet ground that is required.

    c. Ground conductor shall be secured to the cable tray at intervals not to exceed ten (10) feet.

    d. At a minimum, each cable tray section shall be clamped to the copper conductor.

    e. Clamps shall be suitable for the use with aluminum cable trays.

    f. Clamps shall be as recommended by the cable tray manufacturer.

Q. HVAC:

1. Heating and cooling heat pump unit with two indoor, wall-mounted fan coils (cassettes) and a matched outdoor condensing unit.

2. Indoor fan coil units (cassettes) shall be complete with coil, fan, fan motor, piping connectors, electrical controls, microprocessor control system, R-410A or R32 refrigerant and integral temperature sensing. Unit shall be furnished with integral wall mounting bracket and mounting hardware.

3. Outdoor condensing unit shall be factory assembled suitable for ground or wall hung mounting. Units shall consist of a compressor, an air cooled coil, propeller type outdoor fan, metering device(s), and control box. Provide with low ambient kit.

4. Provide with wired thermostat for wall mounting.

5. Sized by the building manufacturer to meet project specifications given the ambient site conditions, building dimensions, insulation characteristics of the building, and the heat dissipated by the electrical equipment within the building.

6. Cooling. Shall be capable of maintaining an inside temperature of not more than 80 deg F (26.7 deg C).

7. Heating: Shall be capable of maintaining a minimum inside temperature of 55 deg F (12.8 deg C).

8. 240 Volt, single-phase.

9. Unit shall be manufactured by Bosch, Daikin, Mitsubishi, or approved equal.

10. Shall be supplied by a manufacturer with service representation with a 100-mile radius of where building is installed. Provide phone number and location of nearest service company for unit provided.

11. Installed to provide accessibility required for servicing and maintenance.

12. Pad mounted, commercial grade unit. Slab on grade will be completed by Substation Contractor.

R. Building Grounding:

1. One (1) copper grounding pad shall be located at each corner of the structure on the exterior.

2. Ground pads shall be mechanically bonded to the base steel.

3. Each ground pad assembly shall include two (2) 3/8”-16 UNC threaded brass studs to permit connection of a NEMA 2-hole cable lug.

4. Building shall be bonded to the substation ground grid by Others.

S. Ventilation System:

1. Provide ventilation of the battery storage area.

2. System shall include all dampers, louvers, exhaust fans, activation switches, timers, and accessories required.

3. Electric Timer: Furnish Intermatic ET1105C, no equal.

4. Exhaust Fan:

   a. Shall be controlled as indicated on the Drawings.

   b. In-line type, 10” minimum.

   c. Power: 120 VAC, single-phase

   d. Size of fan shall be determined by building manufacturer and include the elements of this Article. Minimum size shall be 500 CFM.

   e. Fan motor shall be securely mounted with appropriate support brackets.

   f. Shall include an integral low leakage motorized damper.

   g. Fan shall be Dayton, or equal.

5. Intake System:

   a. Provide a louvered intake, sized by the manufacturer and matched with the exhaust fan. The louver will be installed in the exterior wall and fitted with a birdscreen. Include a weatherhood, if required, to minimize water intrusion.

   b. Provide a motorized low leakage damper on the interior side of the louvered intake. The motorized dampers shall be wired to operate automatically upon activation or de-activation of the exhaust system.

   c. Provide an air filter frame kit, with a replaceable MERV 11 air filter, downstream of the motorized damper.

T. Conduit Provisions in Wall:

1. Provide and install one (1) conduit path for the following connections:

   a. 3” entrance: station power transformer to AC Disconnect #1.

   b. 1” entrance: GPS antenna cable.

   c. 2” drain: sump pump.

2. Plug any unused entrances prior to shipment. For Supplier-installed cables, insulate around the cables to attain proper insulation.

2.03 CONTROL BUILDING WIRING AND DEVICES:

A. General:

1. Work shall be done in accordance the latest edition and revision of the National Electric Code (NEC).

2. Work shall be done in a workmanlike manner in accordance with the latest applicable standards.

3. Material shall be new of the types specified and shall bear the approval of the Underwriter's Laboratory (UL) where applicable.

4. Building manufacturer shall pre-wire the building as much as practical prior to shipping.

5. Wiring shall be in cable tray unless specifically noted otherwise.

6. Minimum conduit size shall be 3/4".

7. **All interior conduits shall be routed vertically or horizontally along the ceiling or walls unless approved by the Owner or shown otherwise.**

B. Material:

3. Cable and Accessories:

a. Shall be in accordance with NEC and NEMA WC publications, as specified.

b. Shall be round, except for two-conductor cable with parallel conductors.

c. Class B or Class C copper conductor.

d. Shall have an American Wire Gauge (AWG) designation.

e. Shall have coverings for insulation suitable for installation in a vertical position without injury to the covering or deformation of the insulation when supported in accordance with NEC article 300-19.

f. Single-conductor No. 10 AWG and smaller used in branch circuits shall have colored or identified insulation as follows:

Phase A – black or orange
Phase B – red or yellow
Phase C – blue or brown
Neutral – white or gray

g. Unless otherwise indicated, cables for all control, alarm, and relaying circuits except control circuits for heating, ventilating, and lighting shall be 600-volt insulated, multiconductor type suitable for installation in trays, conduits, and general use.

h. Individual conductors shall be insulated with NEC type XHHW insulation and color coded. Minimum insulation thickness as follows:

No. 10 AWG – 30 mils (0.76 millimeters)
No. 12 AWG – 30 mils (0.76 millimeters)
No. 14 AWG – 25 mils (0.63 millimeters)

i. Self-locking Cable Ties: Thomas and Betts molded Zytel No. 101 nylon "TYRAP" or equal.

j. Cable Pulling Lubricant: Polywater or other approved material not injurious to cable sheath.

k. Splicing Connectors: Where authorized, may be soldered, crimp, or compression type.

(1) For joining two wires No. 5 AWG and smaller: Buchanan Pres-SURE Splice Cap Connector, 3M Scotchlok Spring Connectors, or equal.

(2) For splicing conductors in multiconductor cable: Two-way type, compression, Thomas and Betts STA-KON, or equal.

(3) For No. 8 AWG and smaller: Cables shall be spliced or joined as to be mechanically and electrically secure before being soldered.

(4) For splicing shielded cables: Care shall be taken to insure that the shielding braid is continuously connected across the splice.

l. Terminations: Shall be solderless-type lugs and connectors where used for joining or connecting cables to terminal blocks or devices.

(1) For wire No. 8 AWG and smaller: Pre-insulated pressure-crimp type terminal connectors with ring tongues equal to AMP "Plastic-Grip" terminals manufactured by Aircraft-Marine Products, Harrisburg, Pennsylvania or equal.

m. Plastic Tags: Panduit or equal with a UV rating.

4. AC Distribution Panel:

a. The AC panels and associated breakers are Owner-furnished. The control enclosure supplier shall install the panels with all connections and accessories.

b. The Owner-furnished AC panels will be shipped to control enclosure manufacturer after contract is awarded.

c. Supplier shall provide and/or modify breakers in panel as required in order to serve supplied equipment.

5. Surge Protector:

a. Shall be listed in accordance with UL 1449 Third Edition, Standard for Safety, Surge Protective Devices.

b. Shall include three modes of protection: Line to Neutral, Line to Ground and Neutral to Ground. Line to Neutral to Ground is not an acceptable substitute for Line to Ground Protection.

c. Shall have a minimum Short Circuit Current Rating (SCCR) of 200 kA.

d. Shall use a separate path to building ground. Equipment safety ground is not to be used as a transient ground path.

e. The maximum continuous operating voltage (MCOV) of all components shall not be less than 125% for a 120V system and 115% for 220, 240, 277, and 480V systems.

f. Standard diagnostic features are to include green LEDs (one per phase - normally on) indicating power and suppression status and a set of normally open/normally closed Form C dry-relay contacts.

g. The nominal discharge current shall be a minimum of 10 kA.

h. Enclosure shall be NEMA 4 type.

i. Provide Erico TDX or approved equal.

6. DC Distribution Panel:

   a. The DC panels and associated breakers are Owner-furnished. The control enclosure supplier to install the panels with all connections and accessories.

   b. The Owner-furnished DC panels will be shipped to control enclosure manufacturer after contract is awarded.

   c. Supplier shall provide and/or modify breakers in panel as required in order to serve supplied equipment.

7. Metering Socket:

   a. Provide metering socket cabinet with lever bypass. The meter socket shall be rated for 320 Amps. Contractor shall furnish connectors as required. Owner will furnish the meter. The Contractor shall coordinate meter socket with the Owner furnished meter.

8. Grounding:

   a. Service equipment and neutral conductor shall be grounded to the station ground bus.

      (1) Conductor size shall be per NEC requirements.

   b. Enclosure wiring conduits and enclosures remote from the service entrance equipment shall be deemed to be grounded by means of the conduit system.

      (1) Conduit shall be installed so as to be grounded and electrically continuous.

      (2) If conduit is not continuous, non-metallic, or if flexible is used, a separate grounding conductor shall be installed.

   c. Grounding continuity between a grounded outlet box and the grounding circuit of the receptacle shall be established by means of a bonding jumper between the outlet box and the receptacle grounding terminal.

      (1) Outlet box shall be provided with an appropriate grounding screw terminal to meet this requirement.

      (2) Exceptions to this requirement shall be as allowed in the NEC, Section 250.

9. Lighting Fixtures:

a. Interior LED:

(1) (2) 4000 Lumens, 48" length, 4000 K, white finish with protective wrap around lenses.

(2) Surface mounted on ceiling at locations shown on Drawings.

(3) Unit shall have acrylic light-diffusing cover over bulbs.

(4) Manufactured by Day-Brite, Smithcraft, or Prescolite.

b. DC LED:

(1) 20 Watt, 2,200 lumen, 4000 K, white finish, LED fixture.

(2) 8" flush mount.

(3) Fixtures shall be ceiling mounted in locations shown on Drawings.

(4) Fixtures shall be manufactured by Silescent Lighting or approved equal.

c. Outdoor Entrance:

(1) Unit shall be carbon bronze with 4000 K correlated colour temperature.

(2) Fixture and mounting shall be weatherproof.

(3) Fixture shall have a type IV wide asymmetric area distribution.

(4) Rated 30 Watts, 120 VAC, LED type.

(5) Provide external photocell for control. See drawings for electrical schematics.

(6) Mounted above control building doors on the exterior of the building as shown on the Drawings.

(7) Furnish McGraw-Edison "Galleon" GWC series, or approved equal.

10. Alarms and Detectors:

a. Smoke Detection:

(1) Quantity shall be as indicated on the Drawings.

(2) Detector shall operate on the photoelectronic light scattering principle and shall be listed by Underwriter's laboratory.

(3) Detector shall contain an infrared LED light source and a light sensing photodiode.

(4) Components shall be positioned such that when smoke particles enter the sensing area, light from the LED reflects onto the photodiode.

(5) When the amount of light reflected on the photodiode reaches a predetermined level, the detector shall latch into alarm.

(6) Upon activation of the smoke alarms, the HVAC unit and fans shall shut down. This shall be accomplished through the use of a relay rated DPDT, 24 VAC, 24 VDC, 120 VAC coil, 10 Amps. There shall be a test switch on the detector.

(7) Detector shall mount on a 4" octagon junction box.

(8) Rated 120 VAC with one (1) Form 'A' alarm contact.

(9) Multiple alarm contacts shall be paralleled and wired to the alarm junction box for connection to the SEL device SCADA.

(10) Provide Gentex Model 8100, or approved equal.

b. Temperature Monitors:

(1) Set low temperature alarm at 60°F and high temperature alarm at 85°F.

(2) Wire each high and low temperature alarm separately to the alarm junction box for connection from the box to the RTAC. The wired alarm contacts shall be closed in the alarm state.

(3) Provide STEGO double thermostat part number ZR 01172.0-01, or equal.

c. Door Alarms:

(1) Each door shall have an entry alarm switch.

(2) Switches shall be magnetic type.

(3) Color: Gray.

(4) Switch contacts shall be Normally Open (N.O.) when doors are closed. Contacts rated for 125 VDC operation.

(5) Manufacturer shall be AMESCO or equal.

(6) Multiple alarm contacts shall be paralleled and wired to the alarm junction box.

d. Hydrogen Gas Detection System:

(1) Manufacturer shall be Storage Battery Systems; Model SBS-H2, no equal, with the following characteristics:

(a) The system comes complete with the main control panel.

(b) Remote hydrogen gas sensor and a 25 ft cable.

(c) This unit can be powered with AC and/or DC power.

(d) Visual and audible alarms and 1% and 2% hydrogen relays.

(e) Mounted directly to a wall or to an electrical box.

(f) Include relays for remote connection to alarm/monitoring systems and for control of external relays or an exhaust fan.

(2) H2-TESTKIT field calibration kit, or equal with the following components:

(a) 1% hydrogen gas.

(b) 2% hydrogen gas.

(c) Gas regulator and tubing.

(d) Testing kit case.

e. Alarm Terminal Box:

(1) All alarms shall be wired into an alarm terminal box for SCADA monitoring.

(2) Enclosure shall be rated for indoor use and utilize a hinged door.

f. Wiring Devices:

(1) Switches and Outlets: Rated 20 amps, white.

(2) Switches for the DC Lights and the Yard Lighting Contactor shall be labeled with a red nameplate above each switch.

11. Battery Charger:

a. Provide sufficient mounting space and conduit provisions for battery charger, furnished and installed by others.

b. Coordinate dimensions and final location with Substation Contractor as necessary.

12. Battery Bank Disconnect Switch:

a. Heavy duty, 2-pole minimum.

b. Rated 125 VDC, 200 amperes.

c. Enclosure: Rated for indoor use.

d. Install 200 amp fuses.

e. Manufacturer: Square D H224N or equal.

13. Mounting Board:

a. Furnish and install ¾" shop grade plywood sheets as indicated on the Drawings. The board shall be painted white.

b. The board shall be electrically isolated from the control enclosure walls by fiberglass unistrut or similar insulating material.

14. DC Junction Box:

a. Enclosure: Rated for indoor use.

b. Shall be sized by Supplier for cable sizes and quantities shown on Drawings and per NEC code. Minimum size 30" x 24" x 8" deep.

c. Power terminal blocks:

(1) Quantity shall accommodate number of cables shown on Drawings including future connections.

(2) Shall include terminal block cover.

(3) Manufacturer: Allen Bradley type 1492 or equal.

15. Nameplates:

a. Furnish and install nameplates for all devices/equipment supplied.

b. Nameplates shall be laminated plastic, adhesive-type securely fastened to the panel, switch plate or wall.

c. Shall be white lettering on black background, wording as shown on the drawings.

PART 3 - EXECUTION

3.01 SHIPMENT:

A. All materials shall include delivery and installation of the proposed equipment at the Owner's site in Webster City, IA. Address of the project site is:

Reisner Substation
Closz Dr & Millards LN
Webster City, IA 50595

B. Provide rigging and other necessary equipment to perform the installation.

C. Notify the Owner by telephone when equipment is ready for shipment, at least 72 hours prior to delivery, so the Owner can schedule to be on-site during delivery of the equipment.

D. Title to the equipment shall pass to the Owner upon acceptance testing and checkout of the equipment and receipt of all required documentation.

3.02 INSTALLATION

A. Control Enclosure:

1. Contractor shall place final, completed, correctly aligned control enclosure onto the foundation.

2. Enclosure shall be securely fastened to the foundation.

3. Assemble and install any items that are shipped separately.

B. AC Distribution Panels :

1. Install the AC distribution panels in accordance with the manufacturer's recommendations. The location shall be confirmed with Owner prior to installation.

2. Install all conduit necessary for a complete installation. Contractor shall size and install conduits per NEC. Conduits shall be sized for all future circuits.

3. Label all circuits on the panel schedule as indicated on the Drawings.

4. Neutral conductor shall be run between the disconnect and AC panels.

5. The chassis shall be properly grounded.

6. Cables shall be securely fastened to the appropriate lugs. Cables shall be neatly tagged at each end with plastic tags.

7. Sufficient cable shall be left at the ends to make final connections to equipment.

C. DC Distribution Panels:

1. Install the DC distribution panel in accordance with the manufacturer's recommendations and in the location as shown on the Drawings.

2. Label all circuits on the panel schedule as indicated on the Drawings. Unknown circuits shall be confirmed prior to labeling.

3. Panel chassis shall be properly grounded.

D. Wall-Mounted Air Conditioner:

1. Installation:

   a. Install unit level and plumb.

   b. Install unit using manufacturer’s standard mounting devices securely fastened to building structure.

2. Startup Services: Engage a factory-authorized service representative to perform startup service.

3. Complete installation and startup checks according to manufacturer's written instructions.

4. Train Owner's maintenance personnel to adjust, operate, and maintain units.

E. Cabling:

1. Shall be installed in accordance with the Drawing requirements, these specifications, and NEC requirements where applicable.

2. Contractor shall completely install cables.

3. Sufficient length shall be left at the ends of the cable to make connections conveniently to equipment, fixtures, and devices.

4. Spare single conductors at each end of the multiconductor cable shall be retained a length equal to that of the longest single conductor of the multiconductor cable.

5. Conductors in current transformer cable shall be retained in sufficient length to reach the farthest terminal used to select current transformer ratios.

6. At termination of each multiconductor cable, the conductors shall be formed into neat packs and laced or tied.

7. All circuits not installed in conduit and consisting of two or more single conductors shall be tied together at 10-foot intervals by self-locking cable ties.

8. Pulling:

   a. Cables shall not be pulled into conduits until the circuit runs have been cleaned and are free from obstructions and sharp corners.

   b. A clean, dry, tight-fitting rag shall be drawn through the conduit immediately before installing the insulated conductors.

   c. Cables shall be installed so there will be no cuts or abrasions in the insulation or protective covering, or kinks in the cable.

   d. Gradual and uniform pulling stresses only will be permitted on the cable.

   e. Lubricants may be used to aid in cable pulling where required.

9. Any cable damaged during installation shall be removed and replaced with equivalent cable at the Contractor's expense.

10. Splices:

    a. No splices shall be made unless authorized by the Owner.

    b. Where authorized, they shall be permitted only in boxes, outlets, panelboards, cabinets, and cable trays.

    c. All splices or joints shall be covered with insulation equal to that on the insulated conductors.

    d. Where authorized, joints and splices for copper conductors may be the soldered type or the crimp or compression type.

11. Solderless-type lugs and connectors shall be used for joining or connecting cables to terminal blocks or devices.

12. Connectors shall be suitable for use on the particular conductor on which the connector is used.

13. Power and control cables shall be neatly tagged at each end with plastic tags.

14. Cable installed in a vertical plane or in an included plane shall be supported by means of approved cable grips (including hooks), and installed with slack spans between supports.

15. Cable entering equipment shall be securely clamped by means of approved commercial cable clamps.

16. Cables installed in sleeves under equipment shall have the openings blocked with foam rubber material approved by the Engineer.

17. Cables passing through sleeves or blockouts may have the openings blocked by urethane foam equal to isofoam PE-2 in lieu of clamps or woven grips for supporting cables or in lieu of foam rubber.

18. Panelboard and switchboard wiring shall be permanently supported and clamped to prevent loosening or shifting.

19. All runs, connections, soldering, taping, and tagging of insulated conductors shall be made subject to approval of the Engineer.

20. After all insulated conductors are installed and all equipment, devices, and fixtures have been connected, acceptance tests shall be conducted.

21. Cable shall be installed without exceeding the maximum allowable pulling tensions and sidewall pressures as recommended by the cable manufacturer.

a. The conduit and pull box system shall be designed to meet these requirements.

3.03 TESTING:

A. Miscellaneous Systems:

1. Any miscellaneous systems shall be tested to verify proper function. These systems may include, but are not limited to, the following:

a. Lighting systems and photocells.

b. HVAC and control systems.

c. Space heaters and control systems.

d. Exhaust fan and control systems.

e. Convenience outlets.

* * * END OF SECTION * * *

MATERIAL AGREEMENT

THIS AGREEMENT made as of _____, 20____ between **City of Webster City, Iowa** (hereinafter called the "Owner"), and _____ (hereinafter called the "Supplier"),

WITNESSETH, that the Supplier and the Owner for the considerations hereinafter named agree as follows:

1. SCOPE OF WORK.

A. The Supplier agrees to sell and deliver to the Owner and the Owner agrees to purchase and receive from the Supplier the equipment in the Bid, __ in strict accordance with the documents entitled **"Furnishing a Control Enclosure - Reisner Substation"** for Webster City Municipal Utilities, Webster City, Iowa.

2. THE CONTRACT DOCUMENTS.

A. The Contract Documents shall consist of this written Agreement, Bid Form, Notice of Public Hearing and Letting, Instructions to Bidders, Addendums issued numbers , Insurance Policies and Certificates, General Requirements, Performance Bond, drawings and specifications, tests and engineering data, approved change orders, Supplier's Requests for Payment, and all addenda issued by the Owner prior to the awarding of the Contract (collectively, the "Contract Documents"). All of the Contract Documents listed in this Material Agreement are hereby incorporated by this reference as fully as if they were set out in this Agreement in full, all of which documents and instruments are incorporated by the signature of the parties hereto. The Unit(s) will be designed, manufactured, tested, shipped, sold and invoiced in accordance with_____(Supplier) bidding document, revision - _____ , dated _____ .

3. TIME OF COMPLETION.

A. The work to be performed under this contract shall be commenced upon execution of this Agreement. Material shall be fully delivered by _____.

4. THE CONTRACT SUM.

A. The Owner shall pay the Supplier for the equipment, in current funds: The Owner shall pay to the Supplier for performance of the work encompassed by this Agreement, and the Supplier will accept as full compensation therefore the lump sum of $_____, subject to adjustment as provided by the Contract Documents, to be paid by progress payments in cash or its equivalent in the manner provided for in the Contract Documents.

5. PAYMENT.

A. Upon shipment of the complete equipment, the Supplier shall submit to the Owner a detailed statement of the equipment shipped and installed. The Owner shall, within thirty (30) days after delivery receipt of the material and associated invoice, pay the Supplier ninety-five percent (95%) of the contract price of the material.

B. The Owner shall within thirty (30) days after final completion, field testing, required test reports, record drawings, final documentation, and certification by Engineer, pay the Supplier the remaining five percent (5%) of the contract price.

6. LIQUIDATED DAMAGES.

A. Not applicable.

7. TERMINATION.

A. This Agreement may be terminated by either party upon seven (7) days written notice should the other party breach the terms of this Agreement and, that party fails to initiate and diligently pursue a cure to such breach within the seven (7) day period after receiving such written notice. Further, any delay, suspension or termination of an order for convenience will be subject to Supplier's Cancellation and Delay Policy, as attached to Supplier's bid.

8. ASSIGNMENT.

A. The Supplier shall not assign all of his rights or obligations under this Agreement without the express written consent of the Owner. Upon any assignment even though consented to by the Owner, the Supplier shall remain liable for the performance of the work under this Agreement.

9. PARTIAL INVALIDITY.

A. If any provisions of this Agreement are in violation of any statute or rule of law of the State of Iowa, then such provisions shall be deemed null and void to the extent that they may be violative of law, but without invalidating the remaining provisions hereof.

10. WAIVER.

A. No waiver of any breach of any one of the agreements, terms, conditions or covenants of this Agreement by the Owner shall be deemed or imply or constitute a waiver of any other agreement, term, condition or covenant of this Agreement. The failure of the Owner to insist on strict performance of any agreement, term, condition or covenant, herein set forth, shall not constitute or be construed as a waiver of the Owner's rights thereafter to enforce any other default; neither shall such failure to insist upon strict performance be deemed sufficient grounds to enable the Supplier to

forego or subvert or otherwise disregard any other agreement, term, condition or covenant of this Agreement.

11. ENTIRE AGREEMENT.

A. The within Agreement, together with the Contract Documents, constitute the entire agreement of the parties hereto. No modification, change, or alteration of the within Agreement shall be of any legal force or effect unless in writing, signed by all the parties.

12. COUNTERPARTS, COPIES SAME AS ORIGINALS, ELECTRONIC AND SCANNED SIGNATURES PERMITTED:

A. This Agreement may be executed in several counterparts and each such counterpart shall be deemed an original. Any photocopies, electronic copies, or scanned copies of this Agreement shall be given full force and effect as the original(s). Given the distance between the parties and the time-sensitive nature of this Agreement, the parties stipulate that each party and/or their individual representatives may execute this Agreement using an electronic or scanned signature. Such electronic or scanned signatures shall be given full effect by the parties.

13. GOVERNING LAW.

A. Venue for any and all legal actions regarding or arising out of the transaction covered herein shall be solely in the District Court in and for Hamilton County, State of Iowa or the United States District Court for the State of Iowa. This transaction shall be governed by the laws of the State of Iowa.

14. BOND:

A. If the total value of this contract exceeds $25,000, Supplier shall provide a performance bond or supply bond as required by Iowa law valued at 100% of the contract amount.

15. INDEMNIFICATION:

A. To the fullest extent permitted by law, the Supplier shall defend, indemnify, and hold harmless Owner, its agents, representatives, and employees (Indemnitees) from and against all claims, damages, losses and expenses, including, but not limited to, attorney's fees, arising out of or resulting from or in connection with performance of the work, but only to the extent caused by the negligent acts or omissions of the Supplier, a Sub-supplier, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity or contribution which would otherwise exist, as to any party or person described in Contract Documents.

16. INSURANCE REQUIREMENTS

A. The Supplier shall secure and maintain such insurance policies as specified in the General Requirements of this Contract.

17. NOTICES.

A. All notices, requests, demands and other communications given or to be given under this Agreement shall be in writing and shall be deemed to have been duly given when served if served personally, or on the second day after mailing if mailed by first class mail, registered or certified, postage prepaid, and properly addressed to the party to whom notice is to be given as set forth below.

If to Owner:	If to Supplier:
City of Webster City	
400 Second Street	
Webster City, IA 50595	

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives all as of the day and year first above written.

City of Webster City, Iowa	
Owner	Supplier
Sign: _____	Sign: _____
Print: _____	Print: _____
Title: _____	Title: _____
ATTEST:	ATTEST:
Sign: _____	Sign: _____
Print: _____	Print: _____
Title: _____	Title: _____

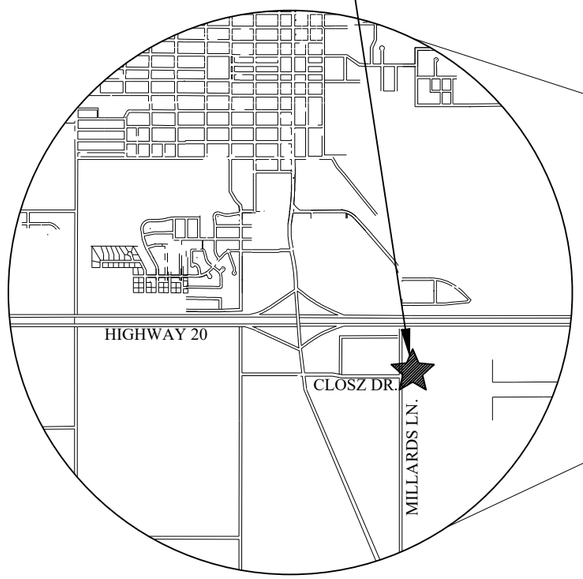
Appendix

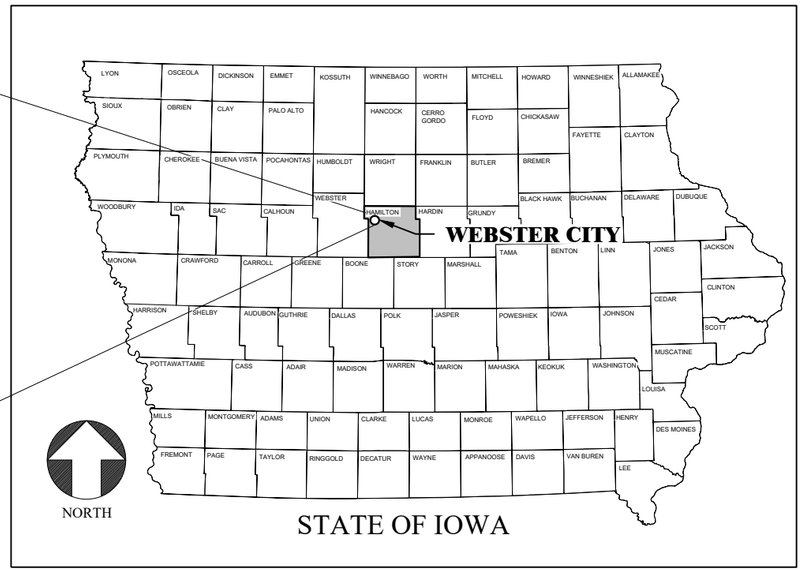
- Control Enclosure Drawings

Plot Date: 6/11/2024 12:16:41 PM

FURNISHING A CONTROL ENCLOSURE FOR REISNER SUBSTATION WEBSTER CITY MUNICIPAL UTILITIES WEBSTER CITY, IOWA

RESINER SUBSTATION
T.B.D Millards Ln
Webster City, IA 50595





STATE OF IOWA

LIST OF DRAWINGS

DGR PROJECT NUMBERS: 428403

PROJECT REVISION HISTORY

REV	DATE	DESCRIPTION
A	03-08-2024	ISSUED FOR MATERIAL BIDS
B	05-14-2024	ISSUED FOR SWITCHGEAR BIDS
C	06-11-2024	ISSUED FOR CONTROL ENCLOSURE BIDS

ISSUED FOR CONTROL ENCLOSURE BIDS 06-11-2024

LICENSED PROFESSIONAL ENGINEER
RYAN D. KLEINJAN 24830
IOWA

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by

Ryan D. Kleinjan, P.E. on 06-11-2024

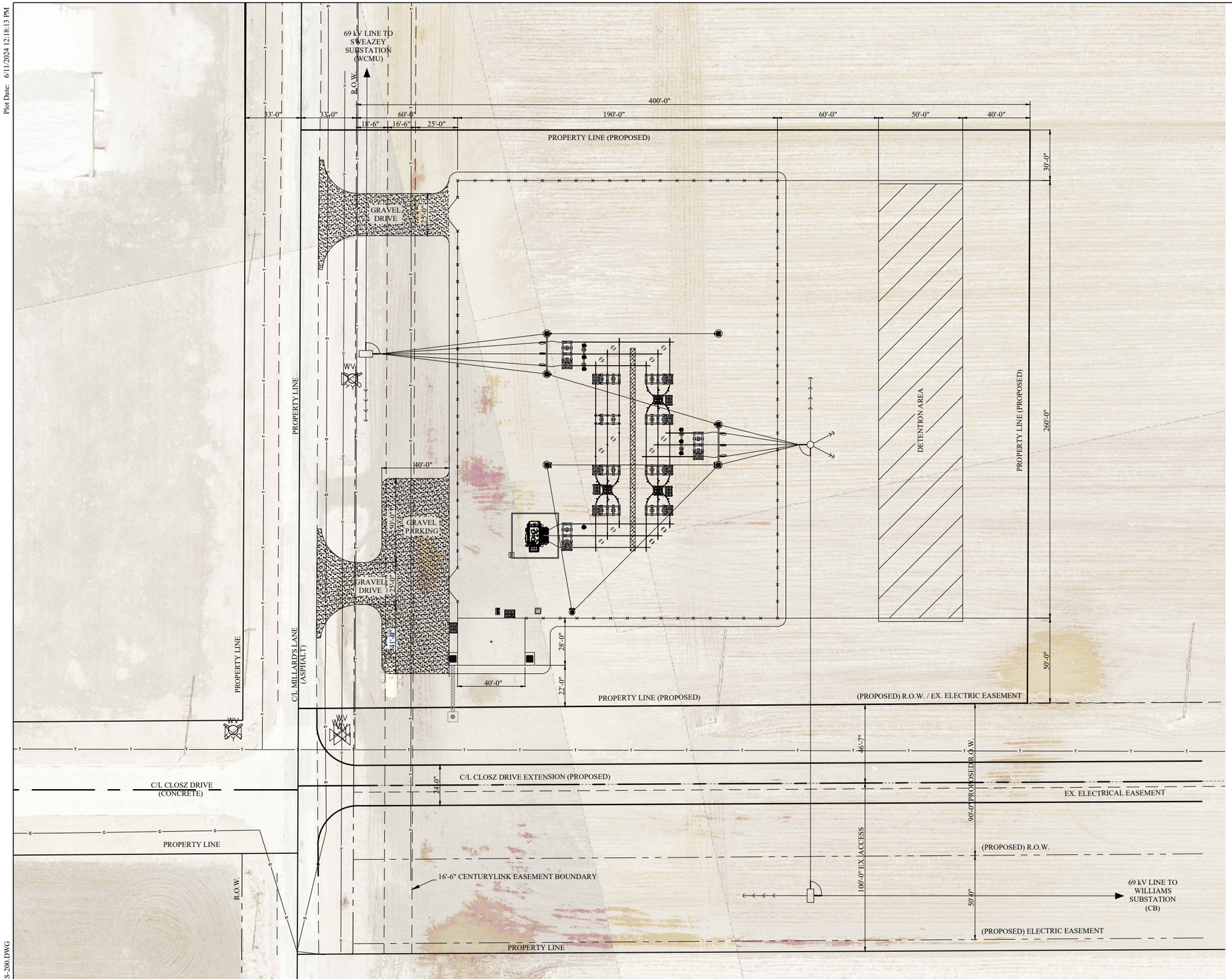
The official copy of this engineering document is on file at the office of the Owner.

Pages or sheets covered by this seal: All drawings

DGR ENGINEERING
ROCK RAPIDS, IOWA
(712) 472-2531

P:\04\284\03\DWG\RS-COVER (CTRL ENCL).DWG

Plot Date: 6/11/2024 12:18:13 PM



KEY MAP

NOTES

1. Setback (M-1, Light Industrial):

Front:	30'
Rear:	40'
Side (No Street):	0'
Side (Street):	15'

Substation

2. Substation Contractor shall furnish and install 4" of rock surfacing within the substation yard and 5' outside the fence and swing of gates.

3. Utilities and other potential obstacles (underground facilities) have been shown only to the extent that they are observed at the surface or were known by Others. The Owner and Engineer shall not be responsible for the accuracy of completeness of any such information or data. The Contractor shall have full responsibility for reviewing and checking all such information and data, location all such facilities, coordination of the work with the owners of such underground facilities during construction, and the safety and protection of all such underground facilities.

LEGEND

G	Gas
T	Telephone line (Century Link)
W	Water
×—×—×	Proposed fence

NORTH

0 5 15 30 60

SCALE (FT.)

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
181of1149

SITE LAYOUT
REISNER SUBSTATION

SHEET RS-200

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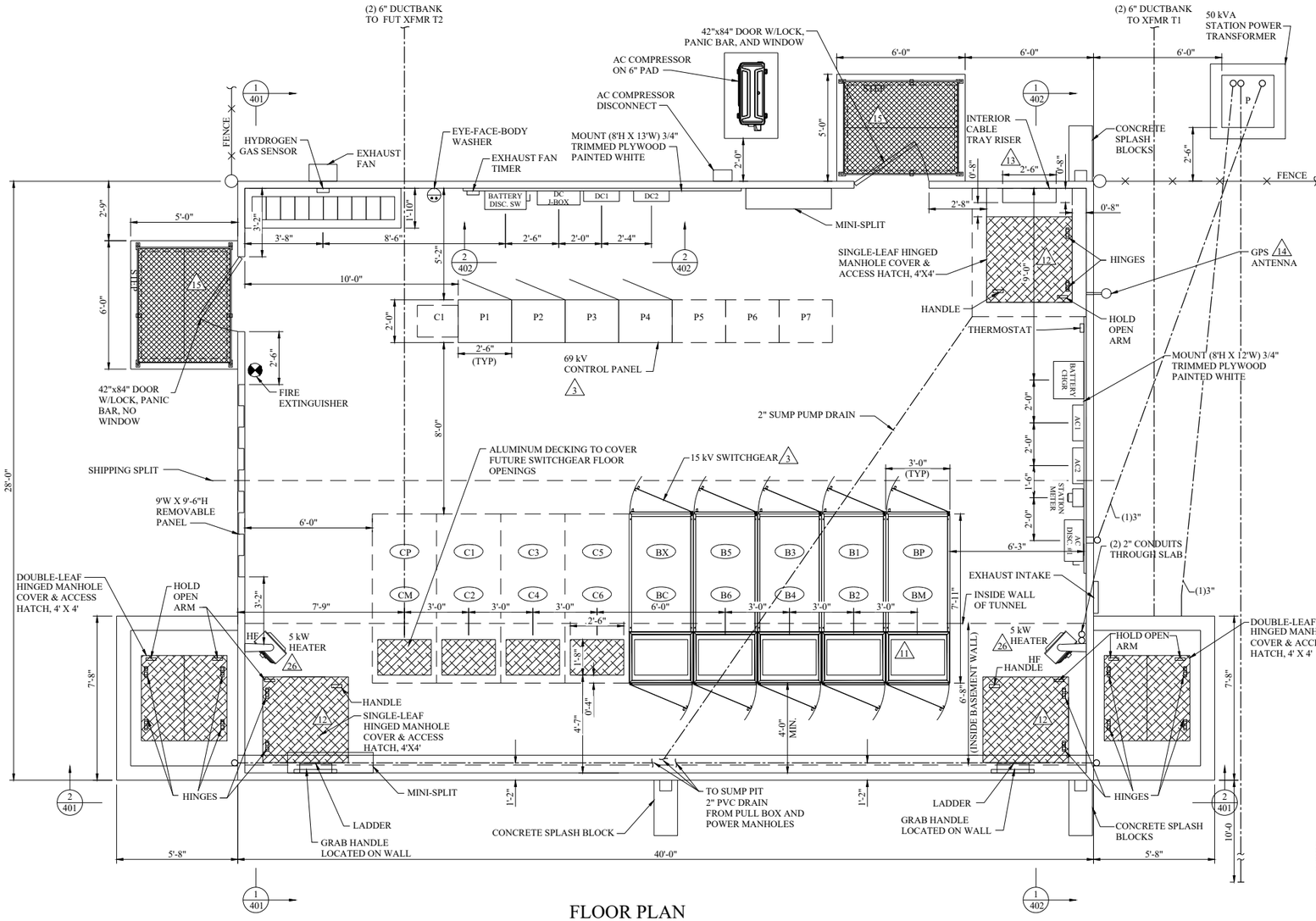
Plot Date: 6/11/2024 8:19:55 AM



FLOOR PLAN

SCALE (FT.) 0 1.5 3 6

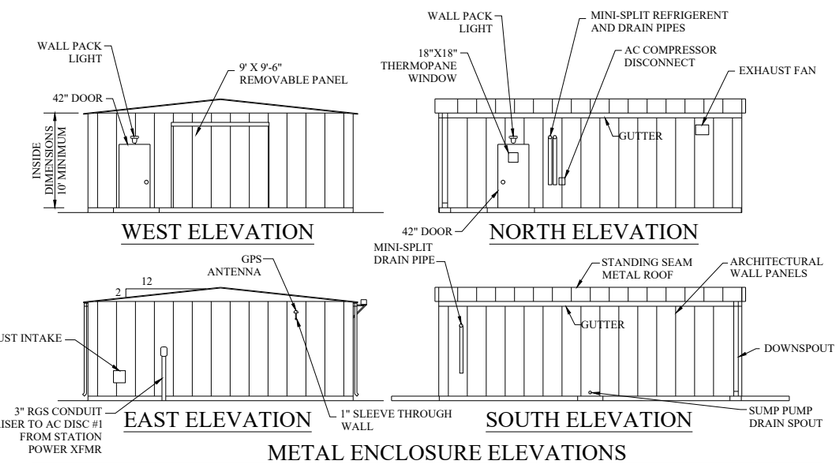
NORTH

NOTES (SUBSTATION CONTRACTOR)

1. All low-voltage power and control cables will be run in the cable tray. Single conductor wires are not allowed in the cable tray and must be ran in conduit.
2. Contractor shall coordinate all floor opening locations and sizes with the equipment. Coordinate exact placement and openings so that cable entrances line up correctly with floor openings such that cables may be easily trained into switchgear. Enclosure will have a partial basement where switchgear cables will enter and exit the enclosure.
3. The control panels and switchgear will be supplied and installed by Others. The Contractor shall be responsible for removing and reinstalling the control enclosure's removable panel to aid in the switchgear and control panel installation. The Contractor shall coordinate the timing of switchgear and control panel installation with the suppliers.
4. The Contractor shall verify dimensions shown on this drawing.
5. Connect enclosure, equipment and station power transformer to ground grid. Ground both ends of 15 kV switchgear and control panels with #4/0 bare Copper and connect to ground grid.
6. Cap all unused conduits. Seal all conduits with and without cables installed.
7. Battery rack shall be bolted to the floor and connected to the ground conductor in cable tray.
8. Top of manhole covers shall be flush with the surrounding supplied floor.
9. Provide recessive and/or removable handles on manhole covers.
10. Layout is diagrammatic in nature and does not show all items required. See specifications for details.
11. Contractor shall coordinate all floor openings with supplied equipment.
12. The hatch doors shall be aluminum 4' X 4". Provide Nystrom, see structural drawings for details.
13. See detail 3/402 for conduit layout on north wall.
14. Route GPS antenna wiring through respective conduit sleeves into enclosure. GPS antenna will be furnished by Others and installed by this Contractor.
15. Stoop grate will be furnished by the Owner and placed by this Contractor.
16. Coordinate conduit route and final stub up locations for the station power transformer with the Engineer and the Owner.

NOTES (ENCLOSURE CONTRACTOR)

21. All low-voltage power and control cables will be run in the cable tray. Single conductor wires are not allowed in the cable tray and must be ran in conduit.
22. Contractor shall ensure all equipment is grounded per latest version of NEC.
23. AC and DC panels will be shipped to supplier for installation prior to enclosure shipment to the site.
24. The Contractor shall verify dimensions shown on this drawing.
25. Layout is diagrammatic in nature and does to show all items required. See specifications for details.
26. Mount heaters minimum of 7' from floor on east and west walls. Provide one thermostat for both heaters. This thermostat shall be separate from HVAC thermostat.
27. Provide sleeves through wall for equipment noted as required.



METAL ENCLOSURE ELEVATIONS

NOT TO SCALE

REV	DATE	DESCRIPTION
B	05-14-2024	ISSUED FOR SWITCHGEAR BIDS
C	06-07-2024	ISSUED FOR REVIEW - CONTROL PANEL BIDS
D	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

CONTROL ENCLOSURE
FLOOR PLAN
REISNER SUBSTATION

SHEET RS-400

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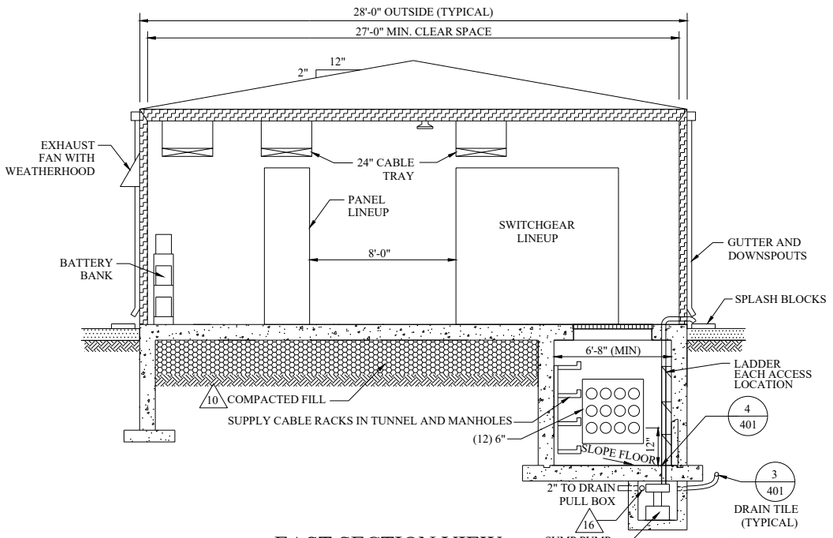
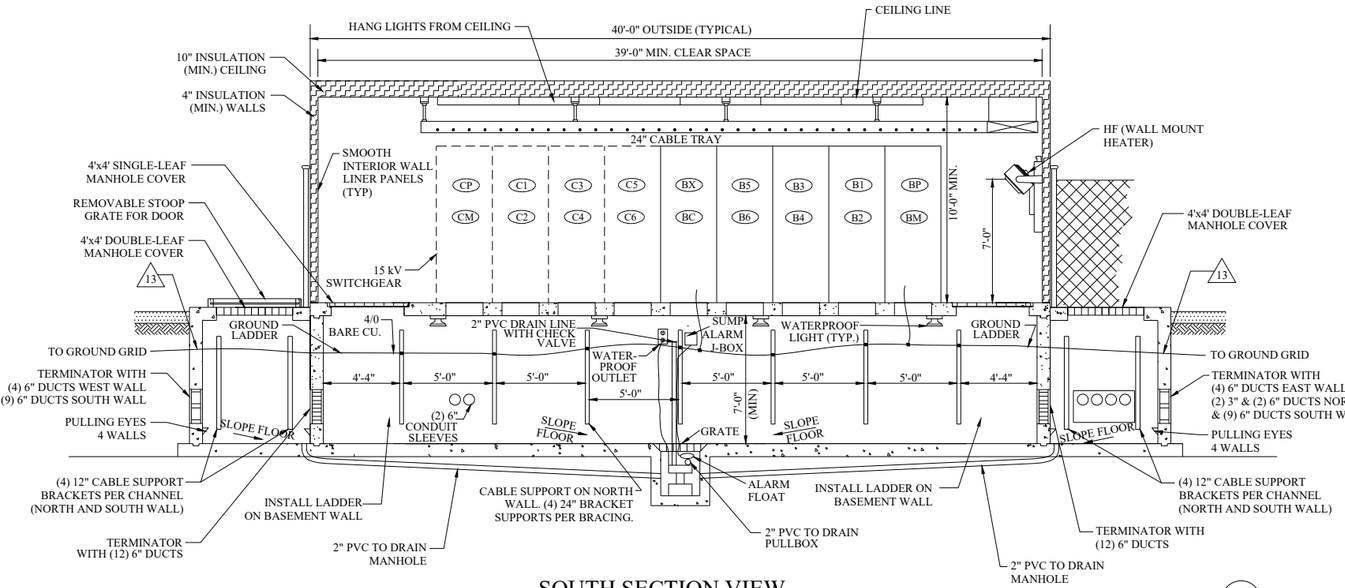
Plot Date: 6/11/2024 7:23:36 AM



EAST SECTION VIEW

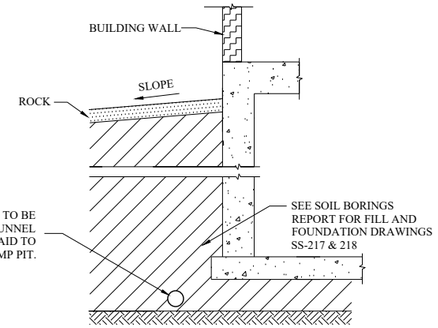
N.T.S.



SOUTH SECTION VIEW

N.T.S.

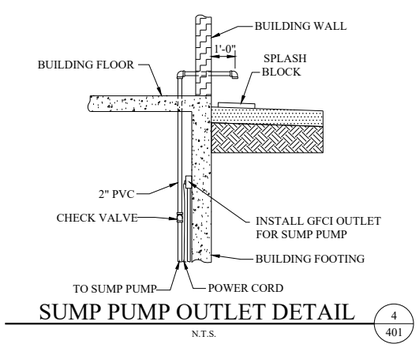
2
401



DRAIN TILE DETAIL

N.T.S.

3
401



SUMP PUMP OUTLET DETAIL

N.T.S.

4
401

NOTES (SUBSTATION CONTRACTOR)

1. Height of ceiling, removable panel size, other clearances and dimensions shall be coordinated with supplied equipment.
2. Ground both ends of 15 kV switchgear with #4/0 bare Copper. Connect to ground grid.
3. Connect enclosure equipment, ladders, and station power transformers to ground grid.
4. Cap all unused conduits. Seal all used and unused conduits once cables have been installed.
5. Contractor shall verify all conduit locations as per equipment requirements.
6. Battery rack shall be bolted to the floor and grounded to the ground grid.
7. Contractor shall coordinate all floor openings with supplied equipment.
8. Contractor shall provide floor openings for equipment being placed by Others.
9. Drain outside manholes into sump pit with minimum 2" duct.
10. See foundation drawings for construction details.
11. Coordinate exact placement of switchgear and openings such that the cable entrances line up correctly with basement tunnel wall such that cables may be easily trained into cable racks below.
12. Distribution feeder cable routing and terminations to 15 kV switchgear feeder bays will be by Others, including power cable and terminations. Power cables for transformer-to-switchgear main run shall be supplied by the Owner and installed by this Contractor. Terminations shall be furnished and installed by this Contractor.
13. Contractor shall install ground grid all around the exterior of the enclosure. Provide sleeves for ground conductor entrances as required.
14. Contractor to cover each bracket with PVC conduit for cable saddles. All metal brackets shall be grounded.
15. Provide cable support racks and ladder in the manholes and basement.
16. Furnish a 2" conduit on the near side to drain the west power manhole and a 2" conduit on the far side to drain the east power manhole.
17. Contractor shall install GPS antenna as required by manufacturer's instructions. This includes obtaining a clear signal from the GPS satellite at all times.
18. For grate support, furnish and install galvanized steel angles in sump pit and secure into concrete slab as required. Grate shall be level with surrounding floor and top of sump pit.

NOTES (ENCLOSURE CONTRACTOR)

21. Height of ceiling, removable panel size, other clearances and dimensions shall be coordinated with supplied equipment.
22. All low-voltage power and control cables will be run in the cable tray. Single conductor wires are not allowed in the cable tray and must be ran in conduit.
23. Contractor shall ensure all equipment is grounded per latest version of NEC.
24. AC and DC panels will be shipped to supplier for installation prior to enclosure shipment to the site.
25. The Contractor shall verify dimensions shown on this drawing.
26. Layout is diagrammatic in nature and does to show all items required. See specifications for details.
27. Mount heaters minimum of 7' from floor on east and west walls. Provide one thermostat for both heaters. This thermostat shall be separate from HVAC thermostat.
28. Provide sleeves through wall for equipment noted as required.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
183of1149

CONTROL ENCLOSURE
SECTION VIEWS
REISNER SUBSTATION

SHEET RS-401

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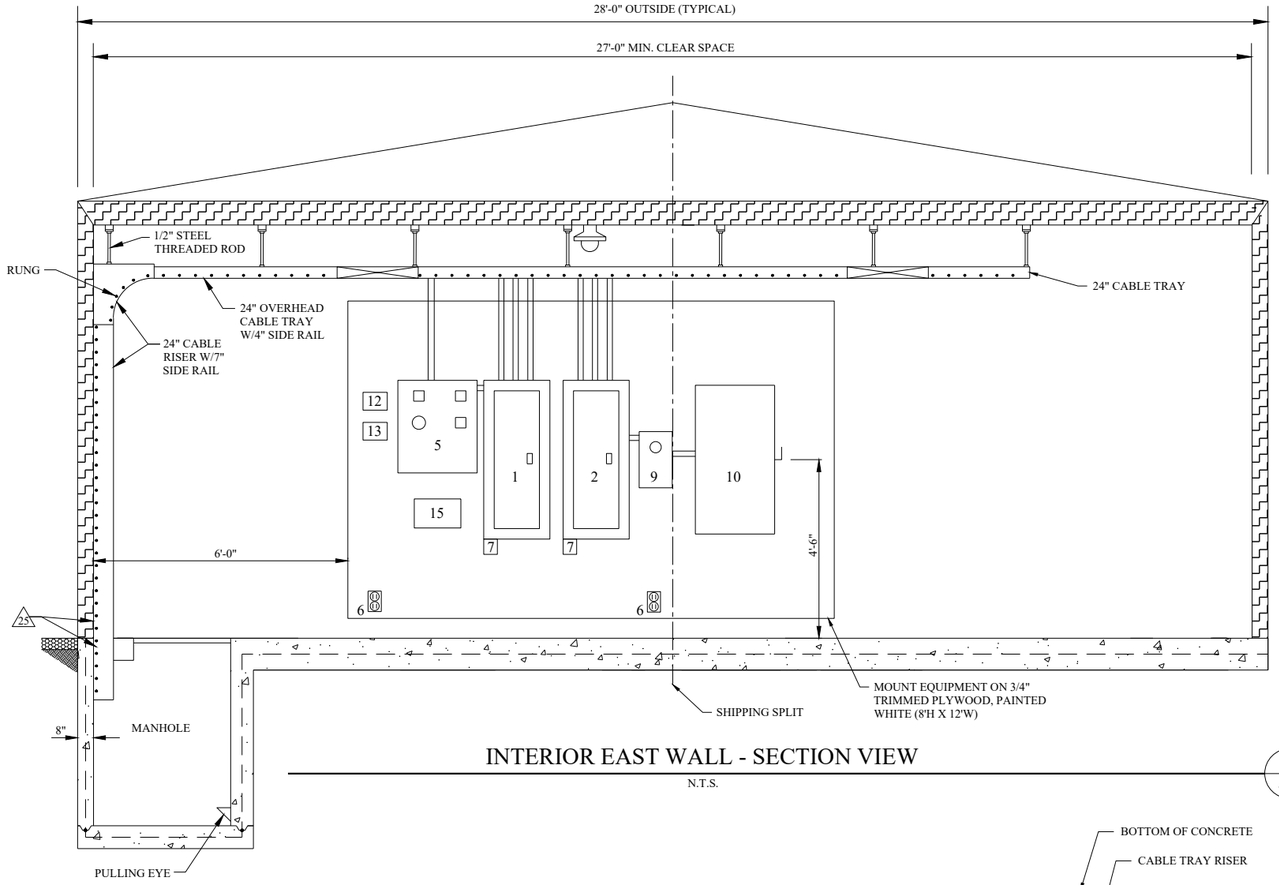
Plot Date: 6/11/2024 7:23:37 AM



INTERIOR EAST WALL - SECTION VIEW

N.T.S.

1/402

NOTES (ENCLOSURE CONTRACTOR)

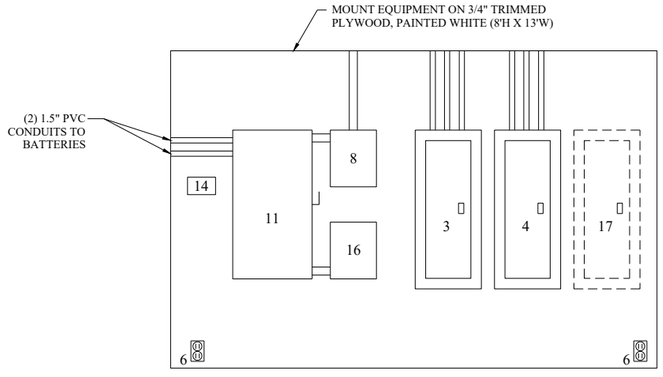
21. Furnish conduits as required.
22. Contractor shall leave space for future equipment.
23. Conduits shall be installed and sized per NEC code. Conduits shall be sized for all future and spare circuits from the AC and DC panels.
24. Contractor shall provide mounting provisions as required for continuous cable riser run if interior building wall does not align with interior 8" foundation wall. Supply cable tray riser for installation in the field by the Substation Contractor.

NOTES (SUBSTATION CONTRACTOR)

1. Furnish conduits as required.
2. Install cable tray riser in the field. Coordinate with Enclosure Contractor.
3. Breaker test cubicle will be furnished by Others and installed by this Contractor.

EQUIPMENT

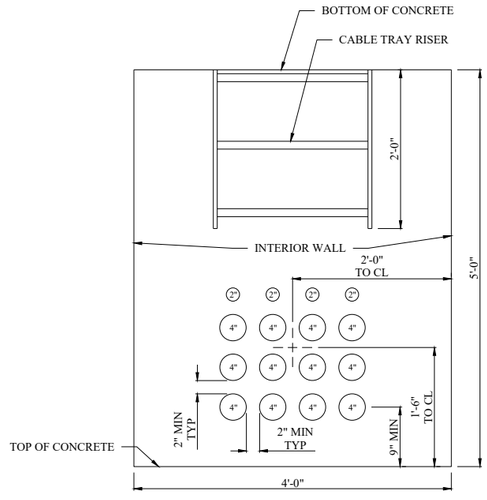
1. AC panel "AC1"
2. AC panel "AC2"
3. DC panel "DC1"
4. DC panel "DC2"
5. Battery charger 125 VDC
6. Duplex outlet, 120V, 20 amp
7. Surge protector
8. DC junction box
9. Station Meter
10. AC disconnect #1
11. DC disconnect
12. Thermostat (mini-splits)
13. Thermostat (Wall mounted heaters)
14. Exhaust fan timer/control
15. Breaker test cubicle
16. Alarm junction box
17. Future DC panel "DC3"



INTERIOR NORTH WALL PANELS - SECTION VIEW

N.T.S.

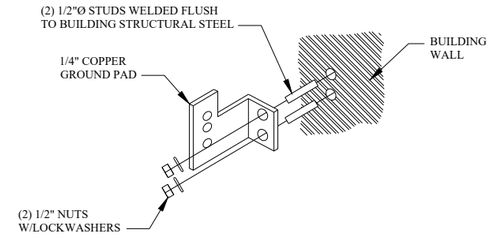
2/402



PULLBOX NORTH WALL DETAIL

N.T.S.

3/402



BUILDING GROUND PAD DETAIL

N.T.S.

4/402

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
184of1149

CONTROL ENCLOSURE
SECTION VIEWS
REISNER SUBSTATION

SHEET RS-402

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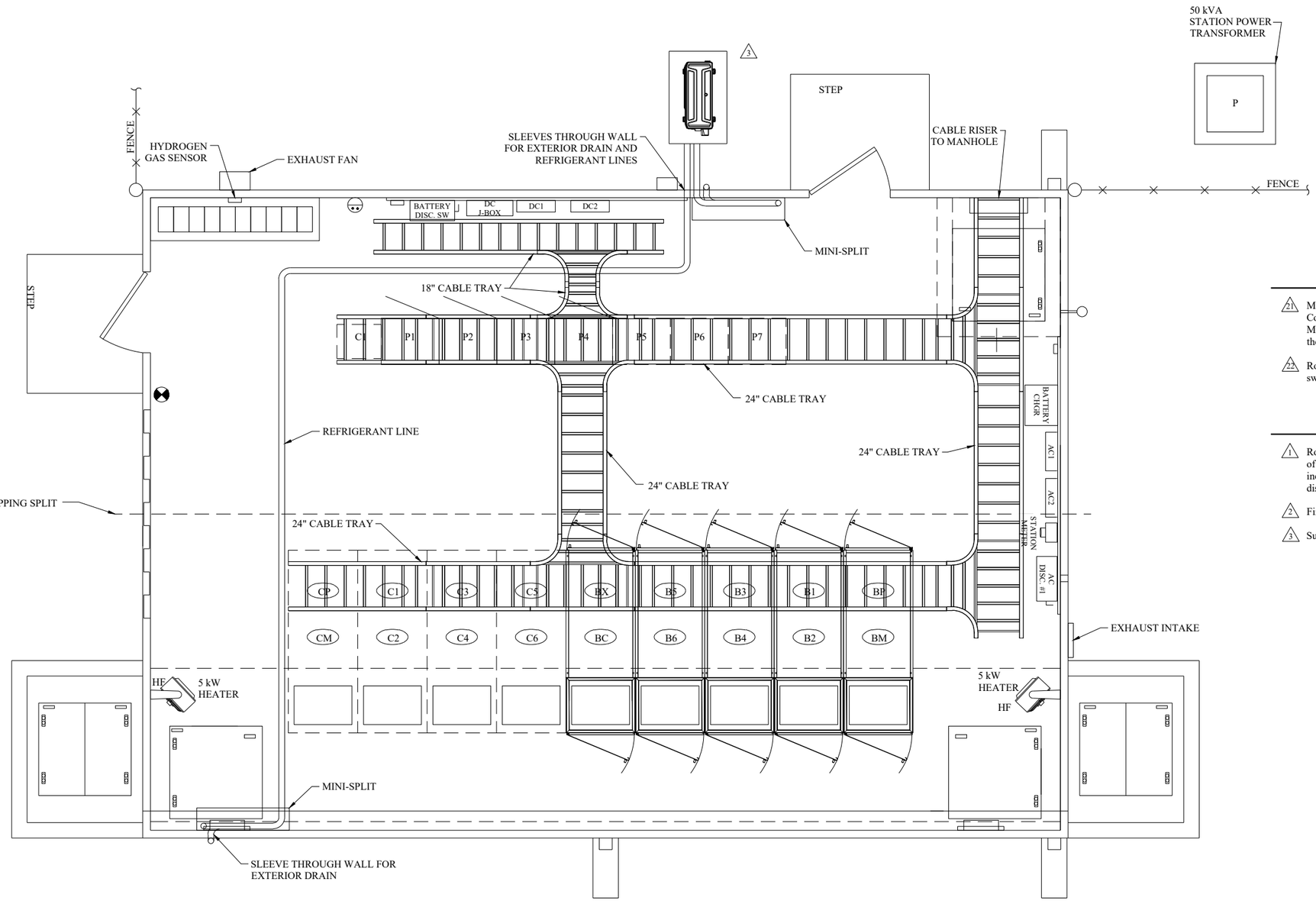
Plot Date: 6/11/2024 8:20:33 AM



NOTES (ENCLOSURE CONTRACTOR)

21 Mount mini-splits as high as possible. Control Enclosure supplier shall size the units per the Control Enclosure. The minimum size shall not be smaller than the ratings in the specifications. Mini-splits to be interlocked with smoke detector auxiliary relays and to be controlled with one thermostat.

22 Route refrigerant lines as required. Do not route above electrical panels, control panels, or switchgear.

NOTES (SUBSTATION CONTRACTOR)

1 Route 4/0 ground conductor through cable tray and bond to exterior ground grid. Bond each piece of cable tray to ground conductor. Bond all electrical equipment to ground conductor in cable tray, including but not limited to: control panels, switchgear, battery bank rack, AC panels, DC panels, disconnects, battery charger.

2 Fire extinguisher and eye wash shall be furnished and installed by the Substation Contractor.

3 Substation Contractor shall coordinate final pad size for condensing unit with supplied equipment.

LEGEND

Fire Extinguisher

Emergency Eye Wash

CABLE TRAY AND HVAC PLAN

0 1.5 3 6

SCALE (FT.)

NORTH

P:\04\28403\DWG\RS-405.DWG

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

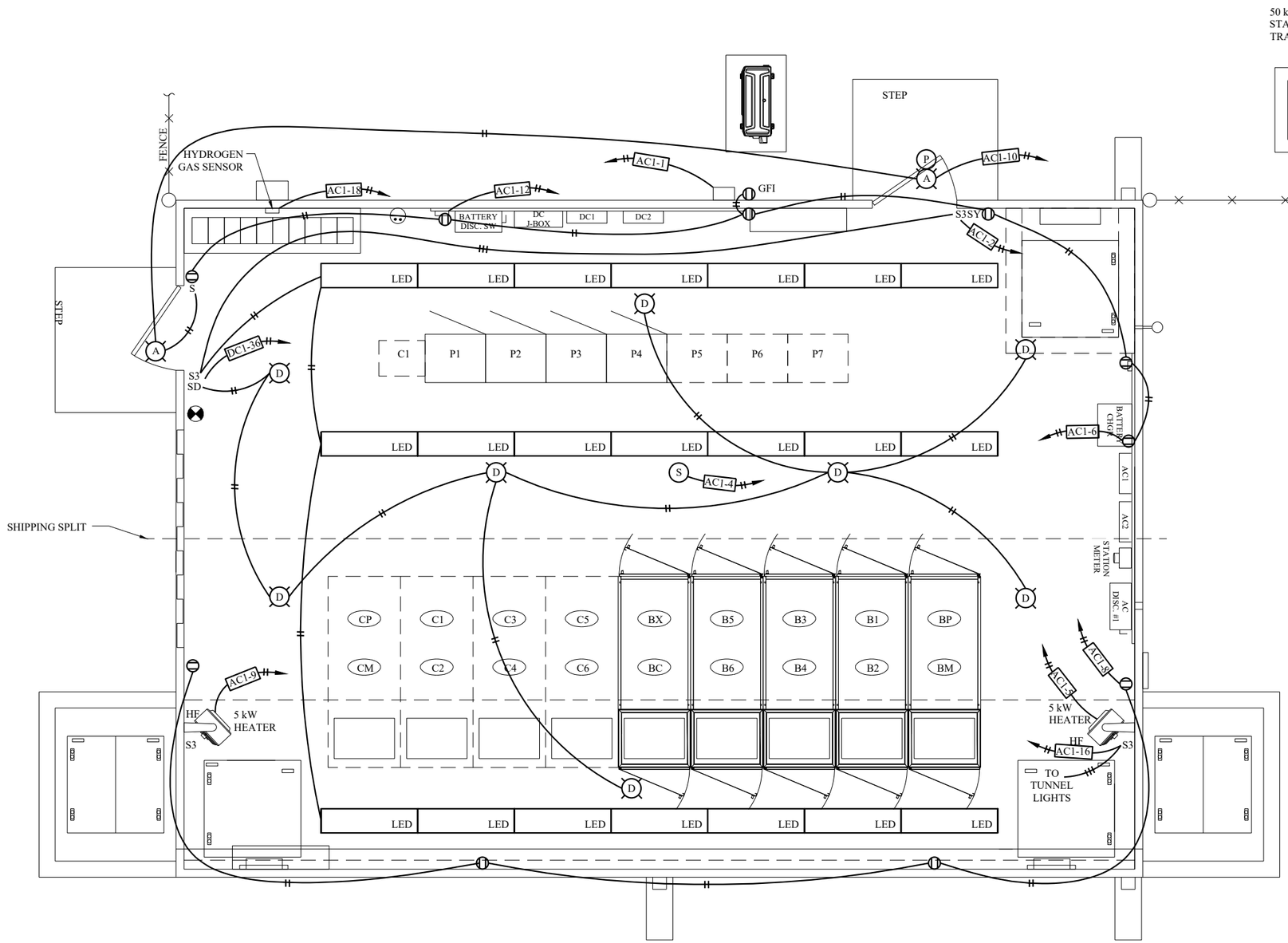
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

CONTROL ENCLOSURE
CABLE TRAY & HVAC PLAN
REISNER SUBSTATION

SHEET RS-405

Plot Date: 6/11/2024 8:23:08 AM



NOTES (ENCLOSURE CONTRACTOR)

21. Coordinate all station service equipment with needs of supplied equipment.
22. Not all circuits shown. See drawings RS-410 & RS-411 for AC and DC panel layouts.
23. Smoke detectors and door switches shall be wired for alarming to SCADA. See detail 2/407 for typical schematic.
24. Lighting fixtures shall be 4'-0" LED with (2) tubes.
25. Hydrogen gas sensor shall be located above battery bank. Main control shall be located next to battery bank. Install system per Manufacturer's instructions.
26. Furnish and install tunnel light circuit from AC panel to light switches.

NOTES (SUBSTATION CONTRACTOR)

1. Furnish and install tunnel light circuit from light switch to tunnel lights.

LEGEND

SD	Switch, 125 VDC, with pilot lamp (label)
S	Switch, 120 VAC, 20 Amp (label)
S3	Switch, 120 VAC, 3-Way (label)
SY	Switch, 240 VAC, yard light (label)
	Duplex Outlet, 120 VAC, 20 Amp
LED	LED Lighting Fixture, 120V
A	Wallpack LED lighting fixture, 60 watt, 120 VDC
D	125 VDC light, 100 Watt
S	Smoke Detector
	Fire Extinguisher
P	External Photocell

ELECTRICAL AND LIGHTING PLAN

0 1.5 3 6
SCALE (FT.)

NORTH

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

CONTROL ENCLOSURE
ELECTRICAL & LIGHTING PLAN
RESINER SUBSTATION

SHEET RS-406

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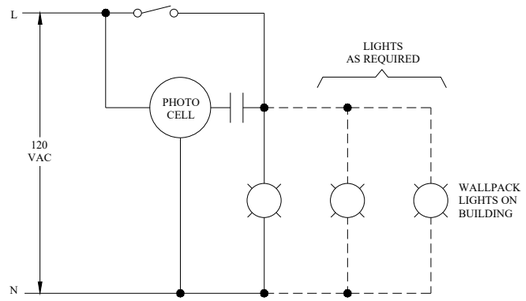
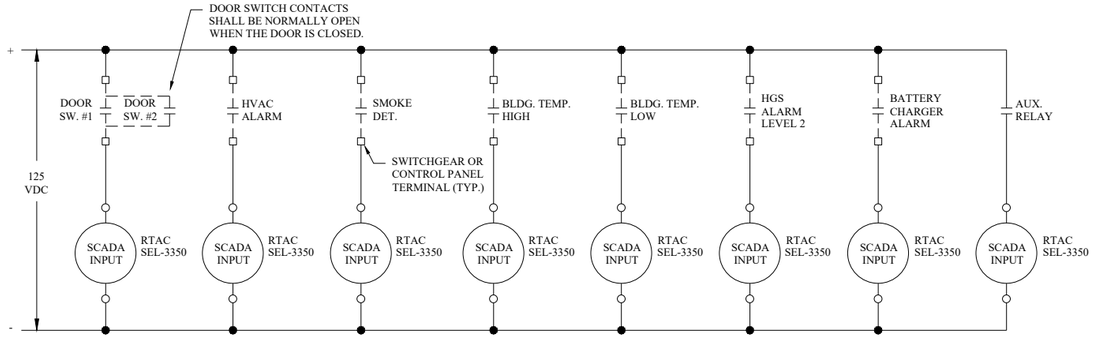
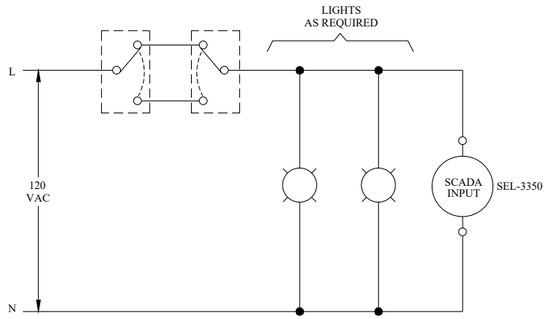


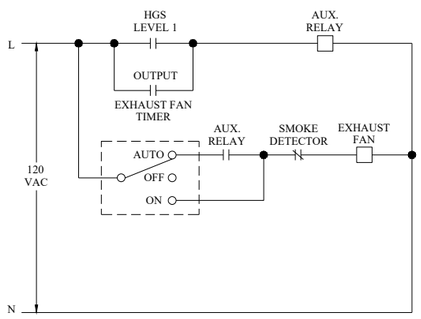
TYPICAL OUTDOOR BUILDING LIGHTING SCHEMATIC — 1/407



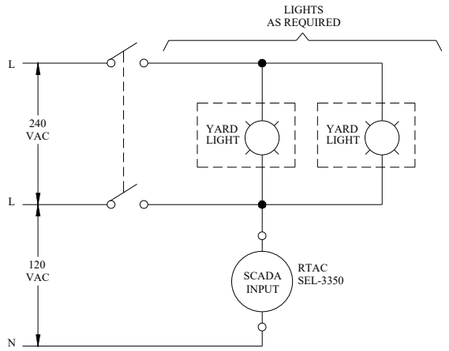
BUILDING ALARM SCHEMATIC — 2/407



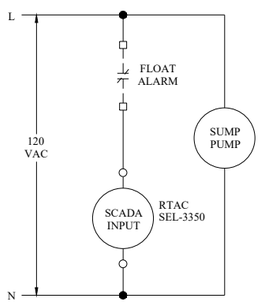
TYPICAL AC INTERIOR LIGHTS MONITORING SCHEMATIC — 3/407



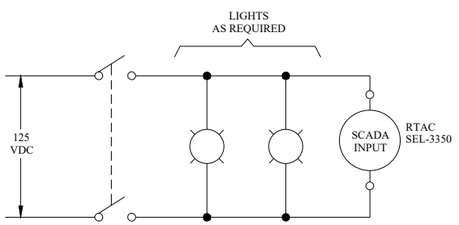
HVAC VENTILATION SCHEMATIC — 4/407



TYPICAL OUTDOOR YARD LIGHTING SCHEMATIC — 5/407



BUILDING SUMP PUMP SCHEMATIC — 6/407



DC LIGHTS SCHEMATIC — 7/407

NOTES (ENCLOSURE CONTRACTOR)

21 Furnish and install an alarm junction box to interconnect building equipment circuits to RTAC inputs and yard lights. Size junction box as required.

22 Enclosure Contractor shall furnish detailed building schematics and wiring diagrams based on the schematics shown and other systems required for building electrical.

NOTES (SUBSTATION CONTRACTOR)

1 Furnish and install sump pump and associated alarm float, receptacle, and wiring.

2 Furnish and install yard lights. Cable between yard lights and alarm junction box will be furnished and installed by the Owner.

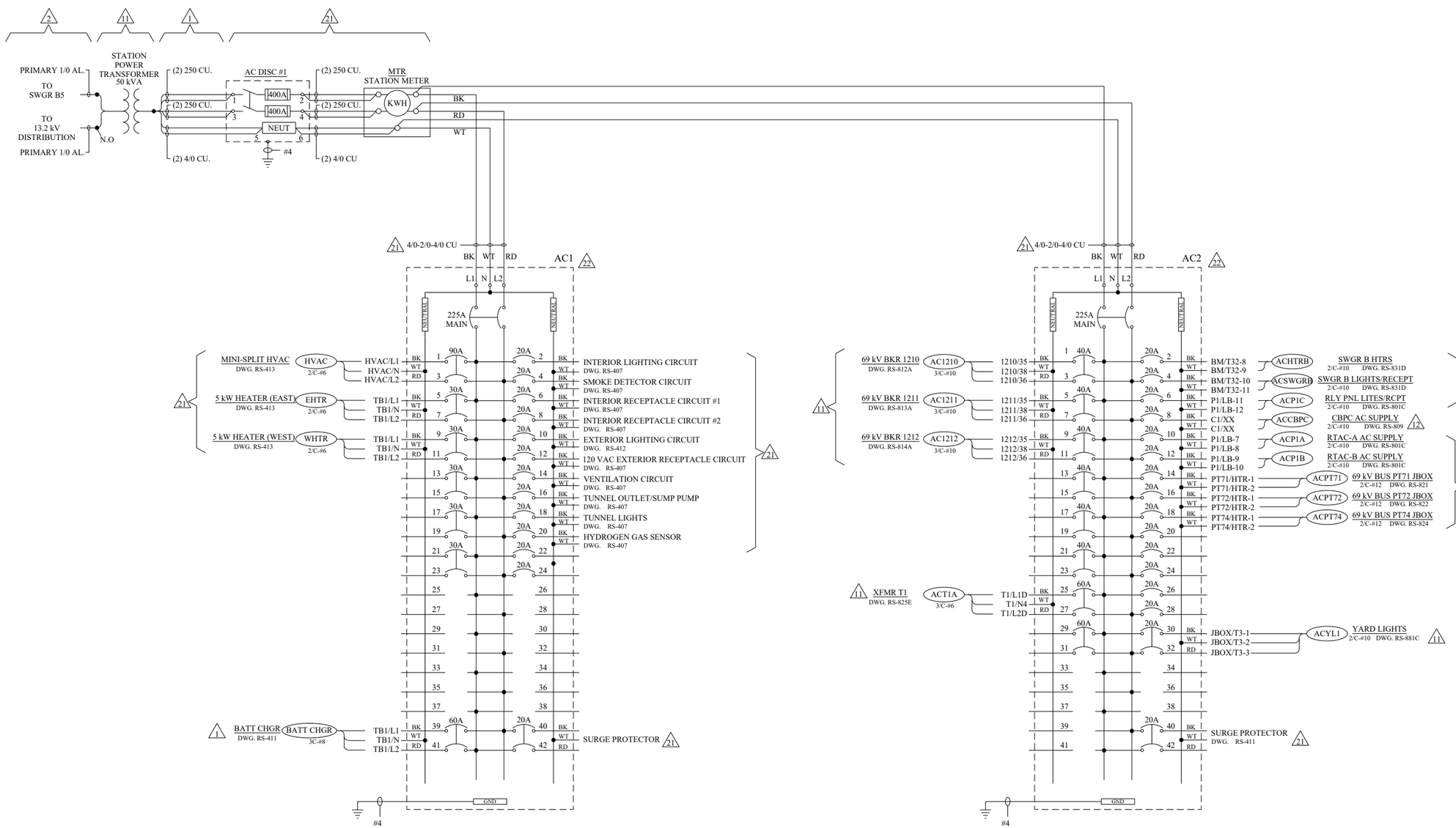
REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

CONTROL ENCLOSURE - ELECTRICAL SCHEMATICS
RESINER SUBSTATION

SHEET RS-407



NOTES (GENERAL)

1. Equipment and cables furnished and installed by the substation contractor.
2. Cables furnished and installed by the distribution contractor.
3. Wire terminations are not verified and are subject to change.
4. Breakers to be rated for 22 KAIC.

NOTES (OWNER)

11. Equipment and cables furnished and installed by the Owner.
12. Owner to furnish and leave coiled in cable tray above panel for CBPC use.

NOTES (ENCLOSURE CONTRACTOR)

21. Equipment and cables furnished and installed by the control enclosure supplier.
22. Panels are Owner furnished. Control enclosure supplier shall install panels in building prior to shipping to site. Breaker layouts and sizes shall be added and/or modified as required per supplied equipment prior to shipment.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

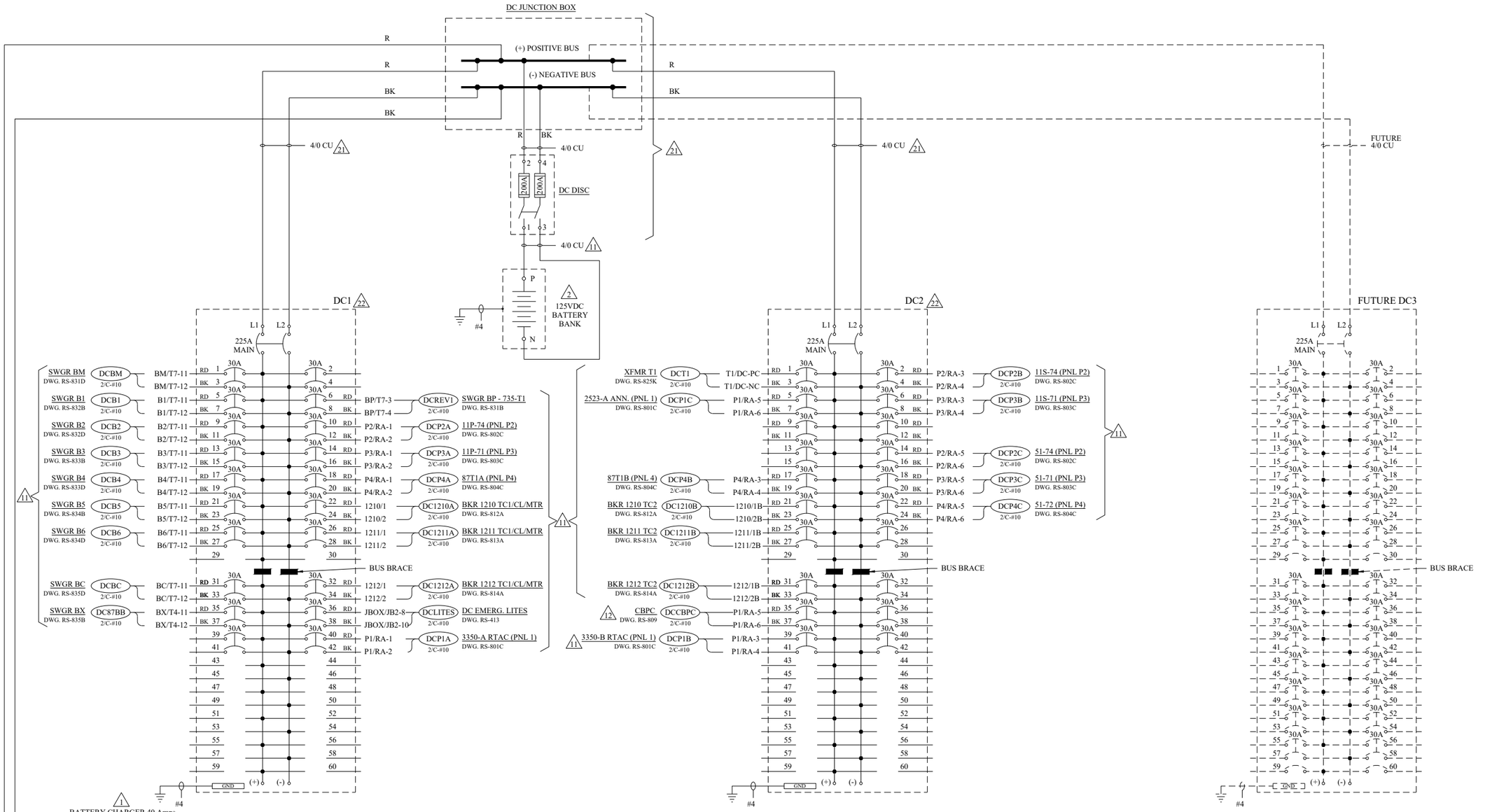
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

AC PANEL DETAILS
REISNER SUBSTATION

SHEET RS-410

Plot Date: 6/11/2024 9:30:54 AM



NOTES (GENERAL)

1. Equipment and cables furnished and installed by the substation contractor.
2. Battery Bank, VRLA, 162 AH (Furnished and installed by substation contractor)
3. Wire terminations are not verified and are subject to change.
4. Breakers to be rated for 22 KAIC.

NOTES (OWNER)

11. Equipment and cables furnished and installed by the Owner.
12. Owner to furnish and leave coiled in cable tray above panel for CBPC use.

NOTES (ENCLOSURE CONTRACTOR)

21. Equipment and cables furnished and installed by the control enclosure supplier.
22. Panels are Owner furnished. Control enclosure supplier shall install panels in building prior to shipping to site. Breaker layouts and sizes shall be added and/or modified as required per supplied equipment prior to shipment.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

DC PANEL DETAILS
REISNER SUBSTATION

SHEET RS-411

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WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Adam Dickinson, Line Department Superintendent
John Harrenstein, Interim City Manager

DATE: June 17, 2024

RE: Bidding Package: Reisner Substation Construction

SUMMARY: Requesting permission to seek bids and schedule a Public Hearing for construction of the Reisner Substation as defined in the attached bidding documents.

PREVIOUS COUNCIL ACTION: The City Council has previously approved the contract for the new Power Transformer, authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.), approved the contract for the new 69 kV Circuit Breakers, approved contracts for miscellaneous materials, and approved the Grading Contract for the new Reisner Substation.

BACKGROUND/DISCUSSION: The proposed construction is described in general as follows:

> Construction of a 69 kV to 13.2 kV substation. The work consists of rock work, concrete foundations and concrete work, steel, fencing, conduit and ductwork, ground grid, and buswork. This also includes the installation of Owner-furnished GOAB switches, steel structures, PTs, lightning arresters, cable trench, circuit breakers, power cable, and coordinating installation of and connecting to the Owner-furnished power transformer, switchgear, control panels, and control enclosure.

The attached bidding documents reference in more detailed and complete description of the construction specifications. At the proposed Public Hearing on August 5th, 2024 at 6:05 P.M., the City Council will also receive and consider any objection to said plans, specifications and form of contract or cost of the project made by any interested party.

FINANCIAL IMPLICATIONS: The cost of construction will be shared between Corn Belt Power Cooperative and the City of Webster City, based on an allocation between transmission facilities (Corn Belt portion) and distribution facilities (City portion).

The estimated cost of this portion of the project, along with the breakdown of the responsibility for those costs, is as follows:

Portion of Project	Total Project Cost Estimate	Estimated City of Webster City Portion	Estimated Corn Belt Power Co-op Portion
Reisner Substation – Construction	$2,050,000	$920,500	$1,129,500*

***** These funds will initially be provided by the City but will be fully reimbursed by Corn Belt.

The costs shown above are estimates; the agreement with Corn Belt and NIMECA includes a provision that actual reimbursement will be made on the basis of actual final project costs.

PROJECT TIMELINE:

The current timeline for construction is as follows:

- Bid Opening: Tuesday, July 23, 2024 @ 1:30 PM at City Hall
- Milestones:
    - Construction Start: September 9, 2024
    - Substantial Completion: September 30, 2025
    - Construction End: November 15, 2025

RECOMMENDATION: Approve the request to set public hearing for August 5th, 2024 at 6:05 P.M. at which the City Council will consider the plans and specifications, proposed form of contract and the estimate of cost to construct the Reisner Substation as defined.

RESOLUTION NO. 2024 - xxx

RESOLUTION APPROVING THE REQUEST TO SEEK BIDS AND SCHEDULE A PUBLIC HEARING FOR THE CONSTRUCTION OF THE REISNER SUBSTATION

WHEREAS, the City Council of Webster City has previously approved the contract for the new Power Transformer, authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.), approved the contract for the new 69 kV Circuit Breakers, approved contracts for miscellaneous materials, and approved the Grading Contract for the new Reisner Substation; and

WHEREAS, the attached bidding documents provide a more detailed and complete description of the construction specifications; and

WHEREAS, the proposed Public Hearing on August 5th, 2024, at 6:05 P.M. will allow the City Council to receive and consider any objections to said plans, specifications, form of contract, or cost of the project made by any interested party; and

WHEREAS, the cost of construction will be shared between Corn Belt Power Cooperative and the City of Webster City, based on an allocation between transmission facilities (Corn Belt portion) and distribution facilities (City portion);

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa, as follows:

Section 1. Approval to Seek Bids: The City Council hereby approves the request to seek bids for construction of the Reisner Substation.

Section 2. Public Hearing Scheduled: The City Council hereby schedules a Public Hearing for August 5th, 2024, at 6:05 P.M. at which time the Council will consider the plans and specifications, proposed form of contract, and the estimate of cost to construct the Reisner Substation as defined.

Section 3. Authorization: Authorize the City Manager to take all necessary actions to proceed with the bidding process for the construction of the Reisner Substation and Authorize the City Clerk to ensure proper notice of the Public Hearing as required.

Passed and adopted this 17th day of June, 2024.

_____
John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PROPOSED PLANS AND SPECIFICATIONS, AND PROPOSED FORM OF CONTRACT FOR THE REISNER SUBSTATION CONSTRUCTION FOR THE CITY OF WEBSTER CITY, IOWA.

Notice is hereby given that the City Council of Webster City, Iowa, will meet in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595 at 6:05 PM, on August 5, 2024, at which time and place the City Council will consider adoption of the plans and specifications, and proposed form of contract for the Reisner Substation Construction project, which are now on file in the City Offices. At said meeting, the City Council will receive and consider any objections to said plans, specifications, form of contract and estimate of cost made by any interested party.

The general nature of the work on which bids will be received consists of construction of a 69 kV to 13.2 kV substation. The work consists of rock work, concrete foundations and concrete work, steel, fencing, conduit and ductwork, ground grid, and buswork. This also includes the installation of Owner-furnished GOAB switches, steel structures, PTs, lightning arresters, cable trench, circuit breakers, power cable, and coordinating installation of and connecting to the Owner-furnished power transformer, switchgear, control panels, and control enclosure.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 19th day of July 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

NOTICE TO BIDDERS

Notice is hereby given that sealed bids will be received by the City Clerk of the City of Webster City, Iowa, at City Hall, 400 Second Street, Webster City, Iowa 50595 before **1:30 PM**, on **July 23, 2024**, for Reisner Substation Construction for the City of Webster City, Iowa. At said time, the bids will be publicly opened and read aloud in the Council Chambers, 400 Second Street, Webster City, Iowa 50595. Bids will be considered by the City Council at its meeting at 6:05 PM, on August 5, 2024 in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595. The City Council may award the contract at said meeting or at such other time and place as shall then be announced.

The general nature of the work on which bids will be received consists of construction of a 69 kV to 13.2 kV substation. The work consists of rock work, concrete foundations and concrete work, steel, fencing, conduit and ductwork, ground grid, and buswork. This also includes the installation of Owner-furnished GOAB switches, steel structures, PTs, lightning arresters, cable trench, circuit breakers, power cable, and coordinating installation of and connecting to the Owner-furnished power transformer, switchgear, control panels, and control enclosure.

The above work shall be in accordance with the specifications and proposed form of contract now on file in the offices of, City of Webster City, Iowa, by this reference made a part hereof, as though fully set out and incorporated herein.

Complete digital project bidding documents are available at www.questcdn.com. You may download the digital plan documents at no charge by inputting the **Quest project # 9169459** on the website's Project Search page. Please contact QuestCDN.com at 952-233-1632 of info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information. An optional paper set of the proposal forms and specifications for individual use may be obtained from the office of the Engineer, DGR Engineering, 1302 South Union Street, PO Box 511, Rock Rapids, IA 51246, telephone: 712-472-2531, fax: 712-472-2710, email: dgr@dgr.com, no deposit required.

Each bid shall be made out on a blank form furnished by the Utility and must contain bid security as required by Iowa Code Section 26.8. The bidder's security shall be in the form of either (1) a cashier's check of certified check drawn on a state chartered or federally chartered bank, in an amount equal to ten (10) percent of the amount of the Bid; or (2) a certified share draft drawn on a state-chartered or federally chartered credit union, in an amount equal to ten (10) percent of the amount of the Bid; or (3) a Bid Bond executed by a corporation authorized to contract as a surety in the State of Iowa, in an amount equal to ten (10) percent of the amount of the Bid. The bid security shall be made payable to City of Webster City. The bid security must not contain any conditions either in the body of as an endorsement thereon. Such bid security shall be forfeited to the City of Webster City, Iowa as liquidated damages in the event the successful bidder fails or refuses to enter into a contract within fifteen (15) days after the award of the contract and post satisfactory Performance and Payment Bonds.

The sealed envelope containing the bid shall be clearly marked "BID ENCLOSED – REISNER SUBSTATION CONSTRUCTION" on the outside of the envelope.

Payment to the Contractor for said construction work will be made from cash on hand of such other funds that legally may be used or obtained for such purposes. Estimates will be paid monthly by the Utility to the Contractor in accordance with the following schedule:

> Ninety-five (95) percent upon certification of units completed; five (5) percent within thirty (30) days after final completion and acceptance.

Construction may be started after the execution of the Construction Agreement (the Contract) and the issuance of the Notice to Proceed. Substantial Completion of the project shall be no later than September 30, 2025. See the "Construction Schedule" of the Technical Specifications for special instructions relating to this project.

By virtue of statutory authority, a preference will be given to products and provisions grown, and coal produced within the State of Iowa, and preference shall be given to Iowa domestic labor in the construction of said improvements. The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

The City Council reserves the right to defer acceptance of any bid for a period not to exceed thirty (30) days after the date bids are received and no bid may be withdrawn during this period. The City Council also reserves the right to waive irregularities, reject any or all bids, and enter into such contract as it shall be deemed to be in the best interest of the Utility.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

Project Manual

Reisner Substation Construction

WEBSTER CITY

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

DGR Project No. 428403
City Project No. 9-23-011

DGR ENGINEERING

Project Manual

Reisner Substation Construction

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by:

Ryan D. Kleinjan, P.E. on 6/11/2024

The official copy of this engineering document is on file at the office of the Owner.

Pages of sheets covered by this seal: All pages except Division 3 and Technical Documents section.

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by:

Nick Moore, P.E. on 6/11/2024

The official copy of this engineering document is on file at the office of the Owner.

Pages of sheets covered by this seal: Division 3.

DGR Project No. 428403

DGR Engineering
1302 South Union Street
Rock Rapids, IA
(712) 472-2531
dgr@dgr.com

Project Manual

Reisner Substation Construction

City of Webster City/Municipal Utilities
Webster City, Iowa

Contact persons for this project are as follows:

Owner's Representative:

City of Webster City/Municipal Utilities
400 Second Street
Webster City, IA 50595
Phone: 515-832-9151

Adam Dickinson
Electric Utility Supervisor
Phone: 515-832-9159
Cell: 515-297-0820
Email: adam@webstercity.com

Ryan Orton
Utility Technician
Phone: 515-832-9159
Cell: 515-297-0820
Email: rorton@webstercity.com

Engineer:

DGR Engineering
1302 S Union Street
Rock Rapids, Iowa 51246
Phone: 712-472-2531

Andy Koob, P.E.
Project Principal
Email: andy.koob@dgr.com

Ryan Kleinjan, P.E.
Project Manager
Email: ryan.kleinjan@dgr.com

Kolten Bus
Design Technician
Email: kolten.bus@dgr.com

Project Manual

Reisner Substation Construction

City of Webster City/Municipal Utilities
Webster City, Iowa

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Bidding Information and Contract Forms

- Notice to Bidders
- Notice of Public Hearing
- Instructions to Bidders
- Bid Bond
- Bidder Status Form
- Bid Form
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- Payment Bond
- Agreement

Miscellaneous Forms

- Notice of Award
- Notice to Proceed
- Certificate of Substantial Completion
- Work Change Directive
- Change Order
- Field Order
- Waiver and Release of Lien
- Certificate of Contractor and Indemnity Agreement
- Engineer's Statement of Final Completion and Owner's Acceptance of Contract Construction
- Contractor's Receipt for Final Payment
- Iowa Contractor's Tax Statement

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Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

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Publication upon order of the City Council of Webster City, Iowa.

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CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office* - The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

B. *Successful Bidder* - The responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER's evaluations as hereinafter provided) makes an award.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Notice to Bidders or Notice of Public Hearing and Letting may be obtained from the Issuing Office.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, prior to award, within five days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, statement of compliance with any statutory requirements, and such other data as may be deemed appropriate by OWNER for making a complete evaluation.

3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 - SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:

a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.

b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and

data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others. Information or data regarding Underground Facilities may be missing or incomplete. Location and avoidance of underground facilities is a part of the Work as required by the Supplementary Conditions.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.04 Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 - BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;

B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;

E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;

I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and

J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 - NOT USED

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties

recorded by Engineer as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents.

ARTICLE 8 - BID SECURITY

8.01 Each Bid must be accompanied by Bid security made payable to Owner in an amount of ten percent (10%) of the Bidder's maximum Bid price if in the form of a certified or bank check or a Bid Bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement the expiration of the Bid time for acceptance as specified on the Bid Form, whereupon Bid security furnished by such Bidders will be released on request.

8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be released on request within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute or materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an "or-equal" or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each such request shall comply with the requirements of Paragraphs

7.04 and 7.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS AND OTHERS

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 7.06 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

C. Where the Bid Form includes more than one item, the Bidder may attach a substitute Proposal Form printed by a computer in lieu of completing the printed

Proposal Form. If a substitute Proposal Form is used, it shall be attached to the back side of the printed Proposal Form. Such computer printed substitute Proposal Form shall include the following at the top of each page:

1. Project Title
2. Letting Date
3. Bidder's Name

13.02 The substitute computer printed Proposal Form shall have column headings that include the Item Number, Number of Units, Item Description, Unit Bid Price, Amount Bid for each item, Total Gross Sum Bid below the last bid item and bidder's name, signature in ink and title at the end of the Proposal Form. The signature on the substitute computer printed Proposal Form shall be the same as that on the bound Bid Form. The total gross sum bid shall also be written in ink in the space provided in the bound Bid Form. In case of a discrepancy between the item number, item description, and/or quantity shown in the bound Bid Form and those shown in the substitute computer printed Proposal Form, the bid item description and/or quantity shown in the bound Bid Form shall govern. The unit bid price shown on the substitute computer printed Proposal Form shall govern whether or not the amount bid shown is correct. The substitute Proposal Form page size and size of printed characters shall be approximately the same as the bound Bid Form. Solid lines for separating may be arranged either vertically or horizontally on the substitute Proposal Form. Pages must be numbered by page number of the total pages (Page 1 of 4). Item numbers must follow the Item numbers on the Bid Form. Any abnormalities which are not waived by the Owner as a technicality will result in rejection of the bid.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. If required by State where work is to be performed, the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

13.08 All names shall be typed or printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, for the state of the Project, shall also be shown on the Bid Form.

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

The Bid shall be furnished on the basis (lump sum or unit price) as indicated on the Bid Form.

14.01 *Lump Sum*

A. Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate.

14.02 *Unit Price*

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

ARTICLE 15 - SUBMITTAL OF BID

15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy each of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with all attachments listed in Article 7 of the Bid.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Notice to Bidders and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system,

the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." Whether using the mail, personal delivery, or some other delivery system, the Bidder is totally responsible for the mail or other delivery system delivering the Bid at the place and prior to that time indicated in the Notice to Bidders. Note that the location for the Bid opening may be a rural location not reliably covered by the "delivery time guarantee" of various delivery services. A mailed Bid shall be addressed to the Owner at the address specified by the Bidding Notice.

15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

15.04 Two (2) copies of the Bid Form and all supporting documentation shall be provided. Bids shall be placed in an opaque envelope and the envelope sealed and marked "Bid Enclosed – Reisner Substation Construction" to indicate its contents. If forwarded by mail, the envelope shall be mailed to the following address:

City of Webster City
Attn: Dedra Nerland, Public Works Management Assistant
400 Second Street
Webster City, IA 50595
BID ENCLOASED – REISNER SUBSTATION CONSTRUCTION

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.

16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work. This provision to withdraw a Bid without forfeiting the Bid Security does not apply to Bidder's errors in judgment in preparing the Bid

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Notice to Bidders and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base

Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 - EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents. If the Contract is to be awarded, Owner will award the Contract to the responsible Bidder whose Bid is in the best interests of the Project.

19.06 The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

ARTICLE 20 - BONDS AND INSURANCE

20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22 - SALES AND USE TAXES

22.01 The unit prices for construction units in this Proposal shall be deemed to include provisions for the payment of all moneys which will be payable by the Bidder or the Owner in connection with the construction of the project on account of taxes imposed by any taxing authority upon the sale, purchase or use of materials, supplies, labor, and equipment to be incorporated in the project as part of such construction units. The Bidder shall furnish to the appropriate taxing authorities, all required information and reports pertaining to materials and services used in the construction of the project.

The Contractor shall pay sales and use taxes to the State of Iowa, for all materials incorporated in the work. The Contractor shall, at the conclusion of the project, furnish the Owner with a complete and accurate schedule of all purchases of equipment used in the project, along with the associated taxes paid on this equipment. See SC-7.09.A.1 for additional requirements.

ARTICLE 23 - RETAINAGE

23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

ARTICLE 24 - OWNER-FURNISHED MATERIAL

24.01 The Owner will supply certain materials for the project. The Contractor shall become familiar with the quantity, size, and type of Owner-furnished material, including delivery schedule and conditions.

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name, and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name— Include Location)*:

BOND

Bond Number:

Date:

Penal sum _____ $ _____

(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
Title	Title

Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

_____

2. Does your company's home state or foreign country offer preferences to resident bidders, resident labor force preferences or any other type of preference to bidders or laborers? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156. This form has been approved by the Iowa Labor Commissioner.

309-6001 (09-15)

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

BID FORM

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Owner Name: City of Webster City
Owner Address: 400 Second Street
Webster City, IA 50595

1.02 This Bid is submitted by:

_____

_____

_____

1.03 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 30 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied, if any are available, all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BID FORM

REISNER SUBSTATION
CITY OF WEBSTER CITY
WEBSTER CITY, IA

Unit	Description	Unit Price				Extended Price
		Est # of Units	Labor	Materials	Labor & Materials	
Formula	Formula to be used to perform calculations	U	L	M	L+M	(L+M) x U
A1	Install Owner-furnished steel, 69 kV H-frame deadend structure DE1 (ea.)	2				
A2	Install Owner-furnished steel, 69 kV H-frame deadend structure column DE2 (ea.)	2				
A3	Install Owner-furnished steel, shield tower ST1 (ea.)	1				
A4	Install Owner-furnished steel, 69 kV GOAB switch support, double leg (low) SS1 (ea.)	8				
A5	Install Owner-furnished steel, 69 kV GOAB switch support, double leg (high) SS2 (ea.)	3				
A6	Install Owner-furnished steel, insulator bracket, BA1 (ea.)	6				
A7	Install Owner-furnished steel, 69 kV 45° bus support, double leg BS1 (ea.)	6				
A8	Install Owner-furnished steel, 69 kV, 3Ø, PT support, single leg PT1 (ea.)	2				
A9	Install Owner-furnished steel, 69 kV, 1Ø, PT support, single leg PT2 (ea.)	1				
B1	Install Owner-furnished switch, 69 kV, 3Ø, vertical break, group operated, with insulators and control hardware, installed on switch stand (low) (ea.)	7				
B2	Install Owner-furnished switch, 69 kV, 3Ø, vertical break, group operated, with insulators and control hardware, installed on switch stand (high) (ea.)	3				
C1	Install Owner-furnished lightning arrester, 60 kV, 1Ø, station class (ea.)	6				
D1	Bus work, jumpers, insulators, connectors, dampening cables (as req'd.)	1				
E1	Install Owner-furnished circuit breaker, 69 kV, 3Ø, SF6 (ea.)	3				
H1	Coordinate installation of Owner-furnished power transformer (ea.)	1				
H2	Install Owner-furnished Bus PT's (3-1Ø), 69 kV, with 3Ø junction box and fuses (ea.)	2				
H3	Install Owner-furnished PT, 69 kV, 1Ø, with 1Ø junction box and fuses (ea.)	1				
J1	Coordinate installation of Owner-furnished control panels (ea.)	1				
J2	Fiber optic and communications equipment (as req'd)	1				
K1	Conduit, 1 1/2" PVC (ft.)	320				
K2	Conduit, 2" PVC (ft.)	740				
K3	Conduit, 3" PVC (ft.)	705				
K4	Conduit, 4" PVC (ft.)	285				
K5	Power ductbank, concrete-encased ‘A-A’ & ‘B-B’, (2) 6” (ft.)	175				
K6	Control ductbank, concrete-encased ‘C-C’, (8) 4” (ft.)	100				
K7	Cable Trench, 30"W x 16" D, pedestrian rated (ft.)	120				
K8	Cable Trench Drainage System, 4" HDPE drain tile including pea rock (ft.)	190				
K9	Safety bollards (ea.)	4				
K10	OPGW RGS Conduit (ea.)	4				
L1	Foundation, 69 kV deadend structure DE1/2, per leg (ea.)	6				
L2	Foundation, shield tower ST1 (ea.)	1				
L3	Foundation, 69 kV GOAB switch support (low) SS1, per leg (ea.)	16				
L4	Foundation, 69 kV GOAB switch support (high) SS2, per leg (ea.)	6				

Unit	Description	Unit Price				Extended Price
		Est # of Units	Labor	Materials	Labor & Materials	
L5	Foundation, 69 kV 45° bus support BS1, per leg (ea.)	12				
L6	Foundation, 69 kV 3Ø PT support PT1, per leg (ea.)	4				
L7	Foundation, 69 kV 1Ø PT support PT2, per leg (ea.)	1				
L8	Foundation, 69 kV circuit breaker pad CB (ea.)	3				
L9	Foundation, power transformer pad XFMR, with oil containment (ea.)	1				
L10	Foundation, control enclosure CE with tunnel, etc. (ea.)	1				
L11	Addition or Deletion of 1 cubic yard of concrete and rebar for slab type foundation (cu. yd.)	5				
L12	Addition or Deletion of 1 cubic yard of concrete and rebar for pier type foundation (cu. yd.)	5				
M1	SWPPP Compliance (as req'd.)	1				
M2	4" Substation Crushed Rock Surfacing (ton)	1,200				
N1	Substation fence and gates, chain-link (as req'd.)	1				
O1	Ground grid, rods and sacrificial anodes (as req'd.)	1				
O2	Install Owner-furnished personnel grounding platform GP1 (ea.)	15				
P1	Control enclosure coordination, wiring, conductor/conduit (as req'd.)	1				
P2	Battery bank, 125 volt DC, rack and conductor, spill containment (as req'd.)	1				
P3	Coordinate installation of Owner-furnished 15 kV Switchgear (as req'd)	1				
P4	Exterior area flood lighting package (as req'd.)	1				
Q1	Installation of Owner-furnished power cable, 15 kV, (6) 750 kcmil Cu., 220 mils EPR, shielded, and neutral cable, 600 V, (2) 350 kcmil Cu. with terminations on both ends (ft.)	120				
Q2	Secondary cable, 600 V, (4) 250 kcmil Cu. and (2) 4/0 Cu.	40				
Q3	Arc proof tape (lin. ft.)	240				
R1	(2) Conductor #12, 2C-12 (ft.)	1				
R2	(2) Conductor #10, 2C-10 (ft.)	1				
R3	(2) Conductor #8, 2C-8 (ft.)	45				
R4	(3) Conductor #12, 3C-12 (ft.)	1				
R5	(3) Conductor #10, 3C-10 (ft.)	1				
R6	(3) Conductor #8, 3C-8 (ft.)	5				
R7	(3) Conductor #6, 3C-6 (ft.)	1				
R8	(4) Conductor #10, 4C-10 (ft.)	1				
R9	(12) Conductor #12, 12C-12 (ft.)	1				
R10	(48) Fiber Cable, 48/C Fiber w/1" Innerduct (ft.)	640				
R11	(48) Fiber Cable, 48/C Fiber w/1" Innerduct , Owner Installed (ft.)	300				
S1	Substation shielding (as req'd.)	1				
U1	Mobilization (as req'd.)	1				

TOTAL BASE BID: _____

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security in the form of _____;

B. List of proposed subcontractors

C. List of proposed suppliers

D. List of project references

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

_____

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

_____

_____

_____

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

_____

Bidder's License No.: _____
(where applicable)

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:
   3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
   3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
   3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
   5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
   5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
   5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
   5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
      5.4.1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
      5.4.2. Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
   7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
   7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
   7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Definitions
   14.1. Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
   14.2. Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
   14.3. Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
   14.4. Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
   14.5. Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
16. Modifications to this Bond are as follows:

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT

Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND

Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
   5.1. Claimants who do not have a direct contract with the Contractor,
      5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
      5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
   5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
   7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
   7.2. Pay or arrange for payment of any undisputed amounts.
   7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
   16.1. **Claim:** A written statement by the Claimant including at a minimum:
      1. The name of the Claimant;
      2. The name of the person for whom the labor was done, or materials or equipment furnished;
      3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
      4. A brief description of the labor, materials, or equipment furnished;
      5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
      6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
      7. The total amount of previous payments received by the Claimant; and
      8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
   16.2. **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
   16.3. **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
   16.4. **Owner Default**: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
   16.5. **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:

AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between **City of Webster City, Iowa** ("Owner")

and _____("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: Construction of a 69 kV to 13.2 kV substation. The work consists of rock work, concrete foundations and concrete work, steel, fencing, conduit and ductwork, ground grid, and buswork. This also includes the installation of Owner-furnished GOAB switches, steel structures, PTs, lightning arresters, cable trench, circuit breakers, power cable, and coordinating installation of and connecting to power the Owner-furnished power transformer, switchgear, control panels, and control enclosure.

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Reisner Substation Construction**

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by DGR Engineering.

3.02 The Owner has retained DGR Engineering ("Engineer") to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Dates*

A. The Work will be substantially completed on or before September 30, 2025, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before November 15, 2025.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner $500.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.

2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner $500.00 for each day that expires after such time until the Work is completed and ready for final payment.

3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

B. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in the Contractor's Bid. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 10.06 of the General Conditions. Unit prices have been computed as provided in Paragraph 13.03 of the General Conditions.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the first Monday of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract

a. 95 percent of Work completed (with the balance being retainage); and

b. 0 percent (with the balance being retainage) of cost of materials and equipment not incorporated in the Work (but delivered, suitably stored, and accompanied by documentation satisfactory to Owner.

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

C. The Contractor shall comply with all requirements of Minnesota Statutes, section 15.72, subdivision 2, and Minnesota Statutes, section 337.10, subdivision 4, regarding reduction of retainage for subcontractors, as well as timely payment of subcontractors.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of 7 percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings. If no such reports have been made available to Contractor, Contractor agrees that none are required from Owner.

E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages A-1 to **A-8**, inclusive).

2. Performance Bond (pages 1 to 2, inclusive).

3. Payment Bond (pages 1 to 2, inclusive).

4. General Conditions (pages 1 to 65, inclusive).

5. Supplementary Conditions (pages SC-1 to **SC-6**, inclusive).

6. Specifications as listed in the table of contents of the Project Manual.

7. Drawings (not attached but incorporated by reference) consisting of **60** sheets with each sheet bearing the following general title: **Reisner Substation**

8. Addenda (numbers ___ to ___, inclusive).

9. Exhibits to this Agreement (enumerated as follows):

   a. Contractor's Bid (pages BF-1 to **BF-7**, inclusive).

10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:

    a. Notice to Proceed.

    b. Work Change Directives.

    c. Change Orders.

    d. Field Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 Multiple Parts; Copies Same as Originals; Electronic and Scanned Signatures Permitted

A. This Agreement may be executed in multiple parts and in duplicates. Any duplicates of this Agreement shall each be given full effect.

B. Any photocopies, electronic copies, or scanned copies of this Agreement shall be given full force and effect as the original(s).

C. Given the distance between the parties and the time-sensitive nature of this Agreement, the parties stipulate that each party and/or their individual representatives may execute this Agreement using an electronic or scanned signature. Such electronic or scanned signatures shall be given full effect by the parties.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:	CONTRACTOR:
City of Webster City, Iowa	
Sign:	Sign:
Print:	Print:
Title:	Title:
	(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Attest:	Attest:
Print:	Print:
Title:	Title:
Address for giving notices:	Address for giving notices:
400 Second Street	
Webster City, IA 50595	
	License No.: _____ *(where applicable)*

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

Miscellaneous Forms

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

NOTICE OF AWARD

Date of Issuance: _____

Owner: _____ Owner's Contract No.: _____

Engineer: **DGR Engineering** Engineer's Project No.: _____

Project: _____ Contract Name: _____

Bidder: _____

Bidder's Address: _____

TO BIDDER:

You are notified that Owner has accepted your Bid dated _____, 20___ for the above Contract, and that you are the Successful Bidder and are awarded a Contract for: **Total Work**.

The Contract Price of the awarded Contract is: **$**_____ *[Contract is subject to unit prices]*

[**1**] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

☒ Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver with the executed Agreement(s) the Contract security **Performance and Payment Bonds** and insurance documentation as specified in the Instructions to Bidders (Article 20), General Conditions (Articles 2 and 6) and the Supplementary Conditions.
2. Other conditions precedent (if any): **Insurance Certificates – Including additional insureds as specified in the Supplementary Conditions**

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner**:** _____

_____

Authorized Signature

Sign: _____

Print: _____

Title: _____

Copy: **DGR Engineering**

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

NOTICE TO PROCEED

Owner:		Owner's Contract No.:	
Contractor:		Contractor's Project No.:	
Engineer:	**DGR Engineering**	Engineer's Project No.:	
Project:		Effective Date of Contract:	

Contract Name:

TO CONTRACTOR:

Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is _____.

Before starting any Work at the Site, Contractor must comply with the following:

1. **Attend Preconstruction Meeting**
2. **Provide Shop Drawings for Engineer Review**

Owner**:**

Authorized Signature:

Sign: _____

Print: _____

Title: _____

Date Issued: _____

Copy: **DGR Engineering**

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:		Owner's Contract No.:	
Contractor:		Contractor's Project No.:	
Engineer:	DGR Engineering	Engineer's Project No.:	
Project:			

This [preliminary] [final] Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract, except as amended as follows: *[Note: Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.]*

Amendments to Owner's Responsibilities: ☐ None ☐ As follows:

Amendments to Contractor's Responsibilities: ☐ None ☐ As follows:

The following documents are attached to and made a part of this Certificate: *[punch list; others]*

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract.

EXECUTED BY ENGINEER:	RECEIVED:	RECEIVED:
By: _____ Engineer (Authorized Signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Print:	Print:	Print:
Title:	Title:	Title:
Date:	Date:	Date:

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Work Change Directive

No. _____

Date of Issuance: _____ Effective Date: _____

Project: _____

Owner: _____ Owner's Contract No.: _____

Engineer: DGR Engineering Engineer's Project No.: _____

Contractor: _____ Contractor's Project No.: _____

Contractor is directed to proceed promptly with the following change(s):

Description:

Attachments (list documents supporting change):

Purpose for Work Change Directive:

Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to (check one or both of the following):

- ☐ Non-agreement on pricing of proposed change.
- ☐ Necessity to proceed for schedule or other project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: $ _____ [increase] [decrease].

Contract Time: _____ days [increase] [decrease].

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of Work ☐ Other

RECOMMENDED:	AUTHORIZED BY:	RECEIVED:
By: _____	By: _____	By: _____
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Print: _____	Print: _____	Print: _____
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable):

By: _____ Date: _____

Print: _____ Title: _____

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Change Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project: _____

Owner: _____ Owner's Contract No.: _____

Engineer: DGR Engineering Date of Contract: _____

Contractor: _____ Engineer's Project No.: _____

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments (list documents supporting change):

CHANGE IN CONTRACT PRICE:

Original Contract Price:

$ _____

[Increase] [Decrease] from Previously Approved Change Orders No. _____ to No. _____:

$ _____

Contract Price Prior to this Change Order:

$ _____

[Increase] [Decrease] of this Change Order:

$ _____

Contract Price Incorporating this Change Order:

$ _____

CHANGE IN CONTRACT TIMES:

Original Contract Times: ☐ Working Days ☐ Calendar Days

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

[Increase] [Decrease] from Previously Approved Change Orders No. _____ to No. _____:

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

Contract Times Prior to this Change Order:

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

[Increase] [Decrease] of this Change Order:

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

Contract Times with all Approved Change Orders:

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____	By: _____	By: _____
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Print: _____	Print: _____	Print: _____
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable):

By: _____ Date: _____

Print: _____ Title: _____

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Field Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project: _____

Owner: _____ Owner's Contract No.: _____

Engineer: DGR Engineering Engineer's Project No.: _____

Contractor: _____ Contractor's Project No.: _____

Contractor is hereby directed to promptly execute this Field Order, issued in accordance with General Conditions Paragraph 11.01, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference: _____ _____

Specification(s) Drawing(s) / Detail(s)

Description:

Attachments (list documents supporting change):

ISSUED:	RECEIVED:
By: _____	By: _____
Engineer (Authorized Signature)	Contractor (Authorized Signature)
Print: _____	Print: _____
Title: _____	Title: _____
Date: _____	Date: _____

Copy to: Owner

WAIVER AND RELEASE OF LIEN

WHEREAS, the undersigned, _____
NAME OF MANUFACTURER, MATERIALMAN OR SUBCONTRACTOR

has furnished to _____ the following:

_____ for use in the construction of a
KIND OF MATERIAL AND SERVICES FURNISHED

project belonging to _____, and designated as, _____.

NOW, THEREFORE, the undersigned, _____
NAME OF MANUFACTURER, MATERIALMAN OR SUBCONTRACTOR

for and in consideration of $_____, and other good and valuable consideration, the receipt whereof is hereby acknowledged, do(es) hereby waive and release any and all liens, or right to or claim of lien, on the above described project and premises, under any law, common or statutory, on account of labor or materials, or both, heretofore or hereafter furnished by the undersigned to or for the account of said _____ for said project.

Given under my (our) hand(s) and seal(s) this _____ day of _____, 20_____.

_____
NAME OF MANUFACTURER, MATERIALMAN OR SUBCONTRACTOR

Sign: _____
PRESIDENT, VICE PRESIDENT, PARTNER OR OWNER, OR, IF SIGNED BY OTHER THAN ONE OF FOREGOING, ACCOMPANIED BY POWER OF ATTORNEY SIGNED BY ONE OF THE FOREGOING IN FAVOR OF THE SIGNER (USE DESIGNATION APPLICABLE)

Print: _____

CERTIFICATE OF CONTRACTOR
AND INDEMNITY AGREEMENT

_____, certifies that he/she is the *_____
REPRESENTATIVE NAME TITLE OR DESIGNATION

of _____, the Contractor, in a contract No. _____ dated _____, 20 __, entered into between the Contractor and _____ the Owner, for the construction of _____: and that he/she is authorized to and does make this Certificate and Indemnity Agreement on behalf of the Contractor in order to induce the Owner to make payment to the Contractor, in accordance with the provisions of the Contract. Undersigned further certifies that:

1. The Project has been completed in accordance with provisions of the Construction Contract; provided however, that acceptance by the Owner shall not be deemed to relieve the Contractor of his obligations contained in the Construction Contract with respect to defective workmanship and materials. The Contractor shall provide a warranty of materials and workmanship as outlined and provided in the Contract Documents.

2. All persons who have finished labor in connection with the Project have been paid in full at hourly wage rates not less than those, if any, set forth in the Construction Contract; that all manufacturers, materialmen and subcontractors which furnished any materials or services, or both, for the Project have been paid in full; that no lien has been filed against the Project and no person has any right to claim any lien against the Project.

3. That the Contractor has delivered to the Owner duplicate releases of liens executed by all manufacturers, materialmen and subcontractors that furnished materials or services for the project as follows:

Name	Kind of Material and Services

If the Owner pays the Contractor the total amount due under the Contract, which the Contractor agrees is $_____, including $_____ for ** state sales and use taxes paid by the Contractor, the Contractor will indemnify and hold harmless and does hereby undertake and agree to indemnify and hold harmless the Owner, including the defense of any suit, from any claim, demand or lien arising out of the acts of the Contractor in the performance of the Contract for which the Contractor is liable and which may have been or may be filed against the Owner.

_____

SIGNATURE

_____

PRINT

* President, Vice President, Partner or Owner, or, if undersigned is other than one of the foregoing, Power of Attorney signed by one of the foregoing in favor of the undersigned should be attached. Indicate applicable designation.

** In addition, Contractor shall submit a detailed statement of sales and use taxes paid in accordance with requirements of statute in state having jurisdiction.

ENGINEER'S STATEMENT OF FINAL COMPLETION
AND
OWNER'S ACCEPTANCE OF CONTRACT CONSTRUCTION

TO: _____

_____

_____

_____

PROJECT DESIGNATION

I, the undersigned Engineer of the above designated project, do hereby state that:

1. The construction provided for pursuant to Construction Contract No. _____, dated _____, 20__, including all approved amendments and change orders, (hereinafter called the "Project") between _____ ("Owner") and _____ ("Contractor") has been completed as of _____, 20__ and to the best of my knowledge, information and belief, based on observations made during the period of construction, is in substantial compliance with the provisions of the Construction Contract, including all plans, specifications and drawings, and modifications thereof.

To the best of my knowledge, information, and belief,

2. Defects in workmanship and materials reported during the period of construction of the Project have been corrected.
3. The total cost of the project as completed is _____ dollars (**$**_____).
4. The Final Inventory attached hereto and made a part hereof is a complete and accurate summary of the work performed in accordance with the Construction Contract.

Accepted:

_____	**DGR Engineering**
Owner	Engineer
Sign _____	Sign _____
Print _____	Print _____
Title _____	Title _____
Date _____	Date _____

CONTRACTOR'S RECEIPT FOR FINAL PAYMENT

Name of Project: _____

Previous Contract Payment	**$**_____
Final Contract Payment	**$**_____
Total Contract Payment	**$**_____

The undersigned acknowledges receipt of the final contract payment shown above as satisfaction in full or all claims of the undersigned under the Construction Contract between the undersigned and _____ dated _____, 20__ as amended, and as complete performance by the Owner of all obligations to be performed by him pursuant thereto. The total amount received under this contract is shown above.

Name of Contractor: _____

Sign: _____

Print: _____

Date: _____

Iowa Department of REVENUE

Iowa Contractor's Statement

tax.iowa.gov

Contractor's name: _____

Address: _____

City: _____ State: _____ ZIP: _____

Iowa sales or use tax permit number (if any): _____

SSN or FEIN: _____

Project description: _____

Is your contract written? No ☐ Yes ☐ Date signed ____/____/____

Name of designated exempt entity: _____

_____

Address: _____

City: _____ State: _____ ZIP: _____

If contract is not directly with the above name, who is your contract directly with? _____

A Name, city, and state of supplier	B Type of building material, supply, equipment, or service	C Purchase price	D Amount of Iowa sales/use tax	E Name, tax period, and Iowa permit number under which the tax was remitted to the state of Iowa	F Amount of Iowa local option tax	G County number where Iowa local option was paid
Total (provide the totals for columns C, D and F)						

I, the undersigned, declare under penalties of perjury or false certificate, that I have examined this statement, and, to the best of my knowledge and belief, it is true, correct, and complete.

Signature: _____ Date: _____

Title: _____

Instructions

This Contractor's Statement must be prepared and sworn to by each general contractor, special contractor, or subcontractor who fulfills a contract or subcontract pertaining to a project that is sponsored by agencies or instrumentalities of the tribal, federal, state, county, municipal governments, private nonprofit educational institutions, nonprofit museums, businesses in economic development areas, rural water districts, or Habitat for Humanity. Upon completion of the contract, this form must be presented to that sponsor so they may file for a tax refund in accordance with Iowa Code section 423.4.

The Iowa Department of Revenue may require additional information.

Contractor:
Forward this statement to the sponsor (governmental unit, private nonprofit educational institution, nonprofit museum, business in economic development area, rural water district, or Habitat for Humanity). Do not send it to the Iowa Department of Revenue.

Sponsor:
This statement must be attached to the Construction Contract Claim for Refund (35-003). Both forms must be filed before the Department can process your claim. **File using this form.** Substitutes or photocopies will not be accepted. The claim for refund must be filed within one year of the final settlement date of the contract.

Columns A through E must be completed. If local option sales tax was paid on the purchase price, complete columns A through G.

A. Name, city, and state of supplier
Enter "out of stock" or "inventory" in column A for materials that the contractor has manufactured or has in inventory, making the contractor the material supplier.

B. Type of building material, supply, equipment, or service
Only list building materials, supplies, equipment, or services that are completely consumed in the performance of the contract. The property must become public property or the property of an exempt entity upon completion of the project. Be specific. See Iowa Administrative Code rule 701—219.3 for information on building materials, supplies, and equipment.

C. Purchase price
Enter the cost of materials shown in column B. Do not include transportation charges, delivery charges, or hauling charges. Do not include sales and use or local option sales tax in column C.

D. Amount of Iowa sales / use tax
Compute on the purchase price recorded in column C. Do not include local option sales tax in column D. Invoices may be requested to verify amounts.

E. Who remitted the tax?
Enter the name, tax period, and Iowa permit number under which the tax was remitted to the State of Iowa. If no Iowa tax was paid, explain why. If tax was paid to another state, provide the name of state.

F. Amount of Iowa local option tax
In addition to Iowa sales and use tax in column D, purchases may be subject to Iowa local option sales tax. Enter the amount of Iowa local option sales tax in column F. Do not include local option sales tax in column D.

G. County number where Iowa local option was paid
Enter the number of the county for which local option sales tax was paid. See the list below.

IOWA COUNTIES AND COUNTY NUMBERS

01-Adair	26-Davis	51-Jefferson	76-Pocahontas
02-Adams	27-Decatur	52-Johnson	77-Polk
03-Allamakee	28-Delaware	53-Jones	78-Pottawattamie
04-Appanoose	29-Des Moines	54-Keokuk	79-Poweshiek
05-Audubon	30-Dickinson	55-Kossuth	80-Ringgold
06-Benton	31-Dubuque	56-Lee	81-Sac
07-Black Hawk	32-Emmet	57-Linn	82-Scott
08-Boone	33-Fayette	58-Louisa	83-Shelby
09-Bremer	34-Floyd	59-Lucas	84-Sioux
10-Buchanan	35-Franklin	60-Lyon	85-Story
11-Buena Vista	36-Fremont	61-Madison	86-Tama
12-Butler	37-Greene	62-Mahaska	87-Taylor
13-Calhoun	38-Grundy	63-Marion	88-Union
14-Carroll	39-Guthrie	64-Mahaska	89-Van Buren
15-Cass	40-Hamilton	65-Mills	90-Wapello
16-Cedar	41-Hancock	66-Mitchell	91-Warren
17-Cerro Gordo	42-Hardin	67-Monona	92-Washington
18-Cherokee	43-Harrison	68-Monroe	93-Wayne
19-Chickasaw	44-Henry	69-Montgomery	94-Webster
20-Clarke	45-Howard	70-Muscatine	95-Winnebago
21-Clay	46-Humboldt	71-O'Brien	96-Winneshiek
22-Clayton	47-Ida	72-Osceola	97-Woodbury
23-Clinton	48-Iowa	73-Page	98-Worth
24-Crawford	49-Jackson	74-Palo Alto	99-Wright
25-Dallas	50-Jasper	75-Plymouth	

Category II

Contract Conditions

- General Conditions
- Supplementary Conditions

General Conditions

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

Issued and Published Jointly by

These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

National Society of Professional Engineers

1420 King Street, Alexandria, VA 22314-2794

(703) 684-2882

www.nspe.org

American Council of Engineering Companies

1015 15th Street N.W., Washington, DC 20005

(202) 347-7474

www.acec.org

American Society of Civil Engineers

1801 Alexander Bell Drive, Reston, VA 20191-4400

(800) 548-2723

www.asce.org

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. *Bidder*—An individual or entity that submits a Bid to Owner.

6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision

regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.

13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.

14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .

15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.

17. *Cost of the Work*—See Paragraph 13.01 for definition.

18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.

20. *Engineer*—The individual or entity named as such in the Agreement.

21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.

23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.

26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.

27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.

32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.

33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.

35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.

38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.

42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

46. *Unit Price Work*—Work to be paid for on the basis of unit prices.

47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment

into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*:

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day*:

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*:

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).

E. *Furnish, Install, Perform, Provide*:

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Contractor's Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.

C. *Evidence of Owner's Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.

C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

A. Standards Specifications, Codes, Laws and Regulations

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*:

1. *Contractor's Verification of Figures and Field Measurements*: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents*: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.

B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If

Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

A. Contractor and its Subcontractors and Suppliers shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. abnormal weather conditions;

3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and

4. acts of war or terrorism.

D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.

E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable,

brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and

3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or

2. is of such a nature as to require a change in the Drawings or Specifications; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Possible Price and Times Adjustments*:

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or

b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

c. Contractor failed to give the written notice as required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

A. *Contractor's Responsibilities*: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;

c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

C. *Engineer's Review*: Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Possible Price and Times Adjustments*:

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

    a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;

    b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

    c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and

    d. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

2. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous

Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.

H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.

B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.

D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.

E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or

any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.

H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.

I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.

J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.

2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).

3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).

B. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:

1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.

2. claims for damages insured by reasonably available personal injury liability coverage.

3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage:

a. Such insurance shall be maintained for three years after final payment.

b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.

2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.

3. Broad form property damage coverage.

4. Severability of interest.

5. Underground, explosion, and collapse coverage.

6. Personal injury coverage.

7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.

8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.

D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.

E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.

F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.

H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:

1. include at least the specific coverages provided in this Article.

2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.

3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.

5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."

2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.

3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.

4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).

6. extend to cover damage or loss to insured property while in transit.

7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

8. allow for the waiver of the insurer's subrogation rights, as set forth below.

9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.

10. not include a co-insurance clause.

11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.

12. include performance/hot testing and start-up.

13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.

B. *Notice of Cancellation or Change*: All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.

C. *Deductibles*: The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.

D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

E. *Additional Insurance*: If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.

F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.

D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 *"Or Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

3) it has a proven record of performance and availability of responsive service; and

4) it is not objectionable to Owner.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be

evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.

E. *Treatment as a Substitution Request*: If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

a. shall certify that the proposed substitute item will:

1) perform adequately the functions and achieve the results called for by the general design,

2) be similar in substance to that specified, and

3) be suited to the same use as that specified.

b. will state:

1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,

2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

c. will identify:

1) all variations of the proposed substitute item from that specified, and

2) available engineering, sales, maintenance, repair, and replacement services.

d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.

B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.

F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.

J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.

K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.

L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements*:

1. Before submitting a Shop Drawing or Sample, Contractor shall have:

a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings*:

a. Contractor shall submit the number of copies required in the Specifications.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples*:

a. Contractor shall submit the number of Samples required in the Specifications.

b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals*: Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review*:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.

3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.

5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures*:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal;

6. the issuance of a notice of acceptability by Engineer;

7. any inspection, test, or approval by others; or

8. any correction of defective Work by Owner.

D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.

B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. an itemization of the specific matters to be covered by such authority and responsibility; and

3. the extent of such authority and responsibilities.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means,

methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.

B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.

C. Engineer's authority as to Change Orders is set forth in Article 11.

D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

1. *Change Orders*:

a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.

2. *Work Change Directives*: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the

completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;

   b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;

   c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

   d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

   e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

   f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.

B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures*: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.

2. *Engineer's Action*: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

3. *Binding Decision*: Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

B. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and

4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

A. *Claims Process*: The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation*:

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal

and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing

Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

    f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded*: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.

E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include

but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*:

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

a. the Work is defective, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*:

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

c. Contractor has failed to provide and maintain required bonds or insurance;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

f. the Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. the Contract Price has been reduced by Change Orders;

i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;

j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

l. there are other items entitling Owner to a set off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the

amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.

2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record

documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents;

   b. consent of the surety, if any, to final payment;

   c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

   d. a list of all disputes that Contractor believes are unsettled; and

   e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance*:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due*: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions

above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such other adjacent areas;

2. correct such defective Work;

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and

damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this Article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and

2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this Article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

Supplementary Conditions

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the **Standard General Conditions of the Construction Contract, EJCDC No. C-700 (2013 Edition).** All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-1.01.A.8. Add the following language to the end of Paragraph 1.01.A.8:

The Change Order form to be used on this Project is bound in the Miscellaneous Forms section.

SC-1.01.A.40. Add the following new subparagraph to the end of Paragraph 1.01.A.40:

a. Substantial Completion shall include, but not be limited to, installation, testing, and initial cleanup. Final Acceptance will not be made until the entire project has been completed including final cleanup.

SC-4.01.A. Delete Paragraph 4.01.A in its entirety and insert the following in its place:

A. The Contract Times will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement.

SC-5.03. Add the following new paragraphs immediately after Paragraph 5.03.B:

C. The following reports of explorations and tests of subsurface conditions at or contiguous to the site are known to Owner:

1. Report dated December 22, 2023 prepared by Allender Butzke Engineers Inc. , entitled: Geotechnical Exploration – Reisner Substation, Webster City, Iowa , consisting of 33 pages. The "technical data" contained in such report upon which Contractor may rely is except that water level measurements therein shall not be relied upon as accurate or precise measurements of the water level which may be encountered during construction. The boring logs shall be relied upon as representative only of the subsurface conditions at the point of the boring. A copy of this report is attached to this document as "technical data", and is not part of the Contract Documents.

D. In the preparation of Drawings and Specifications, Engineer relied upon the following drawings of physical conditions in or relating to existing surface and

subsurface structures (except Underground Facilities) which are at or contiguous to the Site: None.

E. The reports and drawings identified above are not part of the Contract Documents, but the "technical data" contained therein upon which Contractor may rely, as expressly identified and established above, are incorporated in the Contract Documents by reference. Contractor is not entitled to rely upon any other information and data known to or identified by Owner or Engineer.

F. Copies of reports and drawings identified in SC-5.03.C and SC-5.03.D that are not included with the Bidding Documents may be examined at DGR Engineering, 1302 S Union St. Rock Rapids, IA 51246 during regular business hours.

SC-5.06. Delete Paragraph 5.06.A in its entirety including subparagraphs and insert the following in its place:

A. Engineer or Engineer's Consultants obtained, used or reviewed no specific information regarding Hazardous Environmental Conditions at the site.

SC – 6.03.I.3 Replace the number "10" with the number "30", in reference to the number of days notice to the Owner prior to cancellation of the insurance policies.

SC-6.03. Add the following new paragraphs immediately after Paragraph 6.03.J:

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

a.	State:	Statutory
b.	Applicable Federal (e.g., Longshoreman's):	Statutory
c.	Employer's Liability:	
	Bodily injury, each accident	$ 500,000
	Bodily injury by disease, each employee	$ 500,000
	Bodily injury/disease aggregate	$ 500,000

The Workers' Compensation policy shall include a waiver of subrogation clause in favor of the Owner.

2. Contractor's General Liability under Paragraphs 6.03.B through 6.03.C of the General Conditions.

a.	General Aggregate	$ 2,000,000

b. Products - Completed Operations Aggregate $ 2,000,000

c. Personal and Advertising Injury $ 1,000,000

d. Each Occurrence (Bodily Injury and Property Damage) $ 1,000,000

e. If applicable to the project, Contractor shall maintain a separate Certificate of Insurance on behalf of the applicable railroad authority, as named insured. Insurance limits will be based on the requirements set forth by the applicable railroad authority. Said coverage(s) shall be in effect whenever Work on this project is underway within the Railroad right-of-way.

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

a. Combined Single Limit of $ 1,000,000

4. Excess or Umbrella Liability:

a. Per Occurrence $ 5,000,000

b. General Aggregate $ 5,000,000

5. Contractor's Pollution Liability

a. Each Occurrence $ 1,000,000

b. General Aggregate $ 1,000,000

6. Builders Risk
See General Conditions Section 6.05.

7. The following shall be included as additional insureds and certificate holders in addition to any other individuals or entities identified in the contract documents.

Engineer:
DeWild Grant Reckert and Associates Company d/b/a DGR Engineering
1302 South Union Street
Rock Rapids, Iowa, 51246

Owner:
City of Webster City
400 Second Street
Webster City, IA 50595

L. The following clauses shall be added to all liability coverages:

a. The company and the insured expressly agree and state that the purchase of this policy of insurance by the insured does not waive any of the defenses of governmental immunity available to the insured under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.

b. The company and the insured further agree that this policy of insurance shall cover only those claims not subject to the defense of governmental immunity under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.

M. Subrogation, To the extent that such insurance is in force and collectible and to the extent permitted by law, the City or Utility and Contractor each hereby releases and waives all right of recovery against the other or anyone claiming through or under each of them by way of subrogation or otherwise. The forgoing release and waiver shall apply to damage to contractor's equipment, tools and other personal property as well as automobiles.

SC-7.02. Add the following new paragraphs immediately after Paragraph 7.02.B:

C. It shall be specifically understood that any work relating to this contract shall not be performed on Sunday unless an emergency arises and special permission is given by the Owner.

D. Work will be permitted on Saturday; however, involvement of the Owner's personnel will not be allowed. Saturday work must be approved by the Owner.

SC-7.06. Add the following new paragraphs immediately after Paragraph 7.06.O:

P. The Contractor shall not award work valued at more than fifty percent (50%) of the Contract Price to Subcontractor(s), without prior written approval of the Owner.

SC-7.09. Add the following new subparagraph to the end of Paragraph 7.09.A:

1 CONTRACTOR shall pay all sales, use and excise taxes, and such taxes shall be incidental to the Work and included in the Contract Prices.

SC-9.11. Add the following new paragraph immediately after Paragraph 9.11.A:

B. On request of Contractor prior to the execution of any Change Order involving a significant increase in the Contract Price, Owner shall furnish to Contractor reasonable evidence that adequate financial arrangements have been made by Owner to enable Owner to fulfill the increased financial obligations to be undertaken by Owner as a result of such Change Order.

SC-9.13. Add the following new paragraph immediately after Paragraph 9.12:

9.13. Owner will furnish an "Owner's Site Representative" to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner's Site Representative is not Engineer's consultant, agent, or employee. Owner's Site Representative will be an employee of Owner. The authority and responsibilities of Owner's Site Representative will be as defined and described at the Preconstruction Conference (Paragraph 2.04).

SC-10.03. Add the following new paragraph immediately after Paragraph 10.03.A:

B. On this Project, by agreement with the Owner, Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work. The authority and responsibilities of the Resident Project Representative (RPR) will be as defined and described at the Preconstruction Conference (paragraph 2.04).

SC-13.03.E. Delete Paragraph 13.03.E in its entirety and insert the following in its place:

E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. if the Bid price of a particular item of Unit Price Work amounts to 20, percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and

2. if there is no corresponding adjustment with respect to any other item of Work; and

3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

SC-15.01.B.3. Add the following language at the end of Paragraph 15.01.B.3.:

No payments will be made that would deplete the retainage, place in escrow any funds that are required for retainage, or invest the retainage for the benefit of the Contractor.

SC-15.01.D.1. Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

1. The Application for Payment with Engineer's recommendations will be presented to the Owner for consideration. If the Owner finds the Application for Payment acceptable, the recommended amount less any reduction under the provisions of

Paragraph 15.01.E will become due ten days after the Application for Payment is approved by the Owner, and when due will be paid by Owner to Contractor.

SC-15.08.F. Add the following subparagraph to paragraph 15.08:

F. Contractor shall provide a correction period (warranty) of 2 years from date of substantial completion for the following items:

1. All Items.

SC-17.01. Add the following subparagraphs to Paragraph 17.01.B.3:

C. If Owner or Contractor have a disputed matter per Paragraph 17.01.A, the following process shall apply:

1. Within 30 days of the submittal of such claim, Owner and Contractor shall meet and confer regarding the Claim. A good-faith effort to negotiate resolution shall be made by both parties.

2. If the negotiations contemplated by Paragraph SC-17.01.C.1 are unsuccessful, management representatives of Owner and Contractor at least one tier above the individuals who met under SC 17.01.C.1 shall meet, confer, and negotiate within 30 days of the closure of the unsuccessful negotiations.

3. If the Claim is not resolved by negotiation, Engineer's decision regarding Change Proposals or other requests for decisions shall become final and binding 30 days after termination of the negotiations unless, within that time period, Owner or Contractor:

a. gives to the other party written notice of intent to submit the Claim to a court of competent jurisdiction, or

b. agrees with the other party to submit the Claim to another dispute resolution process.

4. Notwithstanding any applicable statute of limitations, a party giving notice under Paragraph SC 17.01.C.3.a shall commence an action on the Claim within one year of giving such notice. Failure to do so shall result in the Claim being time-barred and Engineer's action or denial shall become final and binding.

Category III

Technical Specifications

- Division 1 – General Requirements
- Division 3 – Concrete
- Division 26 – Electrical
- Division 31 - Earthwork
- Division 32 – Exterior Improvements
- Division 33 – Utilities

Division 1
General Requirements

SECTION 01 1100

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section presents a summary of the intended Work and the Contractor's duties and use of premises relating to the substation project.

1.02 AWARD OF CONTRACTS:

A. One contract will be awarded for the entire project.

1.03 CONTRACTORS' DUTIES:

A. Except as specifically noted, provide and pay for:

1. Labor, materials and equipment.

2. Tools, construction equipment and machinery.

3. Water, heat and utilities required for construction.

4. Other facilities and services necessary for proper execution and completion of Work.

5. All applicable taxes and fees including sales and use taxes.

B. Secure and pay for, as necessary for proper execution and completion of Work, and as applicable at time of receipt of bids:

1. Permits.

2. Government fees.

3. Licenses.

C. Give required notices.

D. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities that relate to performance of Work.

1. Promptly submit written notice to Engineer of observed variance of Contract Documents from legal requirements.

2. Assume responsibility for Work known to be contrary to legal requirements if notice is not submitted.

3. Necessary changes to the Contract Documents will be accomplished by Change Order if the Contract price or completion time is affected.

E. Enforce strict discipline and good order among employees. Do not employ on Work:

1. Unfit persons.

2. Persons not skilled in assigned task.

1.04 CONTRACTOR USE OF PREMISES:

A. Confine operations at site to areas permitted by:

1. Law.

2. Ordinances.

3. Permits.

4. Contract Documents.

B. Do not unreasonably encumber site with materials or equipment.

C. Do not load any structures with weight that will endanger structure.

D. Assume full responsibility for protection and safekeeping of products stored on premises.

E. Move any stored products that interfere with operations of Owner or other Contractor.

F. Obtain and pay for use of additional storage or work areas needed for operations.

1.05 ITEMS BY OTHERS:

A. Related items include those in the Drawings or elsewhere specified as “By Others” or “By Owner”. Specific items as follows:

1. Power Transformer (Niagara Power Transformer Corp.): Furnished, installed, and field tested by Others. This Contractor shall be responsible for making the necessary bus and power cable connections to the transformer, which shall be compensated for under those respective units. Access to the site shall be provided for transformer delivery, including a suitable surface over which to drive trucks and cranes. Single-phase AC

power shall be made available to the testing crew. Shop drawings shall be made available to the Contractor after they have been received from the respective manufacturers. The Contractor shall be on site at the time of delivery to coordinate the placement of the transformer.

2. 69 kV Control Panels (To Be Determined): Furnished and installed by Others. This Contractor will be responsible for ensuring access to the site is provided for control panel delivery, including a suitable surface over which to drive trucks and cranes. Shop drawings will be made available to the Contractor after they have been received from the respective manufacturers. The Contractor shall be on site at the time of delivery to coordinate the placement of the control panels. Field testing and commissioning will be completed by Others.

3. 15 kV Switchgear Lineup (To Be Determined): Furnished and installed by Others. This Contractor will be responsible for ensuring access to the site is provided for switchgear delivery, including a suitable surface over which to drive trucks and cranes. Shop drawings will be made available to the Contractor after they have been received from the respective manufacturers. The Contractor shall be on site at the time of delivery to coordinate the placement of the switchgear. Field testing and commissioning will be completed by Others.

4. Control Enclosure (To Be Determined): Furnished and installed by Others. This Contractor will be responsible for making the necessary cabling, and control connections from the internal building equipment to the external equipment, which will be compensated for under those respective units. Access to the site shall be provided for building delivery, including a suitable surface over which to drive trucks and cranes. Shop drawings will be made available to the Contractor after they have been received from the respective manufacturers. The Contractor shall be on site at the time of deliver to coordinate the placement of the building.

5. 69 kV Circuit Breakers (Siemens Energy): Furnished and delivered by Others. Contractor to receive on site and install.

6. 60 kV Lightning Arresters (Hitachi): Furnished and delivered by Others. Contractor to receive on site and install.

7. 69 kV Potential Transformers (GE): Furnished and delivered by Others. Contractor to receive on site and install.

8. Cable Trench with Bollards (Concast): Furnished and delivered by Others. Contractor to receive on site and install.

9. 15 kV Power Cable (Okonite): Furnished and delivered by Others. Contractor to receive on site and install.

10. Substation Steel (Galvanizers): Furnished and delivered by Others. Contractor to receive on site and install.

11. 69 kV GOAB Switches (SEECO): Furnished and delivered by Others. Contractor to receive on site and install. Shop drawings shall be made available to the Contractor after they have been received from the respective manufacturers.

12. AC & DC Panels (Eaton): Furnished and installed by Others. Contractor to make the necessary connections to panels as required on the drawings.

13. Multi-conductor Control Cables: Furnished and installed by Others. This includes control cables that are run to the control panels, switchgear, power transformer, circuit breakers, PT junction boxes, and yard lights. See the Appendix for list of cables and conductors the Contractor is responsible for.

B. Contractor shall coordinate work for all items by Others as required.

1.06 SITE LOCATIONS:

A. The location of the project site is as follows:

Reisner Substation
Closz Drive & Millards Lane
Webster City, IA 50595

B. All easements and rights-of-way necessary for the construction of the Project have been or will be obtained by the Owner in such a manner that the construction of the Project may rapidly progress.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section presents the Price and Payment Procedures that will be utilized for the project.

1.02 GENERAL:

A. When the proposal is made on a unit basis the Engineer may specify any combination of construction units that he/she may deem necessary.

B. The various construction units that are included in this bid and upon which quotations are required are defined by symbols and descriptions set forth in this part.

C. Separate assembly units are designed for each different arrangement that may be used in the construction of the project. The proposal is based on a consideration of each unit in place and includes only the materials listed on the corresponding construction drawings or as spelled out herein.

D. The bid prices stated in the proposal shall include all labor, materials, freight, drayage, loading, protection from weather, fabrication, and installation to assure the Owner that the equipment and installation will operate as specified.

E. The contractor shall furnish all materials unless stated otherwise on the Drawings or in the Specifications.

1.03 MEASUREMENT:

A. Measurement for work completed is to be made on a monthly basis.

1. All items will be computed in the units of the Bid Schedule.

a. Periodic payments for lump sum items will be on an estimated percentage of completion basis.

B. The Contractor shall participate in the measurement of completed Work unless agreed otherwise.

1. Specific differences are to be resolved at the time of measurement.

2. Unresolved differences shall be directed to the Engineer.

1.04 PAYMENT:

A. All Work required to complete construction shall be deemed to be included in the unit price or lump sum price items listed in the Contractor's Bid Schedule.

B. Payment may be allowed for material suitably stored on site, so long as adequate documentation as specified in the General Conditions is provided to the Owner's satisfaction.

C. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective Work or material.

1.05 PAYMENTS TO BE WITHHELD:

A. Applicable retainage, as defined in the Contract Conditions, shall apply to all payments due the Contractor including payment for stored material.

B. Amounts equal to maximum potential liquidated damages may be withheld from payments due Contractor when Work is not completed within the specified time. Such amounts shall be in addition to other payments withheld.

C. Payments withheld will be paid as follows:

1. Normal retainage will be paid as required by the General Conditions.

2. Potential liquidated damages withheld will be retained until final resolution of Liquidated Damages is made by the Owner.

1.06 PAYMENT ITEMS:

A. Payment items shall be as listed on the Bid Schedule. Measurement of completed work shall be the number of units installed for each unit price item and percentage of completion of the entire item for each lump sum item. (No separate payment will be made for mobilization, engineering, or related project initiation expenses.) Payment will be at respective unit or lump sum prices as per the Bid Schedule.

B. Unit and lump sum prices as listed on the Bid Schedule shall be the full payment for each item as described by the applicable sections of the Technical Specifications and the Drawings.

C. Description of Payment Items:

1. STEEL STRUCTURES: A construction unit consists of receiving, unloading, and installing Owner-furnished steel structures complete with equipment mounting bolts, mounting brackets, supports, and anchors. Unit includes installing any miscellaneous hardware as required for a complete installation. Contractor shall also include phase and identification signs, ground clamps, and connectors necessary to attach the equipment to the

ground conductors to the structure. Anchor bolts will be furnished by Owner. Specific construction units are as follows:

A1 Install Owner-furnished steel, 69 kV H-frame deadend structure DE1 (ea.)

A2 Install Owner-furnished steel, 69 kV H-frame deadend structure column DE2 (ea.)

A3 Install Owner-furnished steel, shield tower ST1 (ea.)

A4 Install Owner-furnished steel, 69 kV GOAB switch support, double leg (low) SS1 (ea.)

A5 Install Owner-furnished steel, 69 kV GOAB switch support, double leg (high) SS2 (ea.)

A6 Install Owner-furnished steel, insulator bracket, BA1 (ea.)

A7 Install Owner-furnished steel, 69 kV 45° bus support, double leg BS1 (ea.)

A8 Install Owner-furnished steel, 69 kV, 3Ø, PT support, single leg PT1 (ea.)

A9 Install Owner-furnished steel, 69 kV, 1Ø, PT support, single leg PT2 (ea.)

2. SWITCHES: A construction unit consists of receiving, unloading, and installing an Owner-furnished 3-phase, 69 kV group operated air-break (GOAB) switch with accessories, operating mechanisms, and identification signs. The Contractor shall furnish and install mounting bolts and miscellaneous hardware materials for complete installation. Switches will be shipped unassembled (live parts, insulators, and base will be shipped separately) Specific construction units are as follows:

B1 Install Owner-furnished switch, 69 kV, 3Ø, vertical break, group operated, with insulators and control hardware, installed on switch stand (low) (ea.)

B2 Install Owner-furnished switch, 69 kV, 3Ø, vertical break, group operated, with insulators and control hardware, installed on switch stand (high) (ea.)

3. LIGHTNING ARRESTERS: A construction unit consists of receiving, unloading, and installing an Owner-furnished single-phase lightning arrester mounted in place and connected to the ground conductor and grid. Specific construction units are as follows.

   C1 Install Owner-furnished lightning arrester, 60 kV, 1Ø, station class (ea.)

4. BUS WORK: The construction units include furnishing and installing all tubular bus conductor, station post insulators, flexible cable bus conductor, connectors, fittings, end caps, identifications signs, vibration damping conductor, and clamps regardless of size or type. Units include drilling, welding, and field bending as required. Specific construction units are as follows:

   D1 Bus work, jumpers, insulators, connectors, dampening cables (as req'd.)

5. CIRCUIT BREAKERS: A construction unit consists of receiving, unloading, and installing Owner-furnished 69 kV circuit breakers. Unit includes assembling, anchoring, connecting, filling the breaker with gas, and labeling SF6 circuit breakers as shown on the drawings and specified herein. The unit also consists of furnishing and installing all above grade RGS conduit connections to control cabinet and anchor bolts as shown on the drawings and specified herein:

   E1 Install Owner-furnished circuit breaker, 69 kV, 3Ø, SF6 (ea.)

6. TRANSFORMERS: A construction unit(s) consists of facilitating installation of Owner-furnished power transformer by others. Includes being on site to assist in placement of the transformer, as well as coordinating with transformer supplier as required. Also included is all above grade RGS conduit connections to control cabinet and air terminal chamber.

   A separate construction unit consists of receiving, unloading, and installing a 3Ø set of Owner-furnished 69 kV line potential transformers (PT's) and any associated hardware or equipment supplied by the Contractor such as secondary junction boxes, above ground RGS conduit between the unit and junction box and between junction box and PVC conduit below grade, internal wiring, identification signs, and other miscellaneous equipment for a complete installation on steel stands. The junction box may include ground bars, fuses, terminal blocks, heaters and other miscellaneous equipment for a complete installation.

   Another unit includes receiving, unloading, and installing a single Owner-furnished 69 kV bus PT on steel stand. Includes furnishing and installing

any associated hardware or equipment supplied by the Contractor such as secondary junction boxes, above ground RGS and flexible conduit between the unit and junction box and between junction box and PVC conduit below grade, internal wiring, identification signs, and other miscellaneous equipment for a complete installation.

Specific units are as follows:

H1 Coordinate installation of Owner-furnished power transformer (ea.)

H2 Install Owner-furnished Bus PT's (3-1Ø), 69 kV, with 3Ø junction box and fuses (ea.)

H3 Install Owner-furnished PT, 69 kV, 1Ø, with 1Ø junction box and fuses (ea.)

7. CONTROL PANEL AND COMMUNICATION: A construction unit(s) consists of facilitating installation of Owner-furnished control panels by control panel supplier. Includes being on site to assist in placement of the control panels as well as coordinating with control panel supplier as required. Control panels are to be brought into the control enclosure through enclosure man door.

A separate construction unit(s) consists of installing Owner-furnished GPS antenna, SEL transceivers, and other associated communication equipment as shown on the drawings and specified herein.

J1 Coordinate installation of Owner-furnished control panels (ea.)

J2 Fiber optic and communications equipment (as req'd)

8. CONDUIT, DUCTBANK, & TRENCH: A construction unit consists of installing one lineal foot of PVC conduit, as shown on the plans and specified herein. The conduit units include all fittings, sweeps, accessories, elbows, plugs, sand backfill, spacers, conduit, duct seal regardless of grade or weight, etc. necessary to complete the raceways as shown on the drawings. Unit also includes core drilling, excavation, backfill, tamping, marking, and conduit and cable trench sealing and capping required for placement. Measurements for units shall be from end to end of conduit. Internal equipment, enclosure conduit, and above grade RGS conduit is not considered part of this unit.

A separate unit consists of furnishing and installing one lineal foot of PVC conduit, concrete-encased power ductbank, as shown on the plans and specified herein. The conduit and ductbank units include all fittings, sweeps, accessories, elbows, plugs, concrete, sand backfill, spacers, duct seal regardless of grade or weight, etc. necessary to complete the raceways

as shown on the drawings. Unit also includes core drilling, excavation, backfill, tamping, marking, and conduit sealing, and capping required for placement. Measurement for units shall be from end to end of conduit or ductbank run. Internal equipment, building conduit (including below building foundation), and above grade RGS conduit is not considered part of this unit.

A separate unit consists of furnishing and installing one lineal foot of PVC conduit, concrete-encased control ductbank, as shown on the plans and specified herein. The conduit and ductbank units include all fittings, sweeps, accessories, elbows, plugs, concrete, sand backfill, spacers, duct seal regardless of grade or weight, etc. necessary to complete the raceways as shown on the drawings. Unit also includes core drilling, excavation, backfill, tamping, marking, and conduit sealing, and capping required for placement. Measurement for units shall be from end to end of conduit or ductbank run. Internal equipment, building conduit, and above grade RGS conduit is not considered part of this unit.

A separate unit includes receiving, unloading, and installing one lineal foot of Owner-furnished cable trench as shown on the plans and specified herein. The cable trench unit includes installation of all lids, ground wire clamps, and accessories as well as furnishing and installing cable trench sand and other miscellaneous items as necessary to complete the cable trench as shown on the Drawings. Unit also includes core drilling, backfill, and compacting. Measurement for units shall be from end to end of cable trench.

A separate unit includes furnishing and installing one lineal foot of the cable trench drainage system as shown on the plans and specified herein. The cable trench drainage system unit includes all pea rock and 4” HDPE perforated drain pipe and associated connectors and tees necessary to complete the cable trench drainage system as shown on the Drawings. Unit also includes excavation, backfill, and compacting required. Measurement of unit shall be from end to end of the drain pipe.

Another construction unit includes receiving, unloading, and installing Owner-furnished safety bollards. Unit also includes excavation, backfill, and compacting as required.

A separate unit includes furnishing and installing above grade RGS conduit for OPGW splice kit furnished and installed on deadend structure by others. Included is mounting, conduit cap, and coordination with others.

Specific units are as follows:

K1 Conduit, 1 1/2" PVC (ft.)

K2 Conduit, 2" PVC (ft.)

K3 Conduit, 3" PVC (ft.)

K4 Conduit, 4" PVC (ft.)

K5 Power ductbank, concrete-encased 'A-A' & 'B-B', (2) 6" (ft.)

K6 Control ductbank, concrete-encased 'C-C', (8) 4" (ft.)

K7 Cable Trench, 30"W x 16" D, pedestrian rated (ft.)

K8 Cable Trench Drainage System, 4" HDPE drain tile including pea rock (ft.)

K9 Safety bollards (ea.)

K10 OPGW RGS Conduit (ea.)

9. CONCRETE WORK: A construction unit consists of one concrete pad, pier, or footing complete with all steel reinforcing, void forms, gravel, sand, insulation, forming and finishing. All conduit inside or under the foundation shall be included in this unit. The transformer pad units include all labor and materials needed for the construction of the oil containment provision as specified and shown in the drawings. The control enclosure unit includes all items contained within the foundation, including foam board, weatherproofing, conduits, sleeves, duct terminators, hatch covers, and aluminum block out covers, as well as cleaning and sealing the concrete floor at the end of construction. The unit(s) also includes installing Owner-furnished anchor bolt cages for pier foundations.

A separate unit includes the cost of adding or deleting 1 cubic yard of concrete, including the cost of steel reinforcing, forming, etc. Specific construction units are as follows:

L1 Foundation, 69 kV deadend structure DE1/2, per leg (ea.)

L2 Foundation, shield tower ST1 (ea.)

L3 Foundation, 69 kV GOAB switch support (low) SS1, per leg (ea.)

L4 Foundation, 69 kV GOAB switch support (high) SS2, per leg (ea.)

L5 Foundation, 69 kV 45° bus support BS1, per leg (ea.)

L6 Foundation, 69 kV 3Ø PT support PT1, per leg (ea.)

L7 Foundation, 69 kV 1Ø PT support PT2, per leg (ea.)

L8 Foundation, 69 kV circuit breaker pad CB (ea.)

L9 Foundation, power transformer pad XFMR, with oil containment (ea.)

L10 Foundation, control enclosure CE with tunnel, etc. (ea.)

L11 Addition or Deletion of 1 cubic yard of concrete and rebar for slab type foundation (cu. yd.)

L12 Addition or Deletion of 1 cubic yard of concrete and rebar for pier type foundation (cu. yd.)

10. SITE PREPARATION: A construction unit(s) consists of all labor and materials required to complete the site work as shown on the Drawings and specified herein. All other work specified, including clearing, stockpiling, and spreading shall be incidental to the project. Specific construction units are as follows:

SWPPP: Management of the SWPPP was initiated by the Owner's Grading Contractor and shall be passed over to and maintained by this Contractor. This unit shall include all coordination and management of the SWPPP.

M1 SWPPP Compliance (as req'd.)

Measurement: Furnish and install specified materials. Length and width of work actually performed converted to bid item units (sq. yd.., ac.., etc.) The plan quantities shall be agreed upon as complete payment for the work unless additional work is requested by the Owner/Engineer during construction.

Weight Items:

M2 4" Substation Crushed Rock Surfacing (ton)

11. FENCE: Construction unit(s) consists of furnishing and installing a complete fencing system as shown on the drawings. Includes swing gates, fabric, posts, guard wire and extensions, fence and post footings, warning signs, etc.

Specific construction units are as follows:

N1 Substation fence and gates, chain-link (as req'd.)

12. STATION GROUNDING: A construction unit consists of a complete ground grid and grounding system as shown on the Drawings. Unit includes furnishing and installing conductor, rods, clamps, access pedestals, sacrificial anodes, and connections to rods, equipment, fences, gates, and

structures. Unit also includes furnishing and installing ground conductor to attach to the steel and equipment on steel supports.

A separate unit consists of installing Owner-furnished personnel ground platforms. This includes the connections to the equipment, rods, and/or conductor. Specific construction units are as follows:

O1 Ground grid, rods and sacrificial anodes (as req'd.)

O2 Install Owner-furnished personnel grounding platform GP1 (ea.)

13. CONTROL ENCLOSURE & SWITCHGEAR: A construction unit(s) consists of facilitating installation of Owner-furnished control enclosure installed by Others as shown on the drawings and specified herein. Construction units include furnishing and installing raceway, wiring, and grounding, and other miscellaneous items where required for systems associated with station service secondary, tunnel lighting, tunnel cable racks, tunnel ladders and grab handles, tunnel sump pump and associated grating, outlet, and alarm, condensing unit foundation, 125 VDC battery bank with intercell connections, rack system, containment, battery charger, fire extinguisher, face-and-eye wash station, and other miscellaneous enclosure items as noted on the Drawings.

Another unit consists of facilitating installation of Owner-furnished 15 kV switchgear. This includes one (1) main breaker, six (6) feeder breakers, and one (1) bus-tie breaker. Unit includes removing and reinstalling the enclosure removable wall panel to allow for switchgear installation and installing the Owner-furnished breaker test cabinet on the control enclosure wall as noted on the Drawings.

A separate unit includes furnishing and installing the flood lights that are to be mounted on the shield support poles and deadend structures. Unit also includes furnishing and installing all necessary hardware/equipment and making all connections to complete the flood lighting package. Conductors required for flood lighting will be furnished and installed by the Owner. Specific construction units are as follows:

P1 Control enclosure coordination, wiring, conductor/conduit (as req'd.)

P2 Battery bank, 125 volt DC, rack and conductor, spill containment (as req'd.)

P3 Coordinate installation of Owner-furnished 15 kV Switchgear (as req'd)

P4 Exterior area flood lighting package (as req'd.)

POWER CABLE: A construction unit consists of installing one (1) lineal foot of the Owner-furnished primary power cable. Unit also includes furnishing and installing one (1) lineal foot of neutral cable. The power and neutral cable to be installed in duct, conduit, tunnel, or manhole. Unit includes terminations at both ends and mounting. Measurement shall be from terminated end to terminated end of cable.

A separate unit consists of furnishing and installing one (1) lineal foot of secondary cable with terminations installed in duct, conduit, tunnel, or manhole. Measurement shall be from terminated end to terminated end of cable.

A separate unit consists of the labor and materials necessary to half lap wrap a bundle of three (3) primary conductors with arc proof tape. Conductor bundle shall be secured by spiral wrapping or banding at two (2) foot intervals with two (2) inch glass cloth tape. Unit will be used in manholes, pullboxes, and substation control buildings. Compensation shall be on a per lineal foot basis three phase cable wrapped. Specific construction units are as follows:

Q1 Installation of Owner-furnished power cable, 15 kV, (6) 750 kcmil Cu., 220 mils EPR, shielded, and neutral cable, 600 V, (2) 350 kcmil Cu. with terminations on both ends (ft.)

Q2 Secondary cable, 600 V, (4) 250 kcmil Cu. and (2) 4/0 Cu.

Q3 Arc proof tape (lin. ft.)

14. CONTROL AND COMMUNICATION CABLES: The construction unit consists of furnishing and installing one foot of control or communications cable of specific size in conduit, manholes, duct, cable tray, and equipment. Unit includes terminating and labeling each conductor in cable with connector and attaching to a terminal block. Specific units are as follows:

R1 (2) Conductor #12, 2C-12 (ft.)

R2 (2) Conductor #10, 2C-10 (ft.)

R3 (2) Conductor #8, 2C-8 (ft.)

R4 (3) Conductor #12, 3C-12 (ft.)

R5 (3) Conductor #10, 3C-10 (ft.)

R6 (3) Conductor #8, 3C-8 (ft.)

R7 (3) Conductor #6, 3C-6 (ft.)

R8 (4) Conductor #10, 4C-10 (ft.)

R9 (12) Conductor #12, 12C-12 (ft.)

R10 (48) Fiber Cable, 48/C Fiber w/1" Innerduct (ft.)

R11 (48) Fiber Cable, 48/C Fiber w/1" Innerduct , Owner Installed (ft.)

15. SUBSTATION SHIELDING: The construction unit consists of furnishing and installing the substation shielding as shown on the drawings. Unit includes all necessary field drillings, dead-ends, wire, clamps, connectors, etc. to establish the shielding system. Specific units are as follows:

S1 Substation shielding (as req'd.)

16. MOBILIZATION: This item shall consist of preparatory work and operations, including but not limited to the necessary movement of personnel, equipment, and incidentals to the project site; for the establishment of offices, buildings, and other facilities necessary for work on the projects; and for work and operations which must be performed, and for cost incurred before starting work on the various contract times on the project site.

When an item for Mobilization is included in the proposal, payment will be made at the contract unit lump sum price, and be considered full compensation for costs incidental thereto. This unit will be paid when work on construction site has begun.

U1 Mobilization (as req'd.)

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's project management and coordination responsibilities.

1.02 PROJECT MANAGEMENT AND COORDINATION:

A. Verify layout information shown on Drawings, in relation to property survey and existing benchmarks, before laying out the Work.

B. Require Installer of each component of the Work to inspect both the substrate and the conditions under which work is to be performed. Do not proceed with installation until unsatisfactory conditions have been corrected.

C. Any Contractor or Subcontractor working on a specific portion of the project shall so schedule and conduct his work as not to impede unnecessarily any work being done by others on or adjacent to his work.

D. The Contractor shall be aware that this project will require a high-level of coordination and scheduling with the Owner, Engineer, and major material suppliers.

E. The Contractor shall have a construction foreman on site at all times during construction, including when subcontractors are working at the site.

1.03 INTERFERENCE WITH SYSTEM OPERATION:

A. All work by the Contractor in connection with this contract shall be planned with the consent of the Owner, and the Engineer, and shall not in any way interfere with electric service other than specified herein unless consent is given by authorized representatives of the Owner.

B. Cutover and outage arrangements must be made with the Owner **2 weeks or more in advance**. If loading conditions require, the Contractor may need to work on weekends or nights during equipment cutovers or outages.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 3119

PROJECT MEETINGS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the intended project meetings required of the Contractor.

1.02 PAYMENT:

A. Project meetings are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL:

A. Project meetings shall be coordinated among the respective Contractors, Owner, and Engineer.

B. The individual requesting the meeting shall contact those to be in attendance in writing providing the following:

1. Purpose of meeting.

2. Date, time and place.

3. Names of others to be in attendance.

4. Additional information as necessary.

3.02 SCHEDULE:

A. A preconstruction conference will be scheduled by the Engineer to review the following:

1. Contract Legal Documents and Specifications.

2. Drawings.

3. General construction requirements.

4. Coordination of different contractors.

5. Pay request procedure.

6. Shop drawing submittal.

7. Project observation and inspection.

8. Coordination with affected agencies and utility companies.

B. Progress meetings shall be scheduled and held as the need arises throughout the Work.

* * * END OF SECTION * * *

SECTION 01 3213

CONSTRUCTION SCHEDULE

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's project management and coordination responsibilities.

1.02 CONSTRUCTION SCHEDULE:

A. Prepare a horizontal bar-chart-type, construction schedule. Provide a separate time bar for each activity and a vertical line to identify the first workday of each week. As Work progresses, mark each bar to indicate actual completion.

1. Submit within 20 days after the notification of award of contract.

2. Prepare the schedule on reproducible media, of width sufficient to show data for the entire construction period.

3. Coordinate each element with other activities. Show each activity in proper sequence. Indicate sequences necessary for completion of related Work.

4. Indicate Substantial Completion and allow time for Engineer's procedures necessary for certifying Substantial Completion.

5. Schedule Distribution: Distribute copies to Owner, Engineer, subcontractors, and parties required to comply with dates.

6. Updating: Revise the schedule after each meeting or activity where revisions have been made.

B. The following dates are the Owner's suggested schedule; however, the dates marked with an asterisk are dates that must be met for the associated activity.

Task	Required Completion Date
Bid Opening	July 23, 2024
Council Award Contract (Assumed)	August 5, 2024
Estimated Cable Trench, 15 kV Power Cable, GOAB Switch, Arrester, and Anchor Bolt Cage Delivery	August 12, 2024

Notice to Proceed	August 30, 2024
Construction Start Date	September 9, 2024
Concrete pier, control building, and power transformer foundations	November 15, 2024
Estimated Potential Transformer Delivery	December 23, 2024
Estimated Transformer Delivery	February 1, 2025
Estimated Steel Delivery	March 15, 2025
Estimated Control Enclosure Delivery	April 7, 2025
Grounding and Conduit Complete	April 30, 2025
Estimated Control Panel Delivery	April 30, 2025
Estimated Switchgear Delivery	June 30, 2025
Estimated Circuit Breaker Delivery	July 14, 2025
Power and Control Wiring Complete	August 15, 2025
Contractor Testing Complete: Ready for Testing by Engineer	August 31, 2025
Substation Ready to Carry Load *	September 30, 2025
Ready for Final Payment *	November 15, 2025

* Liquidated damages apply to these dates for this Contractor.

C. Equipment delivery times are estimated. Contractor shall work closely with the material supplier and coordinate delivery and be on site to mark the locations while they are offloading. The Owner will not pay any standby charges or remobilization due to Owner-furnished material delivery date fluctuations. The Contractor shall obtain all contact information from the Owner and coordinate material delivery directly.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 3236

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's responsibilities regarding the assembly and maintenance of project records.

1.02 PAYMENT:

A. Project record documents are considered incidental Work with no separate measurement or payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL:

A. Maintain at office one copy of:

1. Contract Legal Documents and Specifications.
2. Addenda.
3. Drawings.
4. Staking sheets.
5. Construction schedules and progress reports.
6. Minutes of preconstruction conference and other construction meetings.
7. Shop Drawings.
8. Change Orders.
9. Field Orders.
10. Test reports.

B. File documents in an orderly, readily accessible manner.

3.02 RECORDING:

A. Legibly mark documents to record location of other facilities and changes made by Change Order or Field Order.

B. Keep project records current.

3.03 SUBMITTAL:

A. At completion of construction, the Drawings indicating ‘as-constructed’ and buried facility information shall be delivered to the Engineer.

B. With completion of record Drawings, the Contractor’s Drawings will be returned if so requested.

* * * END OF SECTION * * *

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the submittal procedures the Contractor shall follow for the project.

1.02 SHOP DRAWINGS, PROJECT DATA AND SAMPLES:

A. SHOP DRAWINGS: Original drawings, prepared by Contractor, subcontractor, supplier or distributor, which illustrate some portion of the Work; showing fabrication, layout, setting or erection details.

1. Prepared by a qualified detailer.

2. Identify details by reference to specification section or detail number from the Drawings.

3. Minimum sheet size: 8-1/2" x 11".

4. Maximum sheet size: 11" x 17".

B. PROJECT DATA:

1. Manufacturer's standard schematic drawings:

a. Modify drawing to delete information that is not applicable to the Work.

b. Supplement standard information to provide additional information applicable to the Work.

2. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.

a. Clearly mark each copy to identify pertinent materials, products or models.

b. Show dimensions and clearances required.

c. Show performance characteristics and capacities.

d. Show wiring diagrams and controls.

C. CONTRACTOR RESPONSIBILITIES:

1. Review Shop Drawings, Project Data and Samples prior to submission to Engineer for review.

2. Verify:

a. Performance criteria.

b. Field measurements.

c. Field construction criteria.

d. Catalog numbers and similar data.

3. Coordinate the timing of each submittal with requirements of the Work.

4. Contractor's responsibility for errors and omissions in submittals is not relieved by Engineer's review of submittals.

5. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Engineer's review of submittals, unless Engineer gives written acceptance of specific deviations.

6. Notify Engineer, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.

7. Begin no work that requires submittals until return of submittals with Engineer's stamp and initials or signature indicating review.

8. After Engineer's review, distribute copies.

D. SUBMISSION REQUIREMENTS:

1. Schedule submissions at least fourteen (14) days before date reviewed submittals will be needed.

2. Accompany submittals with transmittal letter or email containing:

a. Date.

b. Project title and number.

c. Contractor's name and address.

d. An electronic .pdf file of each shop drawing.

e. Notification of deviations from Contract Legal Documents, Specifications and Drawings.

f. Other pertinent data.

3. Submittals shall include:

a. Date and revision dates.

b. The names of:

(1) Subcontractor.

(2) Supplier.

(3) Manufacturer.

(4) Separate detailer when pertinent.

c. Identification of product or material.

d. Relation to adjacent structure or materials.

e. Field dimensions, clearly identified as such.

f. Specification section number.

g. Applicable standards, such as ASTM number or Federal Specification.

h. A statement signed by the Contractor that the submittal has been reviewed and meets the requirements except as noted.

E. ENGINEER'S DUTIES:

1. Review and return within fourteen (14) days of receipt.

2. Review of separate item does not constitute review of an assembly in which item functions.

3. Affix stamp and initials or signature certifying review of submittal noting one of the following:

a. No exception taken.

b. Make corrections noted – No resubmittal required.

c. Revise and resubmit.

d. Submit specified item.

e. Rejected.

4. Return submittals to Contractor for:

a. Distribution if marked "No exceptions taken" or "Make corrections noted – No resubmittal required".

b. Resubmittal if marked "Revise and resubmit," "Submit specified item," or "Rejected."

F. RESUBMISSION REQUIREMENTS:

1. Shop Drawings:

a. Revise initial drawings as required and resubmit as specified for initial submittal.

b. Indicate on drawings any changes which have been made other than those requested by Engineer.

G. DISTRIBUTION OF SUBMITTALS AFTER REVIEW:

1. Contractor shall distribute reviewed copies of Shop Drawings and Project Data that carries the Engineer's stamp, to:

a. Contractor's file.

b. Job site file.

c. Supplier, as appropriate.

2. Engineer will distribute reviewed copies of Shop Drawings and Project Data to:

a. Engineer's file.

b. Resident Project Representative, if applicable.

c. Owner.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 3523

SAFETY REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the safety requirements that the Contractor shall follow.

1.02 OCCUPATIONAL SAFETY AND HEALTH STANDARDS:

A. The Contractor shall be responsible for the proper application of Occupational Safety and Health Standards (OSHS) regarding construction of the project. The Owner will not be responsible for enforcing any part of the OSHS with respect to the Contractor's equipment or labor practices.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 WORK ON OR NEAR ENERGIZED LINES:

A. Work may be required to be performed near energized buswork and equipment. The Contractor shall be responsible for providing expertise and experience necessary for working near these energized lines.

B. All extra costs associated with working near energized lines and equipment shall be included in the construction units and assemblies of the project.

C. The Owner or its Representative will energize and de-energize all circuitry as required according to the guidelines of this specification.

* * * END OF SECTION * * *

SECTION 01 4113

APPLICABLE CODES AND STANDARDS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's responsibilities to adhere to applicable codes and standards.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

1.03 CODES AND STANDARDS:

A. Design and workmanship of installation and material shall be judged by tests and requirements set forth in the latest revisions of the following codes and standards:

1. American Society for Testing Materials (ASTM).

2. American National Standards Institute (ANSI).

3. American Institute of Steel Construction (AISC).

4. American Concrete Institute (ACI).

5. National Electrical Manufacturer's Association (NEMA).

6. National Electrical Code (NEC).

7. National Electric Safety Code (NESC).

8. Uniform Building Code (UBC).

9. Insulated Cable Engineers Association (ICEA).

10. Institute of Electronic and Electrical Engineers (IEEE).

B. Where these specifications specifically reference codes or standards and make changes or interpretations of codes or standards, the unchanged provisions of said codes or standards shall remain in effect.

C. Where these specifications provide more stringent requirements than referenced standards, the specifications shall prevail.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 4126

PERMITS, LAWS AND ORDINANCES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's responsibilities pertaining to permits, laws and ordinances.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL:

A. The Contractor shall comply with all Federal, State, County and local laws, ordinances and rules and regulations relating to the performance of the Work.

3.02 PERMITS:

A. The Contractor shall, at his expense, procure all certificates and licenses required of him by law for the execution of his Work.

* * * END OF SECTION * * *

SECTION 01 4500

QUALITY CONTROL

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the quality control items pertaining to the project.

1.02 QUALITY CONTROL:

A. Quality-control services include inspection, tests, and related actions including reports, performed by Contractor, by independent agencies, and by governing authorities.

B. Contractor shall employ and pay a qualified independent testing agency to perform tests and inspections specified in other Sections, and those required by authorities having jurisdiction.

1. Contractor is responsible for scheduling inspections and tests.

C. Retesting: Contractor shall pay for retesting where results of inspections and tests prove unsatisfactory and indicate noncompliance with requirements.

D. Auxiliary Services: Cooperate with agencies performing inspections and tests. Provide auxiliary serves as requested. Notify agency in advance of operations requiring tests or inspections, to permit assignment of personnel. Auxiliary services include the following:

1. Access to the Work.

2. Incidental labor and facilities to assist inspections and tests.

3. Adequate quantities of samples of materials that require testing and assisting in taking samples.

4. Facilities for storage and curing of test samples.

E. Duties of Testing Agency: Testing agency shall cooperate with Engineer and Contractor in performing its duties. Agency shall provide qualified personnel to perform inspections and tests.

1. Agency shall notify Engineer and Contractor of irregularities or deficiencies observed in the Work during performance of its services.

2. Agency shall not release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.

3. Agency shall not perform duties of Contractor.

F. Submittals: Testing agency shall submit a certified written report of each inspection and test to the following:

1. Owner.

2. Engineer.

3. Contractor.

4. Structural Engineer.

5. Authorities having jurisdiction, when authorities so direct.

G. Report Data: Reports of each inspection, test, or similar service shall include at least the following:

1. Date of issue.

2. Project title and number.

3. Name, address, and telephone number of testing agency.

4. Dates and locations of samples and tests or inspections.

5. Names of individuals making the inspection or test.

6. Designation of the Work and test method.

7. Identification of product.

8. Complete inspection or test data.

9. Test results and an interpretation of test results.

10. Ambient conditions at the time of sample taking and testing.

11. Comments or professional opinion on whether inspected or tested Work complies with requirements.

12. Name and signature of laboratory inspector.

13. Recommendations on retesting or re-inspection.

H. Qualifications for Service Agencies: Engage inspection and testing service agencies that are prequalified as complying with the American Council of Independent Laboratories' "Quality Assurance Manual" and that specialize in the types of inspections and tests to be performed.

1. Each agency shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the temporary facilities and controls the Contractor needs to adhere to for the project.

1.02 SECTION REQUIREMENTS:

A. At the earliest possible time, change over from use of temporary utility services to use of permanent utilities.

B. Remove temporary facilities and controls before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

1.03 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT:

A. Provide new materials and equipment for construction of temporary facilities and controls.

PART 3 - EXECUTION

3.01 TEMPORARY UTILITIES:

A. Provide temporary utilities such as electric power and telephone service(s) to project site for use during construction. Arrange for and coordinate service(s) with local utility companies.

B. Provide temporary heat for curing or drying of work, and for protection of new construction from adverse effects of low temperatures. Proper safety controls and devices shall be on all temporary heating and ventilation equipment used. Use of gasoline-burning heaters and open-flame heaters is not permitted.

C. Provide temporary sanitary facilities. Comply with regulations and health codes for type, number, location, and maintenance of facilities. Temporary toilet facilities shall be removed from the site when no longer necessary.

3.02 TEMPORARY CONSTRUCTION FACILITIES:

A. Provide and maintain field offices, storage trailers, and other support facilities near the project site, as required.

1. Temporary facilities located within the construction area or within 30 feet (9 m) of building lines shall be of noncombustible construction.

B. Provide temporary enclosures for protection of construction and workers from exposure and inclement weather and for containment of heat.

C. Install project identification and other signs in locations approved by Owner to inform the public and persons seeking entrance to Project.

D. Collect waste daily and dispose of waste off-site according with local ordinances, when containers are full.

1. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material according to applicable laws and regulations.

E. Material Storage:

1. Contractor shall be fully responsible and provide adequate storage for materials that must be housed against weather exposure during entire construction. Materials which may suffer any type of deterioration or damage due to weather exposure shall be covered and or housed. Housing and protection shall be approved by the Engineer. The responsible Contractor shall pay for and/or replace any damaged materials caused by his negligence or failure to provide proper protection.

2. Contractor to coordinate and make all arrangements with the Owner to provide needed exterior storage.

3.03 TEMPORARY CONTROLS:

A. Provide temporary barricades, warning signs, and lights to protect the public and construction personnel from construction hazards.

1. Enclose construction area(s) with fence(s) with lockable entrance gates, to prevent unauthorized access.

2. Contractor shall build and maintain all such provisions to fully comply with all state and local safety requirements and fully protect the public and all

workmen throughout the entire construction. Walkways are to be kept well-maintained, well-lit, free from ice and snow, and reasonably clean at all times.

3. Furnish, install, and maintain for the duration of construction all required scaffolds, tarpaulins, barricades, canopies, warning signs, steps, bridges, platforms, and other temporary construction necessary for proper completion of the work in compliance with all pertinent safety and other regulations.

B. Provide temporary environmental controls as required by authorities having jurisdiction including, but not limited to, erosion and sediment control, dust control, noise control, and pollution control.

3.04 SITE COMMUNICATIONS:

A. The construction foreman shall be equipped with a cellular phone permitting on-site communications during all times of the construction activity.

3.05 TRAFFIC CONTROL:

A. The Contractor shall provide, erect and maintain at all times, during the execution of the work and until completion and final acceptance thereof, suitable and requisite barricades, signs and other types of traffic control devices as may be necessary to insure the safety of the public as well as those engaged in the work. Where performing work near County, State, or railroad right-of-way, the Contractor shall conform to that particular entity's traffic control and other requirements.

All barricades shall be protected at night from sunset to sunrise by type "A" low intensity flashing yellow warning lights. All lights shall meet the standards of Section 6E-5 of the "Manual on Uniform Traffic Control Devices (MUTCD)".

3.06 BARRICADES AND LIGHTS:

A. All open trenches and other excavations shall be protected with suitable barriers, signs and lights to the extent that adequate protection is provided to the public against accident by reason of such open construction. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights.

B. All barricades and obstructions shall be illuminated by means of acceptable warning lights at night and all lights used for this purpose shall be kept on from sunset to sunrise. Materials stored upon or alongside public streets, roads and highways shall be so placed that the work at all times shall be so conducted as to cause the minimum obstruction and inconvenience to the traveling public.

C. All barricades, signs, warning lights and other protective devices shall be installed and maintained in conformance with applicable statutory requirements and where within rights-of-way as required by the authority having jurisdiction thereover.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the product requirements for the project.

1.02 SECTION REQUIREMENTS:

A. To fullest extent possible, provide products, materials, and equipment of same kind from a single source.

B. Equipment manufactured within the continental limits of the United States shall be encouraged.

C. Deliver, store, and handle products, materials, and equipment according to manufacturer's written instructions, using all means and methods that will prevent damage, deterioration, and loss, including theft.

1. Schedule delivery to minimize long-term storage and to prevent overcrowding construction spaces.

2. Deliver in manufacturer's original sealed packaging with labels and written instructions for handling, storing, protecting, and installing.

3. Inspect to ensure compliance with the Contract Documents and to ensure items are undamaged and properly protected.

4. Store heavy items in a manner that will not endanger supporting construction.

5. Store items subject to damage aboveground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required.

PART 2 - PRODUCTS

2.01 PRODUCT OPTIONS:

A. Provide items that comply with the Contract Documents, are undamaged, and are new at the time of installation.

1. Provide products and equipment complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.

B. All equipment and material shall conform to the latest applicable IEEE, ANSI, NEMA, EEI, AISC, ICEA, and ASTM standards.

C. Do not attach manufacturer's labels or trademarks, except for required nameplates, on surfaces exposed to view in occupied spaces or on the exterior.

D. Select products, materials, and equipment as follows:

1. Where these Specifications name only a single product, equipment, or manufacturer, provide the item indicated. No substitutions will be permitted.

2. Where these Specifications name 2 or more products, equipment or manufacturers, provide 1 of the items indicated. No substitutions will be permitted.

3. Where products or equipment are specified by name, accompanied by the term "or equal," comply with provisions concerning "substitutions" to obtain approval for use of an unnamed product or equipment.

4. Where these Specifications describe a product, material, or equipment, listing characteristics required, provide an item that provides the characteristics and complies with requirements.

5. Where these Specifications require compliance with performance requirements, provide products, materials, or equipment that comply and are recommended in writing by the manufacturer for the application.

E. Unless otherwise indicated, Engineer will select color, pattern, and texture of any product, material, or equipment from manufacturer's full range of options.

2.02 PRODUCT SUBSTITUTIONS:

A. Submit four copies of each request for product substitution. Identify product to be replaced, provide complete documentation showing compliance of proposed substitution with all specified requirements, and include the following:

1. A full comparison with the specified product.

2. A list of changes to other Work required to accommodate the substitution.

3. Any proposed changes in the Contract Sum or Contract Time should the substitution be accepted.

B. Engineer will review the proposed substitution and notify Contractor of its acceptance or rejection.

PART 3 - EXECUTION: – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 6400

OWNER-FURNISHED PRODUCTS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the products that will be furnished by the Owner and installed by the Contractor.

1.02 OWNER-FURNISHED MATERIAL:

A. A Builders Risk policy shall be secured by the Contractor to cover the Owner-furnished material that will be handled, worked within or on, and/or installed by the Contractor. The following values shall be used in obtaining insurance coverage for these materials. These prices shall not be included in the unit prices submitted in the Bid.

Owner-furnished Item	Total Cost
22.4 MVA Power Transformer	$ 1,079,238.00
69 kV Circuit Breakers	$ 273,034.02
69 kV GOAB Switches	$ 95,192.45
69 kV Lighting Arresters	$ 7,284.00
69 kV Potential Transformers	$ 58,880.00
Cable Trench with Bollards	$ 8,874.40
15 kV Power Cable	$ 24,300.00
Substation Steel	$ 201,749.30
Control Enclosure	$ 470,000.00
15 kV Switchgear	$ 580,000.00
69 kV Control Panels	$ 250,000.00
Total	$ 3,048,552.17

B. The Contractor recognizes that substantial value is being placed in his responsibility and shall do all that is necessary to safeguard the Owner's material. Some additional material beyond that required for the project may have been ordered. At the completion of the project, any remaining materials shall be returned to the Owner in new, unused condition with all associated protective packaging. The Contractor shall be liable at the listed unit price for any lost, damaged, or wasted material. The charge for lost, damaged, wasted, or otherwise unaccounted for material shall be computed by the following method:

Charge to Contractor = Unit Price * (original quantity received – quantity installed – quantity returned in "like new" condition)

C. The Owner intends and has attempted to furnish all materials listed. However, shortages whether by omission, miscount, or loss may occur. Contractor shall plan his work so that any shortages are identified, and the Owner is notified a minimum of thirty days in advance of intended use, allowing the Owner to verify the shortage and to purchase the required necessary replacement. The Owner shall have no liability whatsoever for associated costs and delays for material shortages not identified in the above timely manner.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 6500

PRODUCT DELIVERY REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the requirements that the Contractor shall follow for all products that will be delivered to the project site.

1.02 DELIVERY, STORAGE, AND HANDLING:

A. Contractor shall make arrangements to receive, unload, and store their own project materials.

B. Materials shall be addressed and delivered to the Contractor's project facilities.

C. The Owner will not receive, unload, or store the Contractor's materials.

D. The Contractor shall be responsible for receiving, unloading, and installing/storing the Owner-Furnished materials as described in the specifications.

E. Contractor shall return unused or removed material to the Owner's facility as directed by the Owner.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 7100

EXAMINATION AND PREPARATION

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the examination and preparation requirements the Contractor shall conform to during construction.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 EXAMINATION:

A. Examine substrates and conditions for compliance with manufacturer's written requirements including, but not limited to, surfaces that are sound, level, and plumb; substrates within installation tolerances; surfaces that are smooth, clean, and free of deleterious substances; and application conditions within environmental limits. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PROTECTION OF OTHER UTILITES:

A. Have all foreign utilities located by contacting Iowa One-Call at 1-800-292-8989.

B. Give foreign utility management 48-hour notice prior to excavating in a questioned area. After exposing the foreign utility, notification shall again be given the foreign utility management to allow for on-site inspection before the backfilling operation shall begin. The Contractor, from time to time, shall assist the foreign utility in exposing parallel or intersecting lines to ensure that no damage will be done.

C. Do all things necessary or expedient to properly protect all parallel, converging and intersection lines, joint trenches, highways, pipelines, and all property of others from damage. Make minor trench location adjustments, if necessary.

D. In the event that such parallel, converging and intersection lines, joint lines, poles, highways or other property are damaged during construction of the project, the Contractor shall at his/her own expense restore any or all of such damaged property immediately to as good a state as before such damage occurred.

3.03 PREPARATION

A. Prepare substrates and adjoining surfaces according to manufacturer's written instructions, including, but not limited to, the application of fillers and primers.

* * * END OF SECTION * * *

SECTION 01 7300

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the execution requirements that the Contractor shall follow during construction.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 CUTTING AND PATCHING:

A. Do not cut structural members without prior written approval of Engineer.

B. For patching, provide materials whose installed performance will equal or surpass that of existing materials. For exposed surfaces, provide or finish materials to visually match existing adjacent surfaces to the fullest extent possible.

C. All cutting is by the Contractor responsible for the work. All patching is by the general Contractor.

3.02 EXCAVATIONS:

A. When working in trenches or excavations, Contractor shall incorporate required shoring of sidewalls, including trench boxes, braces, or other means of shoring to ensure the safety of all personnel.

B. Contractor is responsible for all open excavations associated with the Contract. Guard open or unattended trenches, foundations, or pole holes 4 inches or more in width with one of the following methods:

1. 1/2 inch plywood that is weighted to prevent movement during windy conditions.

2. Continuous snow fence and appropriate flashing warning lights.

3.03 INSTALLATION:

A. Comply with manufacturer's written instructions for installation. Anchor each product securely in place, accurately located and aligned. Clean exposed surfaces and protect from damage. If applicable, prepare surfaces for field finishing.

3.04 SPECIAL PRECAUTIONS FOR WORK IN MANHOLES:

A. Follow all confined space safety procedures when working in manholes.

B. Before entering any existing or completed manholes, provide fresh air to the manhole by using adequate mechanical ventilating equipment.

C. Care shall be taken to avoid fire or explosion in manholes. No smoking, fire, or open lights are allowed in any manhole.

3.05 PROPERTY DAMAGES:

A. The Contractor shall limit the movement of its crews and equipment so as to cause as little damage as possible to lawns, gardens, crops, orchards, or property and shall endeavor to avoid marring the lands. All fences that are damaged shall be replaced in as good condition as they were found and precautions shall be taken to prevent the escape of livestock. The Contractor shall be responsible for all loss of or damage to the above property whether on or off the right-of-way caused by his crews during the construction of the project and shall restore them to their original condition.

B. The Contractor shall be responsible for all damage to any existing city, state, county, township, or private streets, roads, parks, railroads, or other property by reason of its operation, or those of its subcontractors. The Contractor shall take all necessary precautions to avoid damages to all roads and comply with all load limits. The Contractor shall repair all roads damaged by their crews in a timely fashion.

* * * END OF SECTION * * *

SECTION 01 7400

CLEANING AND DISPOSAL MANAGEMENT

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the cleaning and disposal management that the Contractor shall conform to during construction.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 DISPOSAL OF SALVAGE MATERIALS:

A. Unless otherwise specified, all salvage materials, as determined by the Owner during construction, are property of the Owner and shall be returned to the Owner. All other materials not identified as property of the Owner shall become property of the Contractor.

B. Properly dispose all non-salvageable materials at Contractor’s expense.

3.02 PROTECTION AND CLEANING OF SITE:

A. Protect all structures within the construction limits.

B. At all times maintain premises free from accumulations of waste material and rubbish.

1. Upon completion of Work remove all rubbish, tools, and surplus materials from premises.

2. Leave all work in "broom clean" condition, unless more exactly specified elsewhere.

C. Where sodded areas were disturbed, restore surface to original elevation, replacing final 6 inches with topsoil, rake smoothly, and reseed.

1. Drainageways disturbed by trenching operations shall be restored as nearly as possible to their original grade and cross section.

D. At the end of each day's work leave construction area in such a condition so to permit unencumbered access to all private properties in vicinity of Project.

E. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery, and surplus materials and clean all sight-exposed surfaces; leave project clean and ready for occupancy.

F. Hazards Control:

1. Store volatile wastes in covered metal containers and remove from premises daily.

2. Prevent accumulation of wastes which create hazardous conditions.

G. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on project site.

2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.

3. Do not dispose of wastes into streams or waterways.

H. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

I. At reasonable intervals during progress of work, clean site and public properties, and dispose of waste materials, debris and rubbish. Legally dispose of at public or private dumping areas off Owner's property.

J. Provide on-site containers for collection of waste materials, debris, and rubbish.

K. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

L. Employ experienced workmen, or professional cleaners, for final cleaning.

M. In preparation for substantial completion or occupancy, conduct final inspection of project site.

N. Maintain cleaning until project, or portion thereof, is occupied by Owner.

3.03 FINAL CLEANING:

A. Clean each surface or item as follows before requesting inspection for certification of Substantial Completion:

1. Remove labels that are not permanent.

2. Clean transparent materials, including mirrors. Remove excess glazing compounds. Replace chipped or broken glass.

3. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Leave concrete floors broom clean.

4. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication. Clean light fixtures and lamps.

5. Clean the site. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds to a smooth, even-textured surface.

* * * END OF SECTION * * *

SECTION 01 7513

CHECKOUT PROCEDURES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the checkout procedures that the Contractor shall conform to during final construction.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 PERFORMANCE AND FUNCTIONAL TESTING:

A. See the technical specifications for responsibilities and requirements regarding performance and functional testing of all equipment installed as specified herein.

B. The Contractor shall verify all equipment is installed correctly according to the manufacturer drawings and instruction books. All instruction books shall be obtained and read through thoroughly before beginning installation. The Contractor shall fully functional test the equipment to insure it is functioning properly.

C. The Contractor shall be on-site during testing and checkout to make any corrections that are required on his behalf.

* * * END OF SECTION * * *

SECTION 01 7800

CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the execution requirements that the Contractor shall follow during construction.

1.02 SUBMITTALS:

A. Record Drawings: Maintain one (1) set of Contract Drawings as Record Drawings. Mark to show installation that varies from the Work originally shown.

B. Record Specifications: Maintain one (1) copy of the Project Manual, including addenda, as Record Specifications. Mark to show variations in Work performed in comparison with the text of the Specifications and modifications.

C. Operation and Maintenance Data:

1. The Contractor shall prepare and furnish four (4) hard copy and (1) electronic copy of manuals of all equipment specified.

2. The Manual shall cover the installation, operation, and maintenance of all equipment and material including:

a. Complete catalog data.

b. Manufacturer's literature.

c. Parts list.

d. Maintenance instructions.

e. Approved shop drawings.

f. Supplier's name, address and telephone number.

3. All such literature shall be bound under hard cover and submitted to the Engineer for review and transmittal to the Owner.

a. Should modification be required, the bound literature will be returned to the Contractor for modification and resubmittal to the Engineer.

4. All 'for record' AutoCAD-compatible control and relaying drawings files shall be submitted on one (1) USB stick or by email along with four (4) paper copies. The paper size shall be coordinated with the Engineer.

D. Contractor shall submit to the Engineer a maintenance schedule summary for all equipment furnished by the Contractor needing routine maintenance as recommended by the equipment manufacturer.

1.03 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 CLOSEOUT PROCEDURES:

A. Request Substantial Completion inspection once the following are complete:

1. Advise Owner of pending insurance changeover requirements.

2. Submit Record Drawings and Specifications, maintenance manuals, warranties, and similar record information.

3. Deliver spare parts, extra stock, and similar items.

4. Changeover locks and transmit keys to Owner.

5. Complete startup testing of systems.

6. Remove temporary facilities and controls.

7. Complete final cleanup.

8. Touch up, repair, and restore marred, exposed finishes.

9. Obtain final inspections from authorities having jurisdiction.

10. Obtain certificate of occupancy.

B. Upon notification from the Contractor, the Engineer will proceed with inspection or advise Contractor of unfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or advise Contractor of items that must be completed or corrected before the certificate will be issued.

C. Arrange for each installer of equipment that requires operation and maintenance to provide instruction to Owner's personnel. Include a detailed review of the following:

1. Maintenance manuals.

2. Spare parts, tools, and materials.

3. Lubricants and fuels.

4. Identification systems.

5. Control sequences.

6. Hazards.

7. Warranties and bonds.

D. Final Completion procedures include supplying the following documentation:

1. Waiver and Release of Lien forms from the Contractor and all associated parities that worked onsite (Subcontractors and their subcontractors) or supplied materials (Suppliers). No partial or conditional lien waivers will be accepted.

2. Certificate of Contractor and Indemnity Agreement.

3. Contractor’s statement of taxes paid.

4. Other final documents required by the Contract.

* * * END OF SECTION * * *

SECTION 01 7836

WARRANTIES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the warranty clause that the Contractor shall conform to for the project.

1.02 WARRANTIES:

A. See Supplementary Conditions.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

Division 3
Concrete

Division 3
Concrete

SECTION 03 1000

CONCRETE FORMWORK

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes the following items as herein specified and shown on the Drawings:

1. Forms for all cast-in-place concrete

2. Form accessories.

3. Stripping forms.

1.02 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices for the concrete units as shown on the Bid Form.

1.03 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.04 REFERENCES:

A. ACI 301 - Specifications for Structural Concrete for Buildings.

B. ACI 318 - Building Code Requirements for Structural Concrete.

C. ACI 347 - Recommended Practice for Concrete Formwork.

D. PS 1 - Construction and Industrial Plywood.

E. ACI 117 - Standard Specifications for Tolerances.

1.05 QUALITY ASSURANCE:

A. Construct and erect concrete formwork in accordance with ACI 301.

B. Tolerances: See ACI 117.

PART 2 - PRODUCTS

2.01 FORM MATERIALS: (Earth is not an approved forming material) (Conform to ACI 301 and ACI 347 for design, fabrication, erection, and removal of forms.)

A. Circular pier or round column forms: Cardboard waxed or plasticized forms such as Sonneborne or equivalent.

B. Plywood: Douglas Fir or equal species; sound, undamaged sheets with straight edges, manufactured for concrete wall forms.

1. Conform to Tables for form design in APA Form V-345, including strength.

C. Glass Fiber Fabric Reinforced Plastic Forms: Matched tight fitting, stiffened to support weight of concrete without deflection detrimental to structural tolerances and appearance of finished concrete surfaces.

D. Steel: Minimum 16 gauge sheet, well matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearances of finished surfaces.

E. Form deck: 1 1/2", 20 gage, type "C" ASTM A653 by Vulcraft or equal, galvanized in accordance with ASTM 924-94 to a min class of G90, unless otherwise noted on plans.

F. Do not leave aluminum materials, which may cause a corrosive reaction, embedded in the concrete. Aluminum forms are acceptable.

2.02 FORMWORK ACCESSORIES:

A. Form Ties: factory fabricated, adjustable length, removable or snap off form ties which results in no metal being closer than 1 1/2" from surface of concrete when forms are removed.

B. Form Release Agent: Colorless material that will not stain concrete, or absorb moisture.

1. Do not allow form release agent to come in contact with reinforcing steel or inserts in the concrete.

C. Fillets for Chamfered Corners: Wood strips or rigid plastic as detailed. 3/4" x 3/4"

D. Nails, Spikes, Lag Bolts, Through Bolts, Anchorage's: Sized as required; of strength and character to maintain form work in place while placing concrete.

PART 3 - EXECUTION

3.01 INSPECTION:

A. Verify lines, levels, and measurements before proceeding with formwork.

B. Depth or thickness of concrete being formed is to be as shown on plans. No variation in thickness or depth is allowed.

3.02 PREPARATION:

A. Arrange and assemble formwork to permit dismantling and stripping so that concrete is not damaged during its removal.

B. Arrange forms to allow stripping without removal of principal shores, where required to remain in place.

3.03 ERECTION:

A. Provide bracing to ensure stability of formwork. Strengthen formwork liable to be overstressed by construction loads.

B. Construct forms in accordance with ACI 301.

3.04 TOLERANCES:

A. Set and maintain forms to provide completed surfaces meeting the tolerances given in ACI 117. See Part 1 of these specifications.

1. Tolerances given in ACI 117 are not cumulative. Maximum tolerance for any formed surface, except footings, shall be one inch.

3.05 INSERTS, EMBEDDED PARTS, AND OPENINGS:

A. Provide formed openings where required for work embedded in or passing through concrete. Fill these voids with a readily removable material to prevent entry of concrete into voids or:

1. Use void forming systems of correct size for openings required in the concrete. Follow manufacturers' instructions for proper strength ratings of void forms.

B. Coordinate work of other Sections in forming and setting, slots, sleeves, bolts, anchors, including electrical boxes and conduit and other inserts.

1. Ensure that forms will provide sufficient coverage for reinforcing. See Section 03 2000 for requirements.

C. Install accessories in accordance with manufacturers' instructions level and plumb. Ensure items are not disturbed during concrete placement.

3.06 FORM RELEASE AGENT APPLICATION:

A. Apply agent on formwork only in accordance with manufacturer’s instructions.

1. Apply prior to installation of reinforcing steel, anchoring devices, or embedments.

2. If unable to completely remove agent from unintended items, replace the reinforcing steel, anchors or embedments.

3.07 FORM REMOVAL:

A. Replace concrete damaged by early removal of forms. Consult ACI 318, 301 and the following:

1. Do not remove sonotube forms until concrete has achieved its specified strength.

2. Do not remove forms, shoring or bracing until concrete has sufficient strength to support its own weight, and construction and design loads that may be imposed upon it.

3. Temperatures below 50 degrees F will prolong the timing of form removal.

B. Form removal timing: Contractor shall verify the exact timing of form removal using these minimum removal times based on 28 day strength design of concrete and ACI 318.

1. Footings: 24 hours minimum.

2. 12” Walls under 5’-0” and 5’-0” columns: 36 hours minimum.

a. For walls thicker than 12” and up to 20” add 8 hours.

b. For walls thicker than 20” same as 3 below.

3. Walls and columns over 5’-0”: 72 hours minimum but not until concrete, by cylinder test, has reached 50% of its 28-day design strength.

C. Do not damage concrete surfaces during form removal.

D. Reshoring: Reshoring is designed to allow concrete to deflect and support its own weight after initial set has occurred and forms have been removed. Remove forms and tightly place reshores only after initial concrete deflection. Do not remove reshores until concrete has reached its specified strength.

1. Apply no construction loads or other loads to members being reshored.

2. Provide reshores for all two-way slabs until concrete reaches specified strength.

E. At removal of forms patch all locations where wire ties protrude through the concrete or are exposed. Use primer and non-shrink grout to solidly fill these holes. Also, patch and grind to provide a smooth formed finish where required.

3.08 ALLOWABLE FACE & CORNER FINISHES:

A. Rough Form Finish: Concrete faces not exposed to view in the finished work shall have a rough form finished as defined by ACI 347.3.4 as a Class D finish. Holes shall be no larger than 3/8" and honeycombing or surface irregularities shall be no more than 1" in a 5'-0" area. However, any exposed reinforcing steel or ties must be solidly grouted to match reinforcing coverage requirements.

B. Smooth Form Finish: Concrete faces exposed to view in the finished work shall have a smooth form finish as defined by ACI 347.3.4 as Class B surfaces. Class B surfaces have no more than 1/4" abrupt or gradual irregularities in a 5'-0" area and no holes larger than 1/4" on the surface. The contractor shall grind the surfaces where necessary to comply with these ACI requirements.

C. Corners not exposed to view may be formed either square or chamfered.

D. Corners exposed to view shall be square, smooth, solid, unbroken lines except where a chamfered surface is called for.

1. Chamfered Corners shall be formed with strips to produce uniformly straight lines and tight edge joints. Unless otherwise stated the chamfers shall be 3/4" along both adjoining planes of the concrete edge. Extend the edges of the chamfers to the end of the formed surface. Match adjacent changes of direction by mitering to produce a connection without breaks in appearance. See plans for where chamfers are required.

3.09 CLEANING:

A. Clean forms to remove foreign matter as erection proceeds.

B. Ensure that water and debris drain to exterior through clean-out ports.

* * * END OF SECTION * * *

SECTION 03 1119

FOUNDATION WALL INSULATION

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the foundation wall insulation provisions as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Submit copies of manufacturer's specifications and installation instructions for each item required. Include data substantiating materials that comply with specified requirements. Indicate that installer has received a copy of manufacturer's instructions. Submit physical samples of material when requested by Engineer.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 DELIVERY, STORAGE, AND HANDLING:

A. Deliver products to site packaged in manufacturer's standard labeled containers. Store and handle to avoid damage from weather or fire. Keep all materials in a dry condition.

1.05 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 RIGID BOARD OR PERIMETER INSULATION:

A. Provide foam, extruded polystyrene insulation: rigid board type complying with F.S. HH I 524B, Type II, Class B; 30 psi compressive minimum compressive strength. Provide board extruded with integral high density skin, "Styrofoam SM" as manufactured by Dow Company with thickness as indicated on the project plans.

B. Provide Dow Mastic No. 11 for setting polystyrene insulation board.

PART 3 - EXECUTION

3.01 INSTALLATION GENERAL:

A. Extend insulation full thickness over entire surface to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Cover all penetrations with insulation. Seal all joints with sealant or tape as applicable. Seal or tape to abutting construction materials as required to maintain vapor tightness.

B. Comply with manufacturer's instructions for particular conditions of installation in each case. If not available or not applicable, consult manufacturer's technical representative for specific recommendations before proceeding with work.

C. Apply single layer of insulation unless otherwise indicated to make up total thickness. Do not use broken or torn pieces of insulation.

D. Install insulation and vapor barriers so that completed installation is vapor tight. Repair any areas to insure vapor tight integrity.

3.02 INSTALLATION PERIMETER INSULATION:

A. Install rigid board insulation underground outside foundation walls. Extend insulation down for distance indicated. If not indicated, extend down to design frost line.

B. Extend rigid board insulation under floor slabs for a minimum of 24 inches in from exterior walls.

C. Install with tight, sealed joints. Install to walls in accordance with manufacturer's recommendations.

D. Protect insulation from damage and/or displacement during backfilling operations.

* * * END OF SECTION * * *

SECTION 03 1513

FOUNDATION WALL WATERPROOFING

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the foundation wall waterproofing provisions as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 LOCATION:

A. Install waterproofing on below grade masonry and concrete walls.

PART 2 - PRODUCTS

2.01 GENERAL:

A. Sheet membrane waterproofing Bituthene 4000 as manufactured by WTL Grace, or equal.

B. Hydro Drainage Composite Board by WTL Grace or equal.

PART 3 - EXECUTION

3.01 APPLICATION: Waterproofing

A. Surface Preparation:

1. Surface shall have a smooth finish, dry, free of voids, spalled areas, loose aggregate and sharp protrusions.

2. Prepare and pre-strip joints, cracks, pipe penetration in accordance with manufacturer's recommendations.

B. Apply over exterior concrete or masonry in accordance with manufacturer's application Specification.

C. Install protection board prior to backfilling.

* * * END OF SECTION * * *

SECTION 03 2000

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes the following items as herein specified and shown on the Drawings:

1. Weldable and non-welded reinforcing steel bars, for cast-in-place concrete.

2. Support chairs, bolster, bar supports, ties, and spacers for supporting reinforcement.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Provide layout with gridline coordinates and dimensions. Provide in accordance with ACI publication SP 66 / 315R and 315 detailing manual (latest edition).

a. Provide cutting / bending lists and cut through concrete details that show all sizes, spacing, concrete cover, locations, splices and quantities of reinforcing steel.

(1) Supporting devices are part of the work and must be shown on the submittal.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices for the concrete units as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES: (Except where noted use latest edition)

A. ACI 301 - Specification for Structural Concrete for Buildings.

B. ACI 318 - Building Code Requirements for Structural Concrete - 2011.

C. ACI 315 - Details and Detailing of Concrete Reinforcement.

D. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.

E. ASTM A615 - Standard Deformed and Plain Billet Steel Bars for Concrete Reinforcement.

F. CRSI Manual of Practice.

1.06 QUALITY ASSURANCE:

A. Perform concrete reinforcement work in accordance with CRSI Manual of Standard Practice, and Documents 63 and 65.

B. Conform to ACI.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Non Welded Reinforcing Steel: ASTM A615, 60 ksi yield grade billet steel deformed bars, uncoated finish. Also includes smooth dowels. Use at all locations where A706 type is not specifically stated.

1. At construction joints, grease and wrap the exposed end portion of smooth dowels prior to next concrete pour.

2. See Structural details for corner bar requirements in footings, foundations, and masonry.

B. Reinforcing supports:

1. For piers use stirrups or wire meeting either CRSI Class 1 2 gauge tie wire meeting ASTM A82.

2. For footings, wall, pier or foundation supports use stirrups or wire meeting either CRSI Class 1 - 2 gauge tie wire meeting ASTM A82.

3. Slab Reinforcing Supports: Use Stirrups, chairs, masonry materials, or concrete preplacements meeting CRSI requirements. Wood materials are

prohibited. Supports are to be furnished by material supplier unless masonry or concrete preplacements. Coordinate with contractor.

C. Weldable Reinforcing Steel: ASTM A706 60 ksi yield grade low alloy steel deformed bars with uncoated finish. See locations required on plans and details.

2.02 ACCESSORY MATERIALS:

A. Tie Wire: ASTM A82; minimum 16 gauge, annealed type, black.

2.03 FABRICATION:

A. Fabricate in accordance with ACI 315, providing concrete cover specified in this section.

B. Locate reinforcing splices not indicated on Drawings at points of minimum stress. Indicate location of splices on shop drawings.

C. If required in plans or details, weld reinforcing bars in accordance with ANSI/ASW D1.4.

2.04 JOBSITE STORAGE:

A. Reinforcing steel shall be stored at site on timbers or planks, not concrete, which will keep steel free from mud and water. If storage is during winter months cover and ventilate.

PART 3 - EXECUTION

3.01 INSPECTION:

A. Prior to concrete placement all reinforcing shall be inspected by the Owner's Representative. This inspection shall verify that reinforcing is installed per the plans and specifications and is not contaminated with form lubricants. In case of a conflict between the plans and the submittal drawings promptly contact the Engineer for resolution.

B. When the supporting medium is a raised platform inspect the platform or decking to insure that the substrate is the proper specified platform and that the finish of the deck is as specified.

C. Prior to concrete placement, notify all required governmental authorities of the work to allow for their inspection and comment.

D. Before placing concrete, clean reinforcement of foreign particles or coatings including form oils. If reinforcement cannot be completely cleaned, replace contaminated reinforcement.

3.02 COVERAGE:

A. Maintain concrete cover around reinforcing as shown on structural plans and note sheet.

3.03 INSTALLATION:

A. Place, support, and secure reinforcement against displacement. Do not deviate from alignment or measurement.

B. Provide ties, bar supports and other permanent methods of keeping reinforcing steel at required position in the concrete.

C. Chair up all steel bar slab reinforcing. Do not allow reinforcing to be at bottom of slabs. The process of lifting up bars during slab pouring is not permitted unless it is to lift it up onto pins or chairs, during pour, for permanent placement.

* * * END OF SECTION * * *

SECTION 03 3000

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes the following items as herein specified and shown on the Drawings:

1. Independently engineer all concrete mixes, furnish and install all cast-in-place concrete for footings, foundations, piers, columns, slab on grade, equipment pads, and other work as shown on plans and details.

2. Protection of freshly poured and concrete undergoing curing.

3. Shelters, heat and weather protection of Cast-in-Place Concrete.

4. Pumping of Concrete materials if required.

5. Installation or metal angles, embeds and anchor bolts into the concrete.

6. Admixtures, curing compounds and accessories.

7. Sawcutting control joints.

8. ASTM and ACI standards of level and flatness.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Concrete mix designs as defined in the following Design and Testing Section.

2. Compacted engineered fill and compacted free drainage granular fill gradations shall be submitted for approval prior to installing. See Drawings for specification details.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices for the concrete units as shown on the Bid Form.

1.01 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.02 REFERENCES: (Use latest publication date unless otherwise noted)

A. ACI 301 B Standard Specifications for structural concrete for buildings. (THE FIELD GUIDE)

B. ACI 318 - Building code requirements for structural concrete B 1999

C. ASTM C33 Concrete aggregates.

D. ASTM C94 Ready Mixed concrete.

E. ASTM C150 Portland cement.

F. ASTM C260 Air Entraining admixtures for concrete.

G. ASTM C494 Chemical admixtures for concrete.

H. ACI 210 Guide to durable concrete.

I. ACI C308 Standard practice for curing concrete.

J. ACI C305 R - Hot weather concrete work.

K. ACI 306 R - Cold weather concrete work.

L. AASHTO M 148 for curing materials.

M. ASTM C192 Test methods for concrete.

N. ASTM C156 Test method for moisture retention for concrete.

O. ASTM C 295 Petrographic examination of aggregates for concrete. or C1260.

1.03 QUALITY ASSURANCE:

A. Perform work in accordance with ACI 301.

B. Have a current copy of ACI 301 on the jobsite for reference during the work of this section.

C. Dimensions as shown on Construction Drawings are as intended.

D. If the Concrete provided does not meet these specifications, The Contractors' Independent Engineering & Testing Agency shall perform batch inspections for the design mix and shall sample and test mix ingredients until concrete quality is established to the satisfaction of these Specifications.

1.04 DESIGN & TESTING:

A. **Use, an Independent Engineering & Testing Agency to provide design mix submittals for the Engineer's review on all concrete used. The Redi-mix Concrete Supplier is not an Independent Engineering and Testing Agency.** Mixes submitted without this design process will not be reviewed and must be resubmitted. Submit the design mixes 10 days prior to placing concrete. Receive Engineers' review prior to use. Mix designs shall be no more than one year old from the date they are to be used. The following information shall be provided for each design mix.

(1) Fine and coarse aggregate gradations per ASTM C33.
(2) Method of determination the mix design proportions.
(3) Water/cement ratio.
(4) Entrained and non-entrained air content of freshly poured concrete.
(5) Compressive strength at 28 days per ASTM C 39.
(6) Chloride ion content of the concrete per ASTM C1218.
(7) The proportions and types of all cementitious materials and admixtures.
(8) The Shale and deleterious contents of all aggregates used.
(9) Slump, including slump both prior and after introduction of plasticizers; if they are used.
(10) Location where concrete is to be placed. (i.e.) footings, topping etc.

B. After design mix is approved, provide the testing and analysis of jobsite delivered concrete.

1. Strength tests: 4 Cylinders (1 7 day, average of 2 28 day, 1 field hold) per every 50 yards of each type of concrete for each days pour.

a. Contractor shall keep and test additional cylinders for use in his determination of form removal timing, for cold or hot weather verification and for OSHA required column strengths.

2. Air entrainment tests at same time as slump tests. Air tests in fresh concrete are intended to show current air content. Send back non-compliant trucks.

3. **The Contractor will be required to prepare and arrange for the transportation of compressive strength cylinders to the testing laboratory. The Contractor to pay for cylinder molds and transportation costs. Cost of preparing and protecting cylinders prior to shipment to be included in unit price for concrete work.**

4. **The Owner will pay for the cost of cylinder testing at the testing laboratory.**

C. Vehicles on which non-compliant concrete are delivered shall not be allowed to modify concrete to be in compliance. Vehicle shall return to redi mix plant & offload non-compliant concrete prior to batching of new concrete. No rebatched, formerly rejected concrete shall be used.

PART 2 - PRODUCTS

2.01 CONCRETE PROPERTIES, MATERIALS & MIXING:

A. Concrete shall be plant redi mix type meeting ASTM C94. Site mixed concrete is not acceptable.

B. Proportion mixes in accordance with ACI 211.1.

C. Compressive strength (ASTM C31 and C39): 4000 psi at 28 days.

D. Water: potable, clean and free of injurious quantities of substances known to be harmful to and conforming to ASTM C94.

1. Water / cement ratio shall not exceed 5.5 (gallons/sack cement).

2. Maximum water to cement ratio for exterior concrete subject to freeze thaw cycles shall be 0.45.

E. Portland Cement: ASTM C 150, Type I / II or Type 1 or ASTM C 595, Type IL. All shall be low Alkali.

1. Use the minimum quantity of 626 pounds per cubic yard.

F. Type C Fly Ash, meeting ASTM C618, and by written permission from the Engineer.

G. Fine aggregate: clean, durable, and sound natural sand conforming to ASTM C33, #4 and down.

1. Shale or deleterious content shall be no more than .5% for slabs and 1% for all other concrete.

H. Course aggregate: clean, durable and sound natural processed crushed limestone or quartzite conforming to ASTM C33 and free or materials that can cause Alkali silica reaction (ASR).

1. Maximum size shall not exceed one (1) inch.

2. Test course aggregate for ASR under ASTM C295 or ASTM C1260.

3. Shale or deleterious content shall be no more than .5% for slabs and 1% for all other concrete.

I. Air content: Tested to ASTM C231. Air content shall meet the following:

1. 0% - 3% - footings and interior floor slabs

2. 6% +/- 1.5% - foundation walls, exterior slabs on grade, and drilled piers.

J. Slump: Tested to ASTM C 143. Slump shall meet the following:

1. 3” +/- 1” for slabs.

2. 4” +/- 1” for walls.

3. 6” +/- 1” for drilled piers

2.02 COMMON CONCRETE ACCESSORIES AND ADDITIVES:

A. No products containing calcium chloride in a content of more than 0.06% of the cement weight in chloride ions or Thiocyanates will be permitted. See ASTM C494 and ACI 318. If additional admixtures are used after mix approval, notify the Engineer.

1. Wet curing materials for slab on grade concrete and concrete that is exposed.

a. Burlap, cotton mats and rags, rugs or similar material under polyethylene sheets. Fabric must not have been previously used for sugar, fertilizer, or acidic materials storage. Take care that material does not have dye, which will stain the concrete. The material shall meet AASHTO M 147 and ASTM C156.

b. Combination poly and cloth sheets meeting ASTM C156.

2. Mid-Range Plasticizer. Meeting ASTM C494 Type D: Combination water reducer and agent to improve workability for concrete during placement, at a level less than a superplasticizer.

3. Water reducing admixtures: Water reducing admixtures meet ASTM C494, Type A.

4. Air Entraining: Tests to ASTM C231. Air entraining products must meet ASTM C260. All concrete does have some non-entrained air.

   a. Adjust if using a super or midrange plasticizer.

5. Non Chloride Accelerating Admixtures: If a faster initial set up is desired, use products meeting ASTM C 494 Type C. Never use chlorides.
6. Membrane curing compound shall be a liquid type, all resin based material conforming to ASTM C309, Type 1.

7. Floor Hardener - Floor hardeners shall be formulated to comply with Federal Job Specifications for Emery Slip-Resistant Finish. Use material that is factory-graded, packaged, rustproof, and non-glazing, and is unaffected by freezing, moisture and cleaning materials.

2.03 CONCRETE MIXING AND TRANSPORTING:

A. Do not add water to concrete at the site except with the direct written approval of the Engineer. Delivery trucks shall deliver with minimum drum revolutions. No concrete older than 90 minutes from time of mixing in the truck shall be used for the project.

PART 3 - EXECUTION

3.01 INSPECTION AND PROTECTION:

A. Notify Engineer minimum 24 hours prior to commencement of concrete placement.

B. Verify anchors, plates, reinforcement, drains and other items to be cast into concrete are accurately placed, held securely, and will not cause hardship in placing concrete.

C. Work area and Concrete may be exposed to potentially hazardous damage after initial set has been achieved. Take measures to protect concrete from traffic, ladders, fluids, and indentation during initial set and curing. Ladders and all materials with sharp edges must have protective plywood under the rungs or edges.

3.02 PLACING CONCRETE:

A. Place concrete in accordance with ACI 301 96.

1. Do not allow a vertical drop of more than 5’ without use of a Tremie to prevent aggregate segregation.

2. Hot Weather Placement: See ACI 305R - latest edition.

3. Cold Weather Placement: See ACI 306R - latest edition

B. Ensure reinforcement, inserts, embedded parts, and formed joints are not disturbed during concrete placement. If movement occurs the concrete contractor must remove and replace the effected item and the effected concrete.

C. See structural notes sheet and drawings for minimum concrete cover.

D. All slab reinforcing must be on chairs. Hand lifting without supports during pour is prohibited.

E. Excessive honeycombing or embedded debris in concrete is not acceptable. Contractor must replace or repair.

F. The concrete shall be screeded or struck off slightly above final elevation, then consolidated.

1. Consolidate concrete by vibrating, so that concrete is thoroughly worked around reinforcement, around embedded items and into corners of forms to eliminate air or stone packers that may cause honeycombing, pitting or weakness.

a. Vibrating shall be done by experienced workers in a manner to eliminate consolidation. Do not vibrate forms or reinforcing materials.

2. After consolidation the concrete shall not be further worked until finishing.

G. Do not add water during placement or when finishing.

H. Do not use cement or sand to take up excess surface water.

3.03 HORIZONTAL SURFACE:

A. Finish the concrete when the water sheen has disappeared and the surface has stiffened enough to permit the finishing operation. Follow ACI 302.1R.

B. Types of final finishes are:

1. For all flat exposed, surfaces float and then Hard Steel Trowel Finish@ the concrete surface in accordance with finishing class 5.

C. All concrete horizontal surfaces, including floors must be flat and level within 3/16@ in 10 ft, unless specified otherwise such as where drainage is required.

3.04 CONCRETE CURING AND SEALING: (See also ACI 308)

A. All exterior concrete must be immediately covered with plastic sheets similar to Visqueen, a burlap material or a liquid membrane curing compound to decrease water evaporation from the exposed surfaces during the first 7 days after placement.

B. Allow the surface of the concrete to further cure and dry for a period of 28 days prior to exposure to epoxy finishes, hard surface traffic, steel wheels, or shovels.

3.05 EXTERIOR CONCRETE:

A. If concrete is placed in hot weather in temperature above 80 degrees, provide protection to all newly poured surfaces. See ACI 305R.

3.06 DEFECTIVE CONCRETE: (See Chapter 9 of ACI 301)

A. Modify or replace concrete not conforming to required levels and lines, thickness, details, and elevations.

B. Repair or replace concrete not properly placed, indented or damaged, not of the specified type, spalling, under strength by more than 15%, or improperly cured. Testing agency that designed concrete and Engineer shall be final arbiters of quality.

3.07 CLEANUP:

A. At completion of each day's work, remove all concrete spillage and splash from adjacent areas and work.

1. Provide a disposal place for ready mix truck wash down. Do not allow wash down concrete to be deposited in the street, on finished landscaping or outside the construction site. Costs of cleanup of improperly disposed of wash down will be deducted from future payment and will include replacement of damaged or soiled property.

* * * END OF SECTION * * *

SECTION 03 3129

DRILLED PIERS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes products and installation methods as herein specified and shown on the Drawings for concrete drilled piers.

1.02 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices for the concrete units as shown on the Bid Form.

1.03 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.04 QUALITY ASSURANCE:

A. Installer Qualifications: Engage an experienced installer who has specialized in installing drilled piers similar to those required for this Project.

B. Drilled-Pier Standard: Comply with provisions of ACI 336.1, "Specification for the Construction of Drilled Piers," unless modified in this Section.

C. Survey Work: Lay out each drilled pier to lines and levels required before excavation and record actual measurements of each drilled pier's location, shaft diameter, bottom and top elevations, deviations from specified tolerances, and other specified data.

1. Record and maintain information pertinent to each drilled pier and cooperate with testing and inspecting agency to provide data for required reports.

PART 2 - PRODUCTS

2.01 CONCRETE, REINFORCING (see previous sections)

2.02 STEEL CASINGS:

A. Steel Pipe Casings: ASTM A 283/A 283M, Grade C; or ASTM A 36/A 36M, carbon-steel plate, with joints full-penetration welded according to AWS D1.1.

B. Corrugated-Steel Pipe Casings: ASTM A 929/A 929M, steel sheet, zinc coated.

PART 3 - EXECUTION

3.01 PREPARATION:

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, vibration, and other hazards created by drilled-pier operations.

B. Survey all locations as stated in a previous section. Report any discrepancies immediately before beginning work to the Engineer.

3.02 EXCAVATION:

A. Unclassified Excavation: Excavation is unclassified and includes excavation to bearing elevations regardless of character of materials or obstructions encountered.

B. Dewatering: Prevent surface and ground water from entering excavated shafts. Dewater excavated shafts before concreting. Conduct water to site drainage facilities.

C. Excavate shafts for drilled piers to indicated elevations.

1. Excavate bottom of drilled piers to level plane.

2. Remove loose material and water from bottom of excavation.

D. Do not excavate shafts deeper than elevations indicated, unless approved by Engineer.

E. Tolerances: Construct drilled piers to remain within the following tolerances:

1. Maximum Variation from Location: Not more than 1 inches from design center location.

2. Out-of-Plumb: Not more than 2 percent of pier length.

3. Bottom Area of Pier: Not less than 96 percent of pier area required.

4. Shaft Diameter: Not less than 98 percent of shaft diameter indicated.

F. If location or out-of-plumb tolerances are exceeded, provide corrective construction. Submit Engineered design and construction proposals to Engineer for review before proceeding.

G. Temporary Casings: If required, install watertight steel casings of sufficient length and thickness to prevent water seepage into shaft; to withstand compressive, displacement, and withdrawal stresses; and to maintain stability of shaft walls.

1. Remove temporary casings, maintained in plumb position, during concrete placement and before initial set of concrete [or temporary casings may be left in place].

2. Maintain a minimum of 5'-0" head between top of poured concrete and bottom of casing during all points of casing removal.

3.03 CLEANUP:

A. After installation, this contractor shall clean up all construction debris and remove damaged soil and plantings including grass.

B. At all areas of damage to grass or site outside of the substation fence, fill in and lightly compact with friable soil capable of sustaining new grass growth. Grass installation shall be by the Contractor. The seed or seed mixture shall be as follows:

Urban Seeding –

Kentucky Blue Grass	80%
Perennial Rye Grass (Fine leaf variety)	20%

Application Rate: 4lbs. per 1,000 square feet

* * * END OF SECTION * * *

Division 26
Electrical

SECTION 26 5629

YARD LIGHTING

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the substation yard lighting as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

A. Yard Lights:

1. Rated 130 Watts, 240 VAC, LED type, with upper visor.

2. Fixture and mounting shall be weatherproof, mounted, oriented, and tilted in locations shown on the Drawings.

3. Color shall be gray

4. Furnish Cooper Lighting UFLD CA2 130 740 U 66 C AP, no equal.

B. Mounting Equipment:

1. Pole bracket, 2” slip fitter, catalog number Holophane BKT-1-GR, no equal.

2.02 MISCELLANEOUS:

A. Supply connectors and junction boxes, as required.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install yard lights on the required steel structures as shown on the Drawings.

B. Light(s) shall be connected to a switch(es) inside the control enclosure as shown on the Drawings.

* * * END OF SECTION * * *

Division 31
Earthwork

SECTION 31 0113

SUBSURFACE INFORMATION

PART 1 - GENERAL

1.01 GENERAL:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS are hereby made part of this Section.

B. Soil borings have been performed at an adjacent site and are included in the Appendix of this project manual.

C. Additional Investigation:

1. Contractor should visit site and acquaint himself with site conditions.

2. Prior to bidding, Contractor may make subsurface investigations to satisfy himself with site and subsurface conditions.

1.02 QUALITY ASSURANCE:

A. Readjust work performed that does not meet technical or design requirements.

B. Make no deviations from the Contract Documents without specific and written approval of Owner.

PART 2 – PRODUCTS – Not Applicable

PART 3 – EXECUTION – Not Applicable

* * * END OF SECTION * * *

SECTION 31 0116

EXISTING UTILITIES, UNDERGROUND OBSTRUCTIONS, AND SUBSURFACE CONDITIONS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. This Section describes, but is not limited to, the contact to be made with existing utilities and the Work associated with location, adjustment and repair of underground utilities and obstructions.

C. Information or data presented herein relative to existing subsurface utilities are not a part of the Contract Documents and shall not be used by the Contractor for reference during construction of the work.

1.02 PAYMENT:

A. Repair by the Contractor of any utilities, sewer service lines and main, field and drain tiles and other underground obstructions damaged by the Contractor's activities is considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable

PART 3 - EXECUTION

3.01 GENERAL:

A. The Contractor shall take all necessary precautions to locate, protect and repair existing utilities, underground obstructions and structures.

B. The Contractor shall be responsible for all damage to field tiles, streets, roads, highways, ditches, shoulders, embankments, culverts, bridges or other public or private property or facility, regardless of location or character, which may be caused by moving, hauling, or otherwise transporting equipment, materials or men to or from the work or any site thereof, whether by him or his subcontractor(s).

C. The Contractor shall protect, shore, brace, support and maintain all underground pipes, conduits, drains and other underground construction uncovered or otherwise affected by the construction work performed by him. All pavements, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires and other surface

structures affected by construction operations in connection with the performance of the contract, together with all shrubs in yards and parking crossed by or adjacent to the pipeline shall be maintained, and if removed or otherwise damaged, shall be restored to the original condition thereof as determined and approved by the Resident Project Representative. All replacements of such underground construction and surface structures or replacements of such underground construction and surface structures or parts thereof shall be made with new materials conforming to the requirements of these specifications or, if not specified, as approved by the Engineer.

D. Information and data shown or indicated on drawings of the site with respect to existing underground facilities or utilities are based on information and data furnished to the Owner or Engineer by owners of such underground facilities or by others.

E. The Owner and Engineer are not responsible for the accuracy, completeness or precision of any such information, data or drawings. In general, it is not the intent of the Owner or Engineer to provide complete information relative to existing utilities on the Drawings.

F. The Contractor shall have full responsibility for reviewing and checking all such information and data, for locating all existing underground facilities including water drainage projects affected by construction, for contact with owners of affected underground facilities, and for such other requirements as may be included in the specifications, the cost of all of which will be considered as incidental to the Contract Price.

G. Information, data or drawings describing existing underground facilities or utilities are not a part of the Contract Documents.

H. If, during the course of any land disturbance related to the project, any bones, artifacts, foundations, or other indications of past human occupation of the area are uncovered, work at this location shall be temporarily stopped and the Engineer shall be notified at once to ensure notification of appropriate state authorities.

3.02 SUBSURFACE CONDITIONS:

A. In the preparation of Drawings and Specifications, the Engineer may have obtained, reviewed or been informed of subsurface information not specifically collected for design or construction of this project. Such information was of a general nature and available from sources normally open to the general public.

B. Printed information available to the Engineer during project design, including reports referenced above, are available at the office of the Engineer for examination during regular business hours.

C. Subsurface information or data referenced herein are not a part of the Contract Documents.

3.03 UTILITY CONTACT:

A. Prior to any Work, a preconstruction conference may be scheduled by the Engineer to include involvement by affected utilities. Failure of any utility to be represented at the preconstruction conference, for any reason, shall not relieve the Contractor of any responsibility described herein.

B. Prior to Work in a specific area affecting underground utilities, all utilities shall be notified by the Contractor.

3.04 UTILITY REPAIR:

A. When a utility line or cable is exposed or damaged, the Contractor shall comply with the repair requirements of the affected utility.

B. When a utility cable is exposed, the Contractor shall compact the backfill beneath the exposed cable before completion of the backfill operation.

C. The Contractor shall make, without delay, satisfactory and acceptable arrangement with the owner(s) of or the agency or authority having jurisdiction over damaged property, surface, structure, or facility concerning its repair or replacement or payment of costs incurred in connection with said damage.

3.05 OTHER OBSTRUCTION CONTACT AND REPAIR:

A. Where field and drain tiles are suspected, property owners shall be contacted by the Contractor.

1. To locate and prevent damage to known tile, the Contractor shall not be required to excavate beyond twenty-five (25) feet either side of the reported centerline without additional compensation.

2. Should additional excavation be required and compensation is desired, a Field Order shall be prepared as documentation prior to commencing the Work.

B. Where county tile have been damaged, these shall be repaired according to county specifications and requirements.

C. The Contractor shall notify the Owner when field tile have been damaged and provide drawings showing the location of repaired field tile.

D. Field and Drain Tile Repair:

1. Butt-joint Method:

a. Expose and remove damaged sections of tile so that sound, undisturbed tile lies on both sides of trench.

b. Connect the two sides using PVC pipe butted against both sides of the existing tile.

c. Seal and secure joint with concrete. One bag "Sacrete" mixed with water will be considered adequate for all tile 16 inches and smaller.

d. Replace and hand tamp the soil in twelve (12) inch lifts up to the bottom of the repaired section of tile.

e. Continue with trench backfill as per normal procedure.

f. All tile shall be repaired within 24 hours of the time it was damaged or disturbed.

* * * END OF SECTION * * *

SECTION 31 1200

MAINTENANCE OF CLEARING

PART 1 - GENERAL

1.01 CONDITIONS OF THE CONTRACT:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS are hereby made part of this Section.

B. The articles contained in this Section may amend, modify, supersede, void or supplement the articles of the General Conditions, and shall take precedence over the provisions of the General Conditions. Where any part of an article of the General Conditions is amended, modified, superseded or voided by a provision of this Section, provisions of such article not so specifically amended, modified, superseded or voided shall remain in effect. Where any article of the General Conditions is supplemented by this Section, all provisions of such article shall remain in effect, and the supplementary provisions of this Section shall be considered as added thereto.

1.02 SCOPE:

A. Related requirements specified elsewhere:

1. Summary of Work: Section 01 1100.

2. Cleaning for Specific Products or Work: Project Manual section for that Work.

B. Maintain premises and public properties free from accumulations of waste, debris, and rubbish, caused by operations.

C. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials and clean all sight-exposed surfaces; leave project clean and ready for occupancy.

1.03 SAFETY REQUIREMENTS:

A. Standards: Maintain project in accordance with safety and insurance standards.

B. Hazards Control:

1. Store volatile wastes in covered metal containers, and remove from premises daily.

2. Prevent accumulation of wastes which create hazardous conditions.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on project site.

2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.

3. Do not dispose of wastes into streams or waterways.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION:

A. Execute cleaning to insure that building, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.

B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

C. At reasonable intervals during progress of work, clean site and public properties, and dispose of waste materials, debris and rubbish.

D. Provide on-site containers for collection of waste materials, debris and rubbish.

E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.

F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

H. Protect all structures within the construction limits.

I. The Contractor shall manage his activities and implement protective measures as necessary to minimize soil erosion during the construction process.

J. At the end of each day's work leave construction area in such a condition so to permit unencumbered access to all private properties in vicinity of Project.

3.02 FINAL CLEANING:

A. Employ experienced workmen, or professional cleaners, for final cleaning.

B. In preparation for substantial completion or occupancy, conduct final inspection of project site.

C. Broom clean paved surfaces; rake clean other surfaces of grounds.

D. Maintain cleaning until project, or portion thereof, is occupied by Owner.

E. For disturbed areas on the shoulders/terraces, replace final 6 inches with topsoil and finish grade suitable for seeding.

* * * END OF SECTION * * *

SECTION 31 2350

SUBSTATION SITE EARTHWORK

PART 1 - GENERAL

1.01 SCOPE:

A. The work covered by this section of the Project Manual shall include furnishing of all labor, material and equipment necessary to complete the excavation and compaction necessary for construction of the project.

B. It will be the Contractor's responsibility to protect all existing utilities. Any existing utilities damaged by the Contractor will be replaced or repaired at the Contractor's expense. The Contractor is cautioned to seek the help of the appropriate utility office in locating existing lines.

C. No excavation shall be started until the area has been cleared and grubbed and the Contractor has staked the proposed work.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 EXCAVATION AND COMPACTION:

A. General:

1. The entire subgrade shall be graded to the elevation required prior to surfacing placement.

2. Terraces shall be graded per the plans, or as otherwise directed by the Engineer.

3. Utility appurtenances shall be located and clearly marked to avoid damage to same. Any items so damaged shall be repaired or replaced at the Contractor's expense.

4. Waste: Excavated material not needed for use on site shall be disposed of by the Contractor in locations designated by the Contractor.

5. A sufficient quantity of native topsoil, free from gravel and other foreign material and suitable for growing grass, shall be retained from the general excavation so that all terraces will have a surface at least 6 inches thick of this material.

6. Earthwork shall be suspended any time satisfactory results cannot be obtained because of weather conditions or inadequate equipment.

7. Suitable excavation from the site shall be used as embankment material prior to hauling embankment material from another source.

B. Excavation:

1. The Contractor shall perform all excavation, embankment and grading required for the site, including the requirements for moisture and density control as specified.

2. All suitable excavated materials shall be used on site to the extent necessary to raise the subgrade to the required elevation and to grade terraces. Topsoil with vegetation or sod shall not be used for embankment or have embankment placed thereon.

C. Compaction:

1. The following procedure shall apply in the compaction process to the point of finished base under the pavement and shall be paid for as subgrade preparation:

a. This item includes all work associated with scarifying, drying material, applying water, discing, blading, and controlling moisture as necessary to compact 12 inches of subgrade below the proposed aggregate/recycled milling base to 98% of Standard Proctor density with -3 to +2% of optimum moisture. The Contractor shall be responsible for maintaining the subgrade (shape and density) in good condition prior to special backfill or paving. All work necessary to set string line, trim the subgrade, and prepare and maintain the subgrade prior to paving shall be included in this item and paid for in bid item Subgrade Preparation.

b. Remove all sod, roots, and vegetation from the area in which the embankment is required and from the embankment material.

c. The embankment shall be built of suitable material available from the project, in successive horizontal layers not exceeding 6 inches in compacted thickness.

d. Add water or air dry material as required for adequate compaction.

e. The Contractor shall completely remove the upper 6" of material prior to scarifying and compacting the lower 6". At such time the lower 6" is at the specified density, the Contractor may proceed with building of embankment and compaction for the upper 6". Any

method of subgrade preparation other than the complete removal of the top 6" of material will not be acceptable.

2. Any area not accessible to large equipment shall be compacted by hand or with smaller equipment.

* * * END OF SECTION * * *

Division 32
Exterior Improvements

SECTION 32 1540

ROCK SURFACING

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing the rock surfacing supplied by Others as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. MSDS sheets for soil sterilant.

2. Crushed rock surfacing.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form. Furnishing and applying soil sterilant shall be incidental to the cost of the crushed rock surfacing.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 CRUSHED ROCK SURFACE:

A. Crushed rock with suitable durability for long-lasting service (limestone).

B. Shall consist of homogeneous quality from one approved quarry and shall not contain uncrushed rock or inverted stone even if it passes the sieve analysis.

C. Gradation and sample (10lb minimum) of crushed aggregate to be used shall be provided and reviewed by the Engineer and Owner before construction.

Sieve Size	Percent Passing
1.5”	100
1”	20-100
0.75”	0-15
0.375”	0-5

2.02 SOIL STERILANT:

A. Shall be suitable for control of all annual and perennial weeds and grasses.

B. Provide ‘Sprakil SK-13’ by SSI Maxim Company or approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Crushed Rock Surfacing:

1. Shall be applied to the entire area inside the fence and extending five (5) feet outside the fence in all directions and in the other areas shown outside the fence as shown on the Drawings.

2. Surfacing shall be repaired, replaced, leveled, and rolled after all installation is complete for final acceptance.

B. Soil Sterilant:

1. All areas receiving rock shall be treated.

2. Treatment shall be applied to sub-grade prior to rock placement.

3. Time of application of the sterilant shall be directed by the Engineer.

4. Contractor shall be responsible for preventing the spread of soil sterilant to areas other than specified.

5. Product shall be applied at a rate equal to one (1) pound per one hundred square feet of area or per manufacturer’s recommendations.

* * * END OF SECTION * * *

SECTION 32 3100

FENCING

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the fence and gates as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets, including dimensional data.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. National Electric Safety Code (NESC), current edition.

B. ASTM Specification A121, A392, A153, A53, A120, current editions and revisions.

PART 2 - PRODUCTS

2.01 FENCING MATERIALS:

A. The fence fabric shall be a minimum of 8 feet high. It shall consist of a minimum No. 9 AWG steel wire, woven into a 2 inch square mesh. The sides of the mesh pattern shall be approximately 45º to a vertical line. The fabric shall be galvanized in accordance with ASTM A392, Class II.

B. Barbed wire shall consist of three strands of 12-1/2 AWG steel wire with 4-point barbs at a maximum spacing of 4 inches apart. The wire shall be galvanized in accordance with ASTM A121, Class3.

C. All posts shall be steel and conform to the diameter and length as indicated on the drawings and in the specifications for the specific type of application. Tubular material shall conform to ASTM A53 Grade B, for round shapes. All posts shall have tops that exclude moisture. End and corner posts shall be 2-7/8 inches O.D. minimum. Gate posts shall be 4 inches O.D. minimum. Line posts shall be 2-3/8 inches O.D. minimum.

D. The extension arm shall be made of pressed steel or malleable iron and should be capable of supporting a downward force of 300 pounds. The extension arm shall be galvanized in accordance with ASTM A153, Class B1.

E. The stretcher bar shall be galvanized and used for securing the fabric to all terminal posts. One bar is required for each gate and end post and two are required for each corner and pull posts.

F. The top rails shall be round steel pipe having a minimum outside diameter of not less than 1-5/8 inch. Length shall be a minimum of 18 feet connected into a run with 6 inches minimum expansion couplings. Top rails shall be galvanized in accordance with ASTM A120.

G. All end, corner, pull and gate posts shall be braced with same material as the top rail and trussed with tension rods (3/8 inch minimum diameter) and turnbuckles.

H. The tension wire shall be a No. 7 AWG galvanized steel wire. All gate frame materials shall be hot dipped galvanized and constructed of tubular steel members that shall be welded at the joints. Horizontal and vertical struts are required to provide for a rigid panel allowing for no visible sag or twist.

I. Hinges shall be heavy duty and allow maximum swing of all gate leaves as shown on the drawing. The hinges shall not twist or turn under the action of the gate and shall provide ease of operation.

J. Latches and keepers shall all be heavy-duty construction of galvanized steel or malleable iron. Latches shall be of a heavy drop bar type. A keeper shall be provided which will secure the free end of the gate in the open position.

K. Bands, wire ties, and clips for securing the fabric to top rails, line posts, terminal posts, and tension wires shall be galvanized steel and of adequate strength for the purpose intended.

PART 3 - EXECUTION

3.01 INSTALLERS:

A. An experienced fence erector who will be supervised by the Contractor shall perform fence installation.

3.02 INSTALLATION:

A. Erect the chain link fence and gates around the substation as shown on the Drawings.

B. Ground surface irregularities, and other obstacles that would interfere with proper erection of the fence shall be cleared and removed in advance of starting other fencing work.

C. The Contractor shall perform all required excavating, backfilling and compacting of backfill for posts, gate stops and gatekeepers. Posts shall be plumb and in alignment. Posts shall be set in concrete as shown on the drawings. The cement content of the concrete shall be not less than 5-1/2 bags per cubic yard of concrete.

D. Gates shall be erected at the location shown, and shall be adjusted to operate in an approved manner. Install gates as close to the finished rock surfacing as possible while ensuring that the gates can still swing freely open.

E. Fabric shall not be installed until a minimum of 48 hours after line posts are installed.

F. The fabric shall be placed on the outside of the posts, stretched taut and secured to the posts, top rail and tension wire. The fabric shall be secured to the line posts with wire ties or metal bands at maximum intervals of 15 inches.

G. The top and bottom edges shall be secured, respectively, to the top rail and tension wire with ties not exceeding spacing of 24 inches. The fabric shall be secured to terminal posts by means of the stretcher bar that is passed through the end loops of the fabric and is secured to the terminal posts by metal bands spaced at a maximum interval of 15 inches.

H. When installed, the fabric shall extend one inch below the finished rock surfacing. Top rails to follow general contour of sub-rock elevation.

I. Damaged areas of galvanizing shall be repaired as required, cleaned with mineral spirits of xylene, followed by wire brushing. After wire brushing, these areas shall be recleaned with the solvent to remove residue. After cleaning, the damaged areas shall be given two coats of zinc dust-zinc oxide paint. Except for painting damaged areas of galvanizing, no other painting of the fence is required.

J. The fence, posts, and gates shall be attached to the ground grid as shown on the Drawings.

K. Install warning signs on the fence and gates as shown on the Drawings. Signs shall be a plastic sign made by Tech Products, Inc. or equal.

* * * END OF SECTION * * *

Division 33
Utilities

SECTION 33 7119.01

CONDUIT

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the conduit as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets, including dimensional data.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. National Electric Manufacturers Association (NEMA)

B. National Electric Safety Code (NESC), current edition.

C. National Electric Code (NEC)

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Carlon.

B. Cantex

C. Or equal.

2.02 DIRECT-BURIED CONDUIT:

A. Conduit, fitting, and accessories shall be rigid polyvinyl chloride (PVC) Schedule 40 or heavier.

B. Factory-furnished fittings and accessories shall be used for making bends, joints and terminations.

C. Conduit and fittings shall comply with NEMA TC-2 and TC-3 specifications.

D. Minimum size(s) of the conduit are shown on the drawings.

E. PVC conduit for concrete-encased duct shall be as specified in the Ductbank Section.

2.03 ABOVE-GRADE CONDUIT:

A. Conduit with an inside diameter < 3" shall be high-impact Schedule 40 PVC.

B. Conduit with an inside diameter ≥ 3" shall be high-impact Schedule 80 PVC.

C. Conduit mounted on steel structures shall be rigid galvanized steel (RGS). Fittings and accessories shall be heavy duty, standard threaded type. Fittings shall be hot-dipped galvanized steel.

D. Conduit connecting to equipment control boxes and yard lights shall be flexible conduit unless noted otherwise on the Drawings.

E. Conduits shall be furnished in standard manufactured lengths and trades sizes.

F. Minimum size(s) of the conduit are shown on the drawings.

2.04 PULL, JUNCTION, AND EQUIPMENT BOXES:

A. Boxes used indoor shall be either PVC or hot-dipped galvanized.

B. Boxes used outdoor shall be NEMA type 3R hot-dipped galvanized with threaded conduit hubs and gasketed covers.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. General:

1. Install conduit in accordance with the NEC and the drawings.

2. Install conduit in straight lines.

3. All conduits shall be cut square and reamed to remove all rough edges and burrs. Bushing or bell ends shall be installed on the ends of conduit to protect the insulation or sheaths of the wires and cables from abrasion.

4. After all cables have been installed, seal all conduit entrances to control cabinets, equipment-mounting boxes, and the control building with duct seal. Seal for conduits with high-voltage cables in them shall be a fire stopping material.

5. All conduit and raceways shall be swabbed or blown out to remove all moisture, foreign objects, and abrasive material.

6. All direct-buried and above-grade conduit work is subject to inspection by the Owner and/or the Engineer.

B. Direct-buried conduit:

1. Routing of conduit shall avoid conflicts with buildings, structures, and equipment; subject to approval of the Engineer.

2. Conduit runs shall be enveloped on all sides by a layer of sand at least two inches thick.

3. The use of couplings shall be held to a minimum. No unions or running threads shall be used. Joints and connections shall be made watertight by application of a non-insulating thread compound.

4. All conduits designated for future use shall be capped at both ends at the locations shown on the drawings.

5. The installation depth of conduit used for control and low voltage cables shall be 2’-0” minimum from the subgrade to the top of the conduit.

6. The installation depth of conduit used for power cables (> 600 V) shall be 3’-6” minimum from the subgrade to the top of the conduit.

7. The following table list the minimum radii to be used for installation of the conduits; where possible, longer radius bends shall be used:

Size of Conduit:	1”	1-1/2”	2”	3-1/2”	4”	5”	6”
Minimum Radius:	11”	16”	21”	36”	40”	48”	54”

Long radius bends shall be used for shielded cable runs.

8. Openings for conduits in existing foundations shall be made by using a core drill. After installing the conduit through the foundation, the gap between the foundation and conduit shall be completely grouted and sealed.

9. Tracer wire shall be installed in the trench for all conduit runs.

10. Hand dig around existing conduit location to locate and prevent damage to conduit and control cables.

C. Above-grade conduit:

1. Conduits shall be run parallel or perpendicular to equipment with right angle turns consisting of symmetrical bends or fittings. All bends and offsets shall be avoided where possible.

2. Horizontal and vertical runs of conduit shall be supported at intervals not to exceed six (6) feet. The use of perforated strap for clamping is not allowed.

3. Conduits shall be installed as a complete system without wires and shall be continuous from outlet to outlet, outlet to fittings and from fitting to fitting.

4. The electrical continuity of all conduit systems shall be maintained. Locknuts and bondnuts shall be installed to provide tight ground connections between conduit and boxes, panelboards, and cabinets.

5. Flexible conduit shall be installed for all conduit runs to motors, unit heaters, and fans.

6. Watertight flashing or seal shall be provided where conduit passes through an exterior wall.

7. Surface-mount all conduit for wiring and lighting in the control building.

D. Pull, junction, and equipment boxes:

1. Install boxes as required and as shown on the drawings. Boxes shall be installed in accessible locations.

2. Install all terminal blocks and fuse holders in the equipment boxes, as required. Label wiring and terminals where applicable.

* * * END OF SECTION * * *

SECTION 33 7119.02

DUCTBANKS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the power and control ductbanks as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets, including dimensional data.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. National Electric Manufacturers Association (NEMA)

B. National Electric Safety Code (NESC), current edition.

C. National Electric Code (NEC)

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Carlon.

B. Or equal.

2.02 CONDUIT:

A. Conduit shall be rigid nonmetallic type DB duct or heavier.

B. Factory-furnished fittings and accessories shall be used for making bends, joints, and terminations.

C. Conduit and fittings shall comply with NEMA TC-6 & 8 and TC-9 specifications.

D. Minimum size(s) of the conduit are shown on the drawings.

2.03 CONDUIT SPACERS:

A. Plastic conduit spacers shall be designed and manufactured specifically for the intended purpose and shall be nonmagnetic, including fastenings.

B. Spacers shall provide clearance between the conduits and between the conduits and the trench sides and bottom as called for on the drawings.

2.04 CONCRETE:

A. Ductbank concrete shall consist of the placement of flowable concrete according to the following mix design. Materials shall be in compliance with the State's DOT Standard Specifications, current edition.

B. Concrete shall conform to type 3 cement, compressive design strength of 2700 psi, 7-inch slump, fine aggregate meeting the following sieve analysis: 100% passing the 3/8" sieve, 55-95% passing the No. 4 sieve, with not more than 5% passing the No. 50 sieve and air content of 5.5-7.5%. The Contractor shall provide a mix design and utilize State DOT approved Water Reducers in order to reach the specified design strength (2700psi) for Engineer's approval prior to construction.

PART 3 - EXECUTION

3.01 PREPARATION:

A. The excavation of the ductbank shall comply with the Excavation Specifications in Division 31 of this document.

B. Excavate the ductbank area to the depth required as shown on the drawings. The excavated material, which will be used as backfill, shall be stockpiled, otherwise remove to a suitable fill site as directed by the Owner.

C. Compact the bottom of the trench enough to ensure a smooth level surface to support duct installation and to insure the required concrete cover thicknesses are met.

D. All excavations shall be kept dry. The Contractor shall provide, install, operate and maintain such dewatering capacities and systems that may be necessary. The cost for such dewatering shall be considered incidental to the ductbank bid unit.

3.02 INSTALLATION:

A. Plastic Conduit:

1. The conduits shall be supported and held in place by plastic duct spacers. Maximum separation of spacers shall be 10'-0".

2. The joints of adjacent conduits shall be staggered so that they do not line up in the same vertical plane.

3. The ends of conduits, couplings, and other fittings shall be coated with PVC solvent cement to ensure that all joints are watertight.

4. The ends of the installed conduit shall extend beyond the encasement to permit connection to future conduit, where applicable.

5. Ducts terminating at foundations or equipment and all ducts for future extension shall be plugged.

6. All installed conduits shall be swabbed or blown out to remove all moisture, foreign objects, and abrasive material.

B. Concrete:

1. Mortar shall not be placed on frozen ground. Mortar batching, mixing, and placing may be started, if weather conditions are favorable or when the temperature is at least 34 degrees F. and rising. At time of placement, mortar must have a temperature of at least 40 degrees F. Mixing and placing shall stop when the temperature is 38 degrees F. or less and falling. Each filling stage shall be as continuous an operation as is practicable.

2. Minimum concrete cover over the conduits shall be two (2) inches on any outside surface.

3. Special precautions shall be taken to prevent the ductbank from floating or moving during and after the placing of concrete. Any ductbank that is found by the Owner or Engineer to be out of alignment shall be removed and replaced by the Contractor at no expense to the Owner.

C. Backfill:

1. Backfilling of the ductbank shall comply with the Backfilling Specifications in Division 31 of this document.

* * * END OF SECTION * * *

SECTION 33 7119.03

CABLE TRENCH

PART 1 - GENERAL

1.01 SCOPE:

A. The CONSTRUCTION AGREEMENT and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing an Owner-furnished cable trench. Work also includes installing a cable trench drainage system for routing of the control cables as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 012000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Owner-furnished cable trench will be delivered to the site. Contractor to unload the cable trench at the job site.

B. Coordinate delivery items, such as timing, quantity, and weights, with the Owner, Engineer and/or manufacturer.

1.06 REFERENCES:

A. National Electric Manufacturers Association (NEMA)

B. National Electric Safety Code (NESC), current edition.

C. National Electric Code (NEC)

PART 2-PRODUCTS

2.01 CABLE TRENCH DRAINAGE SYSTEM:

A. High Density Polyethylene (HDPE): Perforated drain tile/subdrain.

1. Pipe shall conform to Iowa DOT Standard Specifications.

2. Size as indicated on the Drawings. Use manufacturer's recommended fittings and couplings.

B. Pea rock shall be used to encase the HDPE drain tile and provide a base for the cable trench as indicated on the Drawings.

PART 3 - EXECUTION

3.01 PREPARATION:

A. The excavation for the cable trench and cable trench drainage systems shall comply with the Excavation Specifications in Division 31 of this document.

B. Excavate the cable trench area to the depth required as shown on the Drawings. The excavated material, which will be used as backfill, shall be stockpiled; otherwise remove to a suitable fill site as directed by the Owner.

C. Compact the bottom of the trench enough to ensure a smooth level surface to support cable trench installation.

D. All excavations shall be kept dry. The Contractor shall provide, install, operate and maintain such dewatering capacities and systems that may be necessary. The cost for such dewatering shall be considered incidental to the cable trench bid unit.

1.02 INSTALLATION:

A. Install trench drainage system consisting of HDPE drain tile and pea rock. Route and connect drain tile system as indicated on the drawings. Install the pea rock encasement around the drain tile to allow drainage and provide a solid base for the cable trench.

B. Install cable trench in accordance with manufacturer's specifications. Trench alignment and elevation above grade shall be visibly straight and consistent.

C. Lay conduit as needed, then carefully backfill trench in layers of 4 inches to 8 inches. Conduits shall be angled as needed toward the control enclosure to provide an ideal pulling angle for control cable. Mechanically compact each layer of backfill. Cap ends of all conduit risers prior to backfilling.

D. Conduit risers shall have a bell end installed prior to the start of cable pulling and after complete installation of the cable trench to provide a smooth surface for cable pulling.

E. Lay cables and wires neatly in parallel runs training each circuit exit neatly from the trench to minimize difficulty in cable handling.

F. Install cable clips furnished by Others for holding the 4/0 AWG ground wire routed inside the trench. The ground wire shall be installed just below the lid and supported a minimum of every 5 feet.

* * * END OF SECTION * * *

SECTION 33 7126.01

GOAB SWITCHES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing Owner-furnished GOAB switches as herein specified and shown on the Drawings.

C. Material furnished by Owner.

1. 69 kV GOAB switches.

a. Transport switch from Owner's yard.

1.02 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.03 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.04 DELIVERY, STORAGE, AND HANDLING:

A. Contractor shall load, transport the switches from the Owner's storage facility and unload the switches at the job site.

B. Coordinate delivery items, such as timing, quantity, and weights, with the Owner, Engineer and/or manufacturer.

PART 2 - PRODUCTS

2.01 INCIDENTALS:

A. Furnish incidental items including, but not limited to, miscellaneous hardware and connectors to achieve a complete installation.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Assemble and install the GOAB switches as instructed by the manufacturer's recommendations in the location shown on the Drawings.

B. Assemble the switch poles on the ground and install as a complete unit, whenever possible. Make preliminary adjustments on the ground and the final adjustments after the pole units have been installed in their final location and the buswork has been connected to the switch terminals.

C. Align the switch insulators on the switch bases and align the switch contacts per the manufacturer's instructions. Use lock washers where specified on all bolted connections during the assembly of the switch.

D. Install the switch operating mechanism as shown on the assembly drawings and as instructed in the manufacturer's recommendations.

* * * END OF SECTION * * *

SECTION 33 7126.26

POTENTIAL TRANSFORMERS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing Owner-furnished potential transformers (PTs) as herein specified and shown on the Drawings.

1.02 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.03 WARRANTY:

A. See Section 01 0001 – General Requirements, for warranty requirements.

1.04 DELIVERY, STORAGE, AND HANDLING:

A. Contractor shall load, transport the PT's from the Owner's storage facility and unload the PT's at the job site.

B. Coordinate delivery items, such as timing, quantity, and weights, with the Owner, Engineer and/or manufacturer.

PART 2 - PRODUCTS – Not Applicable

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install the PTs as instructed by the manufacturer's recommendations in the location shown on the Drawings.

B. Connect the instrument case(s) to the station ground grid.

C. Furnish and install PT junction box(es) on the steel structures shown in the Drawings. Wire all terminal blocks and fuse holders in the equipment boxes. Label wiring and terminals where applicable.

* * * END OF SECTION * * *

SECTION 33 7201

SUBSTATION STEEL STRUCTURES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing Owner-furnished substation steel structures as herein specified and shown on the Drawings.

C. Material furnished by Owner.

1. 69 kV deadend structure.

2. Future 69 kV deadend structure column.

3. Shield support tower.

4. 69 kV GOAB switch support structures.

5. Insulator adapter.

6. 69 kV bus support structure.

7. 69 kV 3 Phase and sing-phase PT support structures.

8. Personnel grounding platforms.

9. Anchor bolt cages for steel structures.

1.02 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.03 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.04 REFERENCES:

A. Steel structures shall comply with the following documents:

1. NEMA Publication SG6, Part 36

2. National Electric Safety Code, current edition and revision.

3. ASTM Specification A123, current edition and revision.

4. AST Specification A153, current edition and revision.

5. ASTM Specification A70-80, current edition and revision.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Owner-furnished steel structures will be delivered to the site. Contractor to unload the steel at the job site.

B. Coordinate delivery items, such as timing, quantity, and weights, with the Owner, Engineer and/or manufacturer.

PART 2 - PRODUCTS

2.01 INCIDENTALS:

A. Furnish incidental items including, but not limited to, miscellaneous hardware and connectors to achieve a complete installation.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install anchors as instructed by the manufacturer.

B. Assemble the steel structures as instructed by the manufacturer's detail and erection drawings with the bolts, washers, and nuts furnished by the manufacturer.

C. Remove any mud, dirt, or other foreign matter on the steel members before erection.

D. Erect vertical members of steel structures that have tubular bus connected to them perfectly plumb and all other steel structures to be plumb within a tolerance of 1/8 inch in 10 feet. Horizontal members shall be level for all structures.

E. Exercise care when moving steel members to avoid any damage to the galvanizing finish and to avoid distorting or overstressing the steel. If damage occurs during installation, the Contractor shall repair, at the Contractor’s expense, any damaged steel member to the satisfaction of the Owner and Engineer. Refer to ASTM’s guide on ‘Repair of Damaged Hot-dip Galvanizing Coatings’ if the galvanizing finish is damaged.

F. Notify the Owner or Engineer of any shop errors and damaged steel. The Owner or Engineer will decide the manner in which corrections will be made and who will be responsible for the error or damage.

G. Connect all steel structures and grounding platforms to the ground grid system as shown on the Drawings.

* * * END OF SECTION * * *

SECTION 33 7223.13

STATION POST INSULATORS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the station post insulators as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Dimensions.

2. Descriptive data.

3. Performance data.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Lapp.

B. NGK Locke.

C. Or Approved equal prior to Bid.

2.02 POST INSULATORS CONSTRUCTION:

A. Insulators shall include the following:

1. Shall be station post type.

2. Single-piece porcelain body.

3. Standard strength.

4. Four (4) UNC standard bolt holes on standard bolt circle.

5. Color: ANSI No. 70 light gray.

6. Exposed metal shall be galvanized.

7. Minimum Ratings:

Nominal voltage -	69 kV
Basic Insulation Level (BIL) -	350 kV
Minimum impulse flashover, pos -	390 kV
Leakage distance -	72 in.
Maximum design cantilever -	1,500 lb.
Technical Reference Number (TR)	216
Bolt circle -	3 in

2.03 INCIDENTALS:

A. Furnish incidental items including, but not limited to, miscellaneous hardware and connectors to achieve a complete installation.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install the post insulators on the equipment or structures as shown on the Drawings and as instructed by the manufacturer's recommendations.

B. Contractor shall be cautious when handling the insulators to avoid any chipping or cracking of the porcelain.

* * * END OF SECTION * * *

SECTION 33 7226.13

BUS WORK

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the bus work as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. Steel structures shall comply with the following documents:

1. NEMA Publication SG6, Part 36

2. ASTM Specification B241, current edition and revision.

3. National Electric Code (NEC), current edition and revision

4. National Electric Safety Code (NESC), current edition and revision

PART 2 - PRODUCTS

2.01 RIGID BUS:

A. Schedule 40 aluminum pipe, 6063-T6 alloy.

B. Pipe size as shown on the Drawings.

2.02 COMPRESSION CONNECTORS:

A. Supply aluminum compression connectors for all cable and bus connectors and caps as shown on the Drawings.

B. Electrical connectors shall have the full current-carrying capacity of the bus to which they are applied.

C. Acceptable Manufacturers:

1. DMC Power.

2. Anderson & Fargo.

3. AFL.

4. SEFCOR.

5. Or Approved Equal.

2.03 CABLE:

A. Conductors shall be ACSR or AAC for jumper and bus dampening cables as shown on the Drawings.

B. Conductor type and size as shown on the Drawings.

2.04 MISCELLANEOUS MATERIALS:

A. The non-petroleum based, electrical filler compound shall be similar to Penetrox 'A' as manufactured by Burndy Corporation.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Rigid Bus:

1. Install the rigid bus as instructed by the manufacturer's recommendations and in the location shown on the Drawings.

2. Clean and polish the bus tubing in the field to remove any knicks or burrs. Damaged or incorrectly installed bus will need to be removed and reinstalled as required by the Engineer.

3. Minimum radius of field bend shall be eight times the nominal diameter of the pipe. Furnish Engineer with the proposed layout of each type of field bend and get the Engineer's approval before proceeding with installation.

4. Equip bending tools with rollers that are approximately the diameter of the tube.

5. Make all field bends 'cold'.

6. Drill weep holes at the low point of all horizontal bus. Hole diameter shall be 1/4 inch.

7. Install conductor, as sized on the Drawings, in the full length of the horizontal tubular bus to dampen vibration.

8. Install end caps on all bus ends.

B. Compression Connectors:

1. Install the compression connectors using tools and dies that are recommended by the manufacturer. Compress the connectors to the manufacturer's recommended values.

2. Clean and then treat all compression connectors with electrical filler compound before installation.

3. All compression connectors shall be straight after being compressed.

4. Install end caps on all bus ends.

C. Cable:

1. Install the conductors as instructed by the manufacturer's recommendations and in the location shown on the Drawings.

3.02 INSPECTION AND TESTING:

A. The Owner and/or Engineer will make spot-checks on bolts after the installation of all connectors is complete. The calibrated torque wrenches and necessary platforms, aerial devices, equipment, and personnel to conduct the random checks shall be provided by the Contractor.

B. The Contractor will be required to tighten bolts found not to be tight. If the number of improperly tightened bolts is 5 percent or greater of the total number of bolts checked, the Contractor will be required to go over the entire bus system and check or tighten all bolts.

* * * END OF SECTION * * *

SECTION 33 7226.19

POWER CABLE

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing Owner-furnished power cable. Substation Contractor to furnish and install neutral conductor. Work includes installing cable in conduit, manhole, or tunnel as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cut sheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Contractor shall load, transport the 15 kV power cable from the Owner's storage facility and unload the 15 kV power cable at the job site.

B. Coordinate delivery items, such as timing, quantity, and weights, with the Owner, Engineer and/or manufacturer.

1.06 REFERENCES:

A. Insulated Cable Engineers Association (ICEA) Standards Publication No S-97-682 – Standard for Utility Shielded Power Cables Rated 5 kV Through 46 kV.

PART 2 - PRODUCTS

2.01 MEDIUM VOLTAGE POWER CABLE:

A. The neutral shall be bare insulated or bare copper, size and type as shown on the drawings.

2.02 OUTDOOR TERMINATORS

A. Outdoor terminator for use in switchgear, transformer air terminal chambers, and primary risers shall provide a complete weather shielded, stress relieved, primary cable termination with four rubber skirts.

B. Unit shall be compatible with JCN cable and shielded of the sizes intended for the project.

C. Unit shall be complete with a 2-hole or 4-hole spade connector as indicated on the Drawings, sufficient sealing material to seal the concentric neutral exit, and silicon bronze or stainless steel bolts, nuts, and split lock washers for connection to NEMA terminals.

D. Contractor shall provide a transition plate for connections between copper cable and aluminum bus.

E. Acceptable Manufacturer:

1. 3M, type “Quick Term III”.

2. No equal.

F. Acceptable Manufacturer (2 hole or 4 hole spade):

1. Blackburn, AL.

2. Or equal.

PART 3 - EXECUTION

3.01 GENERAL:

A. Primary power cable shall be installed in conduit, manhole, or tunnel in the locations shown on the plans.

3.02 PREPARATION:

A. Where cable must be pulled through conduit or duct, the operation shall be performed in such a way that the cable will not be damaged from strain or dragging.

The cable shall be lubricated with a suitable cable lubricant prior to pulling into conduit or duct.

B. Remove all sharp corners and jagged edges before pulling the cables to avoid creating abrasions in the insulation or protective covering.

3.03 INSTALLATION:

A. The transformer secondary cables are designed to have the cable shield grounded at the transformer terminals and insulated from ground at the switchgear terminals.

B. Cable shall be handled carefully at all times to avoid damage and shall not be dragged across sharp projections. Care shall be exercised to avoid excessive bending of the cable.

C. The ends of the cable shall be sealed at all times against moisture with suitable end caps. Where the cable is cut, the ends shall be terminated or sealed immediately after the cutting operation.

D. Wherever possible, cable shall be payed out from the reel mounted on a moving vehicle or trailer. The reel shall be supported so that it can turn easily without undue strain on the cable. The cable shall be carefully placed in the trench by hand. All cable placement shall be done under constant supervision to be certain that no damage to the cable occurs.

E. The cable shall be inspected carefully by the Contractor as it is removed from the reel in laying operations to be certain that it is free from visible defects. The Engineer shall decide upon corrective action when defects are discovered. Sufficient slack and in no case less than 24 inches shall be left at all terminal points so that movements of cable after backfilling will not cause damaging strain on the cable or terminals.

F. The minimum bending radius of primary cable is 12 times the overall diameter of the cable. The minimum bending radius of secondary and service cable is 6 times the overall diameter of the cable. The minimum radius specified is measured to the surface of the cable on the inside of the bend. In all cases, cables shall not be bent with a smaller radius than that allowed by the National Electric Code or by the cable manufacturer, whichever is greater.

G. In placing primary cables, the stress applied while pulling into ducts or during other pulling operations shall not exceed 500 pounds as measured by dynamometer. Pulling eyes or other attachments connected directly to the conductor strand shall not be used.

H. All three-phase circuit bundles shall be tagged in manholes or tunnels. Colored tape (red, white, blue) shall be furnished and installed by the Contractor for phase identification.

I. All primary power cables in exposed areas such as tunnel and manholes shall be bound with arc-proof tape, in three-phase circuit bundles. Tape shall be 1/4 inch minimum over-lapped layer of 3M Company "Irvington" Brand #7700 Arc and Fire Proofing Tape, no equivalent. Tape shall be held in place by banding every 18 inches or spiral wrapping of 3M "Scotch" brand #27, glass cloth tape, no equivalent.

J. Duct seal shall be furnished and installed at all duct or conduit entrances or exits. Seal for high voltage cables in building floors shall be of fire stopping material.

K. The Contractor shall terminate the cable as per the instruction manual for the 3M Quick Term III.

* * * END OF SECTION * * *

SECTION 33 7233.01

CONTROL ENCLOSURE

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes coordinating the placement of the Owner-furnished Control Enclosure as well as furnishing and installing miscellaneous equipment as herein specified and shown on the Drawings.

C. Material furnished and installed by Others:

1. Control enclosure

2. Station Power Transformer

3. 15 kV Switchgear

4. 69 kV Control Panels

5. Station Power Meter

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. Control building shall comply with the following documents:

1. National Electric Code (NEC), current edition and revision.

2. Underwriters Laboratory (UL), various standards, current edition and revision.

3. American Society for Testing and Materials (ASTM), various standards, current edition and revision.

PART 2 - PRODUCTS

2.01 CONTROL ENCLOSURE CONSTRUCTION:

A. General:

1. Control enclosure will be furnished and installed by Others.

2. This Contractor shall furnish and install all materials and accessories that aren't furnished by Owner or building supplier as shown on the project Drawings and as specified herein.

B. Splashblocks:

1. Shall be provided under each downspout.

2. Minimum surface area of 12" x 24".

3. Shall be constructed to direct water flow away from enclosure.

C. Pulling Irons:

1. Manhole pulling-in iron shall be 7/8" diameter steel and hot dip galvanized. Furnish 9" size with opposing bends. Furnish Condux catalog no. 83830-02 or equal.

D. Duct Terminations:

1. Duct terminations shall be cast in place or in plastic panel form.

2. Terminators shall provide a watertight seal and conform to specifications for duct size, duct separation, and number of ducts wide and high as shown on the drawing.

3. Terminator depth shall be same as manhole wall thickness. Cable entry point shall be conduit bell ends or smooth rounded surface.

E. Concrete Floor and Wall Finish:

1. Finish all exposed interior concrete, including floors and basement walls, with concrete sealer. Use Kure-N-Seal as manufactured by L. Sonneborn Sons or equal.

2. Basement covers and basement cable supports:

a. Basement covers

1) Interior manhole covers shall be the size shown, capable of withstanding a 300 PSF load, and handles recess or removable

2) Covers shall be flush with the surrounding floor.

3) Cover shall be hinged, and have compression spring operators and automatic holders.

4) Indoor manhole covers shall be Nystrom 48x48, or approved equal.

b. Cable support brackets and ladder brackets

1) Where indicated in the drawings, walls shall be supplied with supports for electrical power circuits, including 24" brackets, cable saddles, pipe block, and miscellaneous items as required and shall be grounded to the ground grid.

2) Furnish Underground Devices, INC, heavy duty, nonmetallic cable racks, no equal

c. Ladder

1) Aluminum safety ladder with two (2) lift-up rail extensions on each side, used to extend up above the hole.

2) Furnish Royalite, no equal

3) All interior manhole ladders shall be equipped with a grab bar mounted over the access point or a ladder mounted firmly to the wall to aid in the entrance/egress.

F. Blockout Covers:

1. Blockout covers shall be ¼" checkered galvanized steel.

2. Provide lifting holes on the covers for removing covers.

G. Grounding:

1. One (1) copper grounding pad shall be located at each corner of the structure on the exterior furnished by the building supplier. Substation Contractor to bond control enclosure to ground grid.

H. Sump Pump and Drain Line:

a. Sump Pump:

a. Single phase, 120 VAC, ½ horsepower

b. Submersible type with hermetically sealed corrosion resistant housing.

c. Motor shall have built-in overload protection and be self-lubricating.

d. Pump shall include water or air pressure switch for activating pump.

e. Check valve shall also be included.

b. Drain Line:

a. 2” PVC, Schedule 40 pipe.

b. Assure positive gravity drainage.

2.02 CONTROL BUILDING WIRING AND DEVICES:

A. General:

1. Work shall be done in accordance the latest edition and revision of the National Electric Code (NEC).

2. Work shall be done in a workmanlike manner in accordance with the latest applicable standards.

3. Material shall be new of the types specified and shall bear the approval of the Underwriter’s Laboratory (UL) where applicable.

4. Building manufacturer shall pre-wire the building as much as practical prior to shipping.

5. Wiring shall be in cable tray unless specifically noted otherwise.

6. All interior conduits shall be routed vertically or horizontally along the ceiling or walls unless approved by Owner or shown otherwise.

B. Material:

1. Lighting Fixtures:

a. Tunnel:

1) 100 Watt bulb LED equivalent.

2) Vaportight fixtures with guard.

3) Clear lens.

4) Fixtures shall be ceiling mounted in locations shown on drawings.

5) Thomas & Betts or equal.

2. Alarms and Detectors:

a. Sump Pump:

1) Provide a mechanically activated, narrow, angle float switch to annunciate a high-water level alarm via a form "B" contacts.

2) Float shall be mounted on 2" sump pipe high enough to ensure proper operation of the sump pump but low enough to alarm prior to water overflowing into tunnel.

3) Provide SJE-Rhombus, or approved equal.

b. All alarms shall be wired into the existing alarm terminal box for SCADA monitoring.

3. Wiring Devices:

a. Switches and Outlets: Rated 20 amps, white.

1) Sump Pump Outlet: GFCI rated

4. Eye-Face-Body Wash:

a. Portable, self-contained eye, face, and body washer.

b. Shall comply with ANSI Z358.1-1990 Standards.

c. Flow delivered from washer shall be no less than 0.4 GPM for 15 minutes.

d. Single chromed eye wash head with self-closing lever hand valve and adjustable stream control.

e. Shall be equipped with a 5 foot heavy-duty hose with hand-held squeeze handle for body wash.

f. Container shall be a 10-gallon tank of non-corrosive stainless steel with molded hard rubber base.

5. Fire Extinguisher:

a. Wall mounted, installed where indicated on Drawings.

b. Unit shall have a minimum of 10 lb. capacity with fire killing rating of 2-A:40-B:C.

c. Manufacturer shall be Sentry 14 with mounting bracket or equal.

PART 3 - EXECUTION

3.01 SHIPMENT:

A. Substation Contractor to coordinate delivery and installation of control enclosure by Others.

3.02 INSTALLATION:

A. Control Enclosure:

1. All exposed concrete in the control enclosure shall be sealed.

B. Cabling:

1. Shall be installed in accordance with the Drawing requirements, these specifications, and NEC requirements where applicable.

2. Manufacturer shall completely install cables.

3. Sufficient length shall be left at the ends of the cable to make connections conveniently to equipment, fixtures, and devices.

4. Spare single conductors at each end of the multiconductor cable shall be retained a length equal to that of the longest single conductor of the multiconductor cable.

5. Conductors in current transformer cable shall be retained in sufficient length to reach the farthest terminal used to select current transformer ratios.

6. At termination of each multiconductor cable, the conductors shall be formed into neat packs and laced or tied.

7. All circuits not installed in conduit and consisting of two or more single conductors shall be tied together at 10-foot intervals by self-locking cable ties.

8. Pulling:

   a. Cables shall not be pulled into conduits until the circuit runs have been cleaned and are free from obstructions and sharp corners.

   b. A clean, dry, tight-fitting rag shall be drawn through the conduit immediately before installing the insulated conductors.

   c. Cables shall be installed so there will be no cuts or abrasions in the insulation or protective covering, or kinks in the cable.

   d. Gradual and uniform pulling stresses only will be permitted on the cable.

   e. Lubricants may be used to aid in cable pulling where required.

9. Any cable damaged during installation shall be removed and replaced with equivalent cable at the Contractor's expense.

10. Splices:

    a. No splices shall be made unless authorized by the Owner.

    b. Where authorized, they shall be permitted only in boxes, outlets, panelboards, cabinets, cable trenches, and cable trays.

    c. Will not normally be permitted in buried cable runs.

    d. All splices or joints shall be covered with insulation equal to that on the insulated conductors.

    e. Where authorized, joints and splices for copper conductors may be the soldered type or the crimp or compression type.

11. Solderless-type lugs and connectors shall be used for joining or connecting cables to terminal blocks or devices.

12. Connectors shall be suitable for use on the particular conductor on which the connector is used.

13. Power and control cables shall be neatly tagged at each end with plastic tags.

14. Cable installed in a vertical plane or in an included plane shall be supported by means of approved cable grips (including hooks), and installed with slack spans between supports.

15. Cable entering equipment shall be securely clamped by means of approved commercial cable clamps.

16. Cables installed in sleeves under equipment shall have the openings blocked with foam rubber material approved by the Engineer.

17. Cables passing through sleeves or blockouts may have the openings blocked by urethane foam equal to isofoam PE-2 in lieu of clamps or woven grips for supporting cables or in lieu of foam rubber.

18. Panelboard and switchboard wiring shall be permanently supported and clamped to prevent loosening or shifting.

19. All runs, connections, soldering, taping, and tagging of insulated conductors shall be made subject to approval of the Engineer.

20. After all insulated conductors are installed and all equipment, devices, and fixtures have been connected, acceptance tests shall be conducted.

21. Cable shall be installed without exceeding the maximum allowable pulling tensions and sidewall pressures as recommended by the cable manufacturer.

    a. The conduit and pull box system shall be designed to meet these requirements.

3.03 Testing:

A. Shall meet the requirements of the Testing and Checkout specifications section, specified elsewhere in this document.

* * * END OF SECTION * * *

SECTION 33 7233.16

CONTROL PANELS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes coordinating the installation of the control panels as herein specified and shown on the Drawings.

C. Material furnished by Others:

1. 69 kV control panels.

D. Work performed by Others:

1. The 69 kV control panels will be delivered to the job site by the control panel manufacturer, or its assigned representative.

2. The control panel manufacturer will be responsible for placement, assembly, and testing of the control panels.

1.02 PAYMENT:

A. Coordinating the control panel installation shall be an incidental cost item.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 COORDINATION:

A. This Contractor shall coordinate the placement of the control panels in the control enclosure with the control panel manufacturer.

3.02 INSTALLATION:

A. The Owner will make all external control cable connections to the control panel.

* * * END OF SECTION * * *

SECTION 33 7233.43

BATTERY BANK AND RACK

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the battery bank as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements. In addition, the battery manufacturer shall furnish at least 80% of its rated capacity for a total of 20 years (3 years full warranty, then 17 years pro-rata) from date of shipment. The determination of actual capacity will be made in accordance with the "performance test" guidelines of IEEE Std. 450.

PART 2 - PRODUCTS

2.01 BATTERIES:

A. Supply a sealed, VRLA battery system.

B. Battery bank shall be composed of 60 cells.

C. Capacity of the battery bank shall be 162 ampere-hours at the 8-hour rate to 1.75 volts per cell. The 1-minute rate shall be 283 Ampere-hours, minimum.

D. Acceptable manufactures:

1. GNB, C&D Technologies, EnerSYS.

2. No Equal.

2.02 BATTERY RACK:

A. Supply two-tier, stepped rack assembly per manufacturer recommendation.

B. Rack shall have one prime coat and two finish coats of acid-resistant paint.

C. Rack shall be covered with a cushioning pad to separate the batteries and the rack.

D. Supply a containment barrier with acid-resistant paint for the batteries.

2.03 CONDUCTOR:

A. Furnished and installed by the Owner.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Assemble and install batteries and battery rack and in accordance with the manufacturer's instructions.

B. Bolt the rack to the control building floor and connect the rack to the ground grid.

C. Connect the batteries to the DC panels as shown on the Drawings.

D. Batteries shall always be kept in a controlled environment throughout the installation process.

E. A torque wrench shall be used to obtain the proper torque.

3.02 TESTING:

A. All tests shall be in accordance to the manufacturer’s instructions. Battery tests shall be performed only by a qualified person who is familiar with battery testing.

B. The tests shall be recorded and submitted to the Engineer and Owner. Tests shall be recorded for before and after installation.

C. Batteries shall include but not limited to tests for cell voltage, impedance of the cell, intercell connection resistance, and strap resistance.

D. Batteries shall be equalized before placing it into service, perform all steps.

E. Float voltage shall be set according to the instruction manual, the value shall be taken at the battery bank.

F. The batteries shall be set based on the temperature chart.

G. Refer to the Testing and Checkout specifications section for further testing procudures, specified elsewhere in this document.

* * * END OF SECTION * * *

SECTION 33 7233.44

BATTERY CHARGER

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the battery charger as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets.

1.03 PAYMENT:

A. See Section 012000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 BATTERY CHARGER:

A. AC input shall be 240 volts. DC nominal output shall be 125 volts.

B. Charger to be rated for 40 amperes.

C. Charger to include the following options:

1. Filter circuit for 30 millivolt ripple.

2. DC volt meter.

3. DC ammeter.

4. Equalize switch.

5. 24-hour equalize timer.

6. AC circuit breaker.

7. DC circuit breaker.

8. Temperature compensation probe.

9. Battery ground detector circuit with a visual alarm indicator and output contact.

10. “High/low DC voltage” alarm and contact.

11. Microprocessor control with digital display meter and push-button operation for setting changes, etc.

12. Auxiliary relay PC board for SCADA indication.

D. Acceptable manufactures:

1. SBS ATEVO.

2. Alcad ATEVO.

3. GNB ATEVO.

4. Or Approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install battery charger in accordance with the manufacturer's recommendations and in the location as shown on the Drawings.

B. Calibrate the charger as recommended by the manufacturer.

* * * END OF SECTION * * *

SECTION 33 7243

SUBSTATION CONTROL WIRING

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the 600 volt control cable in conduit, manholes, wireway, cable tray, or cable trough as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. Insulated Cable Engineers Association (ICEA)

B. National Electric Code (NEC)

PART 2 - PRODUCTS

2.01 LOW VOLTAGE POWER CABLE:

A. Conductors shall be copper, rated THHN/THWN, 90° C, flame-retardant, with 600 volt polyvinyl-chloride (PVC) or polyethylene (PE) insulation.

B. Cables shall be fully color-coded following ICEA Method 1, Table E-2.

C. Acceptable manufacturers:

1. Okonite Okoseal-N

2. Or Equal.

2.02 MISCELLANEOUS MATERIALS:

A. Cable markers and ties shall be plastic and UV resistant.

B. Cable ties shall be self-locking.

C. Heavy-duty, insulated, solderless, ring-type terminals shall be used for all control cable terminal connections.

D. Acceptable manufacturers:

1. Panduit.

2. Thomas and Betts

3. Or Equal.

2.03 CABLE DESIGNATIONS:

A. The following are the proposed uses for the cables in this project. The Contractor may, at his discretion and with the Engineer's approval, modify these proposed uses:

1. 1/C-250 Cu. AC main power circuit

2. 1/C-4/0 Cu. AC main power neutral circuit

PART 3 - EXECUTION

3.01 GENERAL:

A. Install the control and low voltage cables as shown in the drawings and specifications and in accordance with the requirements of the NEC.

B. All wiring shall be enclosed in duct, rigid conduit, cable trays, or wireways of the size specified on the plans.

3.02 PREPARATION:

A. Clean all conduits with a clean, dry, tight-fitting rag before installing the cables so all obstructions are removed.

B. Remove all sharp corners and jagged edges before pulling the cables to avoid creating abrasions in the insulation or protective covering.

3.03 INSTALLATION:

A. Gradual and uniform pulling stresses shall be minimized when pulling in the cables. Do not exceed the maximum allowable pulling tensions and sidewall pressures as recommended by the manufacturer. The Contractor's conduit and pull box system shall be designed to meet these requirements.

B. Use a lubricant, such as polywater or other approved material not injurious to the cable sheath, when necessary to aid in pulling of cables.

C. Any cable damaged during installation shall be removed and replaced at the Contractor's expense.

D. Leave sufficient length of cable at the ends to allow connections to be made conveniently to the equipment, fixtures, and/or devices.

E. Retain spare conductors of a multi-conductor cable to the same length of the longest conductor that is used in that cable. Conductors in current transformer cables shall have sufficient length to reach the farthest terminal for selecting current transformer ratios.

F. For cable not installed in conduit, tie two or more single conductors together neatly at 10-foot intervals and near termination points.

G. Control cable runs shall be run continuous, without splices, between equipment terminal strips.

H. Support cables that are installed in a vertical or included plane with cable grips, including hooks. Install slack spans between the supports.

I. At cable entrances to equipment, cable clamps shall be used to secure each cable. Where cables pass through sleeves or blockouts, urethane foam may be used in lieu of clamps or woven grips for supporting cables.

J. After installation of cables is complete, spray foam shall be installed around cables for conduits that enter into any equipment or manholes.

K. Connect cables to terminal strips with the ring-type connectors. Each connector shall be suitable for use on the particular conductor for which the connection is being made.

L. Install plastic markers on both ends of each conductor and cable to provide identification with the associated terminal strip and equipment. Label shall indicate the terminal to which the wire is being connected to on the other end of the wire.

M. Tag all cables in the control manhole(s) in the substation yard.

N. Splicing control cables will not be permitted.

3.04 TESTING:

A. All runs, connections, taping, and tagging of insulated conductors will be subject to approval by the Engineer.

B. Acceptance tests shall be conducted on all cables upon completion of all the control cable installations. All wiring shall be rung out by the Contractor after all connections are made to ensure continuity. Any errors shall be corrected in order to ensure satisfactory operation of equipment.

C. Functional testing of all equipment shall be completed by the Contractor in the presence of the Owner and/or Engineer.

D. The Contractor shall be onsite during function testing. Any apparent wiring errors in the design or installation shall be corrected by the Contractor as required. All changes to the drawings shall be documented on the schematic diagrams and wiring diagrams.

* * * END OF SECTION * * *

SECTION 33 7253

TESTING AND CHECKOUT PROCEDURES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes testing and checkout of the equipment being installed in this project.

1.02 PAYMENT:

A. Testing and checkout shall be an incidental cost item.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.01 GENERAL:

A. After installation of equipment and prior to energizing of the same, several types of tests shall be performed. All tests shall be witnessed by the Owner and Engineer. Coordination with others performing related work in the area is required.

3.02 TESTING OF EQUIPMENT AND CONTROLS:

A. All equipment supplied or installed by the Contractor shall be functionally tested to verify proper operation prior to energization. This testing shall include verification of proper operation under all conceivable operating modes. Examples of functional tests include verifying the proper operation of control equipment, station service equipment, interlocking schemes, and related tests.

B. All control circuitry modified or installed by the Contractor shall be functionally tested to verify proper operation of all control schemes. All possible operating scenarios shall be tested. The Contractor shall be present during testing to make wiring changes as required.

3.03 ACCEPTANCE AND COMMISSION TESTING – ALL RELAYS AND METERS:

A. Relay and meter testing will be completed by Others.

B. The Contractor shall coordinate with Others responsible for this testing and make any site accommodations necessary for equipment and personnel to complete this work.

3.04 CONTINUITY TESTS:

A. All wiring shall be rung out after all connections are made to ensure continuity. Any errors found shall be corrected in order to ensure satisfactory operation of equipment.

3.05 PHASE TESTING:

A. After high voltage connections are made, phasing and rotation shall be checked, and identification signs or tags posted to label phasing. This applies to all cables.

3.06 PROOF TESTING – 15 kV CABLES:

A. After terminators are complete, all 15 kV power cable installed by the Contractor shall be subjected to a VLF test. All failures discovered as a result of the test shall be repaired to the Owner's satisfaction.

B. Inspection:

1. Observe all precautions to insure the safety of all personnel associated with and the area of the test.

2. Perform a visual inspection of cable for dirt and moisture accumulation and to assure work is completed before start of testing.

3. Record air temperature, barometric pressure and humidity.

C. High Potential (Hi-Pot) Testing:

1. AC Very-Low Frequency (VLF) Hi-Pot Testing

a. Test per the requirements of IEEE 400.2

b. Tests shall be performed with the cable termination in place but disconnected from the system.

c. The following VLF voltage testing levels for various cable ratings are as follows:

Cable Rating phase to phase (RMS)	Installation Test phase to ground	Acceptance Test phase to ground	Maintenance Test phase to ground
kV RMS	kV RMS (or peak)	kV RMS (or peak)	kV RMS (or peak)
5	9 (13)	10 (14)	7 (10)
8	11 (16)	13 (18)	10 (14)
15	18 (25)	20 (28)	16 (22)
25	27 (38)	31 (44)	23 (33)
35	39 (55)	44 (62)	33 (47)

The table above shows the VLF test voltage levels for Sinusoidal, Cosine-Rectangular waveforms. Peak values are shown in parenthesis for Cosine-Rectangular and Squarewave waveforms.

d. Duration: 60 minutes at 0.1 Hz.

2. AC "Soak" Test

a. When all terminations are complete and the cable is ready to be energized, an AC "soak" test shall be performed. Once the testing is ready to be done, the cable shall be energized at rated voltage, and allowed to remain energized for at least 48 hours without load. The test will check for obvious weak points in the system.

3.07 GROUND GRID TESTING:

A. Every connection point to the fence, structures, platforms, etc. in the grounding system shall be tested under the direction of the Engineer.

B. The three terminal method, a Megger Ground Tester of low-resistance type with direct current ohmmeter, shall be used for testing or other method as approved by Engineer.

C. The acceptable resistance for the ground grid is one ohm or less. If this value is exceeded, the Contractor shall supply and install additional ground rods as directed by the Engineer until the value is reached. Connection to external grounding systems such as transmission shield wires or distribution circuit grounds shall be disconnected during the test.

D. A test report that details the ground grid's resistance values shall be submitted to the Engineer upon completion of the testing.

3.08 STATION BATTERIES:

A. Batteries shall be tested after installation and completion of the initial equalization charge cycle. The following shall be tested:

1. Cell Voltage Check.

2. Capacity Discharge Test.

3. Specific Gravity (Flooded Cells).

3.09 MISCELLANEOUS SYSTEMS:

A. Any miscellaneous systems shall be tested to verify proper function. These systems may include, but are not limited to, the following:

1. Yard lighting systems.

2. Convenience outlets.

3. Sump pump.

4. Building alarms, including, but not limited to:

a. Battery charger alarms.

b. Sump pump alarm.

* * * END OF SECTION * * *

SECTION 33 7301

STATION POWER TRANSFORMER

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing conduit and secondary cable for an Owner-furnished station power transformer as herein specified and shown on the Drawings.

C. Material furnished by Owner:

1. Single-phase station power transformers.

2. Fiberglass box pads.

3. 15 kV primary cable.

4. Elbows and connectors on station power transformer end.

5. 15 kV terminator for switchgear end.

D. Work by Owner:

1. The Owner will:

a. Set the box pads and station power transformer.

b. Install the grounding for the transformers, Contractor shall install ground rod with ground conductor tail to connect the transformer grounding.

c. Make primary terminations in the station power transformers.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cut-sheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 CONDUIT:

A. Shall meet the requirements of the Conduit specifications section, specified elsewhere in this document.

2.02 SECONDARY CABLE:

A. Conductor shall be 600 volt cable suitable for direct burial in the earth or for installation in ducts.

B. The cable shall also be suitable for exposure to sunlight and other atmospheric environments.

C. Aluminum conductor shall be "flexible", with Class B stranded EC grade 8000 series alloy in accordance with the applicable provisions of ASTM b 231.

D. Insulation shall be black cross-linked polyethylene meeting the requirements of EPCEA, S 66 524.

E. The average thickness of insulation shall not be less than shown below:

Conductor Size	Insulation Thickness (mils)
250 kcmil	80
4/0 AWG	80

F. The minimum thickness shall not be less than 90 percent of these values.

G. Cables shall be paralleled with reduced sized neutrals as follows:

Phase Conductor Size	Neutral Size (AWG)
(4) -250 kcmil	(2) - 4/0

H. Neutral shall be colored or striped yellow.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install all conduits to the transformer as shown on the Drawings.

1. Conduit installation shall meet the requirements of the Conduit specifications section, specified elsewhere in this document.

B. Install the secondary power conductor and necessary connectors at the AC disconnect switch in the building.

* * * END OF SECTION * * *

SECTION 33 7313

POWER TRANSFORMER

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes coordinating the installation of the power transformer as herein specified and shown on the Drawings.

C. Material furnished by Others:

1. Power transformer.

D. Work performed by Others:

1. The transformer will be delivered to the job site by the transformer manufacturer, or its assigned representative.

2. The transformer manufacturer will be responsible for placement, assembly, and testing of the power transformer.

1.02 PAYMENT:

A. Coordinating the power transformer's installation shall be an incidental cost item.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 COORDINATION:

A. This Contractor shall coordinate the placement of the power transformer on the foundation with the transformer manufacturer, which includes but is not limited to the following:

1. Prepare concrete pad for installation of transformer by Others. Mark center of pad by verifying dimensions and high-voltage bushing location of the transformer with manufacturer drawings.

2. Provide clear and stable access to the site for Others to set transformer on the pad.

3. Coordinate timing of transformer installation with Owner, Engineer, and Supplier as needed.

* * * END OF SECTION * * *

SECTION 33 7519

GAS CIRCUIT BREAKERS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing Owner-furnished (SF_6) circuit breakers as herein specified and shown on the Drawings.

C. Material furnished by Others:

1. 69 kV circuit breakers.

2. SF_6 gas.

1.02 PAYMENT:

A. See Section 012000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.03 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.04 DELIVERY, STORAGE, AND HANDLING:

A. Owner-furnished circuit breakers will be delivered to the site. Contractor to unload the circuit breakers at the job site.

B. Coordinate delivery items, such as timing, quantity, and weights, with the Owner, Engineer and/or manufacturer.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install the circuit breakers as instructed by the manufacturer's recommendations.

B. Complete installation shall include, but not limited to, the following:

1. Assembly of the breaker stand, if required.

2. Placement of the breaker on the foundation.

3. Connections to the ground grid.

4. Completely filling the breaker with SF_6 gas.

5. Connections from the bushings to the buswork.

6. Control duct connections.

C. Jumpers from the bushings to the buswork shall not be installed until testing of the breaker is complete.

* * * END OF SECTION * * *

SECTION 33 7539

LIGHTNING ARRESTERS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing the Owner-furnished lightning arresters as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Dimensions.

2. Descriptive data.

3. Performance data.

1.03 PAYMENT:

A. See Section 012000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Contractor shall load, transport the lightning arresters from the Owner's storage facility and unload the lightning arresters at the job site.

B. Coordinate delivery items, such as timing, quantity, and weights, with the Owner, Engineer and/or manufacturer.

C.

PART 2 - PRODUCTS

2.01 INCIDENTALS:

A. Furnish incidental items including, but not limited to, miscellaneous hardware and connectors to achieve a complete installation.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install lightning arresters as instructed by the manufacturer's recommendations in the location shown on the Drawings.

B. Connect the arresters to the ground grid via the copper ground bus on the steel.

* * * END OF SECTION * * *

SECTION 33 7700

SWITCHGEAR

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes coordinating the installation of the 15 kV switchgear as herein specified and shown on the Drawings.

C. Material furnished by Others:

1. 15 kV Switchgear.

D. Work performed by Others:

1. The switchgear will be delivered to the job site by the switchgear manufacturer, or its assigned representative.

2. The switchgear manufacturer will be responsible for placement, assembly, and testing of the switchgear.

1.02 PAYMENT:

A. Coordinating the switchgear installation shall be an incidental cost item.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 COORDINATION:

A. This Contractor shall coordinate the placement of the switchgear in the control enclosure with the switchgear manufacturer.

B. This Contractor shall be responsible for removing and reinstalling the removable panel in the control building when the switchgear is delivered by the Supplier.

* * * END OF SECTION * * *

SECTION 33 7923

GROUNDING

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the grounding system as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. National Electric Safety Code (NESC), Current Edition.

PART 2 - PRODUCTS

2.01 GROUND CONDUCTOR:

A. 4/0 Class B, 19 strand copper conductor, unless otherwise shown.

B. Splices between copper ground conductors shall be cast weld.

C. Conductor for risers used in fence grounding shall be copperweld wire.

2.02 GROUND RODS:

A. Rods shall have steel cores and pure copper on the exterior.

B. Size of ground rods to be as shown on the Drawings.

C. Coupling materials shall be provided as required to obtain an overall length the overall length as shown on the Drawings.

D. Connections between ground rods and ground grid conductors shall be exothermic.

E. Acceptable manufacturers:

1. Chance.

2. Joslyn.

3. Or Equal.

2.03 ACCESS PEDESTALS:

A. Pedestals shall be round high density polyethylene enclosures, 18 inches long and approximately 10 inches in diameter with wide flange base.

B. Pedestal lid shall have hex head bolts and be labeled “Grnd/Test”.

C. Acceptable manufacturers:

1. Pencell Plastics “PE-10HD”.

2. Or approved equal prior to Bid.

2.04 SACRIFICIAL ANODE:

A. Supply pure, solid zinc, 30 pound anode.

B. Anode to be covered in cloth package containing 50 percent gypsum and 50 percent bentonite.

C. Anode shall be supplied with a 10-foot (min.) #12 copper lead. Supply copper clamp to attach the copper lead to the ground rod.

D. Acceptable manufacturers:

1. American Smelting and Refining Co. “Zinc Sacrificial Anode”.

2. Or Equal.

2.05 CONNECTORS:

A. Underground conductors shall be connected by an exothermic process.

B. Above-ground connectors shall be either compression type with 2-hole lugs or bolted ground connectors. Splices, when necessary, shall be compression splices or compression tee-taps.

C. All equipment frames, column legs, fence posts, and equipment cabinets shall be connected to the ground conductor by means of a bolted ground connector.

D. Fence fabric and barbed wire shall be connected to the ground risers by means of compression connectors.

E. Acceptable manufacturers:

1. Burndy

2. Or Equal.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. All conduit and equipment shall be grounded in accordance with the latest regulations of the NESC and with all applicable state, county and local rules and regulations.

B. The ground mat depth shall be not less than 18 inches below the final subgrade elevation.

C. Remove any foreign material before making a ground connection to any metal surface. Paint or galvanize any metal structures where the finishing was damaged during installation of any ground connections.

D. All electrical equipment, steel structures, pull box covers, metal control buildings, and exposed metal surfaces shall be connected to the grounding system.

E. Switch operator's platforms, ground mats, and switch operators shall be grounded as shown on the drawings.

F. Connect ground conductor at metal structures to the base plate or supplied connection point.

G. Fasten conductor every 5 feet to each structure leg when the equipment/shield wire to be grounded is above grade more than 5 feet.

H. All metallic raceways shall be grounded. Use double locknuts and plastic insulating bushings at all conduit connections to panels. Use bonding jumpers if conduits are installed in concentric knockouts.

I. Install a bare #4/0 stranded copper wire in the cable tray as shown on the drawings. Install ground wire clamps to attach the #4/0 copper wire to the cable tray. Relays, control panels, and switchgear shall be connected to the #4/0 copper in the cable tray as shown on the drawings. All panelboards, junction boxes, equipment, raceways and conduit shall be grounded to the #4/0 copper wire in the cable tray per NESC requirements.

J. Ground rods shall be driven vertically the full length of the rod(s) until the top is 16 inches below the final subgrade elevation.

K. Sacrificial anodes shall be buried near an access pedestal a minimum depth of 48 inches below the final grade as shown on the drawings.

3.02 TESTING:

A. Shall meet the requirements of the Testing and Checkout specifications section, specified elsewhere in this document.

* * * END OF SECTION * * *

SECTION 33 7993

SHIELDING

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the substation shielding system as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

B. Shop Drawings:

1. Material cutsheets.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 SHIELD WIRE:

A. 7 wire, 3/8 inch high-strength steel (HSS), unless otherwise shown.

2.02 CONNECTORS:

A. Supply compression deadend and miscellaneous connectors as required and as shown on the drawings.

B. Acceptable manufacturers:

1. Alcoa.

2. Fargo.

3. Or Equal.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install shield wires and connectors as shown on the Drawings. Shield wire shall not be installed until transformer is set on the pad.

B. Connect shield wires to the ground system, where applicable.

C. Steel support structures shall be assembled and installed in accordance with the Steel Structure Specifications.

* * * END OF SECTION * * *

SECTION 33 8326

OPTICAL FIBER COMMUNICATIONS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the optical fiber communications as herein specified and shown on the Drawings.

C. Work completed by Others:

1. 48 Fiber OPGW

2. Downlead cushions.

3. Fiber optic enclosure and fusion splicing.

1.02 PAYMENT:

A. See Section 012000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.03 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 FIBER OPTIC CABLE:

A. Acceptable Manufacturers:

1. Alcatel.

2. Alcoa Fujikura Ltd.

3. Corning.

4. OFS.

5. Prysmian.

6. Or approved equal prior to Bid.

B. Fiber Cable Details:

1. Cable shall be a gel-free, loose tube, and all-dielectric design.

2. Forty-eight (48) single-mode, fibers (12 fibers per tube) shall be included in the cable design. Each fiber in a tube shall be distinguishable from the other fibers by means of color-coding.

3. Cable to have a single, durable polyethylene jacket.

4. Cable's operating temperatures shall be -40° C to +70° C.

5. Cable's tensile load shall be 600 lb., minimum.

6. Optical Fibers:

a. The optical fibers shall be Corning SMF-28™, Allwave ZWP, Alcatel or approved equivalent.

b. The optical fiber shall meet or exceed the national and international standards for single-mode fiber described in the table below.

Table 1 – Optical Fiber Standards

Standard	Designation	Description
ITU-T	G.652D	extended wavelength band
IEC 60793-2-50	B1.3	extended wavelength band
TIA-492-CAAB	Type Iva	Dispersion-unshifted with reduced water peak

c. The optical fiber shall be comprised of 100% synthetic silica. Natural Quartz shall not be used in any proportion of the fiber core or cladding.

d. The optical fiber in the loose tube cable shall meet the transmission specifications listed in the following table.

Table 2 – Attenuation (Loose Tube Cabled fiber)

Wavelength (nm)	Attenuation (dB/km)	
	Maximum	Typical
1310	0.35	0.33
1383	0.31	0.29
1490	0.27	0.21
1550	0.25	0.19
1625	0.27	0.22

e. Optical fibers shall not be spliced.

C. Packaging Requirements:

1. Reels used for shipment shall be in good condition and free of sharp projections that would damage the fiber cable.

2. Reels shall be shipped upright on flange edges (not on flange sides) to facilitate unloading.

3. Both ends of the cable shall be sealed with a moisture resistant end cap.

4. Cable shall be shipped on reels in the lengths specified. The length tolerance shall be plus 10 percent, minus zero (0) percent.

D. Testing:

1. The manufacturer shall conduct tests according to industry-standard requirements for fiber cable as called for by IEEE. These tests shall be performed routinely on sample sizes sufficient to verify quality and continuity or as specified.

2. The continuity and attenuation of each fiber on each reel of cable supplied shall be tested prior to shipment. Testing shall be done with an optical time domain reflectometer (OTDR). All fibers shall be tested at both 1310 and 1550 nm wavelengths. Test data shall include total fiber length, total attenuation, and attenuation per unit length. The results shall be recorded and provided with the cable when shipped. Three (3) copies of these test reports shall be submitted to the Engineer.

2.02 INNERDUCT:

A. Shall be a high density polyethylene (HDPE) construction.

B. Shall be corrugated type, orange in color.

C. Shall be 1” diameter nominal.

D. Acceptable Manufacturers:

1. Anixter

2. Thomas & Betts

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install fiber cable and innerduct in conduits, trench, and cable tray as shown on the drawings per manufacturers' recommendations.

B. Route fiber cable and innerduct inside control enclosure to the respective equipment.

C. Coil 30' of fiber cable at each end without innerduct.

* * * END OF SECTION * * *

Category IV

Appendix

- Cable Schedule
- Storm Water Pollution and Prevention Plan (SWPPP)
- Project Drawings (Separate): 60 pages

Cable	Size	From	Dwg	To	Dwg	Description	Ft.
AC CONNECTIONS							
AC1	(4) 250 CU (2) 4/0 CU	**STA PWR XFMR**	**RS-410**	**AC DISC**	**RS-410**	**STA PWR**	**40**
BATT CHGR	3C/8	**BATT CHARGER**	**RS-411**	**AC PANEL AC1**	**RS-410**	**BATTERY CHARGER AC PWR**	**5**
	BK	TB1/L1		AC1/39		120-X	
	RD	TB1/L2		AC1/41		120-Y	
	WT	TB1/N		AC1/N		N	
DC CONNECTIONS							
DC BATT	2C/8	**BATT CHARGER**	**RS-411**	**DC J-BOX**	**RS-411**	**BATTERY CHARGER DC PWR**	**45**
	RD	TB1/9		(+)		125VDC+	
	BK	TB1/9		(-)		125VDC-	
FIBER CONNECTIONS							
FIBER 74	48/C FIBER	**1274 DEADEND**		**RACK C1**	**RS-809**	**URD FIBER TO SW-1274 DEADEND (FIBER TO SWEAZEY)**	**350**
FIBER 71	48/C FIBER	**1271 DEADEND**		**RACK C1**	**RS-809**	**URD FIBER TO SW-1271 DEADEND (FIBER TO WILLIAMS)**	**290**
FIBER SWZY	48/C FIBER	**SWEAZEY STRUCTURE**		**CBPC RACK**		**URD FIBER TO EXISITING STRUCTURE (FIBER TO REISNER)**	**250**

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

NPDES GENERAL PERMIT NO. 2

STORM WATER POLLUTION PREVENTION PLAN

FOR

WEBSTER CITY MUNICIPAL UTILITIES
REISNER SUBSTATION GRADING

Webster City, Iowa
Project No. 428403

March 2024

Prepared by:
DGR Engineering
1302 South Union Street
P.O. Box 511
Rock Rapids, IA 51246
(712) 472-2531

Table of Contents

PART 1: SITE DESCRIPTION/SITE MAP

Project Name	Reisner Substation Grading
Project Location (address, Section, TWP, R)	SE 1/4 Section 7, T88N, R25W
Owner Name	The City of Webster City Municipal Utilities
Representative	Adam Dickinson
Owner Address/Phone	400 Second Street Webster City, IA 50595 (515) 832-9159
Site Area	4.0
Disturbed Area	3.03
Final Runoff Coefficient	80
Soil type	Lean Clay
Receiving Waters	City Road Ditch
Description of Proposed Activity	Grading, Storm Sewer
Expected Sequence of Major Construction Activity (Subject to change: any deviations to the plan shall be noted on this plan)	A. Install temporary sediment control measures B. Clearing, grubbing & removals C. Grading D. Utility Installation E. Surfacing F. Final stabilization seeding, mulching, fertilizing G. Remove temporary sediment control measures

SITE MAP

Refer to the project plans for the site map.

PART 2: CONTROLS

CONTROL MEASURE MASTER INDEX

Use this index to track the status of all erosion & sediment control BMP's on your site as they relate to current construction phase. Note the corresponding number of the BMP on the erosion control plan (ie B3) and record installation and removal dates in the table. BMP's will not necessarily be removed during the same phase as their installation. Site conditions should dictate installation and removal.

NUMBER	CONTROL	DATE INSTALLED	DATE REMOVED
PHASE A – REMOVALS			
A1	Inlet Protection		
A2	Silt Fence		
A3			
A4			
A5			
A6			
A7			
PHASE B – GRADING			
B1	Temporary Seeding/Mulching		
B2			
B3			
B4			
B5			
PHASE C – UNDERGROUND UTILITIES			
C1	Inlet Protection		
C2	Silt Fence		
C3			
C4			
C5			
C6			
C7			

NUMBER	CONTROL	DATE INSTALLED	DATE REMOVED

PHASE D – SURFACING / FINE GRADING			
D1	Temporary Seeding/Mulching		
D2	Inlet Protection		
D3			
D4			
D5			

PHASE E - FINAL STABILIZATION			
E1	Permanent Seeding		
E2			
E3			
E4			
E5			

A. Erosion and Sediment Controls

Measures to be used for controlling erosion and sediment throughout the construction project include stabilization measures for limiting soil erosion from disturbed areas and structural controls to divert runoff and remove sediment. Contractor/subcontractor is responsible for the implementation and management of control measures specific to this site. As work progresses, field investigation may indicate additional erosion control measures may be required as determined by the Contractor, Owner, Engineer or other governmentally regulated agencies.

1. Stabilization

a. Preserve existing vegetation in areas not disturbed during construction.
b. Undisturbed areas will utilize existing vegetation as a natural buffer zone to increase infiltration and sediment deposition by reducing runoff velocity.
c. The total area of soil disturbed by construction operations at any time shall be held to a minimum.
d. Soil Compaction - compaction of soils in area to be seeded or sodded will be kept to a minimum to increase infiltration of storm water runoff into the groundwater, reducing the amount of runoff.
e. Temporary stabilization - areas where construction activity is not planned to occur for at least 14 days will be stabilized within 14 days of ceasing construction activities in that area by one or more of the following temporary erosion control methods:
    1. Topsoil stockpiles and disturbed portions of the site will be stabilized with temporary seed and mulch.
    2. Areas of the site to be paved will be temporarily stabilized with geotextile and stone sub-base until pavement can be installed.
    3. Frequent watering during construction in dry weather shall minimize wind erosion from exposed soil.
f. Permanent Stabilization - areas where construction activity has permanently ended will be stabilized within 14 days of ceasing construction activities in that area by one or more of the following permanent erosion control measures:
    1. Sodding or permanent seeding/mulch and mulch in unpaved areas where final grading is complete.
g. Dust Control - Mulch or surface watering will be utilized to control wind erosion of susceptible soils during and/or immediately after mass site grading operations.

2. Structural Controls

a. At all areas where runoff can move offsite, silt fence, filter sock or approved equal will be installed along the perimeter of the project downstream of soil disturbing activities and storm water discharge points prior to site clearing and grading operations as required and/or shown on the plans.
b. Provide silt fence, filter sock, or equivalent measures for all sideslopes and downstream boundaries of the disturbed area as required and/or shown on the plans.
c. Inlet protection devices will be installed in all storm water intakes to protect storm sewers from sediment immediately after construction of the inlet.
d. Additional erosion control measures may be required on embankments, stockpiles, and other areas to ensure runoff control.

B. Storm Water Management

Post construction storm water drainage will be facilitated by curb and gutter, storm sewer and intake structures for the developed areas. Runoff will be directed to onsite storm water management controls and/or the storm sewer system.

Measures implemented to control pollution of storm water after construction is complete include the following:

1. Undeveloped areas of the site will be graded at the slopes indicated and have permanent seeding and/or landscaping designed to reduce runoff velocities and increase infiltration.

2. Portions of the site will remain undisturbed and in its original vegetative state, limiting the amount of exposed soil and providing a vegetative buffer zone that will reduce runoff velocities and increase infiltration.

C. Other Controls

Measures for controlling other sources of potential pollution that may exist on the construction site. During the course of construction, it is possible that situations may arise where unknown material will be encountered. When such situations occur, they will be handled according to all applicable federal, state, and local regulations in effect at the time.

1. Waste Materials

Disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic

system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules, or regulations shall apply.

2. Hazardous Waste.

   a. Hazardous waste materials will be disposed of in accordance with applicable local, State and/or Federal regulations.
   b. Equipment refueling and maintenance operations will be carried out in such a manner so as to prevent any spills and contamination to the soil and ground water.
   c. Potentially hazardous materials will be used with great care to prevent spillage in any volume.

3. Vehicle Tracking

   a. Stabilized construction entrances and/or vehicle washing racks will be installed at all site access points to reduce vehicle tracking of sediment offsite.
   b. Paved streets adjacent to the site will be inspected daily and cleaned as necessary to remove any excess mud, dirt, or rock tracked from the site.
   c. Dump trucks hauling material from the site will be properly covered with a tarpaulin.
   d. Dust control measures will be used as necessary.

4. Sanitary Waste

   A portable restroom facility may be located onsite at the contractor's discretion. Wastes will be collected and disposed of in complete compliance with local, State and Federal regulations. This facility will be located in an area where contact with storm water discharge is minimized.

D. Non-storm Water Discharges

1. Expected sources of non-storm water discharges from the site during construction may include:
   a. Potable water sources, including water line flushing, irrigations drainage and firefighting activities.
   b. Pavement/building wash waters where no spills or leaks of toxic or hazardous materials have occurred and excluding detergents.
   c. Uncontaminated groundwater from de-watering excavations.
   d. Natural springs, wetland, water sources.
   e. Foundation or footing drains where flows have not been exposed to solvents.

2. Non-storm water flows will be discharged to a stabilized area or directed to a sediment retention device or other appropriate control measure prior to discharging off-site.

E. State and Local Requirements

1. The storm water pollution prevention plan reflects the State of Iowa requirements for storm water management and erosion and sediment control as established in 161A.64 Code of Iowa, State of Iowa Statutory Requirements pertaining to Erosion Control Plans.

2. Code Compliance: The contractor shall comply with the soil erosion control requirements of the Iowa Code, the Iowa DNR permit, and all local ordinances.

F. Sequence of Installation

1. Install perimeter silt fence, silt berms, & inlet protection where possible.

2. Clearing, Grubbing, & Removals as needed for installation.

3. Grading & Installation of utilities.

4. Construction of paving.

5. Complete topsoil, fine grading, permanent stabilization by seed/mulch, sod, or landscaping of all disturbed areas.

6. Remove temporary sediment control measures after permanent seeding & landscaping is 70% established.

PART 3: CONSTRUCTION & IMPLEMENTATION

PROJECTED CONSTRUCTION SCHEDULE / CONSTRUCTION PROGRESS

Phase A – Removals, Grading & Utilities	Anticipated Start Date	Anticipated End Date

Initial control measure installation (Construction entrances, perimeter silt fence)			
Anticipated Start Date		Anticipated End Date	
Actual Start Date		Actual End Date	

Utility Installation (Installation & re-routing of utilities, Rough grading of site)			
Anticipated Start Date		Anticipated End Date	
Actual Start Date		Actual End Date	

Phase B – Surfacing & Fine Grading	Anticipated Start Date	Anticipated End Date

Surfacing (Subgrade Prep, paving)			
Anticipated Start Date		Anticipated End Date	
Actual Start Date		Actual End Date	

Finish Grading (Backfill, finish grading, temporary seed stabilization)			
Anticipated Start Date		Anticipated End Date	

Phase C - Final Stabilization	Anticipated Start Date	Anticipated End Date

Final Stabilization (Temporary erosion control measures removed, final seeding done by others)			
Anticipated Start Date		Anticipated End Date	
Actual Start Date		Actual End Date	

Maintenance

1. All documents related to the storm water discharge permit shall be kept on site at all times and must be presented to the Iowa DNR or EPA upon request. This includes but is not limited to the Storm Water Pollution Prevention Plan, Notice of Intent, Proof of Publication, and project inspection diary.

2. This pollution prevention plan shall be revised as construction progresses to reflect current ownership, responsibilities, operations, and findings.
   a. The plan will be revised due to any deficiencies in the plan or changes in conditions noted during an inspection, and the contractor will implement any and all revisions as soon as practical but no later than seven days after the inspection.

b. Maintain record of major construction operations start and ending dates and operators responsible for the various phases.
c. The plan will be modified within 14 calendar days of a hazardous condition describing the release, the date of release, and the circumstances leading to the release. Steps to prevent the reoccurrence of such releases will be identified in a plan revision and implemented.

3. Maintain all temporary and permanent erosion control measures in good working order by cleaning, repairing, replacement and sediment removal throughout the permit period. Any necessary repairs will be initiated within 24 hours of report.

a. Built up sediment will be removed from sediment barrier (silt fence or filter sock) or the silt barrier replaced when it has reached 1/2 the height of the barrier.
b. Accumulation of earth, silt or debris on adjoining properties or streets will be minimized. Remove any accumulation of earth, silt or debris immediately and take remedial actions for prevention.
c. Minor spill of potentially hazardous materials will be cleaned up by removing and disposing of contaminated soils properly. Major spills shall be reported in accordance with 455B.386 code of Iowa with clean-up procedures dependent on the severity of the spill.

B. Inspections

1. The contractor will be responsible for selecting a "qualified" inspector to conduct the inspections. "Qualified" is defined as a person knowledgeable in the principles and practices of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.

2. The project area and control devices will be inspected by the personnel assigned by the contractor every 7 calendar days. The findings and any actions taken as a result of this inspection shall be recorded in the project diary with a copy submitted weekly to the owner or owner's representative during the project.
a. Inspect silt fence for depth of sediment, tears, fabric securely attached to posts, posts firmly in the ground, fabric firmly in the ground, and signs of undermining.
b. Inspect filter socks for depth of sediment, tears, posts firmly in ground, firm contact between sock and ground, and signs of flow under the sock.
c. Inspect inlet protection devices for level of sediment, bypassing of flows, and ensure that overflow device is not plugged.
d. Inspect storm outlets for signs of sediment from the site and erosion at the outlet.
e. Inspect adjoining property for signs of sediment from site.
f. Inspect construction entrance for sediment accumulation.

g. Inspect street for track-out.
h. Inspect seeding for bare spots, washouts and healthy growth.
i. Inspect concrete washout area for depth of accumulated material, evidence of flows leaving the area and diversion of surface runoff away from the washout area.

C. Material Management

Site sources of pollution generated as a result of this work related to silts and sediment which may be transported as a result of a storm event are included as part of this SWPPP. However, this SWPPP provides conveyances for other (non-project related) operations. These other operations have storm water runoff, the regulation of which is beyond the control of this SWPPP.

1. Materials or substances expected to be present onsite during construction:

a. Concrete
b. Detergents
c. Paints
d. Tar
e. Soil stabilization additives
f. Fertilizers
g. Petroleum based additives
h. Cleaning solvents
i. Wood
j. Solids and construction wastes
k. Pesticides
l. Fuel
m. Curing compounds
n. Paint

(Contractor shall list additional materials not shown)

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p.
q.
r.

2. Material Management Practices - the following is a list of practices that will be used onsite to minimize the risk of spills or other accidental exposure of materials and substances to storm water runoff.

a. Good Housekeeping
   i. An effort will be made to store onsite only enough products required to complete the job.

ii. All materials stored onsite will be kept in a neat, orderly manner and in their appropriate containers. If possible, products shall be kept under a roof or other enclosure.
iii. Materials will be kept in their original containers with the original manufacturer's label.
iv. Substances will not be mixed with one another unless recommended by the manufacturer.
v. Whenever possible, all of a product will be used up before disposing of the container.
vi. Manufacturer's recommendations for proper use and disposal will be followed.
vii. The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

b. Hazardous Products
i. Products will be kept in their original containers with the original manufacturer's label.
ii. The original labels and material safety data will be kept for each of the materials as they contain important product information.
iii. Disposal of any excess product will be done in a manner that follows all manufacturers', federal, local and state recommended methods for proper disposal.

(Contractor shall list additional practices, as appropriate, used to prevent hazardous material discharge).

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Product Specific Practices - the following is a list of potential sources of pollution and specific practices to reduce pollutant discharges from materials or sources expected to be present during construction.

c. Petroleum Storage Tanks
i. All onsite vehicles shall be inspected and monitored for leaks and receive preventative maintenance to reduce the chance of leakage.
ii. Steps will be taken by the contractor to eliminate contamination from storage tanks from entering the soil. Any petroleum storage tanks kept onsite will be located with an impervious surface between the tank and the ground.

d. Fertilizers - shall be applied in minimal amounts as recommended by the manufacturer. It shall be worked into the soil as to minimize the contact with storm water discharge.

e. Paints, paint solvents and cleaning solvents - Excess paints and solvents shall not be discharged into the storm sewer system. The contractor shall refer to the manufacturer's instructions and federal regulations on the proper disposal techniques.

f. Concrete wastes
   i. Concrete trucks will be allowed to washout or discharge excess concrete only in specifically designated areas which have been prepared to minimize contact between the concrete and storm water discharge from the site.
   ii. The hardened product from the concrete washout areas will be disposed of as other non-hazardous waste materials or may be broken up and used on the site for other appropriate uses.

g. Solid and construction wastes - All trash and construction debris shall be deposited into a dumpster that will be emptied as necessary. No construction waste materials will be buried on site. The dumpsters must be put in a location where contact with storm water discharge is minimized.

(Contractor shall list additional potential sources of pollution and practices to reduce pollutant discharge

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3. Hazardous Substance Spill Prevention and Response

a. The contractor is responsible for training all personnel in the proper handling and cleanup of spilled materials. No spilled hazardous materials or wastes will be allowed to come into contact with storm water discharges. If contact does occur, the storm water discharge will be contained on site until appropriate measures in compliance with all Federal, state, and local regulations are followed to dispose of the hazardous substance.

b. In addition to Good Housekeeping and material management practices, the following practices shall be done to minimize the potential for hazardous materials spills and to reduce the risk of the spill coming in contact with storm water.
   i. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
   ii. Material and equipment necessary for spill control, containment and cleanup will be provided onsite in a material storage area. Equipment and materials will include but not be limited to brooms,

dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust and plastic and meal trash containers.

c. In the event of a spill, the following procedures will be followed:
   i. All spills will be cleaned up immediately following discovery.
   ii. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substance.
   iii. Spill of toxic or hazardous material will be reported to the appropriate state or local government agency and to the project manager and engineer, regardless of the size of the spill.

d. In the event the construction site has a release of a hazardous substance of oil in an amount which exceeds a reportable quantity (RQ) as defined at 40 CFR Part 110, 40 CFR Par 117, or 40 CFR Part 302, then the permittee shall:
   i. Person in charge of the site at the time of the spill shall call the EPA National Response Center to report the spill (800-424-8802, or 202-426-2675).
   ii. Modify the Pollution Prevention Plan accordingly within 14 days of the spill, including the items mentioned below.
   iii. Within 14 days of the release, submit a written description of the release including: a description of the release, type of material, estimated amount of spill, date of release, explanation of why the spill happened, and a description of the steps taken to prevent and control future releases.

PART 4: FINAL STABILIZATION/DISCONTINUATION

A. Final Stabilization/Discontinuation

1. The storm water discharge from a construction activity is no longer considered to be a discharge subject to the storm water permit requirements when final stabilization has been reached and temporary erosion and sediment controls have been or will be removed. A permittee must submit a Notice of Discontinuation (NOD) to inform the IDNR that storm water discharge for the site will no longer need to be covered by the general permit.

2. "Final Stabilization" - the point at which all soil disturbing activities are complete, and a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been employed.

3. Notice of Discontinuation should be mailed to the following address:

   Storm Water Coordinator
   Iowa Department of Natural Resources
   502 E. 9th Street
   Des Moines, Iowa 50319-0034

4. All plans, inspection reports and other related documents must be retained for a period of three years after project completion. The contractor shall retain a record copy and provide the original documents to the owner upon issuance of the NOD.

PART 5: CERTIFICATION

A. Storm Water Pollution Prevention Plan Certification

1. This project is subject to section 402(b) of the Clean Water Act and IAC 455 B.174 Subrule 567-64.4 (projects disturbing one or more total acres) and requires inclusion in the National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 of individual NPDES Permit for storm water discharge associated with industrial activity for construction activities.

2. The owner and prime contractor must sign the following certification statements. By doing so, the prime contractor becomes co-permittee with the owner and other co-permittee contractors. The prime contractor must identify which contracting entity will be responsible for each portion of the pollution prevention plan and maintain the site in compliance with the plan and NPDES Permit. The certification must be signed in accordance with the signatory requirements found in the general permit: i.e., principal executive officer, vice president, general partner, proprietor, elected official, and will be incorporated into the pollution prevention plan.

3. All subcontractors, including short-term contractors and subcontractors must sign the appropriate certification statement before conducting any work at the site. The Certification must be signed in accordance with the signatory requirements found in the general permit: i.e., principal executive officer, vice president, general partner, proprietor, elected official, and will be incorporated into the pollution prevention plan.

4. Upon signing the certification, the contractor or subcontractor becomes a co-permittee with the owner and other co-permittee contractors. In signing the plan, the authorizing representative certifies that the information is true and assumes liability for the plan and its implementation. Note that Section 309 of the Clean Water Act provides for significant penalties where information is false or the permittee violates, either knowingly or negligently, the permit requirements.

Owner's Certification
for
NPDES General Permit No. 2 "Storm Water Discharge
Associated with Industrial Activity for Construction Activities"

Project: Reisner Substation Grading

Location North Millards Lane

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site as part of this certification. Further, by my signature, I understand that I am becoming a co-permittee, along with the owner(s) and other contractors and subcontractors signing such certifications, to the Iowa Department of Natural Resources NPDES General Permit No. 2 for "Storm Water Discharge Associated with Industrial Activity for Construction Activities" at the identified site. As a co-permittee, I understand that I, and my company, are legally required under the Clean Water Act and the Code of Iowa, to ensure compliance with the terms and conditions of the storm water pollution prevention plan developed under this NPDES permit and the terms of this NPDES permit.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature _____

Printed Name Adam Dickinson

Title Electric Utility Supervisor

Company The City of Webster City Municipal Utilities

Address 400 Second Street

Webster City, IA 50595

Telephone (515) 832-9159

Date of Certification _____

Contractor's Certification
for
NPDES General Permit No. 2 "Storm Water Discharge
Associated with Industrial Activity for Construction Activities"

Project: Reisner Substation Grading

Location North Millards Lane

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site as part of this certification. Further, by my signature, I understand that I am becoming a co-permittee, along with the owner(s) and other contractors and subcontractors signing such certifications, to the Iowa Department of Natural Resources NPDES General Permit No. 2 for "Storm Water Discharge Associated with Industrial Activity for Construction Activities" at the identified site. As a co-permittee, I understand that I, and my company, are legally required under the Clean Water Act and the Code of Iowa, to ensure compliance with the terms and conditions of the storm water pollution prevention plan developed under this NPDES permit and the terms of this NPDES permit.

Signature _____

Printed Name _____

Title _____

Company _____

Address _____

_____

Telephone _____

Date of Certification _____

PART 6: STANDARD PERMIT CONDITIONS

A. Duty to Comply

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Code of Iowa and the Clean Water Act and is grounds for enforcement action; for termination of coverage under this general permit; or, for denial of a request for coverage under a reissued general permit.

2. Toxic Pollutants. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act (CWA) for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

B. Continuation of the Expired General Permit. This permit expires on October 1, 2017. An expired general permit continues in force until replaced by adoption of a new general permit.

C. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Duty to Provide Information. The permittee shall furnish to the Department, within three hours, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department upon request copies of records required to be kept by this permit.

F. Other Information. When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to the Department, he or she shall promptly submit such facts or information.

G. Signatory Requirements. All Notices of Intent, storm water pollution prevention plans, reports, certifications or information either submitted to the Department or the operator of a municipal separate storm sewer system, or that this permit requires be maintained by the permittee, shall be signed in accordance with rule 567--64.3(8) of the Iowa Administrative Code as follows:

64.3(8) *Identity of signatories of operation permit applications*. The person who signs the application for an operation permit shall be:

a. *Corporations*. In the case of corporations, a principal executive officer of at least the

level of vice-president.

b. *Partnerships*. In the case off a partnership, a general partner.

c. *Sole proprietorships*. In the case of a sole proprietorship, the proprietor.

d. *Public facilities*. In the case of a municipal, state, or other public facility, by either the principal executive officer, or the ranking elected official.

e. *Storm water discharge associated with industrial activity from construction activity*. In the case of a storm water discharge associated with industrial activity from construction as identified in 40 CFR 122.26(b)(14)(x), either the owner of the site or the general contractor.

The person who signs NPDES reports shall be the same, except that in the case of a corporation or a public body, monitoring reports required under the terms of the permit may be submitted by the person who is responsible for the overall operation of the facility from which the discharge originated.

H. Certification. Any person signing documents under paragraph VI.G. shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Clean Water Act.

J. Property Rights. The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

K. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

L. Transfers. This permit is not transferable to any person except after notice to the Department. The Department may require the discharger to apply for and obtain an individual NPDES permit as stated in Part I.C.

M. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions or this permit.

N. Inspection and Entry. The permittee shall allow the Department or an authorized representative of EPA, the State, or, in the case of a facility which discharges through a municipal separate storm sewer, an authorized representative of the municipal operator or the separate storm sewer receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and,

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

O. Permit Actions. Coverage under this permit may be terminated for cause. The filing of a request by the permittee for a permit discontinuance, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

P. Environmental Laws. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

PART 7: REOPENER CLAUSE

If there is evidence indicating potential or realized impacts or water quality due to any storm water discharge associated with industrial activity for construction activities covered by this permit, the owner or operator of such discharge may be required to obtain individual permit in accordance with Part I.C of this permit.

PART 8: DEFINITIONS

"***Best Management Practices***" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of

waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"***Construction site***" means a site or common plan of development or sale on which construction activity, including clearing, grading and excavating, results in soil disturbance. A construction site is considered one site if all areas of the site are contiguous with one another and one entity owns all areas of the site.

"***CWA***" or "***Clean Water Act***" means the Federal Water Pollution Control Act.

"***Dedicated portable asphalt plant***" means a portable asphalt plant that is located on or contiguous to a construction site and that provides asphalt only to the construction site that the plant is located on or adjacent to.

"***Dedicated portable concrete plant***" means a portable concrete plant that is located on or contiguous to a construction site and that provides concrete only to the construction site that the plant is located on or adjacent to.

"***Dedicated sand or gravel operation***" means an operation that produces sand and/or gravel for a single construction project.

"***Department***" means the Iowa Department of Natural Resources.

"***Final Stabilization***" means that all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 70% for the area has been established or equivalent stabilization measures have been employed or which has been returned to agricultural production.

"***Hazardous condition***" means any situation involving the actual, imminent, or probable spillage, leakage, or release of a hazardous substance on to the land, into a water of the state, or into the atmosphere, which creates an immediate or potential danger to the public health or safety or to the environment. 455B.381(2) 1991, Code of Iowa

"***Hazardous substance***" means any substance or mixture of substances that presents a danger to the public health or safety and includes, but is not limited to, a substance that is toxic, corrosive, or flammable, or that is an irritant or that, in confinement, generates pressure through decomposition, heat, or other means. The following are examples of substances which, in sufficient quantity may be hazardous: acids; alkalis; explosives; fertilizers; heavy metals such as chromium, arsenic, mercury, lead and cadmium; industrial chemicals; paint thinners; paints; pesticides; petroleum products; poisons, radioactive materials; sludges; and organic solvents. "Hazardous substances" may include any hazardous waste identified or listed by the administrator of the United State Environmental Protection Agency under the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976, or any toxic pollutant listed under section 307 of the federal Water Pollution Control Act as amended to January 1, 1977, or any hazardous substance designated under section 311 of the federal Water

Pollution Control Act as amended to January 1, 1977, or any hazardous material designated by the secretary of transportation under the Hazardous Materials Transportation Act (49 CFR 172.101). 455B.381(1) , 1991 Code of Iowa

"***Municipality***" means a city, town, borough, county, parish, district, association, or other public body created by or under State law.

"***NOI***" means Notice of Intent to be covered by this permit (see Part II of this permit.)

"***Outstanding Iowa Waters***" means those waters which constitute an outstanding state resource such as waters of exceptional recreational or ecological significance. These waters are identified in Appendix B of the Iowa Antidegradation Implementation Procedure manual.

"***Outstanding National Resource Waters***" means those waters which constitute an outstanding national resource such as waters of national and state parks and wildlife refuges and also waters of exceptional recreational or ecological significance. These waters are identified in Appendix B of the Iowa Antidegradation Implementation Procedure manual.

"***Permittee***" means the owner of the facility or site.

"***Qualified personnel***"means those individuals capable enough and knowledgeable enough to perform the required functions adequately well to ensure compliance with the relevant permit conditions and requirements of the Iowa Administrative Code.

"***Runoff coefficient***" means the fraction of total rainfall that will appear at the conveyance as runoff.

"***Storm Water***" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"***Storm water discharge associated with industrial activity***" means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 CFR part 122. For the categories of industries identified in paragraphs (i) through (x) of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

For the categories of industries identified in paragraph (xi) of this definition, the term includes only storm water discharges from all the areas (except access roads and rail lines) that are listed

in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by- products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in these paragraphs (i)-(xi) of the definition) include those facilities designated under 40 CFR 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this definition;

i. Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) of this definition);

ii. Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373;

iii. Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

iv. Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

v. Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;

vi. facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

vii. Steam electric power generating facilities, including coal handling sites;

viii. Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-4225), 43, 44, 45 and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (i)-(vii) or (ix)-(xi) of this definition are associated with industrial activity;

ix. Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR 503;

x. Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than one acre of total land area which are not part of a larger common plan of development or sale;

xi. Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-4225, (and which are not otherwise included within categories (ii)-(x));

"***Storm water discharge associated with industrial activity for construction activities***" means activities that fall under subparagraph (x) in the definition of storm water discharge associated with industrial activity.

"***Topsoil***" means the fertile, uppermost part of the soil containing significant organic matter largely devoid of debris and rocks and often disturbed in cultivation.

"***Uncontaminated groundwater***" means water that is potable for humans, meets the narrative water quality standards in subrule 567-61.3(2) of the Iowa Administrative Code, contains no more than half the listed concentration of any pollutants in subrule 567-61.3(3) of the IAC, has a pH of 6.5-9.0 and is located in soil or rock strata.

APPENDIX A

NOTICE OF INTENT

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
NOTICE OF INTENT FOR NPDES COVERAGE UNDER GENERAL PERMIT

CASHIER'S USE ONLY
0253-542-SW08-0581

Name

No. 1 FOR "STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY"

or

No. 2 FOR "STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES"

or

No. 3 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR ASPHALT PLANTS, CONCRETE BATCH PLANTS, ROCK CRUSHING PLANTS, AND CONSTRUCTION SAND AND GRAVEL FACILITIES."

PERMIT INFORMATION

Has this storm water discharge been previously permitted? ☐ Yes ☒ No

If yes, please list authorization number _____

Under what General Permit are you applying for coverage?

General Permit No. 1 ☐ General Permit No. 2 ☒ General Permit No. 3 ☐

PERMIT FEE OPTIONS

For coverage under the NPDES General Permit the following fees apply:

☐ Annual Permit Fee $175 (per year) Maximum coverage is one year.
☒ 3-year Permit Fee $350 Maximum coverage is three years.
☐ 4-year Permit Fee $525 Maximum coverage is four years.
☐ 5-year Permit Fee $700 Maximum coverage is five years.

Checks should be made payable to: Iowa Department of Natural Resources.

FACILITY OR PROJECT INFORMATION

Enter the name and full address/location (not mailing address) of the facility or project for which permit coverage is requested.

NAME:		STREET ADDRESS OF SITE:	
Reisner Substation Grading		North Millards Lane	
CITY:	COUNTY:	STATE:	ZIP CODE:
Webster City	Hamilton	IA	50595

CONTACT INFORMATION

Give name, mailing address and telephone number of a contact person (Attach additional information on separate pages as needed). This will be the address to which all correspondence will be sent and to which all questions regarding your application and compliance with the permit will be directed.

NAME:		ADDRESS:	
Adam Dickinson		400 Second Street	
CITY:	STATE:	ZIP CODE:	TELEPHONE
Webster City	IA	50595	(515) 832-9159

Check the appropriate box to indicate the legal status of the operator of the facility.

☐ Federal ☐ State ☒ Public ☐ Private ☐ Other (specify) _____

SIC CODE (General Permit No. 1 & 3 Applicants Only) ☐

SIC code refers to Standard Industrial Classification code number used to classify establishments by type of economic activity.

FACILITY LOCATION OR LOCATION OF CONSTRUCTION SITE

Give the location by ¼ section, section, township, range, (e.g., NW, 7, T78N, R3W).

1/4 SECTION	SECTION	TOWNSHIP	RANGE
SE	7	88	25

MAIL TO:

STORM WATER COORDINATOR
IOWA DEPARTMENT OF NATURAL RESOURCES
502 E 9TH ST
DES MOINES IA 50319-0034

OWNER INFORMATION

Enter the name and full address of the owner of the facility.

NAME:		ADDRESS:	
Webster City Municipal Utilities		400 Second Street	
CITY:	STATE:	ZIP CODE:	TELEPHONE:
Webster City	IA	50595	(515) 832-9159

OUTFALL INFORMATION

Discharge start date, i.e., when did/will the site begin operation or 10/1/92, whichever is later: April 2024

Is any storm water monitoring information available describing the concentration of pollutants in storm water discharges? ☐ Yes ☒ No

NOTE: Do not attach any storm water monitoring information with the application.

Receiving water(s) to the first uniquely named waterway in Iowa (e.g., road ditch to unnamed tributary to Mud Creek to South Skunk River):
City Road ditch to natural drainage way eventually to Boone River.

Compliance With The Following Conditions:	Yes	No
Has the Storm Water Pollution Prevention Plan been developed prior to the submittal of this Notice of Intent and does the plan meet the requirements of the applicable General Permit? (do not submit the SWPPP with the application)	☒	☐
Will the Storm Water Pollution Prevention Plan comply with approved State (Section 161A.64, Code of Iowa) or local sediment and erosion plans? (for General Permit 2 only)	☒	☐
Has a public notice been published for at least one day, in the newspaper with the largest circulation in the area where the discharge is located, and is the proof of notice attached? (new applications only)	☒	☐

GENERAL PERMIT NO. 2 AND GENERAL PERMIT NO. 3 APPLICANTS COMPLETE THIS SECTION.

Description of Project (describe in one sentence what is being constructed):
Site Grading work for the construction of an electrical substation.

For General Permit No. 3 - Is this facility to be moved this year? ☐ Yes ☒ No

Number of Acres of Disturbed Soil: 3.03
(Construction Activities Only)

Estimated Timetable For Activities / Projects, i.e., approximately when did/will the project begin and end:
April 2024 to December 2025

CERTIFICATION – ALL APPLICATIONS MUST BE SIGNED

Only the following individuals may sign the certification: owner of site, principal executive officer of at least the level of vice-president of the company owning the site, a general partner of the company owning the site, principal executive officer or ranking elected official of the public entity owning the site, any of the above of the general contracting company for construction sites.

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified people properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, this information is to the best of my knowledge and belief, true, accurate, and complete. I further certify that the terms and conditions of the general permit will be met. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME: (print or type)	TITLE AND COMPANY NAME OF SIGNATORY:
Adam Dickinson	Electric Utility Supervisor, Webster City Utilities
SIGNATURE:	DATE:

APPENDIX B

INSPECTION REPORTS

EROSION CONTROL SITE INSPECTION REPORT

PROJECT: Reisner Substation Grading **DATE:** _____

FILE NO: 428403 **TIME:** _____

CONTRACTOR: _____ **OWNER:** Webster City Utilities

LOCATION: _____

WEATHER: _____

INSPECTION TYPE: Scheduled / After Weather Event / Follow-Up / Complaint / Other _____

DAYS SINCE LAST RAINFALL _____ Amount of Last Rainfall _____

No.		Yes	No	Not Applicable
1.	Erosion control practices in place and functioning? (mulch, seeding, blankets)			
2.	Sediment traps, barriers and basins clean and functioning properly?			
3.	Sediment controls in place at site perimeter and storm drain inlets?			
4.	Discharge points free of any noticeable pollutant discharges?			
5.	Sediment, mud and debris being cleaned from public roads?			
6.	Are there adequate provisions to prevent mud tracking off site?			
7.	Is there evidence that sediment is leaving the site and onto adjacent properties?			
8.	Are utility trenches being backfilled properly, tamped and seeded immediately?			
9.	All exposed slopes protected from erosion through acceptable soil stabilization practices?			
10.	Temporary stockpiles or construction materials located in approved areas and protected from erosion?			
11.	Is the site seeded and mulched or blanketed?			
12.	Do any seeded areas require maintenance, fertilization, reseeding or weed control?			
13.	Are dust control measures appropriately implemented?			

No.		Yes	No	Not Applicable
14.	Material handling and storage, and equipment storage and maintenance areas clean and free of spills and leaks?			
15.	On-site traffic routes, parking and storage restricted to designated areas?			
16.	Do any structural measures require repair or clean-out to maintain adequate function?			
17.	Are ALL erosion control devices in place and functioning in accordance with the site's erosion control plan?			

PROBLEMS IDENTIFIED/ACTION TAKEN:

_____

_____

_____

_____

_____

_____

OBSERVATIONS/COMMENTS:

_____

_____

_____

_____

_____

_____

Inspection Report Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

INSPECTOR'S NAME: _____

COMPANY: _____

COPIES TO:

APPENDIX C

NOTICE OF DISCONTINUATION

Notice of Discontinuation

OF A STORM WATER DISCHARGE
COVERED UNDER IOWA NPDES GENERAL PERMIT NO. 2
FOR CONSTRUCTION ACTIVITIES

Name of the owner or facility to which the storm water discharge general permit coverage was issued.

_____

County: _____

List the complete permit authorization number for the discharge. This number is provided on the bottom of the authorization sheet.

IA- _____ --- _____

List the date the construction site reached final stabilization as defined on the back of this form.

_____

The following certification must be signed in accordance with the signatory requirements of the general permit (see back side).

I certify under penalty of law that disturbed soils at the identified facility have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time. I understand that by submitting this Notice of Discontinuation, I am no longer authorized to discharge storm water associated with industrial activity for construction activities by Iowa Department of Natural Resources NPDES General Permit No. 2 and that discharging pollutants from storm water associated with industrial activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an NPDES permit.

I further certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Name (print)	Title
Signature	Date

Return to: Storm Water Coordinator
Department of Natural Resources
502 E. 9th Street
Des Moines, IA 50319-0034

Final Stabilization means that all soil disturbing activities at the site have been completed and that a uniform perennial vegetative cover for the area has been established or equivalent stabilization measures have been employed. All building must be completed before the project is considered finally stabilized.

SIGNATORY REQUIREMENTS All Notices of Intent, storm water pollution prevention plans, reports, certifications or information either submitted to the Department or the operator of a large or medium municipal separate storm sewer system, or that this permit requires be maintained by the permittee, shall be signed in accordance with rule 567--64.3(8) of the Iowa Administrative Code as follows:

64.3(8) *Identity of signatories of operation permit applications.* The person who signs the application for an operation permit shall be:

a. *Corporations*. In the case of corporations, a principal executive officer of at least the level of vice-president.

b. *Partnerships*. In the case of a partnership, a general partner.

c. *Sole proprietorships*. In the case of a sole proprietorship, the proprietor.

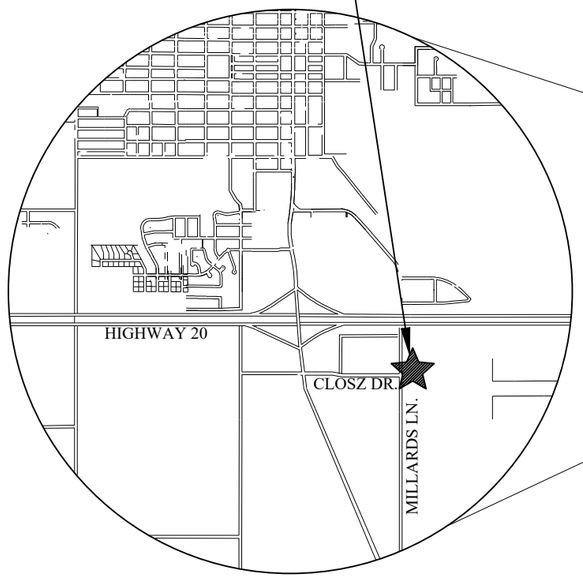
d. *Public facilities*. In the case of a municipal, state, or other public facility, by either the principal executive officer, or the ranking elected official.

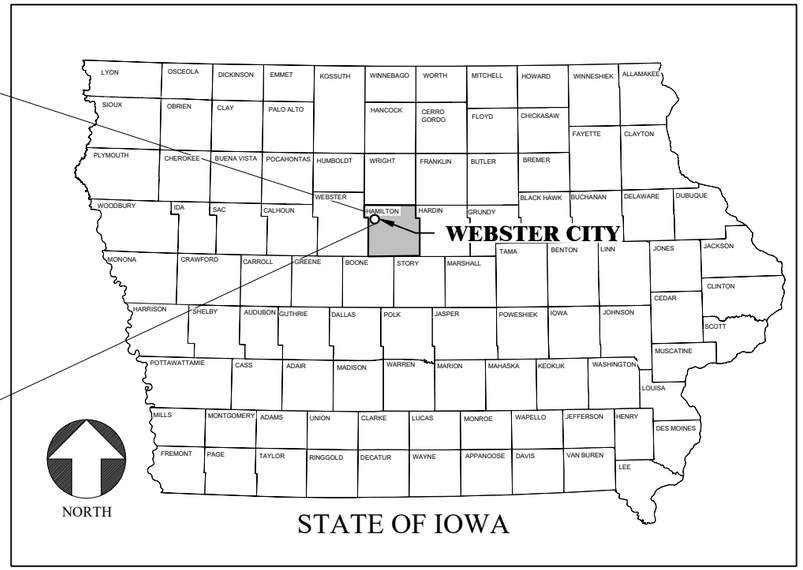
e. *Storm water discharge associated with construction activity*. In the case of a storm water discharge associated with industrial activity from construction as identified in 40 CFR 122.26(b)(14)(*x*), either the owner of the site or the general contractor.

Plot Date: 6/11/2024 12:57:46 PM

REISNER SUBSTATION CONSTRUCTION
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

REISNER SUBSTATION
T.B.D. Millards Ln
Webster City, IA 50595





STATE OF IOWA

DGR PROJECT NUMBERS: 428403

ISSUED FOR SUBSTATION CONSTRUCTION BIDS
06-11-2024

PROJECT REVISION HISTORY

REV	DATE	DESCRIPTION
A	03-08-2024	ISSUED FOR MATERIAL BIDS
B	05-14-2024	ISSUED FOR SWITCHGEAR BIDS
C	06-11-2024	ISSUED FOR CONTROL ENCLOSURE BIDS
D	06-11-2024	ISSUED FOR SUBSTATION CONSTRUCTION BIDS

LICENSED PROFESSIONAL ENGINEER
RYAN D. KLEINJAN
24830
IOWA

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Ryan D. Kleinjan, P.E. on 06-11-2024

The official copy of this engineering document is on file at the office of the Owner.

Pages or sheets covered by this seal: RS-000, RS-100, RS-120 through RS-200, RS-210, and RS-220 through RS-411

LICENSED PROFESSIONAL ENGINEER
NICK MOORE
P25461
IOWA

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by

Nick Moore, P.E. on 06-11-2024

The official copy of this engineering document is on file at the office of the Owner.

Pages or sheets covered by this seal: Drawings RS-211 through RS-218

DGR ENGINEERING
ROCK RAPIDS, IOWA
(712) 472-2531

P:\04\284\03\DWG\RS-COVER (CONST).DWG

REISNER SUBSTATION

DWG	REV	DRAWING TITLE
OVERALL DRAWINGS		
RS-100	D	SWITCHING ONE-LINE DIAGRAM
RS-110	C	PROTECTION AND CONTROL ONE-LINE DIAGRAM
RS-120	D	PROTECTION AND CONTROL ONE-LINE DIAGRAM
RS-150	D	COMMUNICATION DIAGRAM
RS-160	B	FIBER COMMUNICATION DIAGRAM
PHYSICAL DRAWINGS (CIVIL)		
RS-200	A	SITE LAYOUT
✻ RS-201	0	SITE GRADING TITLE SHEET
✻ RS-202	0	SITE DETAILS
✻ RS-203	0	EXISTING SITE PLAN
✻ RS-204	0	PROPOSED SITE PLAN
RS-210	A	FOUNDATION PLAN
RS-211	C	GENERAL STRUCTURAL NOTES
RS-212	A	DRILLED PIER FOUNDATION DETAILS
RS-213	A	DRILLED PIER FOUNDATION DETAILS
RS-214	A	DRILLED PIER FOUNDATION DETAILS
RS-215	A	CIRCUIT BREAKER FOUNDATION DETAILS
RS-216	A	TRANSFORMER FOUNDATION DETAILS
RS-217	A	CONTROL ENCLOSURE FOUNDATION DETAILS
RS-218	A	CONTROL ENCLOSURE FOUNDATION DETAILS
RS-220	C	RACEWAY PLAN
RS-221	C	RACEWAY DETAILS
RS-222	A	RACEWAY DETAILS
RS-240	A	GROUNDING PLAN
RS-245	A	GROUNDING DETAILS
RS-246	A	GROUNDING DETAILS
RS-247	A	GROUNDING DETAILS
RS-300	A	ULTIMATE ARRANGEMENT
RS-301	A	GENERAL ARRANGEMENT
RS-310	A	69 kV BUS SECTION VIEW
RS-311	A	69 kV BUS SECTION VIEW
RS-312	A	69 kV BUS SECTION VIEW
RS-313	A	69 kV BUS SECTION VIEW
RS-314	A	69 kV BUS SECTION VIEW
RS-315	A	69 kV BUS SECTION VIEW
RS-316	A	69 kV BUS SECTION VIEW
RS-330	A	CONNECTOR DETAILS
RS-340	A	LIGHTING PLAN
RS-350	C	STEEL PLAN
✻ RS-351	C	69 kV DEADEND H-FRAME DETAIL
✻ RS-352	C	69 kV FUTURE DEADEND H-FRAME DETAIL
✻ RS-353	C	DEADEND STRUCTURE DETAILS
✻ RS-354	C	SHIELD TOWER DETAILS
✻ RS-355	C	69 kV LOW SWITCH SUPPORT DETAILS
✻ RS-356	C	69 kV HIGH SWITCH SUPPORT DETAILS
✻ RS-357	C	INSULATOR BRACKET DETAILS
✻ RS-358	C	69 kV BUS SUPPORT DETAILS
✻ RS-359	C	69 kV 3Ø PT SUPPORT DETAILS
✻ RS-360	C	69 kV 1Ø PT SUPPORT DETAILS
✻ RS-361	C	GROUNDING PLATFORM DETAILS
RS-390	A	BILL OF MATERIALS

DWG	REV	DRAWING TITLE
CONTROL ENCLOSURE DETAILS		
RS-400	C	CONTROL ENCLOSURE FLOOR PLAN
RS-401	A	CONTROL ENCLOSURE SECTION VIEWS
RS-402	A	CONTROL ENCLOSURE SECTION VIEWS
RS-405	A	CONTROL ENCLOSURE CABLE TRAY & HVAC PLAN
RS-406	A	CONTROL ENCLOSURE ELECTRICAL & LIGHTING PLAN
RS-407	A	CONTROL ENCLOSURE - ELECTRICAL SCHEMATICS
RS-410	A	AC PANEL DETAILS
RS-411	A	DC PANEL DETAILS
CONTROL PANEL EQUIPMENT DETAILS		
✻ RS-500	A	CONTROL PANEL LAYOUT
RS-501	A	PANEL P1 - COMMUNICATIONS - EQUIPMENT SCHEDULE
RS-502	A	PANEL P2 - 69 kV LINE TO SWEAZEY (BKR 1210) - EQUIPMENT SCHEDULE
RS-503	A	PANEL P3 - 69 kV LINE TO WILLIAMS (BKR 1211) - EQUIPMENT SCHEDULE
RS-504	A	PANEL P4 - 69/13.2 kV TRANSFORMER T1 (BKR 1212) - EQUIPMENT SCHEDULE
RS-509	A	CONTROL PANEL CONSTRUCTION DETAILS
RS-511	B	LAYOUT - BUS B SWITCHGEAR
RS-515	B	MATERIAL LIST BUS B SWITCHGEAR
RS-531	A	CONTROL PANEL LABELS AND DETAILS
RS-532	A	CONTROL PANEL LABELS AND DETAILS
RS-540	A	OUTDOOR NAMEPLATE SCHEDULE
RS-541		SWITCHGEAR MANUFACTURER NAMEPLATES
RS-543	B	SWITCHGEAR NAMEPLATES, LABELS, DETAILS
RS-544	B	SWITCHGEAR NAMEPLATES, LABELS, DETAILS
RS-545	B	SWITCHGEAR NAMEPLATES, LABELS, DETAILS
RS-551		BUS B SWITCHGEAR PLAN VIEW
RS-561		CONSTRUCTION DETAILS - UNIT 1 - BP/BM
RS-562	B	CONSTRUCTION DETAILS - UNIT 2 - B1/B2
RS-563		CONSTRUCTION DETAILS - UNIT 3 - B3/B4
RS-564		CONSTRUCTION DETAILS - UNIT 4 - B5/B6
RS-565		CONSTRUCTION DETAILS - UNIT 5 - BX/BC
CONTROL PANEL SCHEMATICS		
RS-601A	A	69 kV ANNUNCIATOR 2523-A & RTAC 3350-A - (PANEL P1) - CONTROL SCHEMATIC
RS-601B	A	RTAC 3350-B & SAT-A - (PANEL P1) - CONTROL SCHEMATIC
RS-601C		LIGHTING AND RECEPTACLES - (PANEL P1-P4) - CONTROL SCHEMATIC
RS-602A	A	69 kV BREAKER 1210 - CLOSE CIRCUIT (PANEL P2) - CONTROL SCHEMATIC
RS-602B	A	69 kV BREAKER 1210 - TRIP1/TRIP2 CIRCUIT (PANEL P2) - CONTROL SCHEMATIC
RS-602C		69 kV BREAKER 1210 - AUXILIARY CIRCUIT (PANEL P2) - CONTROL SCHEMATIC
RS-602D	A	11P-74 & 11S-74 - PRIMARY & SECONDARY RELAYS (PANEL P2) - CONTROL SCHEMATIC
RS-602E		51-1210 - BREAKER RELAY (PANEL P2) - CONTROL SCHEMATIC
RS-603A		69 kV BREAKER 1211 - CLOSE CIRCUIT (PANEL P3) - CONTROL SCHEMATIC
RS-603B		69 kV BREAKER 1211 - TRIP1/TRIP2 CIRCUIT (PANEL P3) - CONTROL SCHEMATIC
RS-603C		69 kV BREAKER 1211 - AUXILIARY CIRCUIT (PANEL P3) - CONTROL SCHEMATIC
RS-603D		11P-71 & 11S-71 - PRIMARY & SECONDARY RELAYS (PANEL P3) - CONTROL SCHEMATIC
RS-603E		51-1211 - BREAKER RELAY (PANEL P3) - CONTROL SCHEMATIC
RS-604A		69 kV BREAKER 1212 - CLOSE CIRCUIT (PANEL P4) - CONTROL SCHEMATIC
RS-604B		69 kV BREAKER 1212 - TRIP1/TRIP2 CIRCUIT (PANEL P4) - CONTROL SCHEMATIC
RS-604C		69 kV BREAKER 1212 - AUXILIARY CIRCUIT (PANEL P4) - CONTROL SCHEMATIC
RS-604D		87T1A & 86T1A - PRIMARY XFMR TI RELAYS (PANEL P4) - CONTROL SCHEMATIC
RS-604E	A	87T1B & 86T1B - SECONDARY XFMR TI RELAYS (PANEL P4) - CONTROL SCHEMATIC
RS-604F		51-1212 - BREAKER RELAY (PANEL P4) - CONTROL SCHEMATIC
RS-631A	B	751-BM - XFMR T1 LTC - CONTROL SCHEMATIC
RS-631B	B	BKR BM - MAIN BKR - CONTROL SCHEMATIC
RS-632A		BKR B1 - FEEDER - CONTROL SCHEMATIC
RS-632B		BKR B2 - FEEDER - CONTROL SCHEMATIC
RS-633A		BKR B3 - FEEDER - CONTROL SCHEMATIC
RS-633B		BKR B4 - FEEDER - CONTROL SCHEMATIC
RS-634A		BKR B5 - FEEDER - CONTROL SCHEMATIC
RS-634B		BKR B6 - FEEDER - CONTROL SCHEMATIC
RS-635A		87BB/86BB - BUS DIFF - CONTROL SCHEMATIC
RS-635B		BKR BC - BUS TIE - CONTROL SCHEMATIC

DWG	REV	DRAWING TITLE
THREE-LINE DIAGRAMS		
RS-702A		69 kV BREAKER 1210 - PT74 - SWEAZEY LINE - THREE-LINE DIAGRAM
RS-702B		PANEL P2 - 69 kV BKRS 1210/1211 - SWEAZEY LINE - THREE-LINE DIAGRAM
RS-703A		69 kV BREAKER 1211 - PT71 - WILLIAMS LINE - THREE-LINE DIAGRAM
RS-703B		PANEL P3 - BKRS 1211/1212 - WILLIAMS LINE - THREE-LINE DIAGRAM
RS-704A		69 kV BREAKER 1212 - PT72 - BUS TO T1 - THREE-LINE DIAGRAM
RS-704B		PANEL P4 - BKRS 1211/1212 - T1 DIFF - THREE-LINE DIAGRAM
RS-731		MAIN BREAKER BM - THREE LINE DIAGRAM
RS-732		FEEDER BREAKER - B1/B2 - THREE-LINE DIAGRAM
RS-733		FEEDER BREAKER - B3/B4 - THREE-LINE DIAGRAM
RS-734		FEEDER BREAKER - B5/B6 - THREE-LINE DIAGRAM
RS-735		BUS B DIFF. 87BB & TIE BKR BC - THREE-LINE DIAGRAM
RS-736		SWITCHGEAR HEATERS, LIGHTS, RECEPTACLES - AC POWER
WIRING DIAGRAMS		
RS-801A - B		PANEL P1 - WIRING DIAGRAM (2 SHTS)
RS-802A - D		PANEL P2 - WIRING DIAGRAM (4 SHTS)
RS-803A - D		PANEL P3 - WIRING DIAGRAM (4 SHTS)
RS-804A - D		PANEL P4 - WIRING DIAGRAM (4 SHTS)
RS-809		RACK C1 - WIRING DIAGRAM
69 kV YARD EQUIPMENT DIAGRAMS		
RS-810		GAS SCHEMATIC/NAMEPLATE - 69 kV BKRS 1210, 1211, 1212
RS-810A		NAMEPLATE - 69 kV BKRS 1210, 1211, 1212
RS-810B		BUSHING - 69 kV BKRS 1210, 1211, 1212
RS-810C		BCT CONNECTION DIAGRAM - 69 kV BKRS 1210, 1211, 1212
RS-810D		OUTLINE - 69 kV BKRS 1210, 1211, 1212
RS-810E		CONNECTION DIAGRAM - 69 kV BKRS 1210, 1211, 1212
RS-812A		YARD WIRING DIAGRAM - BKR 1210
RS-812B		BCT - WIRING DIAGRAM - BKR 1210
RS-813A		YARD WIRING DIAGRAM - BKR 1211
RS-813B		BCT - WIRING DIAGRAM - BKR 1211
RS-814A		YARD WIRING DIAGRAM - BKR 1212
RS-814B		BCT - WIRING DIAGRAM - BKR 1212
RS-820A		69 kV PTS - PT71, PT72, PT74
RS-820B		69 kV PTS - PT71, PT72, PT74
RS-821		69 kV PTS - PT71 WIRING DIAGRAM
RS-822		69 kV PTS - PT72 WIRING DIAGRAM
RS-824		69 kV PTS - PT74 WIRING DIAGRAM
RS-825A		XFMR T1 - OUTLINE
RS-825B		XFMR T1 - BILL OF MATERIALS
RS-825D		XFMR T1 - SHIPPING CONFIGURATION
RS-825E		XFMR T1 - NAMEPLATE
RS-825F		XFMR T1 - NAMEPLATE
RS-825G		XFMR T1 - WIRING SCHEMATIC
RS-825H		XFMR T1 - WIRING SCHEMATIC
RS-825I		XFMR T1 - WIRING SCHEMATIC
RS-825J		XFMR T1 - WIRING SCHEMATIC
RS-825K		XFMR T1 - WIRING DIAGRAM
RS-825L		XFMR T1 - WIRING DIAGRAM
RS-831A		UNIT 1 - BP - WIRING DIAGRAM
RS-831B		UNIT 1 - BP - WIRING DIAGRAM
RS-831C		UNIT 1 - BM - WIRING DIAGRAM
RS-831D		UNIT 1 - BM - WIRING DIAGRAM
RS-832A		UNIT 2 - B1 - WIRING DIAGRAM
RS-832B		UNIT 2 - B1 - WIRING DIAGRAM
RS-832C		UNIT 2 - B2 - WIRING DIAGRAM
RS-832D	B	UNIT 2 - B2 - WIRING DIAGRAM
RS-833A	B	UNIT 3 - B3 - WIRING DIAGRAM
RS-833B		UNIT 3 - B3 - WIRING DIAGRAM
RS-833C		UNIT 3 - B4 - WIRING DIAGRAM
RS-833D		UNIT 3 - B4 - WIRING DIAGRAM
RS-834A		UNIT 4 - B5 - WIRING DIAGRAM
RS-834B		UNIT 4 - B5 - WIRING DIAGRAM
RS-834C		UNIT 4 - B6 - WIRING DIAGRAM
RS-834D		UNIT 4 - B6 - WIRING DIAGRAM
RS-835A		UNIT 5 - BX - WIRING DIAGRAM
RS-835B		UNIT 5 - BX - WIRING DIAGRAM
RS-835C		UNIT 5 - BC - WIRING DIAGRAM
RS-835D		UNIT 5 - BC - WIRING DIAGRAM
RS-881		BUILDING ALARM JBOX - WIRING DIAGRAM
RS-882		BATTERY CHARGER WIRING DIAGRAM

DWG	REV	DRAWING TITLE
CONTROL CABLE SCHEDULE		
RS-900A	B	CONTROL CABLE SCHEDULE
RS-900B		CONTROL CABLE SCHEDULE
RS-900C		CONTROL CABLE SCHEDULE
RS-900D		CONTROL CABLE SCHEDULE
RS-900E		CONTROL CABLE SCHEDULE
RS-900F		CONTROL CABLE SCHEDULE
RS-901A		CONTROL CABLE SCHEDULE
RS-901B		CONTROL CABLE SCHEDULE
RS-901C		CONTROL CABLE SCHEDULE

NOTES

1. A cloud "☁" indicates drawings included in this package.
2. An asterisk "✻" indicates drawings that are included for reference only.

T.B.D Millards Ln
Webster City, IA 50595

REV	DATE	DESCRIPTION
B	05-14-2024	ISSUED FOR SWITCHGEAR BIDS
C	06-07-2024	ISSUED FOR REVIEW - CONTROL PANEL BIDS
D	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

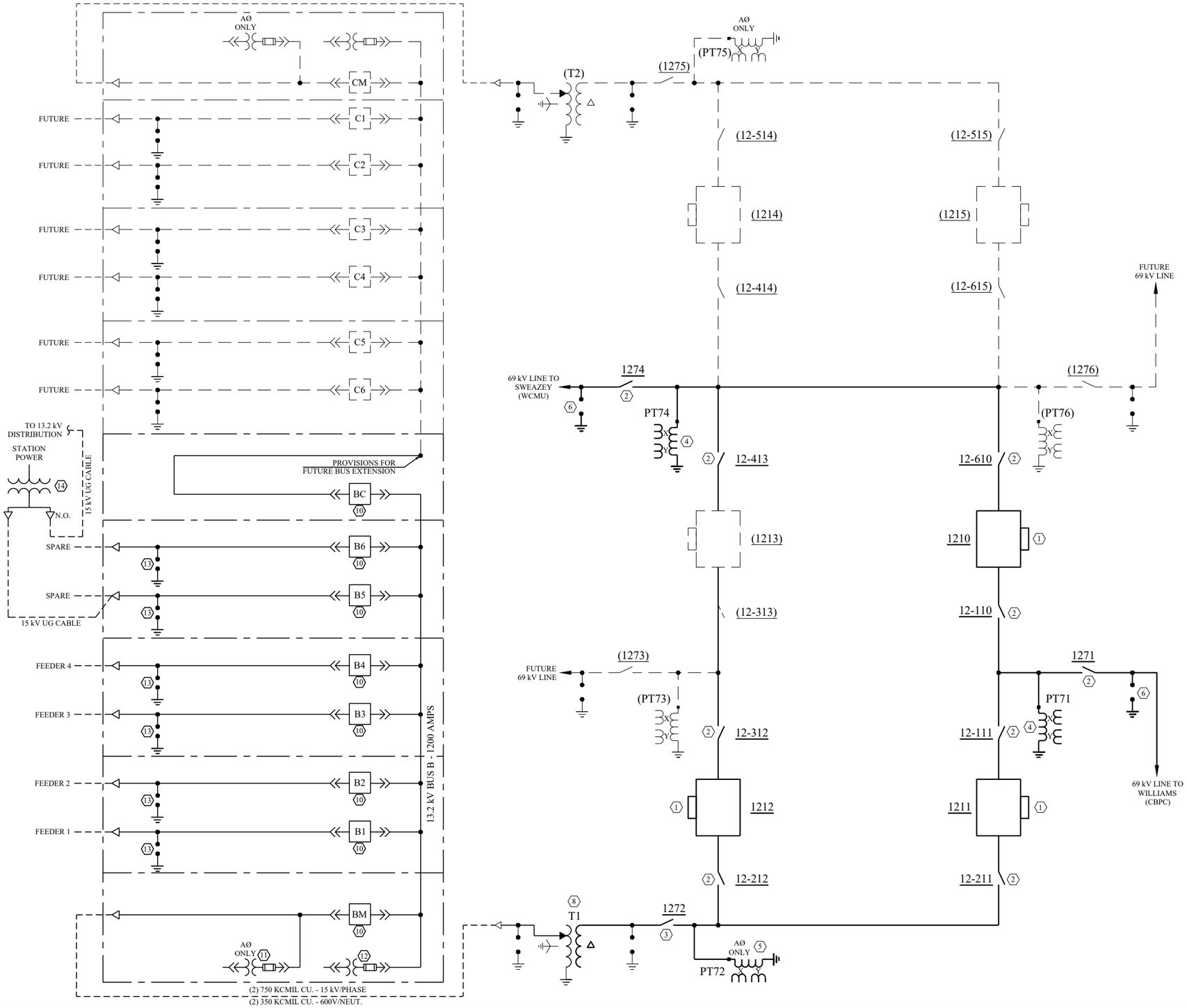
DGR ENGINEERING
Project Manager: ADK
Designer: KAG
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
548of1149

DRAWING INDEX
REISNER SUBSTATION

SHEET RS-000

Plot Date: 6/11/2024 9:23:57 AM



MAJOR EQUIPMENT

1. Circuit Breaker, 3Ø, 72.5 kV, 2000 A continuous, 40 kA interrupting, 350 kV BIL, SF6 gas, Manufacturer Siemens Type SPS2-72.5
2. Group-Operated Air-Break (GOAB) Switch, 2000 A continuous, 61 kA withstand, 350 kV BIL, Manufacturer SEECO Type VIP
3. Group-Operated Air-Break (GOAB) Switch, 1200 A continuous, 61 kA withstand, 350 kV BIL, Manufacturer SEECO Type VIP
4. Potential Transformer, 1Ø (Qty. 3), 40.25 kV primary, 350 kV BIL, dual winding 600/350:1 ratio, 0.3WXYZZ accuracy, Manufacturer GE Type OTEF-72
5. Potential Transformer, 1Ø, 40.25 kV primary, 350 kV BIL, dual winding 600/350:1 ratio, 0.3WXYZZ accuracy, Manufacturer GE Type OTEF-72
6. Lightning Arrester, 1Ø (Qty. 3), 60 kV duty cycle, 48 kV MCOV, station class, (Installed on deadend), Manufacturer Hitachi
7. Not used
8. Power Transformer with LTC, 67 kV delta to 13.2 grdY/7.62 kV, 12/16/20/22.4 MVA ONAN/ONAF/ONAF 55/65°C, Z=X.XX%, Manufacturer Niagra Power Transformer
   - -High side lightning arresters, station class, 60 kV MOV, 48 kV MCOV
   - -Low side lightning arresters, station class, 12 kV MOV, 10.2 kV MCOV
9. Not used
10. Circuit Breaker, 3Ø, draw-out vacuum type, 15 kV, 1200 A continuous, 25 kA interrupting, XX
11. Potential Transformer, 1Ø, draw-out type, 8400:120 V, 0.3WXYZ 1.2 ZZ accuracy, with primary 1 A fuse, XX
12. Potential Transformer, 1Ø (Qty. 3), draw-out type, 8400:120 V, 0.3WXYZ 1.2 ZZ accuracy, with primary 1 A fuse, XX
13. Lightning Arrester, 1Ø (Qty. 3), 12 kV duty cycle, 10.2 kV MCOV, station class
14. Station Power Transformer, 1Ø padmount, 13.2 grdY/7.62 kV to 240/120 V, 50 kVA

LEGEND

- 69 kV circuit
- 13.2 kV circuit
- 13.2 kV underground circuit
- Wye, grounded
- Delta
- Underground transition
- FUTURE

NOTES:
A-B-C = East to West
A-B-C = North to South

NORTH

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DGR ENGINEERING

Project Manager: ADK
Designer: RDK
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

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SWITCHING ONE-LINE DIAGRAM
REISNER SUBSTATION

SHEET RS-100

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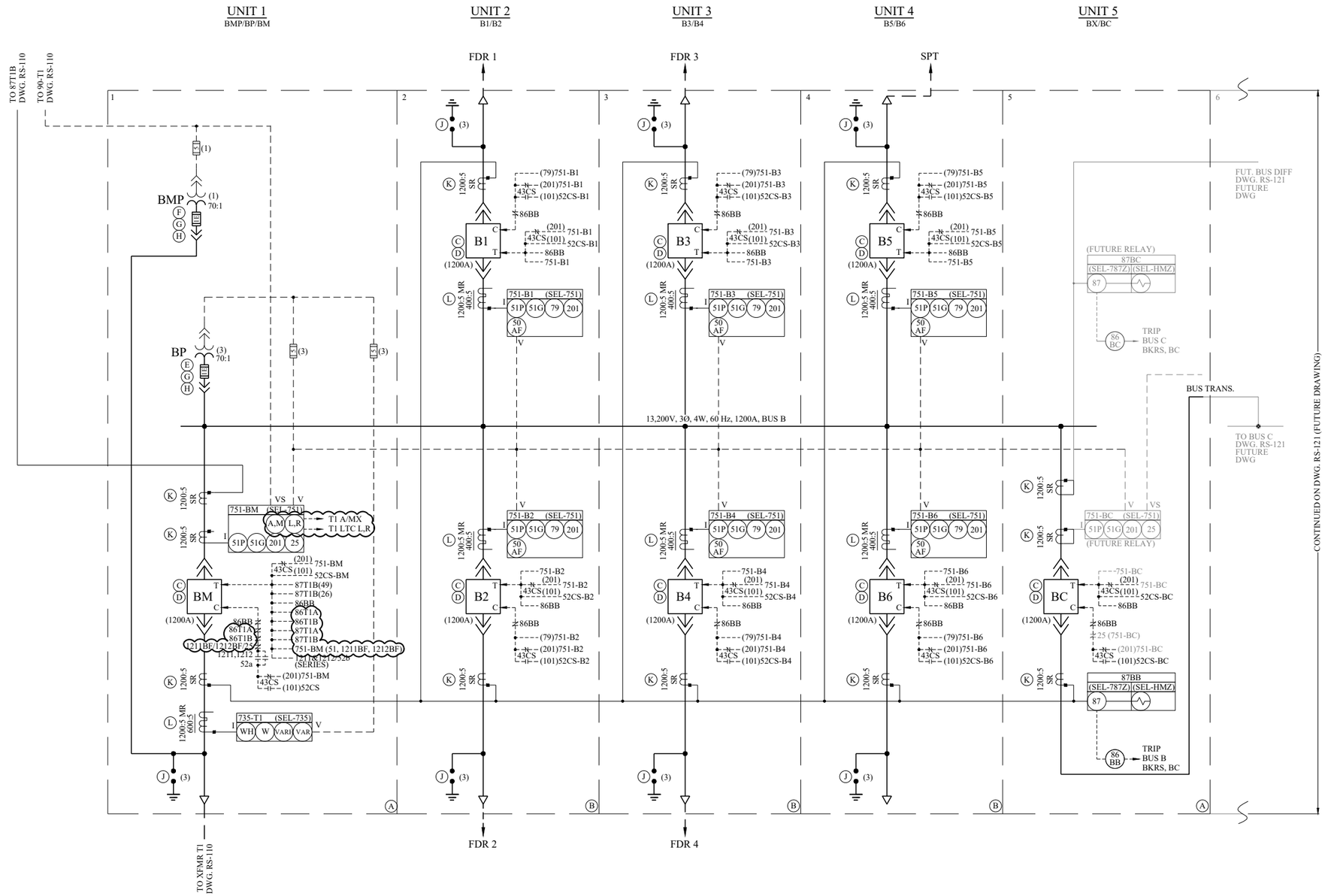
Plot Date: 6/11/2024 9:25:06 AM



GENERAL LEGEND

- 13.2 kV circuit
- 13.2 kV underground circuit
- 13.2 kV underground transition

CONTROL/RELAY LEGEND

NAME (TYPE) — XX XX XX XX / XX XX XX XX

MULTIFUNCTION DIGITAL RELAY
XX = DEVICE FUNCTION LISTED BELOW

25	Sync check
26	Hot oil temp
49	Winding temp
51	Time overcurrent
51P	Phase time overcurrent
51G	Ground time overcurrent
79	Reclosing
87	Differential
201	Supv control

- Current transformer secondary circuit
- Potential transformer secondary circuit
- Control circuit
- Multi-ratio CT
- Single-ratio CT
- 101 — Local control
- BC — Block close
- C — Close or close circuit
- T — Trip or trip circuit
- 52CS -XX — Local breaker control switch (XX = BKR ID)
- 43CS -X — Local/Supv control switch
- 86 BX — Lock-out relay (B=bus) (X = equipment ID)
- A — Internal Equipment list identifier (See BOM)

NOTES

1. Test switches not shown for clarity. See nameplate details and three-lines for insight.
2. External equipment list items can be identified on drawing RS-515.
3. See drawing RS-150 for communication details.
4. Feeder power cable terminals shall be suitable for three (3) 500 KCMIL power cables per phase.

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DGR ENGINEERING

Project Manager: ADK
Designer: KAG
Project Number: 428403
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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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PROTECTION AND CONTROL ONE-LINE DIAGRAM
REISNER SUBSTATION

SHEET RS-120

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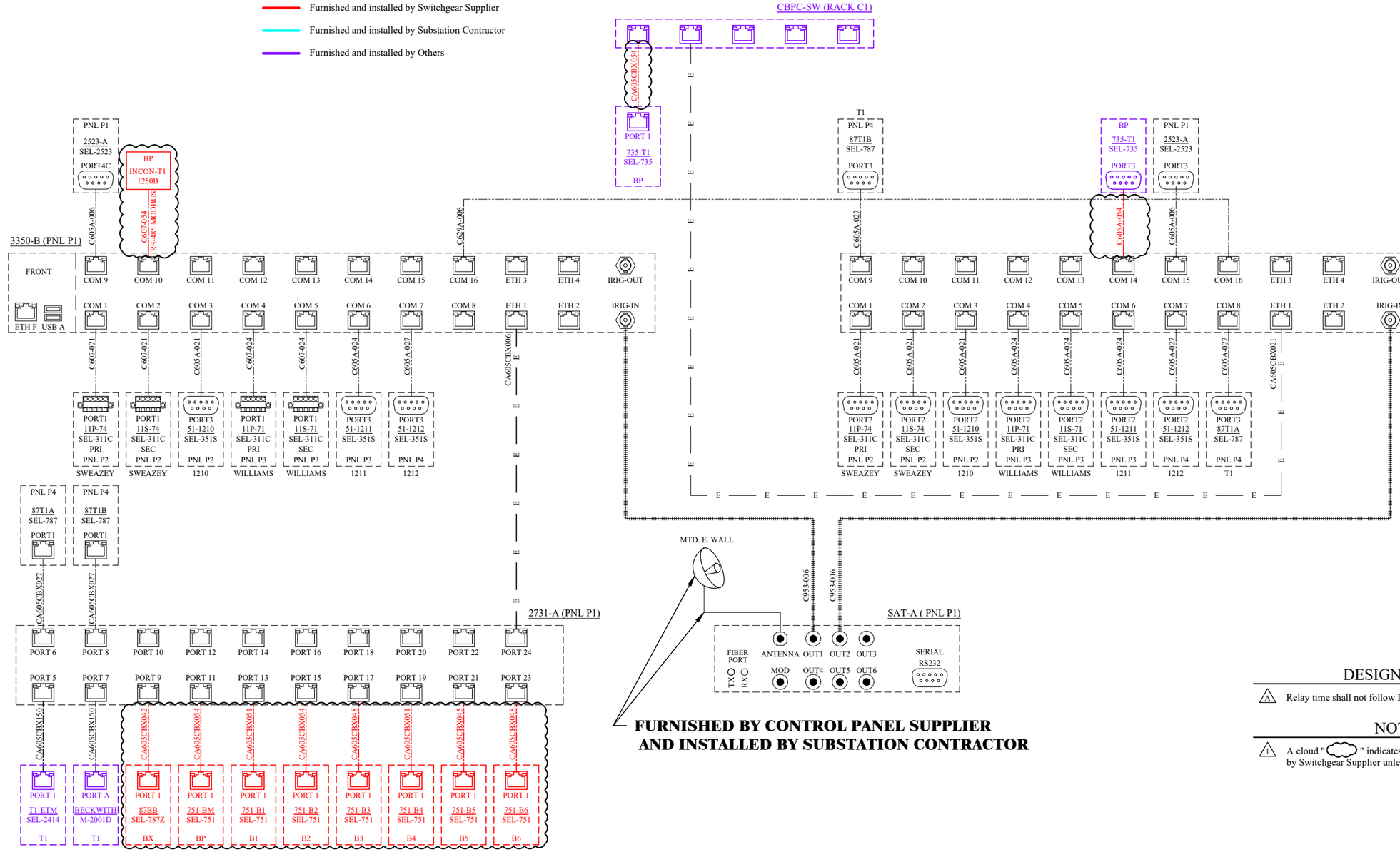
Plot Date: 6/11/2024 9:25:32 AM

LEGEND

- Furnished and installed by Control Panel Supplier
- Furnished and installed by Switchgear Supplier
- Furnished and installed by Substation Contractor
- Furnished and installed by Others



FURNISHED BY CONTROL PANEL SUPPLIER AND INSTALLED BY SUBSTATION CONTRACTOR

DESIGN NOTES

A Relay time shall not follow DST.

NOTES

1 A cloud " " indicates items to be furnished and installed by Switchgear Supplier unless otherwise noted.

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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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COMMUNICATION DIAGRAM
REISNER SUBSTATION

SHEET RS-150

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Plot Date: 6/10/2024 9:22:42 PM

SWEAZEY SUBSTATION

TRANSMISSION LINE

REISNER SUBSTATION

TRANSMISSION LINE

FUSION SPLICING, ENCLOSURE AND STORAGE LOOPS ON EXISTING TRANSMISSION STRUCTURE.

FURNISHED BY SUBSTATION CONTRACTOR AND INSTALLED BY OWNER

△11 △13

QTY = 2 SPLICES

48 FIBER - OPGW SINGLE MODE 2.7 MILES

FUSION SPLICING, ENCLOSURE AND STORAGE LOOPS ON DEAD-END STRUCTURE.

△12 △11

PP-1 PATCH PANEL (SC-UPC)

△11 △2

QTY DETERMINED BY CBPC

AX

AX

AX

AX

PP-2 PATCH PANEL (SC-UPC)

△2 △11

FUSION SPLICING, ENCLOSURE AND STORAGE LOOP ON DEAD-END STRUCTURE.

△11 △12

WCMU ← → CBPC

△11

QTY = 1 SPLICES

48 FIBER - OPGW SINGLE MODE 7 MILES

YW11 (3-WAY SW.)

48 FIBER - OPGW SINGLE MODE 11 MILES

△4

48 FIBER - UNDERGROUND SINGLE MODE

48 FIBER - UNDERGROUND SINGLE MODE

△3

48 FIBER - UNDERGROUND SINGLE MODE

△3

48 FIBER - UNDERGROUND SINGLE MODE

SWEAZY SUB FIBER PP

△11 △2

(48)

(48)

(48)

(48)

△11 FUSION SPLICING

△11 FUSION SPLICING

△11 FUSION SPLICING

△11 FUSION SPLICING

△B ETH-SW (RACK C1)

FURNISHED AND INSTALLED BY OWNER

CBPC-SW (RACK C1)

C1* C809Z020CSX0007

C2* C809Z020CSX0007

C3* C809Z020CLX0006

C1* C809Z020CLX0012

C2* C809Z020CLX0012

C1* C809Z020CSX0008

2731-A (PNL P1)

PORT 2 PORT 4 PORT 1 △A PORT 3

SEL-2829 PORT3 11P-74 SEL-311C PRI PNL P2

SEL-2829 PORT3 11S-74 SEL-311C SEC PNL P2

SEL-2831 PORT3 11P-71 SEL-311C PRI PNL P3

FURNISHED BY CONTROL PANEL SUPPLIER AND CONNECTED BY SUBSTATION CONTRACTOR

TO REMOTE SITES

CBPC RADIO CARRYING WCMU METERING

TO BE RETIRED

SEL-2829 PORT3 11S-1010 SEL-311B SEC PNL P10

SEL-2829 PORT3 11P-1010 SEL-311C PRI PNL P10

FURNISHED BY CONTROL PANEL SUPPLIER AND INSTALLED BY OWNER

VERIFY WITH CBPC

48 FIBER - UNDERGROUND SINGLE MODE

WILLIAMS SUB FIBER PP

(48)

FURNISHED BY CONTROL PANEL SUPPLIER AND CONNECTED BY CBPC

SEL-2829 PORT3 11P-1010 SEL-311C PRI

WILLIAMS SUBSTATION

REVIEW WITH CBPC

TUBE/FIBER COLOR	PATCH PANEL LETTER	FIBER/TERMINAL NUMBER
BLUE	A, B	1
ORANGE	NA	2
GREEN	NA	3
BROWN	NA	4
SLATE	NA	5
WHITE	NA	6
RED	NA	7
BLACK	NA	8
YELLOW	NA	9
PURPLE	NA	10
ROSE	NA	11
AQUA	NA	12

FIBER OPTIC TERMINATION GUIDE (TYP.) 2/160

A: 1 2 3 4 5 6 / 7 8 9 10 11 12 — B: 1 2 3 4 5 6 / 7 8 9 10 11 12

C: 1 2 3 4 5 6 / 7 8 9 10 11 12 — D: 1 2 3 4 5 6 / 7 8 9 10 11 12

PATCH PANEL LAYOUT (TYP.) 1/160

REVIEW WITH CBPC

NOTES (T-LINE CONTRACTOR)

△11 T-line contractor responsible for fiber splicing, terminating, and testing.

△12 Furnish and install downlead cushions, ballistic protection dome enclosure, dome splice enclosure, cable restraint bracket system, and splice trays at each dead-end structure in the Reisner Substation. Substation contractor shall furnish and install underground fiber cables at Reisner Substation. Cable storage system furnished and installed by Others.

△13 Furnish and install downlead cushions, cable storage system, ballistic protection dome enclosure, dome splice enclosure, cable restraint bracket system, and splice trays at the existing transmission structure inside the Sweazey Substation. Furnish and install all fusion splices.

LEGEND

- Fiber Optic Pigtail
- Fiber Optic Cable
- Fusion Splice
- Furnished and installed by Substation Contractor
- Furnished and installed by CBPC
- Furnished an installed by T-line Contractor

VERIFY WITH CBPC

DESIGN NOTES

△A Engineer to determine SFP transceiver at a later date.

△B Engineer to determine ethernet switch for Sweazey at a later date.

NOTES (SUBSTATION CONTRACTOR)

△1 An asterisk (*) indicates cables to be furnished by Control Panel Supplier and installed by substation contractor.

△2 Patch panels furnished and installed by CBPC (Others).

△3 Substation Contractor shall furnish and install underground fiber cable for Reisner Substation.

△4 Substation Contractor shall furnish underground fiber cable for Sweazey Substation. Underground fiber to be installed by Owner.

REV	DATE	DESCRIPTION
A	06-07-2024	ISSUED FOR REVIEW - CONTROL PANEL BIDS
B	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KAG
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

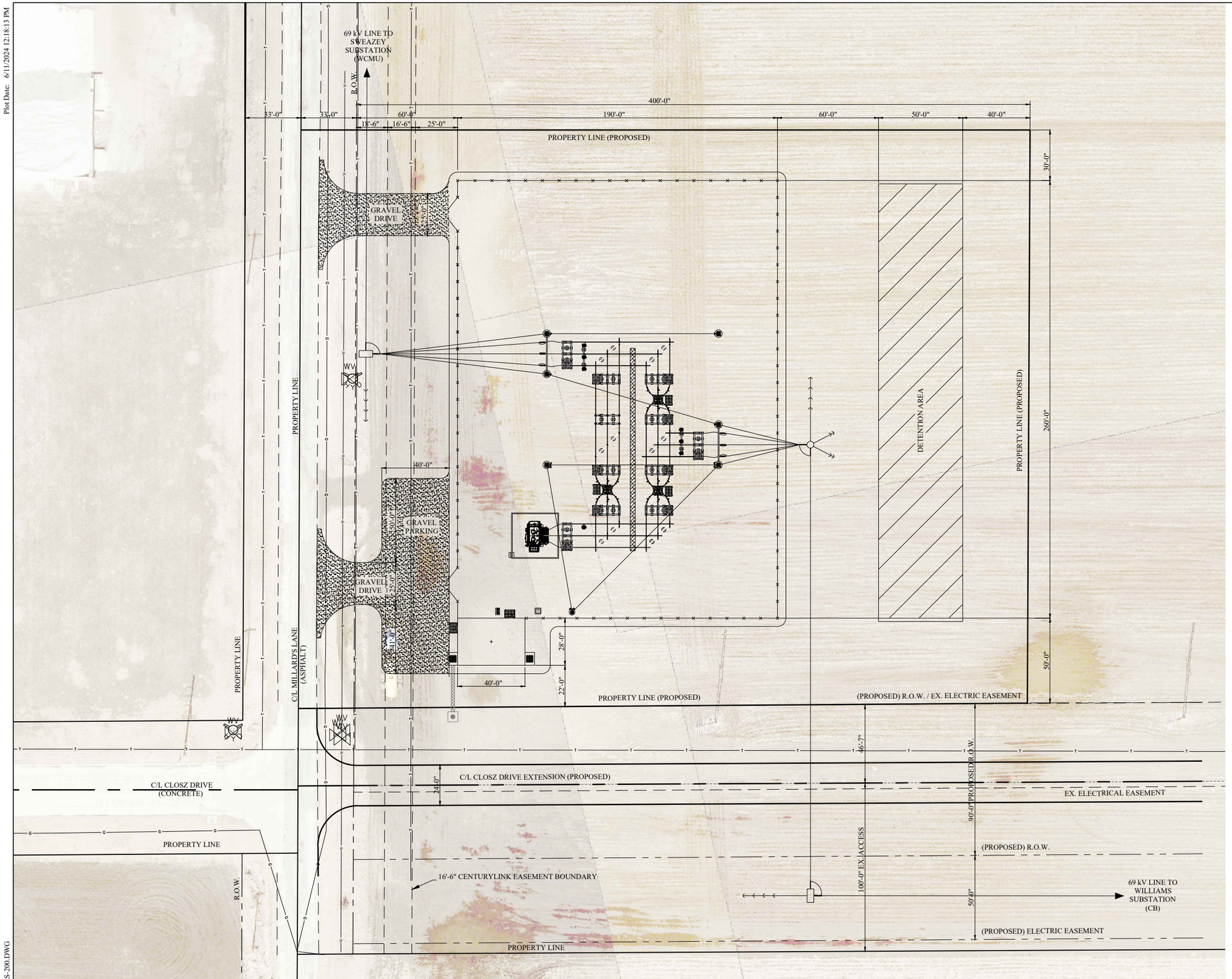
552of1149

FIBER COMMUNICATION DIAGRAM
REISNER SUBSTATION

SHEET RS-160

P:\04284\03\DWG\RS-160.DWG

Plot Date: 6/11/2024 12:18:13 PM



KEY MAP

NOTES

1. Setback (M-1, Light Industrial):

Front:	30'
Rear:	40'
Side (No Street):	0'
Side (Street):	15'

2. Substation Contractor shall furnish and install 4" of rock surfacing within the substation yard and 5' outside the fence and swing of gates.

3. Utilities and other potential obstacles (underground facilities) have been shown only to the extent that they are observed at the surface or were known by Others. The Owner and Engineer shall not be responsible for the accuracy of completeness of any such information or data. The Contractor shall have full responsibility for reviewing and checking all such information and data, location all such facilities, coordination of the work with the owners of such underground facilities during construction, and the safety and protection of all such underground facilities.

LEGEND

G	Gas
T	Telephone line (Century Link)
W	Water
×—×—×	Proposed fence

NORTH

0 5 15 30 60

SCALE (FT.)

P:\04\284\03\DWG\RS-200.DWG

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

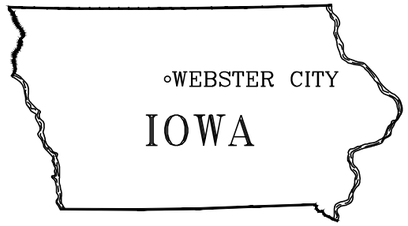
DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
553of1149

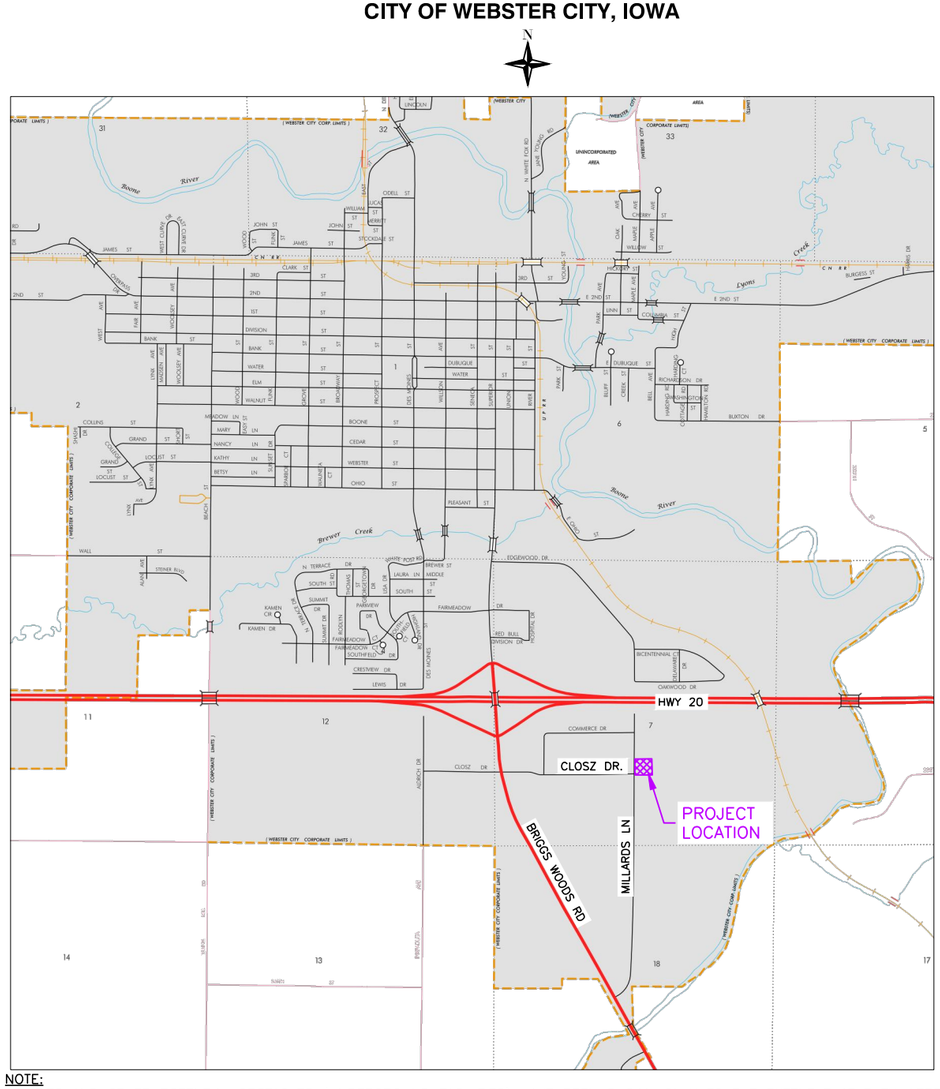
SITE LAYOUT
REISNER SUBSTATION

SHEET RS-200



REISNER SUBSTATION GRADING
WEBSTER CITY, IOWA

CITY OF WEBSTER CITY, IOWA



INDEX TO DRAWINGS

LEGEND		
EXISTING	PROPOSED	DESCRIPTION
		LOT LINE
		EASEMENT LINE
		CENTER LINE
T		TELEPHONE BOX, TELEPHONE LINE
SA		SANITARY SEWER, MANHOLE
FM		SANITARY SEWER FORCE MAIN
ST		STORM SEWER, MANHOLE, INTAKE
		SUBDRAIN
		CURB & GUTTER
		PCC PAVEMENT
W	WV	WATER MAIN, HYDRANT, VALVE
UGE	E	UNDERGROUND ELECTRIC LINE, BOX, LIGHT POLE
		POWER POLE, GUY WIRE
OHE		OVERHEAD ELECTRIC LINE
GAS	GV	GAS LINE, VALVE
TEL		TELEPHONE LINE
		EVERGREEN, BUSH, TREE
		SIGN POST, MAILBOX
FO		FIBER OPTIC LINE
1455	1455 / 1454	CONTOURS
		PAVEMENT REMOVALS
		DRAINAGE ARROW
		CRUSHED ROCK SURFACING

THE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, 2024 EDITION SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS.

NOTE:
UTILITIES AND OTHER POTENTIAL OBSTACLES (UNDERGROUND FACILITIES) HAVE BEEN SHOWN ONLY TO THE EXTENT THAT THEY WERE OBSERVED AT THE SURFACE OR WERE KNOWN BY OTHERS. THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA, LOCATING ALL SUCH FACILITIES, COORDINATION OF THE WORK WITH THE OWNERS OF SUCH UNDERGROUND FACILITIES DURING CONSTRUCTION, AND THE SAFETY AND PROTECTION OF ALL SUCH UNDERGROUND FACILITIES. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR ADDITIONAL TIME THAT MAY BE REQUIRED TO WORK AROUND IN-PLACE UTILITIES.

LICENSED PROFESSIONAL ENGINEER
DANIEL L. VAN SCHEPEN
17942
IOWA

FOR REFERENCE ONLY

THIS ENGINEERING DOCUMENT IS A REPRODUCTION OF A CERTIFIED ENGINEERING DOCUMENT. THE OFFICIAL COPY OF WHICH WAS CERTIFIED.

BY: DANIEL L. VAN SCHEPEN, P.E. DATE: MARCH 08, 2024
LICENSE NO. 17942

THE OFFICIAL COPY OF THIS ENGINEERING DOCUMENT IS ON FILE AT THE OFFICE OF THE OWNER.

PAGES OR SHEETS COVERED BY THIS SEAL: ALL

REV	DATE	DESCRIPTION
0	03-08-24	ISSUED FOR BIDDING

DGR ENGINEERING

Project Manager: ADK
Designer: DLV
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
554of1149

SITE GRADING TITLE SHEET
REISNER SUBSTATION

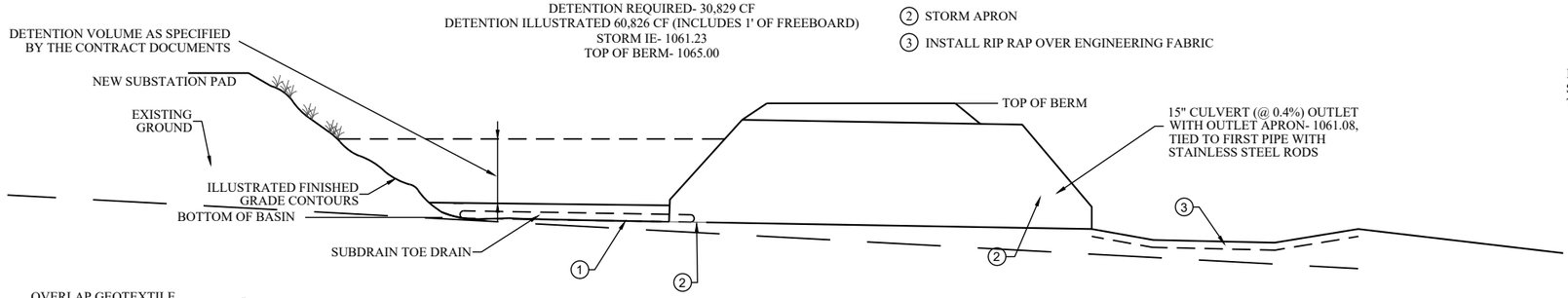
SHEET RS-201

P:\04\284\03\DWG\CIVIL\DWG\428403 TITLE.DWG

Plot Date: 4/16/2024 1:11:46 PM

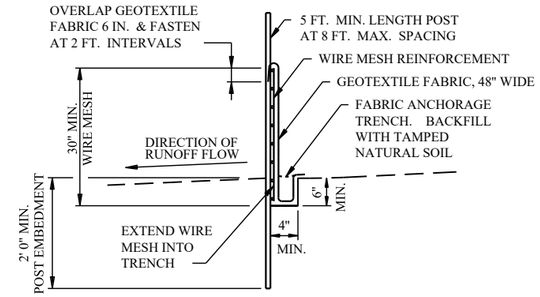
DETENTION REQUIRED- 30,829 CF
DETENTION ILLUSTRATED 60,826 CF (INCLUDES 1' OF FREEBOARD)
STORM IE- 1061.23
TOP OF BERM- 1065.00

1. 4" PERFORATED SUBDRAIN @ 0.1%, VERIFY GRADES IN THE FIELD
2. STORM APRON
3. INSTALL RIP RAP OVER ENGINEERING FABRIC

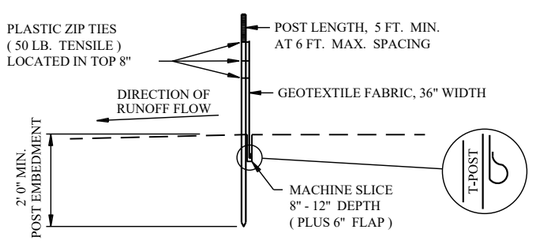


DETENTION POND DETAILS

NOT TO SCALE



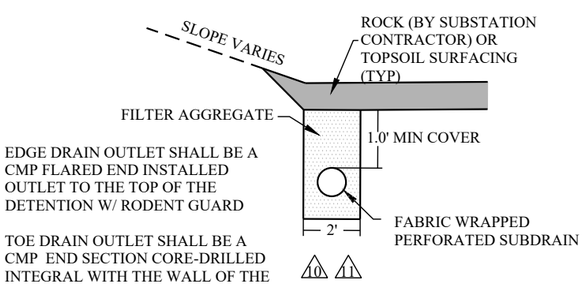
HEAVY DUTY



STANDARD MACHINE SLICED
(SEE SPEC. 3886)

SILT FENCE

NOT TO SCALE

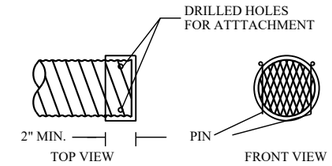


EDGE DRAIN OUTLET SHALL BE A CMP FLARED END INSTALLED OUTLET TO THE TOP OF THE DETENTION W/ RODENT GUARD

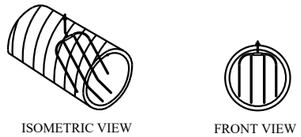
TOE DRAIN OUTLET SHALL BE A CMP END SECTION CORE-DRILLED INTEGRAL WITH THE WALL OF THE RCP APRON W/ RODENT GUARD, GROUTED WATERTIGHT

4" PERFORATED SUBDRAIN

NOT TO SCALE



REMOVABLE GRATE



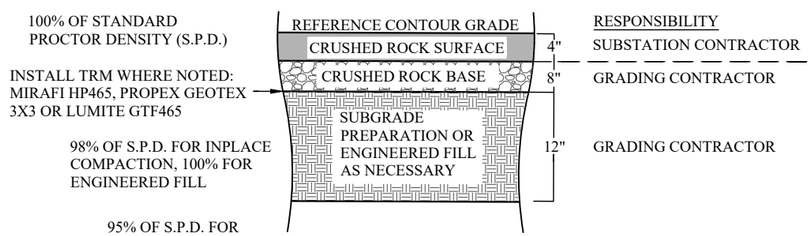
REMOVABLE FORK (9)

RODENT GUARD DETAILS

1. FILL ANNULAR SPACE WITH NON-SHRINK GROUT.
2. OUTLETS THROUGH INTAKE WALL TO BE CMP; CORRUGATED, DOUBLE-WALLED HDPE; OR PVC.
3. EXTEND OUTLET PIPE INTO INTAKE AS REQUIRED TO INSTALL REMOVABLE RODENT GUARD.
4. PROVIDE A MINIMUM 1 FOOT RADIUS FOR ALL BENDS OR USE TWO 45° FITTINGS
5. PROVIDE A 3 INCH MINIMUM DROP IN ELEVATION BETWEEN LONGITUDINAL SUBDRAIN AND OUTLET.

SUBDRAIN OUTLET

NOT TO SCALE

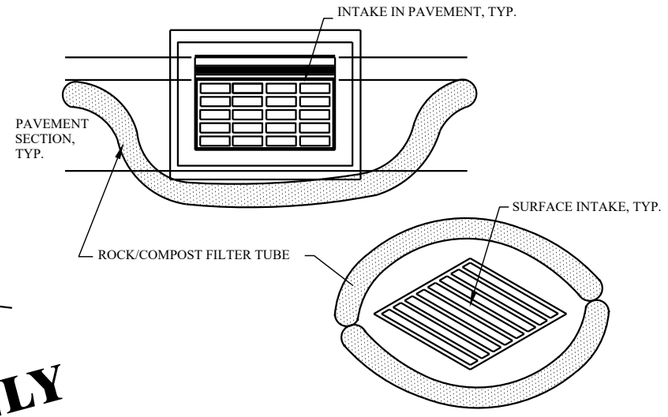


CRUSHED STONE SURFACING SHALL CONFORM TO THE GRADATIONS LISTED IN THE SPECIFICATIONS

INSTALL CLASS A ROADSTONE SURFACING OVER DRIVEWAYS, WITHIN FENCING, AND 5' SURROUNDING THE FENCING

TYPICAL ROCK SURFACING SECTION

NOT TO SCALE

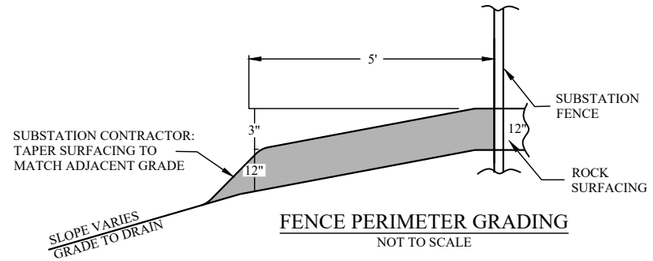


SILT FENCE FABRIC SEWN INTO A SOCK AND FILLED WITH 1.5" CLEAN ROCK OR COMPOST.

CLEAN SURFACING AND INSTALL 6"-8" FILTER TUBE ACROSS GUTTERS DOWN GRADE OF EXCAVATION. CLEAN AND MAINTAIN UNTIL PAVING IN THE DRAINAGE AREA IS COMPLETE AND PERMANENT VEGETATIVE COVER IS ESTABLISHED. COST OF MOVING AND MAINTAINING THE FILTER TUBE SHALL BE INCIDENTAL TO THE INLET PROTECTION BID ITEM. THE FILTER TUBE SHALL BE REMOVED WITHIN A WEEK AFTER PERMANENT STABILIZATION IS COMPLETED.

INLET PROTECTION - FILTER LOG

NOT TO SCALE



FENCE PERIMETER GRADING

NOT TO SCALE

FOR REFERENCE ONLY

SUDAS STANDARD DETAILS	
DETAIL FIGURES REFERENCED MAY BE FOUND IN THE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS MANUAL.	
FIGURE	FIGURE NO.
2000-EARTHWORK	
DETAILS OF EMBANKMENTS AND REBUILDING EMBANKMENTS	2010.101
DESIGNATION OF ROADWAY EARTHWORK ITEMS	2010.102
3000-TRENCH AND TRENCHLESS CONSTRUCTION	
TRENCH BEDDING AND BACKFILL ZONES	3010.101 (SW-101)
FLEXIBLE GRAVITY PIPE TRENCH BEDDING	3010.103 (SW-103)
4000-SEWERS AND DRAINS	
SUBDRAINS	4040.231
SUBDRAIN OUTLETS	4040.233
9000-SITE WORK AND LANDSCAPING	
FILTER BERM AND FILTER SOCK	9040.102
RIP RAP APRON FOR PIPE OUTLET ONTO FLAT GROUND	9040.110
STABILIZED CONSTRUCTION ENTRANCE	9040.120

REV	DATE	DESCRIPTION
0	3-08-24	ISSUED FOR BIDDING
1	4-16-24	ADDENDUM #1

DGR ENGINEERING

Project Manager: ADK
Designer: DLV
Project Number: 428403
Phone: (712) 472-2531

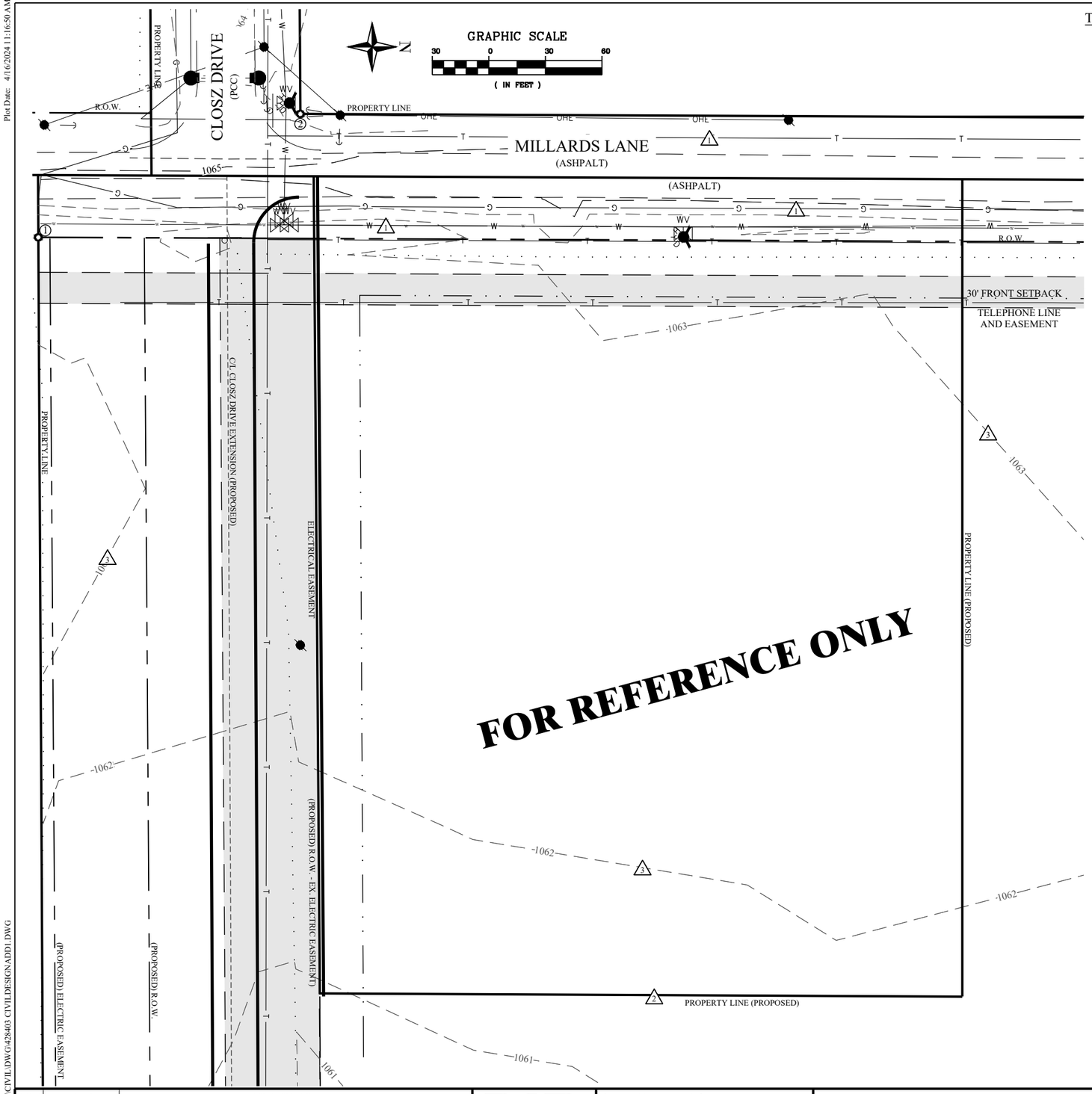
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
555of1149

SITE DETAILS
REISNER SUBSTATION

SHEET RS-202

P:\04\284403\DWG\CIVIL\DWG\428403 CIVILDESIGN ADD1.DWG

Plot Date: 4/16/2024 11:16:50 AM



TOPOGRAPHIC SURVEY SYMBOL LEGEND

- TREE STUMP
- STORM INTAKE
- STORM MANHOLE
- GAS VALVE
- BOLLARD
- FLAG POLE
- ELECTRIC BOX
- LIGHT POLE
- POWER POLE
- SIGN/SIGN POST
- PROPERY CORNER
- WATER VALVES
- HYDRANTS

TOPOGRAPHIC SURVEY LINE LEGEND

- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- STORM SEWER LINE & STRUCTURES
- SANITARY SEWER LINE & STRUCTURES
- EDGE OF CONCRETE
- FENCE
- WATER LINE
- GAS LINE & STRUCTURES
- BUILDING OUTLINE
- LOT LINE
- CURB AND GUTTER
- UNDERGROUND TELEPHONE LINE
- EXISTING GROUND CONTOURS
- EXISTING SIDEWALK
- EDGE OF GRAVEL
- EXISTING TRAIN TRACKS

PROJECT CONTROL/BENCHMARKS

① N 3625378.3910 E 4838630.2800 ELEV 1062.71 YCR
② N 3625517.3100 E 4838565.0450 ELEV 1062.77 ⅝" REBAR

1. Utilities and other potential obstacles (underground facilities) have been shown only to the extent that they were observed at the surface or were known by Others. The Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data. The Contractor shall have full responsibility for reviewing and checking all such information and data, locating all such facilities, coordination of the work with the owners of such underground facilities during construction, and the safety and protection of all such underground facilities.

2. Contractor shall be responsible to control erosion of the site during construction. NPDES General Permit No. 2 is necessary for this project (3.0 acres disturbed). The Contractor shall apply and pay for the permit. Contractor shall use general Best Management practices while performing work to avoid soil erosion from the site. Contractor shall inspect erosion control devices weekly or after all precipitation and repair any deficient areas. Contractor shall follow and amend the SWPPP as required for the duration of the project, costs shall be incidental to the project.

3. Existing surface contours (typ)

Erosion Control Notes:

The contractor shall provide inlet protection at all times after pavement is removed and until final stabilization is achieved. The contractor will need to change the type of inlet protection to fit the work being performed. The details shown are to be used and determined by the place of construction. Inlet protection devices shall be maintained or replaced as needed or at the option of the engineer/owner. Manufactured alternatives approved and listed on IA/DOT's erosion control product acceptability list may be substituted.

When removing or maintaining inlet protection, care shall be taken so that the sediment trapped on the geotextile fabric does not fall into the inlet. any material falling into the inlet shall be removed immediately.

All erosion control devices shall be inspected weekly and after all weather events, non-complying equipment shall be fixed within the working day.

The contractor shall take steps to control soil erosion and fugitive dust during construction. If necessary, hay bales, check dams, sediment traps or additional silt fence (not indicated on the plans) shall be used to retain silt and prevent silt from entering the sewer system. This work shall be paid for as per pay items in the proposal.

The contractor shall construct erosion control prior to any grading on the project in order to prevent silt transport and soil tracking into public right-of-way. contractor shall maintain and water haul roads to control fugitive dust.

Silt fence should be inspected weekly and after minor rain events to ensure that the device is functioning properly. Remove sediment from behind fence when the depth of sediment has built up to the height of the fence above grade. inspect the base of the fence to ensure that no gaps have developed and re-trench as necessary. Inspect fence posts to ensure that they are properly supporting the fence. straighten, reset and add additional posts if necessary. If filter fabric is ripped, damaged or deteriorated, replace it in accordance with the original specifications & details.

The contractor shall comply with the storm water pollution prevention plan (SWPPP) in the project manual. The contractor shall make provisions to maintain drainage on all streets in and adjacent to the project throughout the construction period.

Contractor shall have a person on call to respond to flooding that may occur during non-working hours. contractor shall have pumping equipment on site in case of a large storm event. contractor shall pump storm water off site if needed at no additional cost to the project. Contractor shall not pump water containing sediment off site. make provisions for filtering water to be pumped. Contractor will be responsible for submitting and paying for the storm water permit and following its recommendations, incidental to the project.

REV	DATE	DESCRIPTION
0	3-08-24	ISSUED FOR BIDDING
1	4-16-24	ADDENDUM #1

DGR ENGINEERING

Project Manager: ADK
Designer: DLV
Project Number: 428403
Phone: (712) 472-2531

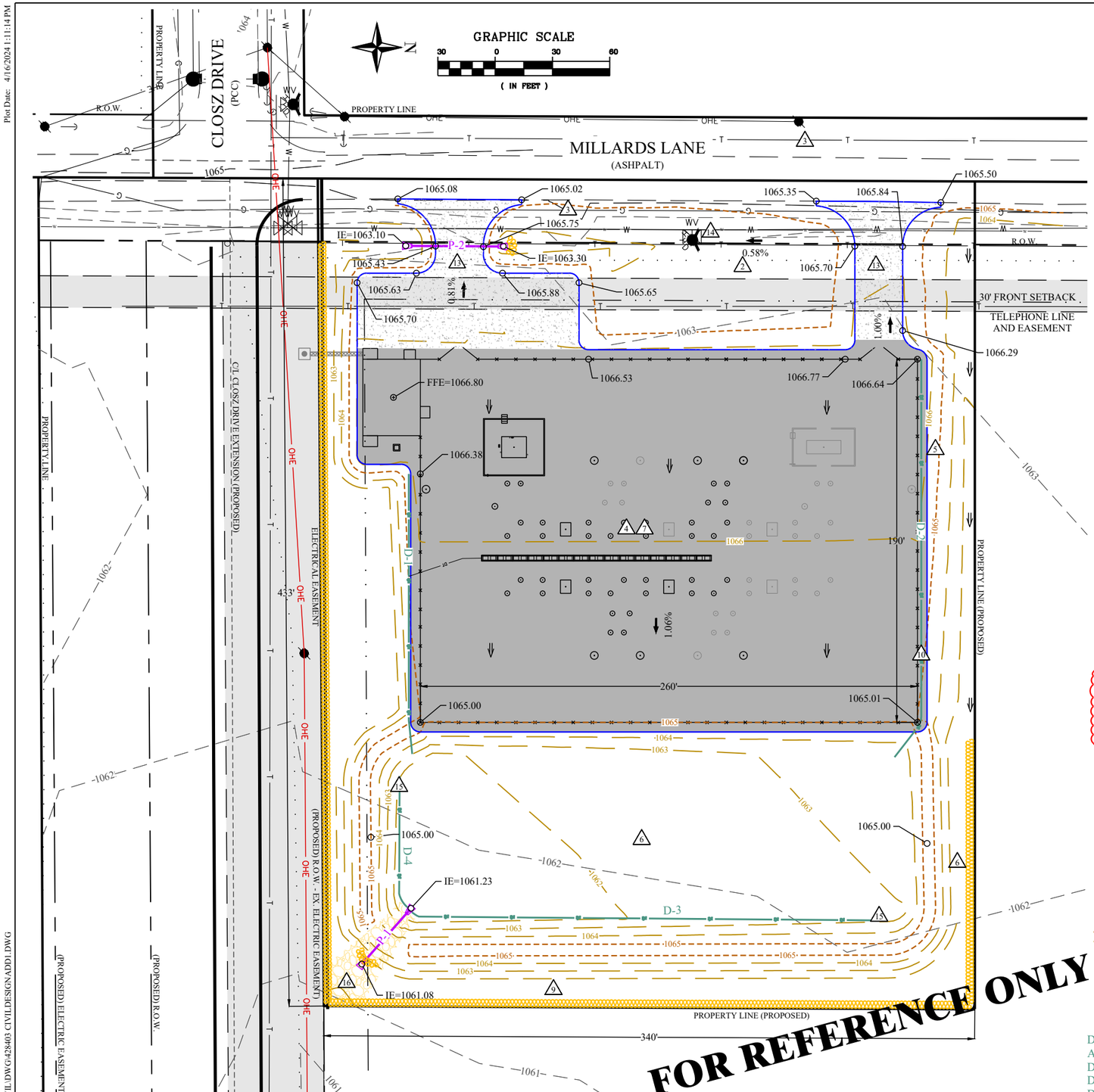
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
556of1149

EXISTING SITE PLAN
REISNER SUBSTATION

SHEET RS-203

P:\04\428403\DWG\CIVIL\DESIGN\428403 G CIVIL DESIGN ADD1.DWG

Plot Date: 4/16/2024 1:11:14 PM



1. All disturbed areas shall be prepared as shown on the details or described in the specifications.

2. Provide, compact and grade **imported** lean clay fill (LL < 45, PI 10-35) as approved by the Owners soils Engineer (~14,500 C.Y., compacted volume) and in-place grade (~85 C.Y., compacted volume) as necessary to meet contours/slopes shown (maximum 4:1). See note 12 for additional requirements of this site.

   The Contractor is responsible for excavating, hauling, and disposing of material not used in the site preparation.

   Contractor shall strip and stockpile topsoil from all areas to receive fill for the substation pad, drives and detention berm (~4,400 CY). The material shall be stockpiled and spread after excavation and embankment work is complete on all disturbed areas that are not to receive rock surfacing or pavement. Cost incidental to the project, no separate measurement or payment to be made for stripping, stockpiling, and spreading of topsoil.

3. Utilities and other potential obstacles (underground facilities) have been shown only to the extent that they were observed at the surface or were known by Others. The Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data. The Contractor shall have full responsibility for reviewing and checking all such information and data, locating all such facilities, coordination of the work with the owners of such underground facilities during construction, and the safety and protection of all such underground facilities.

4. Grading Contractor: For rock surfacing, refer to the details and specifications for preparation and material requirements. Prior to surfacing; fine grade and roll existing grade, then apply 'SpraKil SK-26' as specified to prevent plant growth.

5. Compact and finish grade in-place grade as necessary to meet contours shown. Proposed contours are to final surface; account for 4" rock surface/paving (by the Substation Contractor) as shown in the detail. All costs included in the rock installation items.

6. Contractor shall be responsible to control erosion of the site during construction. NPDES General Permit No. 2 is necessary for this project (3.0 acres disturbed). The Contractor shall apply and pay for permit. Contractor shall use general Best Management practices while performing work to avoid soil erosion from the site. Contractor shall inspect erosion control devices weekly or after all precipitation and repair any deficient areas. Contractor shall follow and amend the SWPPP as required for the duration of the project, costs shall be incidental to the project. Contractor shall transfer the NPDES permit at the conclusion of the grading operations to the subsequent Substation Contractor.

7. Grading Contractor: Grade base and rock surfacing to match and drain foundations. See foundations plans for details.

8. Contractor will be responsible for all staking for this project. Contact the Engineer for coordinate files or dimensioning to complete staking. All costs incidental to the project.

9. The entire property not to be surfaced shall be fine graded, seeded, fertilized, and mulched. Seeded areas shall utilize SUDAS Type 2 see mix for ditches and slopes.

10. Contractor shall not drive heavy construction equipment above subdrain, stage installations accordingly. Drainage aggregate and fabric shall be incidental to the cost of the subdrain.

11. All work and products shall conform to the Iowa SUDAS Standard specification for construction (2024).

12. Building and structure foundation excavations shall be conducted as directed by the Geotechnical Report.

13. Contractor shall install engineering fabric (380 SY) under Class C modified subbase, limestone gravel surfacing for driveway entrances.

14. Adjust existing fire hydrant and valve to match future grade (estimated 1.5'; Exact elevation shall be verified by the contractor in the field during construction)

15. Install subdrain cleanout, incidental to the pipe.

16. Contractor shall install rip rap overflow emergency spillway and pipe outlet over engineering fabric according to SUDAS detail 9040.110. (100 tons)

17. Detention Pond:

    Illustrated Detention Pond provides 60,826 cu. ft of storage as required by the City of Webster City detention ordinance.

    Avoid storage of equipment or material in the detention area to avoid soils compaction in the detention bottom. If compaction of this area occurs, Contractor shall till soil 12" deep to reestablish conditions.

LEGEND

- 12" Crushed Rock Surfacing (4)
- Proposed Contours (2)
- Grading Drainage Direction
- Engineering Fabric below 8" crushed rock base (13)
- ####.## Finished rock surface grade
- DT Drain Tile
- Proposed Fence Line
- Proposed rock surfacing
- Silt Fence/Wattle/Rock Log
- OHE Future Overhead Electric

P-1 40 LF OF 15" RCP STORM SEWER @0.40% W/ APRONS BOTH WAYS (IE(IN)=1061.23 IE(OUT)=1061.08), INSTALL WITH CORE DRILLED PVC CONNECTION W/ RODENT GUARD, SEE DETAIL

P-2 45 LF OF 15" RCP STORM SEWER @0.40% W/ APRONS BOTH WAYS (IE(IN)=1063.30, IE(OUT)=1063.12)

D-1 147 LF OF 4" PERFORATED HDPE DRAINTILE LINE W/ OUTLET (1061.95), INSTALL WITH MINIMUM GRADE (3' COVER) TO ALLOW POSITIVE DRAINAGE FROM THE TRENCH DRAIN TO THE DETENTION POND
D-2 215 LF OF 4" PERFORATED HDPE DRAINTILE LINE W/ OUTLET (1063.50), INSTALL WITH POSITIVE GRADE TO DETENTION POND
D-3 246 LF OF 4" PERFORATED HDPE DRAINTILE LINE W/ OUTLET (P-1), INSTALL WITH POSITIVE GRADE TO OUTLET
D-4 72 LF OF 4" PERFORATED HDPE DRAINTILE LINE W/ OUTLET (P-1), INSTALL WITH POSITIVE GRADE TO OUTLET

REV	DATE	DESCRIPTION
0	3-08-24	ISSUED FOR BIDDING
1	4-16-24	ADDENDUM #1

DGR ENGINEERING

Project Manager: ADK
Designer: DLV
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
557of1149

PROPOSED SITE PLAN
REISNER SUBSTATION

SHEET RS-204

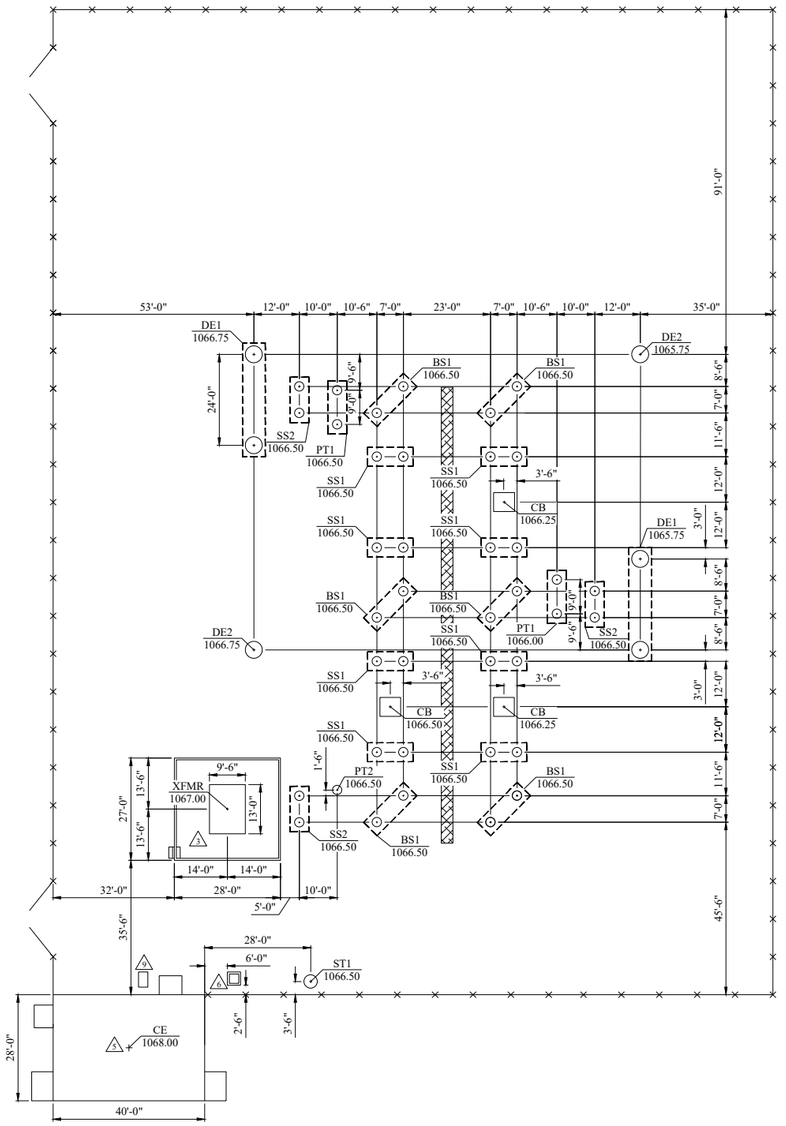
P:\428403\DWG\CIVIL\DWG\428403 CIVILDESIGNADD1.DWG

Plot Date: 6/10/2024 8:54:38 PM

FOUNDATION SCHEDULE

ITEM	DESCRIPTION	QUANTITY		DRAWING
		EXIST	NEW	
DE1	69 kV DEADEND H-FRAME		4	RS-212
DE2	69 kV FUTURE DEADEND H-FRAME		2	RS-212
ST1	SHIELD TOWER		1	RS-212
SS1	69 kV LOW SWITCH SUPPORT		16	RS-213
SS2	69 kV HIGH SWITCH SUPPORT		6	RS-213
BS1	69 kV 3Ø BUS SUPPORT @ 45°		12	RS-213
PT1	69 kV 3Ø PT SUPPORT		4	RS-214
PT2	69 kV 1Ø PT SUPPORT		1	RS-214
CB	69 kV CIRCUIT BREAKER		3	RS-215
XFMR	69 kV TRANSFORMER		1	RS-216
CE	CONTROL ENCLOSURE		1	RS-217

8



NORTH

0 5 10 20 40

SCALE (FT.)

LEGEND

- Proposed pad or foundation
- Proposed fence
- Station power padmount transformer
- Proposed cable trench
- DE1 / 1066.25 — Foundation callout with top of foundation elevation

NOTES

1. Verify size and location of all pads, conduit and grounding per supplied equipment. Confirm conduit placement with Engineer prior to casting into concrete.
2. The Contractor shall record accurate locations of all underground items. This record shall be maintained during construction, and shall be furnished to the Engineer upon completion of the project. Conduit runs, caps, ground conductors, and other items shall be referenced to the substation fence or other permanent object.
3. Power transfomer T1 will be furnished, delivered, placed on pad, and tested by Others. The Contractor shall coordinate the size of the pad with Engineer prior to installation of the foundation. Install grounding tails and conduit risers prior to containment wall and clay cap installation. See drawing RS-220 and RS-240.
4. Install conduits in the foundations for the yard lights on the shield tower and deadend structures, as required. See drawing RS-220.
5. Control enclosure will be furnished, delivered, and installed by Others. The Contractor shall coordinate the size of the pad with Engineer prior to installation of the foundation. Contractor shall coordinate all sleeve and box out locations within foundation walls and floors with Engineer prior to installation of the foundation.
6. Station power transformer will be furnished and installed by Owner.
7. Contractor shall coordinate final elevations of piers and foundations with Engineer before pouring.
8. Anchor bolts shall be rotated 45° to match steel support structure.
9. Pour 6" pad sized as required for HVAC condensing unit.

P:\04\428403\DWG\RS-210.DWG

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

FOUNDATION PLAN
REISNER SUBSTATION

SHEET RS-210

General Structural Notes:

1. The governing building code is the International Building Code (IBC) 2015 Edition.
2. Contractor shall cross verify all Contract Documents, elevations, dimensions and existing conditions prior to starting work. Discrepancies or conflicts shall be noted to the EOR immediately for remediation. Specific notes and details shall preside over General Notes and Specifications.
3. Costs of additional design work due to the selection of an option or due to errors or omission in construction shall be the responsibility of the Contractor.
4. The Contractor has the sole responsibility for the means, methods, techniques, sequences and procedures of construction. The Structural drawings reflect the completed structure. Bracing, shoring and protection during construction is the responsibility of the Contractor. The structure shall not be loaded with construction materials and equipment that exceeds the design loads.

Design Criteria:

Wind Loads			
Ult. Wind Design Speed	V-Ult	115 mph	-
Nominal Wind Design Speed	V-ASD	90 mph	-
Risk Category	-	II	-
Exposure Category	-	C	-

Foundation Design Loads			
H-Frame Deadends	Moment	260 k*ft	-
	Shear	7 kips	-
	Axial	4 kips	-
Shield Tower	Moment	93 k*ft	-
	Shear	3 kips	-
	Axial	2 kips	-
Equipment Structures	Moment	12 k*ft	-
	Shear	1 kips	-
	Axial	2 kips	-
Transformer	DL	100 kips	-

1. Moments, shears, and axial loads are service level loads.
2. See drawing RS-351, RS-352, or RS-354 for wire tensions on H-frames and Shield tower

Concrete Notes:

1. Concrete shall conform to American Concrete Institute (ACI) codes and specifications, latest edition.
   ACI 318 "Building Code Requirements For Reinforced Concrete"
   ACI 301 "Specifications For Structural Concrete".
2. Cast-in-place concrete shall have a 28 day compressive strengths of 4000 psi - air entrained.
3. Concrete mix design shall be by an independent testing laboratory.
4. Cast-in-place concrete shall be subject to testing by an independent testing laboratory, retained by the Owner,as follows:
   Testing Requirements: 4 - test cylinders per each 50 yards or each days pour.
5. All non-welded reinforcing steel shall be grade 60 deformed, billet-steel ASTM A615, U.O.N. All welded wire fabric (WWF) shall be plain, ASTM A185.
6. All welded reinforcing steel shall be grade 60. low carbon, ASTM A706.
7. Provide adequate support bars and accessories to hold reinforcing bars firmly in place.
8. Clear concrete cover for all reinforcing shall be as follows, unless otherwise noted on the drawing:
   Concrete on soil . . . . . .3"
   Slab on grade . . . . . .mid height
   Walls and structural slabs
   Formed and exposed to earth or weather:
   #6 through #18 . . . . . .2"
   #5 and smaller . . . . . 1½"
   Not exposed to earth and weather:
   #11 and smaller . . . . . ¾"
   Drilled piers (cover to stirrups or ties) . . . . . 3"
9. Min. lap: 18" for type #1 thru type #3 & 12" for type #4 splices.
10. Req'd. splice length = listed splice length x adjustment factors adjustment factors = 1.0 if none below apply:
    A. for horiz. reinforcing w/ more than 12" of fresh concrete placed below bar - adjustment factor = 1.3
    B. for fy other than 60 ksi - adjustment factor = fy (used)/ 60
    C. for light weight concrete - adjustment factor = 1.3
    D. typical epoxy coated reinforcing - adjustment factor = 1.2
    E. epoxy coated reinforcing w/ cover less than bd or clear spacing less than 6 bd - adjustment factor = 1.5
11. All adjustment factors that apply shall be used to calculate req'd splice length.
12. Unless otherwise noted on plan or details, lap the following bars as defined in lap splice table above.
    A. vertical hooked or straight bars extending from footings: type #4 splice
    B. horizontal bars in grade beams, footings, & foundation walls: type #2 splice
    C. vertical bars in columns & piers: type #4 splice
    D. vertical bars in basement & retaining walls: type #3 splice
    E. u.n.o on plan or details, lap the slab bars with a lap length of 48 bd.

Reinforcing Steel Splice Lengths for Standard Non-Coated Bars							
Concrete Strength F'c	Type #1 Splice Class A splice		Type #2 Splice Class B Splice		Type #3 Splice Class B Splice		Type #4 Splice Compression Splice
	#6 and smaller	#7 and larger	#6 and smaller	#7 and larger	#6 and smaller	#7 and larger	#4 and larger
3000 psi	44 Bd	55 Bd	57 Bd	71 Bd	85 Bd	107 Bd	30 Bd
4000 psi	38 Bd	47 Bd	49 Bd	62 Bd	74 Bd	92 Bd	30 Bd

Bd = bar diameter

Structural Steel Notes:

1. Structural steel work shall be per American Institute of Steel Construction (AISC) specification 360 material:

ASTM A992	W, S, and M shapes
ASTM A53	Grade B - standard pipes
ASTM A500	Grade C - HSS pipes
ASTM A500	Grade C - HSS tubes
ASTM A36	Bars, misc. shapes, angles, channels, and rods
ASTM A572	Grade 50 - Plates
ASTM F1554	Grade 55* - anchor bolts
ASTM A325	Structural Bolts
ASTM A563	Heavy hex nuts
ASTM F436	Washers
E70XX	Electrodes

   *Grade 55 must have S1 certification to be weldable.

2. Welded connections shall be made in accordance w/ the latest recommendations of:
   AISC - American Institute of Steel Construction
   AWS - American Welding Society
3. Column base and cap plates to be welded around all sides.
4. Unless noted otherwise, welds not specified shall be a fillet weld, continuous and/or all around with a minimum throat dimension as required for material thickness per AWS.
5. Bolt steel connections shall be tightened snug tight. Provide palnut lock nuts on all bolted connections.
6. Steel shall be hot-dip galvanized as per ASTM A123 for steel shapes, plates, angles and anchor bolts, and ASTM B695 (Class 50) for mechanical fasteners.
7. Provide vent/drain holes as required for proper galvanizing. Maximum vent/ drain hole size shall not exceed ½ of the across flat (A.F.) dimension of the HSS tube or tapered section.
8. Supplier shall furnish top and bottom anchor bolt templates shipped loose with anchor bolts unless otherwise noted.

Excavation and Backfill Notes:

1. Foundations designed based upon the recommendations of the Geotechnical report issued by Allender Butzke Engineers, Inc. on 12-22-2023, report number PN 231247. Contractor shall comply with material recommendations, backfill method recommendations and soil stabilization methods as defined in referenced soil report.
2. Pier & slab excavations shall be excavated to proper line and level to insure minimum concrete cover of pier & slab reinforcement and for pier & slab depth.
3. Where required, provide compacted engineered fill. Compacted engineered fill shall consist of a moderately expansive lean to fat clay material. Compacted engineered fill shall not contain clay particles.
4. Backfill shall be compacted by mechanical means. Flooding or water inundation shall not be permitted.
5. Where required backfill shall be placed in 1'-0" or less equal lifts and compacted as follows:
   ASTM D698 Standard Proctor
   98% Dry Density = Below footings
   98% Dry Density = Below slab on grade
   93% Dry Density = Exterior backfill
6. The Owner will retain an independent testing agency and the Contractor shall coordinate with the Owner/Owner's testing agency to schedule required observations and compaction testing.

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	03-01-2024	PRELIMINARY
B	03-08-2024	ISSUED FOR MATERIAL BIDS
C	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

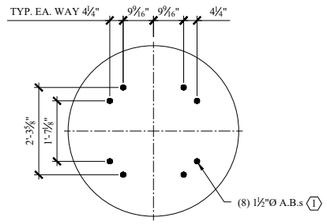
Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

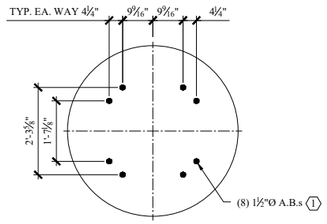
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
559of1149

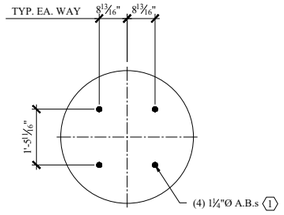
GENERAL STRUCTURAL NOTES
REISNER SUBSTATION

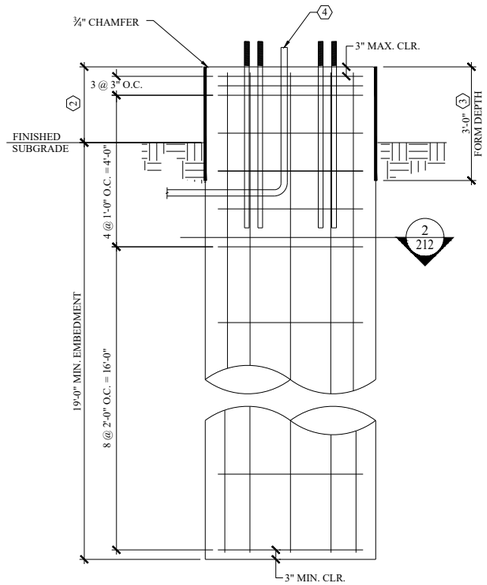
SHEET RS-211

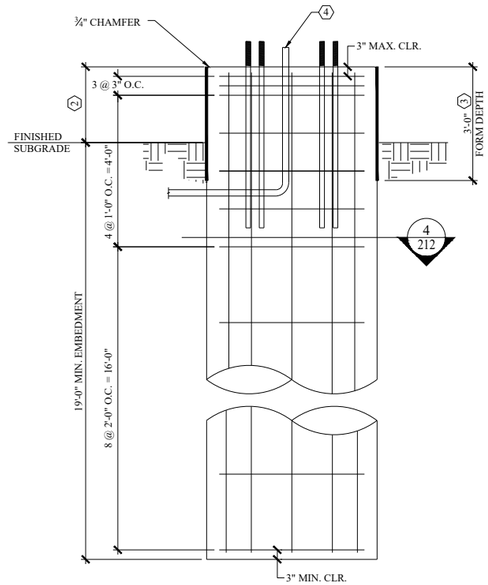
Plot Date: 6/11/2024 11:01:32 AM

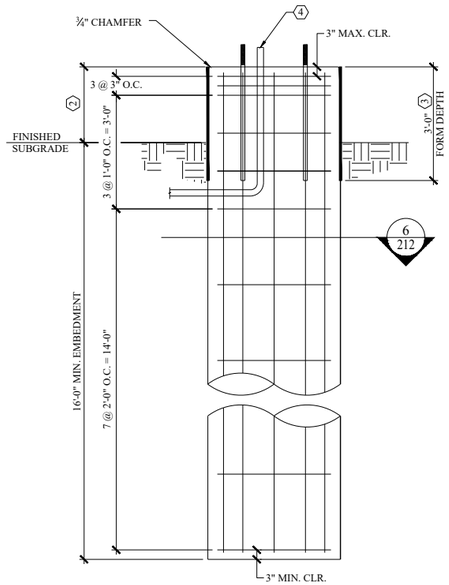












1 212 69 kV DEADEND H-FRAME PIER DETAIL (DE1)

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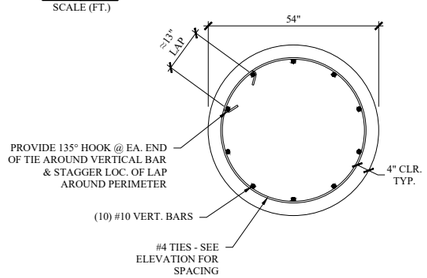
SCALE (FT.)



3 212 69 kV FUTURE DEADEND H-FRAME PIER DETAIL (DE2)

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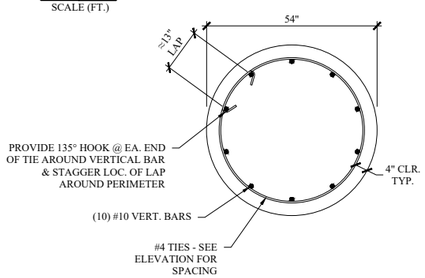
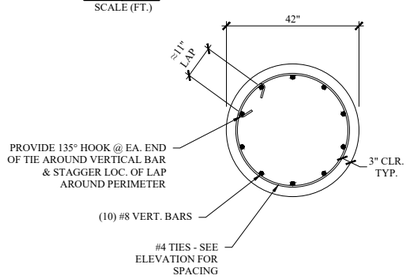


5 212 SHIELD TOWER PIER DETAIL (ST1)

0 1 2
SCALE (FT.)



2 212 69 kV DEADEND H-FRAME PIER SECTION

0 1 2
SCALE (FT.)

4 212 69 kV FUTURE DEADEND H-FRAME PIER SECTION

0 1 2
SCALE (FT.)

6 212 SHIELD TOWER PIER SECTION

0 1 2
SCALE (FT.)

Sheet Notes:

1. See sheet RS-210 for actual top of slab elevation.
2. See sheet RS-211 for Concrete and Excavation/Backfill Notes.
3. See Geotechnical report for summary of subsurface conditions.

Key Notes:

⟨1⟩ Anchor bolts for drilled piers supplied by Others and installed by the Contractor. Coordinate anchor bolt quantities and pattern with steel shop drawings.

⟨2⟩ Reveal (R) shall be coordinated with pier elevation, but shall not exceed 2'-0".

⟨3⟩ Form depth may vary with reveal. Maintain a 6" minimum depth of form below finished subgrade.

⟨4⟩ 2" Ø conduit(s). See sheet RS-220 for conduit location and quantities.

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com
Project: 2387-25

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

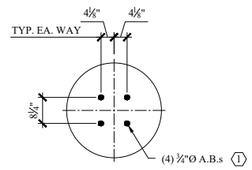
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
560of1149

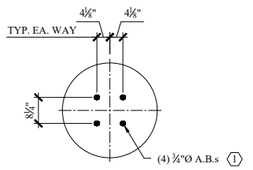
DRILLED PIER FOUNDATION DETAILS
REISNER SUBSTATION

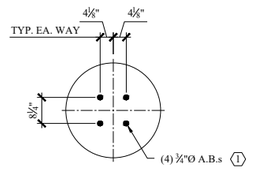
SHEET RS-212

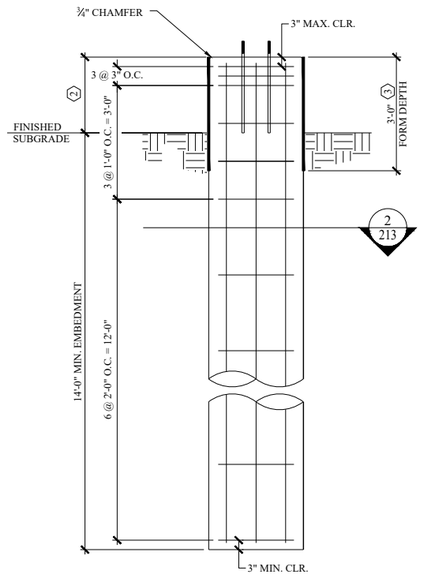
S:\2023\2387\2387-25 REISNER SUBST\DRAWINGS\2387-37 REISNER SUBST FDN 061124.DWG | SHEET RS-212

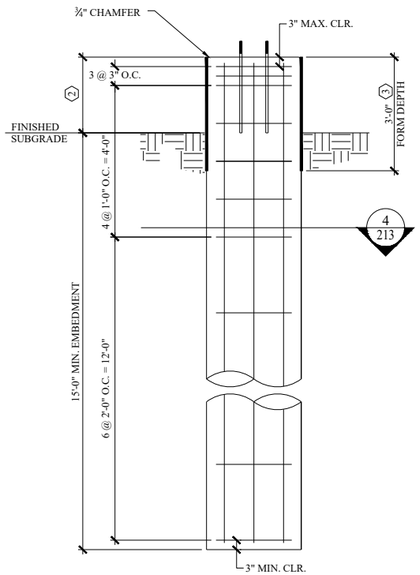
Plot Date: 6/11/2024 11:01:40 AM

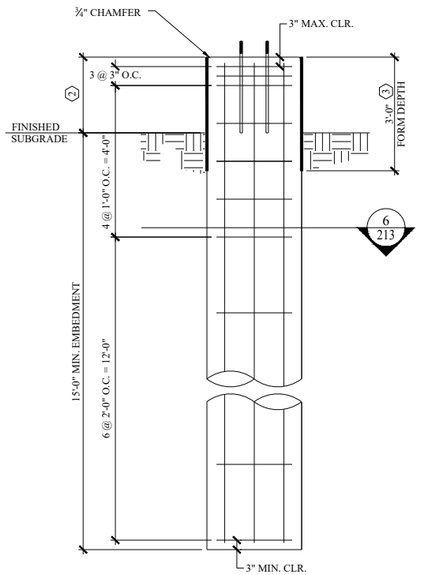












1/213 69 kV LOW SWITCH SUPPORT PIER DETAIL (SS1)

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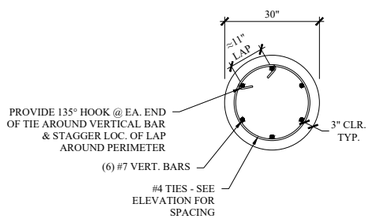
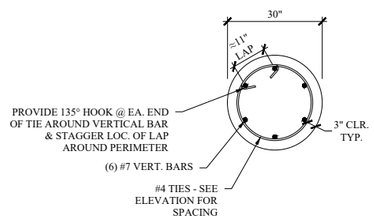


2/213 69 kV LOW SWITCH SUPPORT PIER SECTION

0 1 2
SCALE (FT.)

3/213 69 kV HIGH SWITCH SUPPORT PIER DETAIL (SS2)

0 1 2
SCALE (FT.)

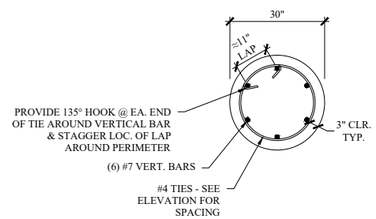


4/213 69 kV HIGH SWITCH SUPPORT PIER SECTION

0 1 2
SCALE (FT.)

5/213 69 kV 3-PH BUS SUPPORT @ 45° PIER DETAIL (BS1)

0 1 2
SCALE (FT.)



6/213 69 kV 3-PH BUS SUPPORT @ 45° PIER SECTION

0 1 2
SCALE (FT.)

Sheet Notes:

1. See sheet RS-210 for actual top of slab elevation.
2. See sheet RS-211 for Concrete and Excavation/Backfill Notes.
3. See Geotechnical report for summary of subsurface conditions.

Key Notes:

1 Anchor bolts for drilled piers supplied by Others and installed by the Contractor. Coordinate anchor bolt quantities and pattern with steel shop drawings.

2 Reveal (R) shall be coordinated with pier elevation, but shall not exceed 2'-0".

3 Form depth may vary with reveal. Maintain a 6" minimum depth of form below finished subgrade.

S:\2023\2387-2387-25 REISNER SUBST\DRAWINGS\2387-37 REISNER SUBST FDN 061124.DWG | SHEET RS-213

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com
Project: 2387-25

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

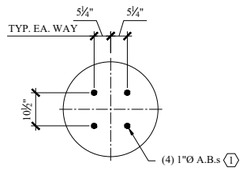
DGR ENGINEERING

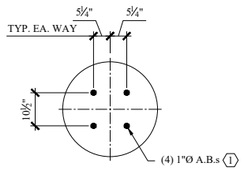
Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

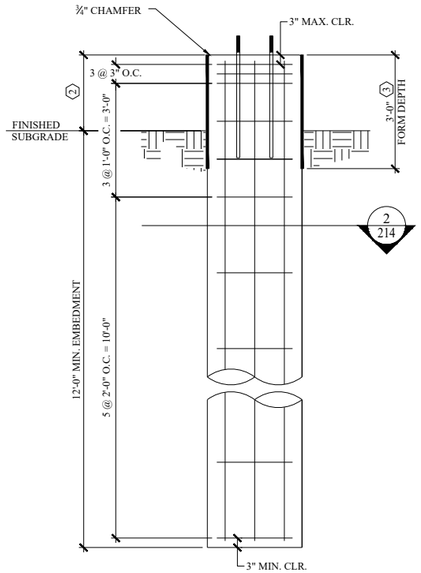
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
561of1149

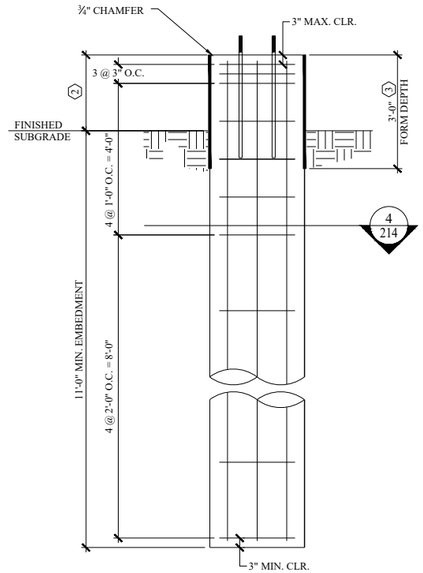
DRILLED PIER FOUNDATION DETAILS
REISNER SUBSTATION

SHEET RS-213



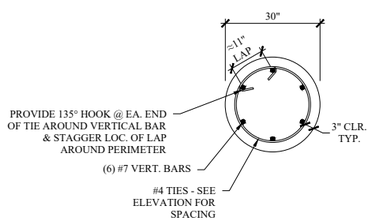






1 214 **69 kV 3-PH PT SUPPORT PIER DETAIL (PT1)**

0 1 2
SCALE (FT.)

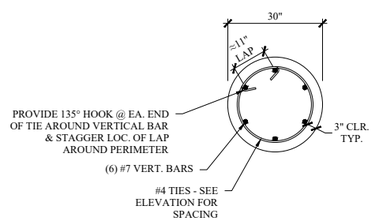


2 214 **69 kV 3-PH PT SUPPORT PIER SECTION**

0 1 2
SCALE (FT.)

3 214 **69 kV 1-PH PT SUPPORT PIER DETAIL (PT2)**

0 1 2
SCALE (FT.)



4 214 **69 kV 1-PH PT SUPPORT PIER SECTION**

0 1 2
SCALE (FT.)

Sheet Notes:

1. See sheet RS-210 for actual top of slab elevation.
2. See sheet RS-211 for Concrete and Excavation/Backfill Notes.
3. See Geotechnical report for summary of subsurface conditions.

Key Notes:

1 Anchor bolts for drilled piers supplied by Others and installed by the Contractor. Coordinate anchor bolt quantities and pattern with steel shop drawings.

2 Reveal (R) shall be coordinated with pier elevation, but shall not exceed 2'-0".

3 Form depth may vary with reveal. Maintain a 6" minimum depth of form below finished subgrade.

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com
Project: 2387-25

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
562of1149

DRILLED PIER FOUNDATION DETAILS
REISNER SUBSTATION

SHEET RS-214

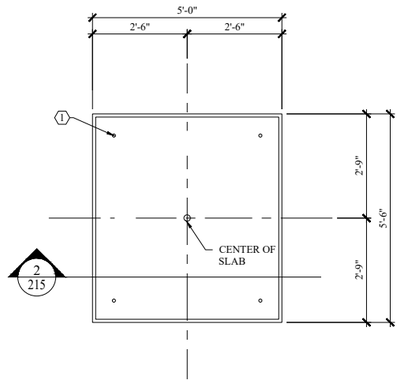
Sheet Notes:

1. See sheet RS-210 for actual top of slab elevation.
2. See sheet RS-211 for Concrete and Excavation/Backfill Notes.
3. See Geotechnical report for summary of subsurface conditions.

Key Notes:

① Anchor bolts supplied and installed by Contractor. Coordinate anchor bolt quantities and pattern with Engineer, equipment manufacturer, and all shop drawings. Anchor bolts shall be 1"Ø x 1'-4" (14" Embed) threaded rod with Hilti HIT-HY200 Epoxy.

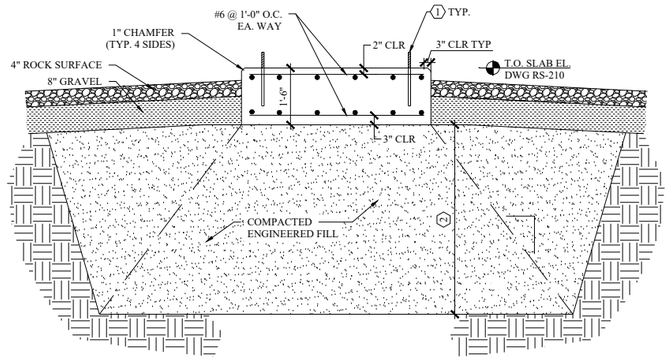
② Compacted engineered fill should extend a minimum of 4'-0" below the slab on grade. Contractor to coordinate with Geotechnical Engineer to inspect excavation and verify the suitability of native soils.



1/215 69 kV CIRCUIT BREAKER FOUNDATION PLAN (CB)

N

0 1 2
SCALE (FT.)



2/215 69 kV CIRCUIT BREAKER FOUNDATION SECTION

0 1 2
SCALE (FT.)

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

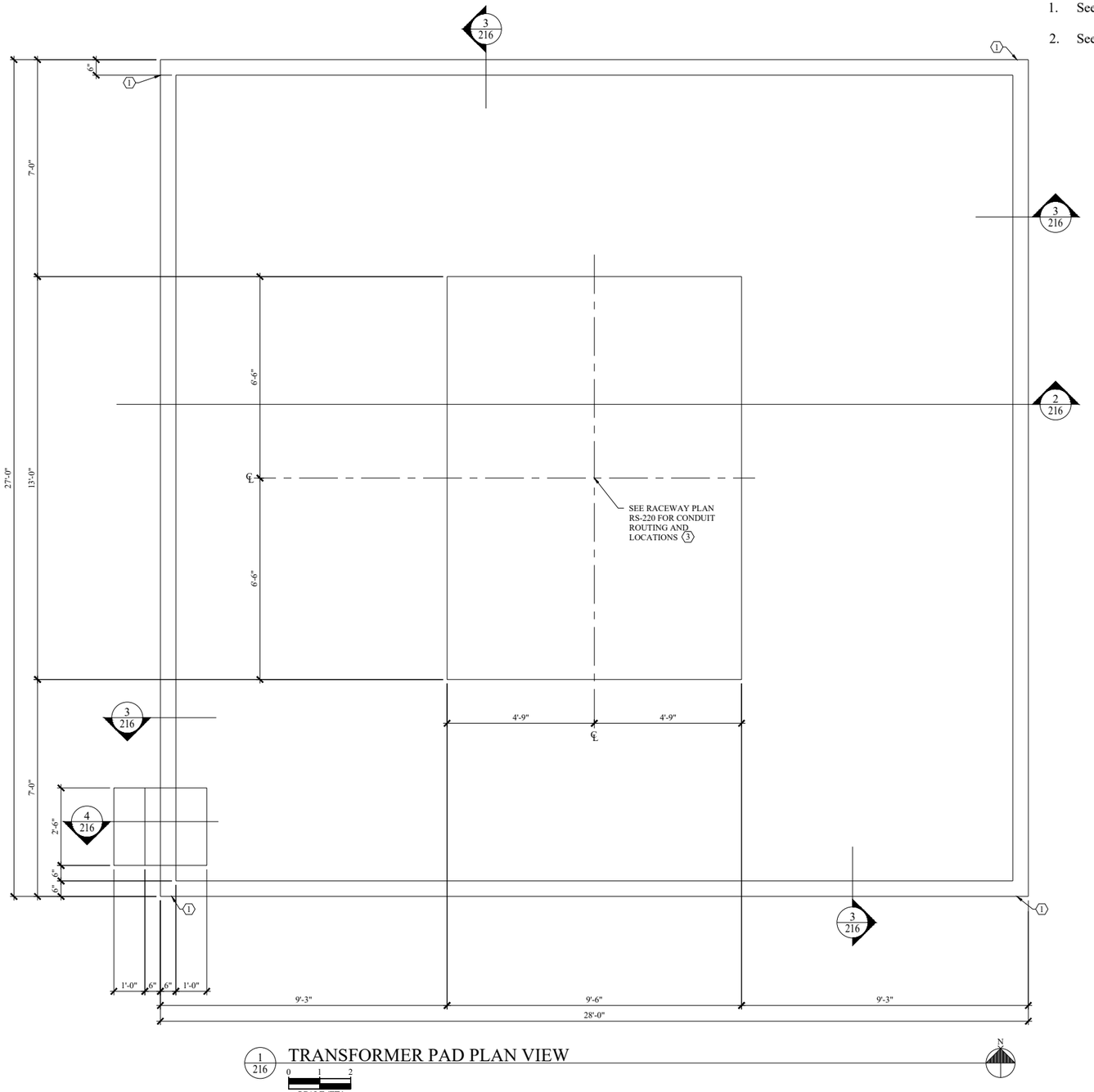
Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
563of1149

CIRCUIT BREAKER FOUNDATION DETAILS
REISNER SUBSTATION

SHEET RS-215

Plot Date: 6/11/2024 11:01:58 AM



1 216 TRANSFORMER PAD PLAN VIEW

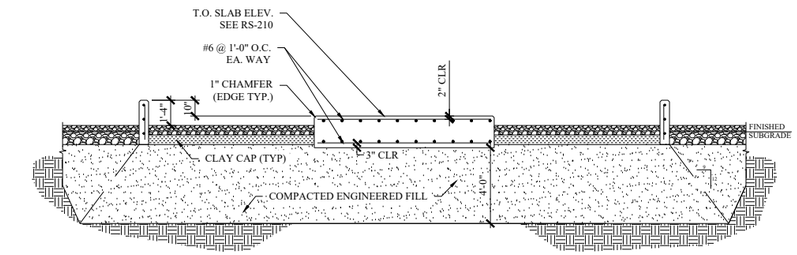
SCALE (FT.) 0 1 2

Sheet Notes:

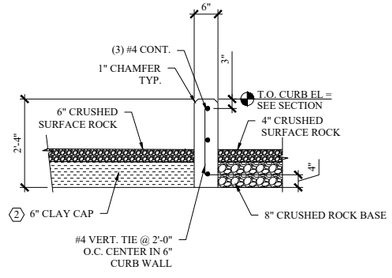
1. See sheet RS-210 for actual top of slab and curb elevations.
2. See RS-211 for Concrete and Excavation/Backfill notes.

Key Notes:

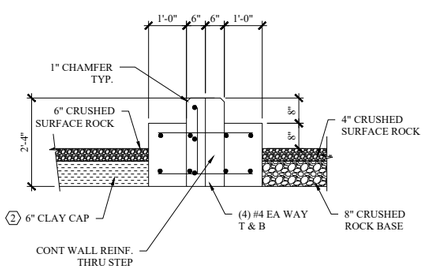
1. Provide (3) #4 x 3'-0" corner bars. Lap with horizontal #4's.
2. Clay cap inside containment area shall consist of soils classified as clays, silty clays, silts (if cohesive), and clayey silts which can generally meet a permeability rate between 5 x 10^{-4} cm/sec and 1 x10^{-5} cm/sec. This permeability rate should allow approximately 1.7" to 3.4" of water drainage through the clay cap per day. Consult with Geotechnical Engineer as needed to locate appropriate material and for recommendations on the compaction requirements for the clay cap inside the containment area.
3. Coordinate location, size, and quantity of conduits with transformer shop drawings and drawing RS-220.
4. Below-grade ground grid and raceway installation shall be performed inside containment during excavation and backfill prior to installation of curb/wall. Excavation below the curb/wall will not be allowed.
5. Contractor to coordinate final slab dimensions with transformer shop drawings and Engineer prior to construction.



2 216 TRANSFORMER PAD SECTION
NO SCALE



3 216 CURB DETAIL
NO SCALE



4 216 STEP DETAIL
NO SCALE

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

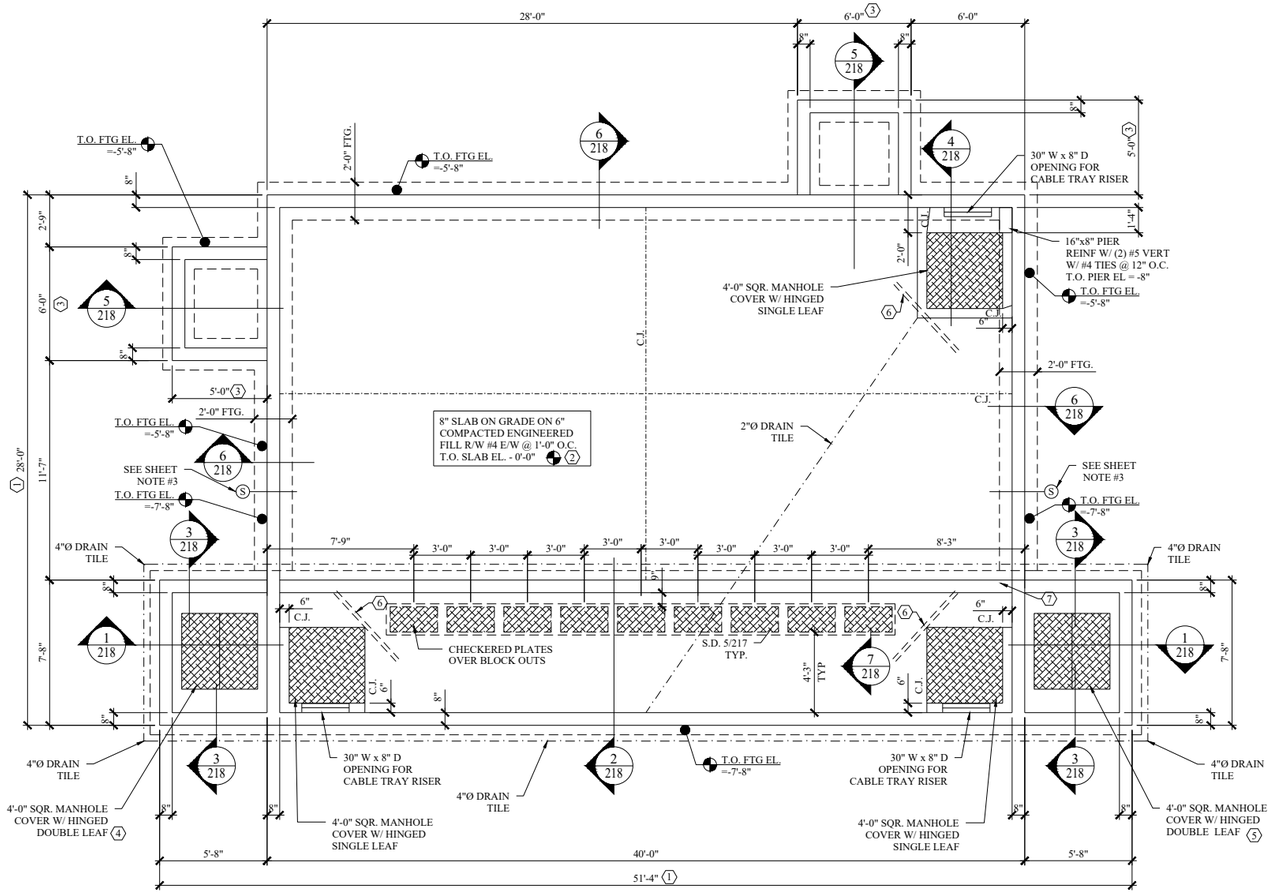
Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
564of1149

TRANSFORMER FOUNDATION DETAILS
REISNER SUBSTATION

SHEET RS-216

S:\2023\2387\2387-25 REISNER SUBST\DRAWINGS\2387-37 REISNER SUBST FDN (6611)24.DWG | SHEET RS-216



1 217 CONTROL ENCLOSURE FOUNDATION PLAN

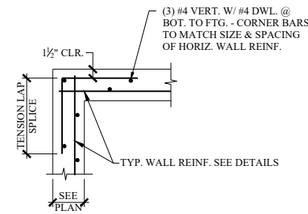
SCALE (FT.) 0 2 4

Sheet Notes:

1. See details 2 thru 6, this sheet, for standard details.
2. See sheet RS-211 for Concrete and Excavation/ Backfill Notes.
3. (S)—— Symbol indicates stepped footing. S.D. 6/217.
4. See Drawings RS-400 for location of tunnel access manhole hinges and handles.

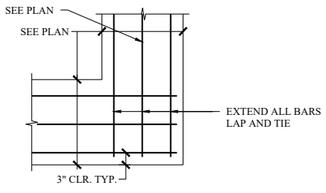
Key Notes:

1. Verify final building size provided with Supplier, Engineer, and shop drawings.
2. Elevation 0'-0" is a reference elevation. See drawing RS-210 for actual elevation equal to reference elevation.
3. Verify all stoop locations with control building shop drawings.
4. Center 4'-0" SQ. manhole in center of interior dimensions of manhole vault.
5. Supply & install an aluminum or steel ladder manufactured by Royalite Manufacturing (or approved equal).
6. Add (2) #5 x 5'-0" diagonal bars @ 3" o.c. Center bar in slab & center 5'-0" length on corner of opening. Place 1st - #5 no greater than 2" from corner of opening.
7. Coordinate with drawing RS-400 & RS-401 for conduits in access tunnel, pullbox, cable tray and other miscellaneous conduit.
8. Surface compact bottom of excavation prior to forming for footings or placing concrete for footings.



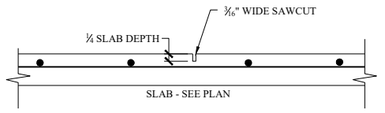
2 217 TYP. CORNER BAR DETAIL

NO SCALE



3 217 FTG. CORNER REINF. DETAIL

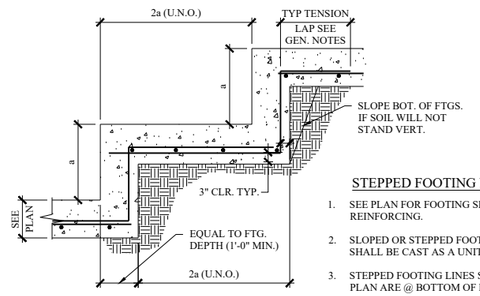
NO SCALE



NOTE: SAW CUT SHALL BE EXECUTED AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT AGGREGATE FROM DISLODGING BY SAW AND PRIOR TO SHRINKAGE STRESS CRACKING

4 217 CONTROL JOINT DETAIL

NO SCALE

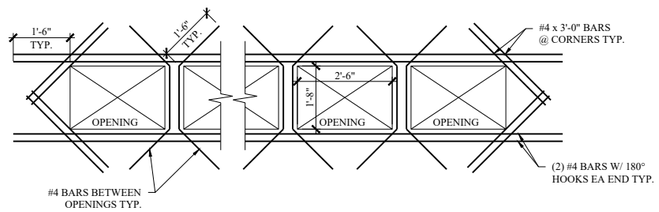


STEPPED FOOTING NOTES:

1. SEE PLAN FOR FOOTING SIZE AND REINFORCING.
2. SLOPED OR STEPPED FOOTINGS SHALL BE CAST AS A UNIT.
3. STEPPED FOOTING LINES SHOWN ON PLAN ARE @ BOTTOM OF FOOTING.

6 217 STEPPED FOOTING DETAIL

NO SCALE



5 217 BLOCK OUT REINFORCING

SCALE (FT.) 0 1 2

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

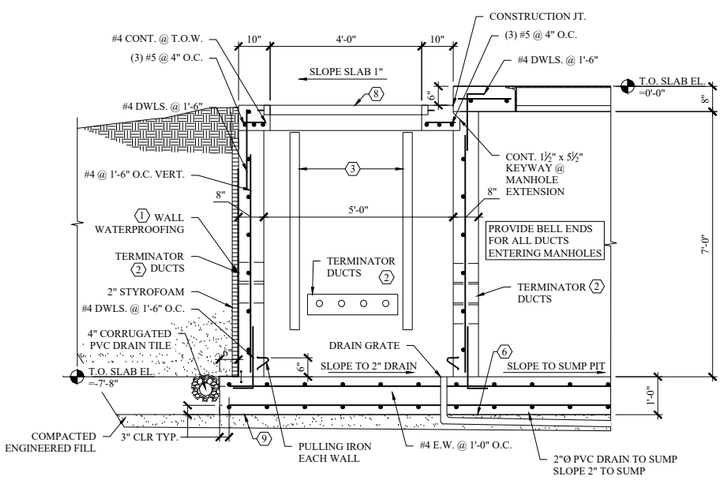
Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
565of1149

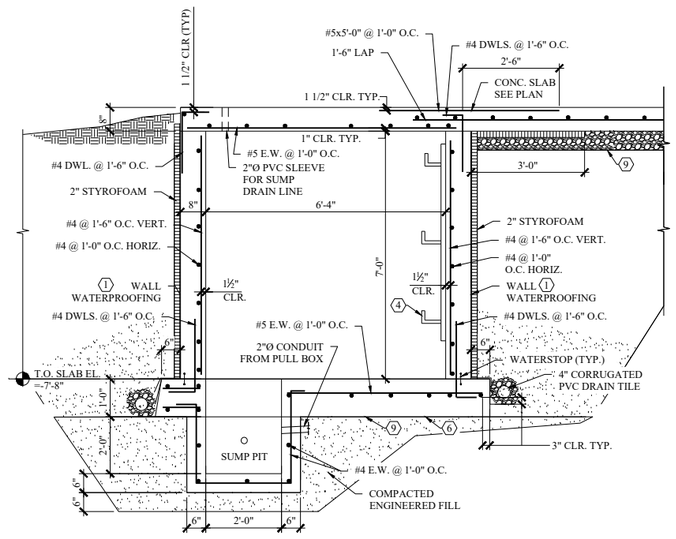
CONTROL ENCLOSURE FOUNDATION DETAILS
REISNER SUBSTATION

SHEET RS-217

Plot Date: 6/11/2024 11:01:48 AM



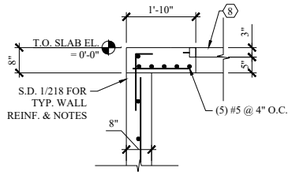
1 / 218 SECTION VIEW
NO SCALE



2 / 218 TUNNEL SECTION
NO SCALE

Sheet Notes:

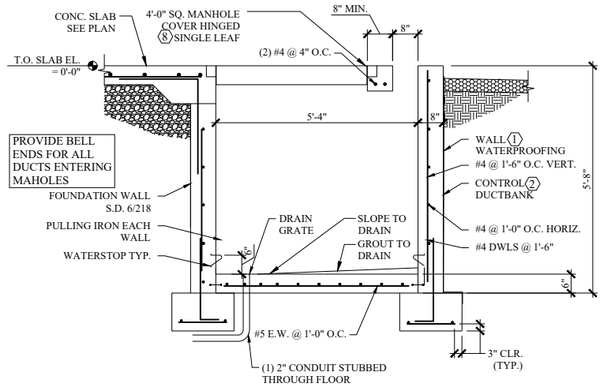
1. See sheet RS-211 for General Construction Notes.
2. See sheet RS-210 for top of slab elevation @ reference 0'-0"



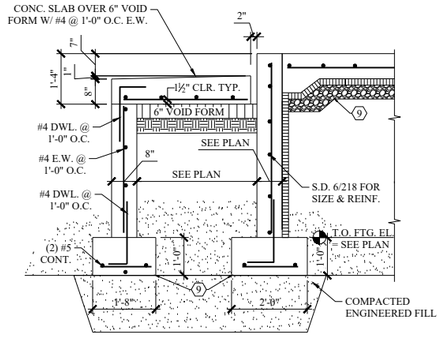
3 / 218 MANHOLE WALL DETAIL
NO SCALE

Key Notes:

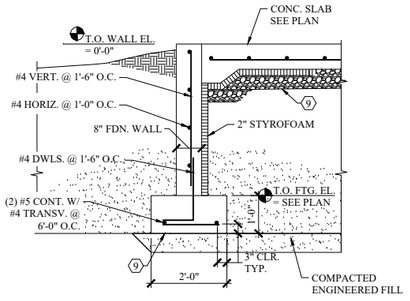
1. Provide waterproof membrane over surface of exterior foundation wall and footing with self-adhesive membrane. Bituthene 4000 (or equivalent).
2. Coordinate conduit locations and orientation with the Owner. Provide a minimum of 24" of soil over top of control conduits. Provide a minimum 42" of soil over top of power conduits. See RS-401 for more details.
3. Cable racks on North & South wall - coordinate quantity & locations w/ Engineer.
4. Cable racks on North wall - coordinate quantity & location with Engineer.
5. Power cable opening through 8" concrete slab @ elevation 0'-0". Verify final power cable opening location and size with engineer.
6. Surface compact bottom of excavation prior to forming for footings or placing concrete for footings.
7. Over excavated as necessary below bottom of footings & tunnel slab. Refer to Geotechnical report.
8. Provide 48" sq. operable hatch, with frame, as manufactured by Nystrom Manufacturing (or approved equal). Route drain to floor of manhole near drain with PVC pipe.
9. Provide a minimum 1'-6" of compacted engineered fill below footings & slabs. See Excavation and Backfill Notes on RS-211 for additional excavation requirements.
10. Blockout covers shall be 1/4" checkered, galvanized steel with 2 open pickholes per piece. See detail 5/217 for blockout size.



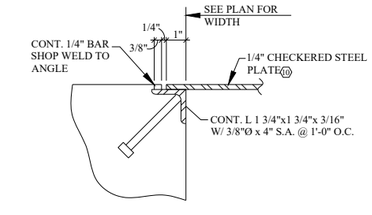
4 / 218 CONTROL CABLE MANHOLE
0 1 2
SCALE (FT.)



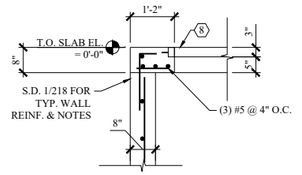
5 / 218 STOOP DETAIL
NO SCALE



6 / 218 EXT. FDN. WALL DETAIL
NO SCALE



7 / 218 EDGE DETAIL
NO SCALE



8 / 218 MANHOLE WALL DETAIL
NO SCALE

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
566of1149

CONTROL ENCLOSURE FOUNDATION DETAILS
REISNER SUBSTATION

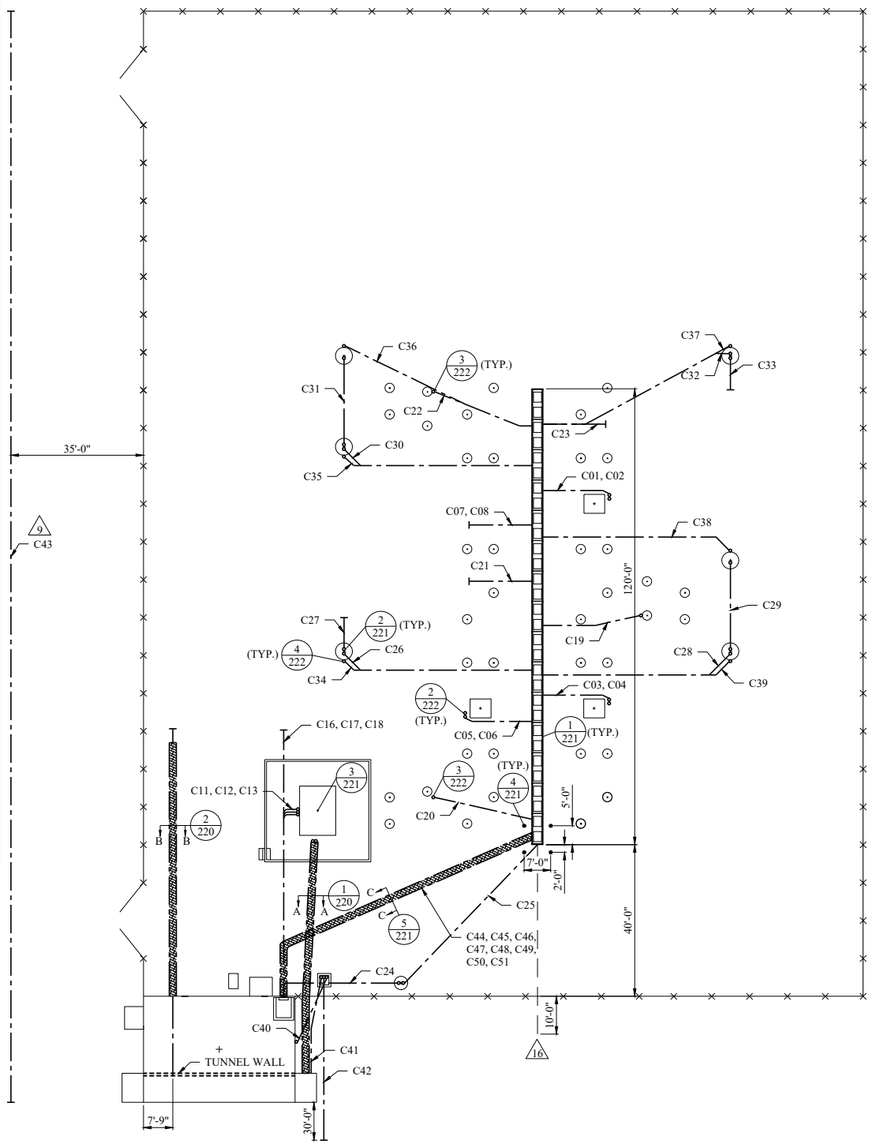
SHEET RS-218

S:\2023\2387\2387-25 REISNER SUBST\DRAWINGS\2387-37 REISNER SUBST FDN 061124.DWG | SHEET RS-218

Plot Date: 6/10/2024 8:51:12 PM

CONDUIT SCHEDULE

CONDUIT NO.	FROM	TO	SIZE	TYPE	COMMENT
C01	BREAKER 1210	CABLE TRENCH	3"	PVC	
C02	BREAKER 1210	CABLE TRENCH	3"	PVC	
C03	BREAKER 1211	CABLE TRENCH	3"	PVC	
C04	BREAKER 1211	CABLE TRENCH	3"	PVC	
C05	BREAKER 1212	CABLE TRENCH	3"	PVC	
C06	BREAKER 1212	CABLE TRENCH	3"	PVC	
C07	STUBBED BELOW GRADE	CABLE TRENCH	3"	PVC	FUTURE BKR 1213
C08	STUBBED BELOW GRADE	CABLE TRENCH	3"	PVC	FUTURE BKR 1213
C09	XFMR T1 POWER CABLE	CONTROL ENCLOSURE	6"	PVC	VIA DUCTBANK A-A
C10	XFMR T1 POWER CABLE	CONTROL ENCLOSURE	6"	PVC	VIA DUCTBANK A-A
C11	XFMR T1 CONTROL CABLE	CONTROL ENCLOSURE PULL BOX	2"	PVC	
C12	XFRM T1 CONTROL CABLE	CONTROL ENCLOSURE PULL BOX	4"	PVC	
C13	XFMR T1 CONTROL CABLE	CONTROL ENCLOSURE PULL BOX	4"	PVC	
C14	STUBBED BELOW GRADE	CONTROL ENCLOSURE MANHOLE	6"	PVC	FUT T2 POWER CABLE, VIA B-B
C15	STUBBED BELOW GRADE	CONTROL ENCLOSURE MANHOLE	6"	PVC	FUT T2 POWER CABLE, VIA B-B
C16	STUBBED BELOW GRADE	CONTROL ENCLOSURE PULL BOX	2"	PVC	FUT. XFMR T2 CONTROL CABLE
C17	STUBBED BELOW GRADE	CONTROL ENCLOSURE PULL BOX	4"	PVC	FUT. XFMR T2 CONTROL CABLE
C18	STUBBED BELOW GRADE	CONTROL ENCLOSURE PULLBOX	4"	PVC	FUT. XFMR T2 CONTROL CABLE
C19	3Ø PT 71	CABLE TRENCH	2"	PVC	
C20	1Ø PT 72	CABLE TRENCH	2"	PVC	
C21	STUBBED BELOW GRADE	CABLE TRENCH	2"	PVC	FUT 3Ø PT 73
C22	3Ø PT 74	CABLE TRENCH	2"	PVC	
C23	STUBBED BELOW GRADE	CABLE TRENCH	2"	PVC	FUT 3Ø PT 76
C24	CONTROL ENCLOSURE PULL BOX	YL1	2"	PVC	
C25	YL1	CABLE TRENCH	2"	PVC	
C26	YL2	CABLE TRENCH	2"	PVC	
C27	YL2	STUBBED BELOW GRADE	2"	PVC	FUTURE YARD LIGHT PROV.
C28	YL3	CABLE TRENCH	2"	PVC	
C29	YL3	YL4	2"	PVC	
C30	YL5	CABLE TRENCH	2"	PVC	
C31	YL5	YL6	2"	PVC	
C32	YL7	CABLE TRENCH	2"	PVC	
C33	YL7	STUBBED BELOW GRADE	2"	PVC	FUTURE FIBER
C34	DEADEND STRUCTURE	CABLE TRENCH	3"	PVC	SPARE FIBER PROVISION
C35	DEADEND STRUCTURE	CABLE TRENCH	3"	PVC	FIBER FROM SWEAZEY
C36	DEADEND STRUCTURE	CABLE TRENCH	3"	PVC	FUTURE FIBER
C37	DEADEND STRUCTURE	CABLE TRENCH	3"	PVC	SPARE FIBER PROVISION
C38	DEADEND STRUCTURE	CABLE TRENCH	3"	PVC	FIBER FROM WILLIAMS
C39	DEADEND STRUCTURE	CABLE TRENCH	3"	PVC	SECONDARY STATION SERVICE
C40	STATION PWR TRANSFORMER	CONTROL ENCLOSURE	3"	PVC	MAIN PRIMARY STATION SERVICE
C41	STATION PWR TRANSFORMER	CONTROL ENCLOSURE MANHOLE	2"	PVC	BACKUP PRIMARY STATION SERVICE
C42	STATION PWR TRANSFORMER	STUBBED BELOW GRADE	3"	PVC	ALTERNATE POWER SOURCE
C43	STUBBED BELOW GRADE	STUBBED BELOW GRADE	1 1/2"	PVC	PHONE LINE BY CENTURY LINK
C44	CONTROL ENCLOSURE PULL BOX	CABLE TRENCH	4"	PVC	VIA DUCTBANK C-C
C45	CONTROL ENCLOSURE PULL BOX	CABLE TRENCH	4"	PVC	VIA DUCTBANK C-C
C46	CONTROL ENCLOSURE PULL BOX	CABLE TRENCH	4"	PVC	VIA DUCTBANK C-C
C47	CONTROL ENCLOSURE PULL BOX	CABLE TRENCH	4"	PVC	VIA DUCTBANK C-C
C48	CONTROL ENCLOSURE PULL BOX	CABLE TRENCH	4"	PVC	VIA DUCTBANK C-C
C49	CONTROL ENCLOSURE PULL BOX	CABLE TRENCH	4"	PVC	VIA DUCTBANK C-C
C50	CONTROL ENCLOSURE PULL BOX	CABLE TRENCH	4"	PVC	VIA DUCTBANK C-C
C51	CONTROL ENCLOSURE PULL BOX	CABLE TRENCH	4"	PVC	VIA DUCTBANK C-C



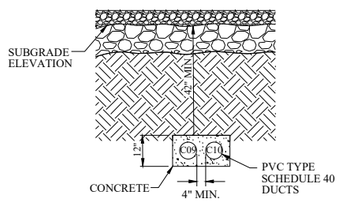
NORTH

0 5 10 20 40

SCALE (FT.)

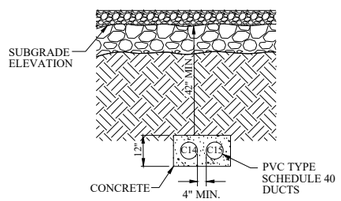
LEGEND

- Proposed pad or foundation
- Proposed fence
- Proposed conduit
- Proposed conduit to be capped below grade for future use.
- X / 22X — Conduit detail callout
- Pedestrian cable trench with fiber reinforced concrete lid
- Guard Post
- Proposed ductbank



POWER DUCTBANK SECTION "A-A" (1/220)

SCALE: 3/16" = 1'-0"



POWER DUCTBANK SECTION "B-B" (2/220)

SCALE: 3/16" = 1'-0"

NOTES

1. All conduit for control cables shall be installed 24" minimum below final subgrade except where noted. All conduit for 15 kV power cables shall be installed 42" minimum below final subgrade except where noted. All direct buried conduit shall be PVC type DB of heavier. Provide duct spacers as required.
2. Verify size and location of all pads, conduit and grounding per supplied equipment. The exact locations of conduit will be determined by the equipment. The Contractor shall obtain drawings of equipment before installing the conduit.
3. The Contractor shall record accurate locations of all underground items. This record shall be maintained during construction, and shall be furnished to the Owner upon completion of the project. Conduit runs, caps, ground conductors, and other items shall be referenced to the substation fence or other permanent object.
4. Run PVC conduit inside of foundation on deadend and shield support structures as required for yard lights.
5. All conduit for future equipment shall be capped below grade in location shown. A permanent marker consisting of a 24" #4 rebar shall be driven next to the end of each conduit run, flush with the subgrade. Leave a pull tape in all empty conduits in equipment to aid in future installation of future cable.
6. After installation of cable in conduits, all conduits containing control cable shall be sealed with duct seal. All empty conduits shall be plugged with duct plugs.
7. Contractor shall verify conduit locations with transformer drawings, furnished by the Engineer. Contractor to provide strain relief support for the cables in the transformer ATC.
8. Conduit for ductbanks shall be PVC type Schedule 40 or heavier. Provide duct spacers as required.
9. Run conduit the entire length of property at 24" below grade for future phone line by Century Link. Conduit shall include #12 tracer wire.
10. All conduit above grade inside the transformer oil containment shall be installed so the top of conduit is taller than the oil containment wall.
11. Conduit installed under foundation footing shall be installed in galvanized rigid sleeve sized as required.
12. Refer to RS-400 for additional details on station service conduits and conduits into control enclosure.
13. Conduit locations are approximate. Exact conduit locations are to be determined in the field.
14. Contractor shall mark conduit number within all junction boxes and equipment cabinets adjacent to the respective conduit.
15. All above grade conduit stub-ups shall be capped until final termination or cable installation to deter entrance of water.
16. Route 4" perforated tile beneath entire length of cable trench. Route 4" non-perforated drain tile outside substation site and daylight into drainage ditch. Install critter guard to prevent animal intrusion. Drain tile shall be sloped such that it achieves positive drainage while the outlet maintains on foot clearance above drainage ditch base flow. Field-mark outlet with tile marker for locating.
17. Cable trench, guard posts, and associated accessories are furnished by the Owner and installed by the Contractor.

REV	DATE	DESCRIPTION
A	03-01-2024	PRELIMINARY
B	03-08-2024	ISSUED FOR MATERIAL BIDS
C	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

RACEWAY PLAN
REISNER SUBSTATION

SHEET RS-220

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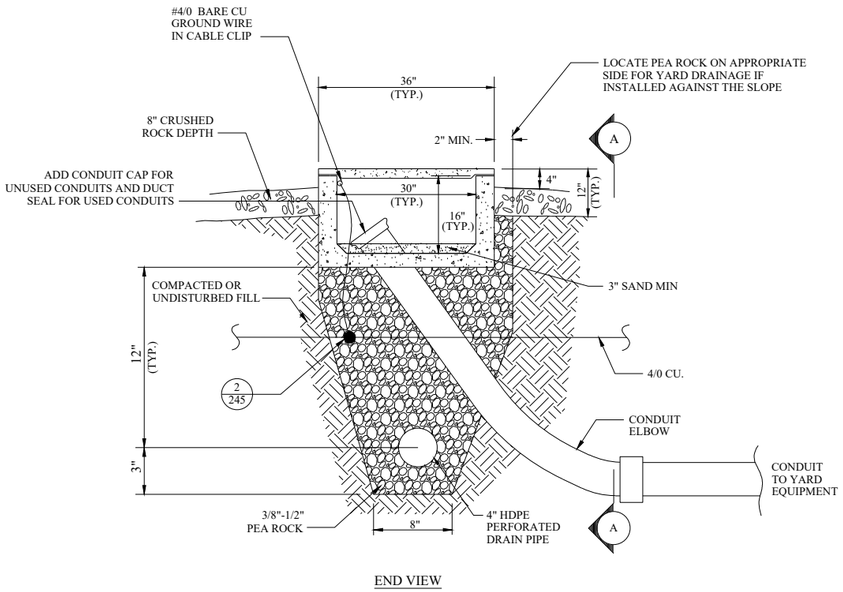
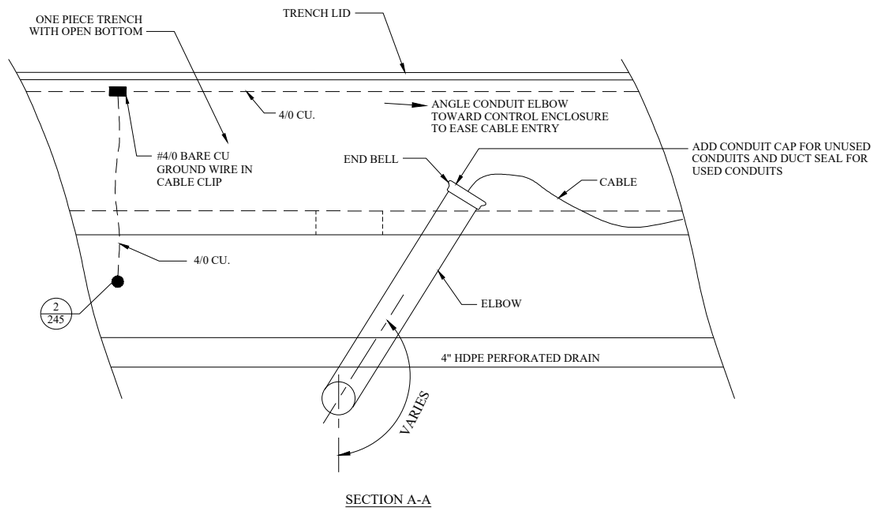
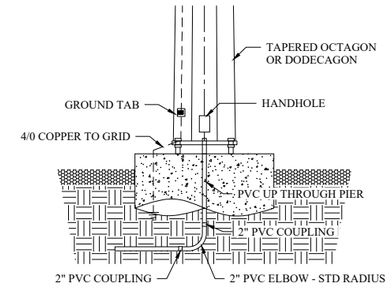




CABLE TRENCH WITH DRAIN PIPE DETAIL

N.T.S.

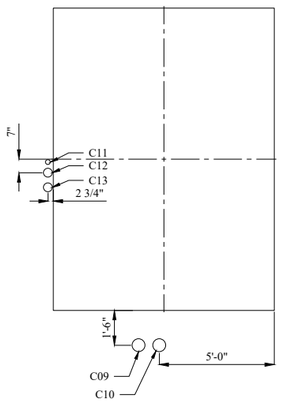
1/221

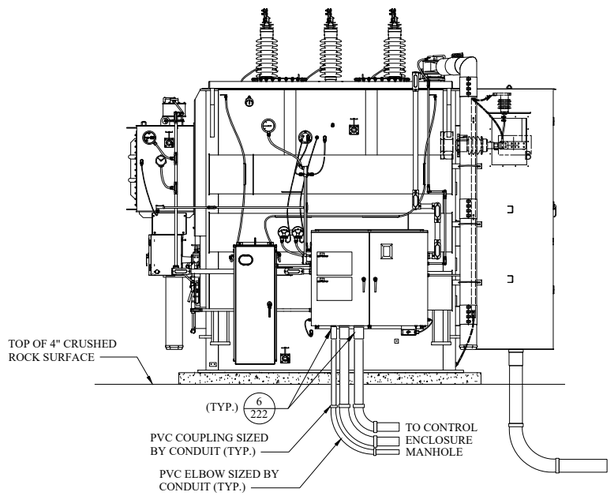


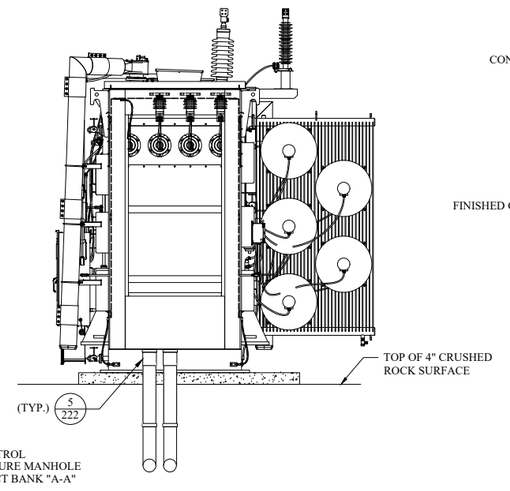
TYPICAL CONDUIT RISER TO STEEL STRUCTURE

N.T.S.

2/221



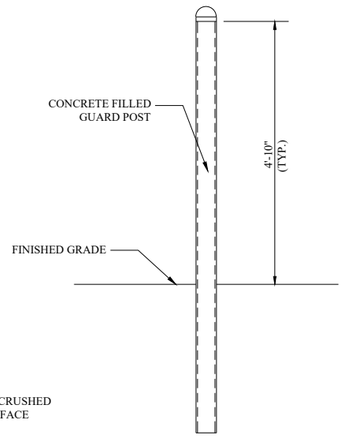




TRANSFORMER CONDUIT RISER DETAIL

N.T.S.

3/221

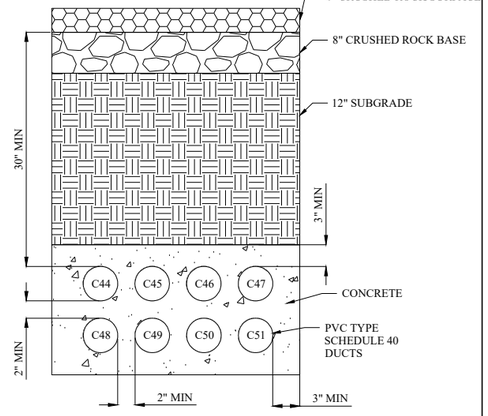


GUARD POST WITH CAP
MATERIAL: 4 1/2" OD HIGH DENSITY POLYETHYLENE PIPE (YELLOW)

GUARD POST DETAIL

N.T.S.

4/221



DUCT BANK SECTION "C-C"

N.T.S.

5/221

REV	DATE	DESCRIPTION
A	03-01-2024	PRELIMINARY
B	03-08-2024	ISSUED FOR MATERIAL BIDS
C	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

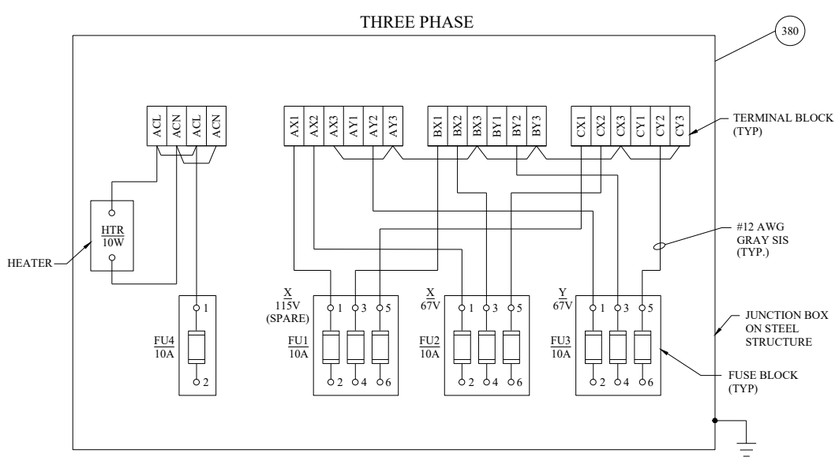
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

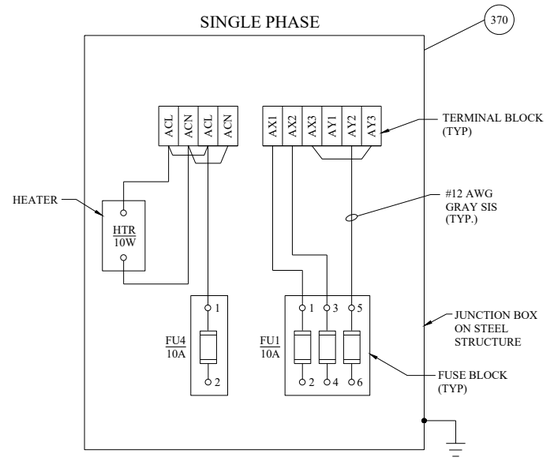
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

568of1149

RACEWAY DETAILS
REISNER SUBSTATION

SHEET RS-221

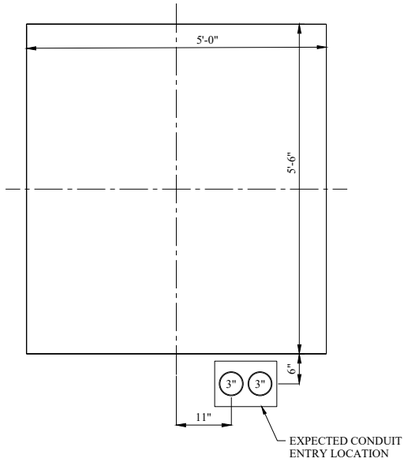


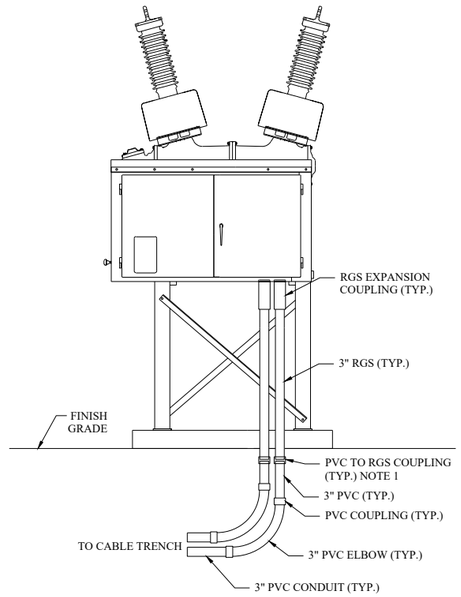


PT J-BOX DETAIL

N.T.S. (1/222)

NOTES:
1. CONTRACTOR SHALL FULLY WIRE INTERNAL CONNECTIONS IN JUNCTION BOX AS SHOWN.

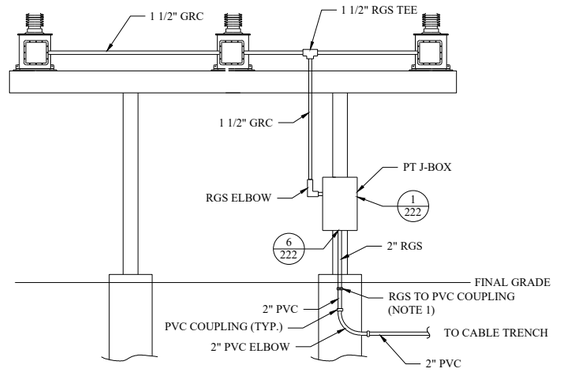




69 kV CIRCUIT BREAKER CONDUIT DETAIL

N.T.S. (2/222)

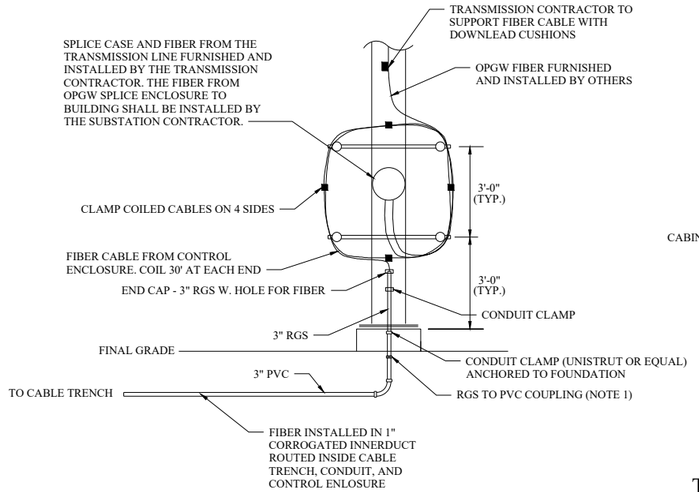
NOTES:
1. RGS TO PVC COUPLING SHALL BE INSTALLED BELOW GRADE.



TYPICAL PT CONDUIT DETAIL

N.T.S. (3/222)

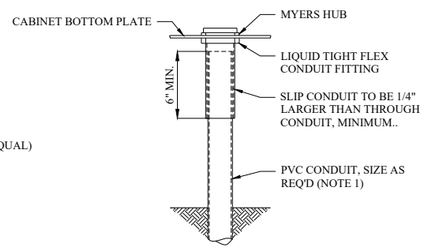
NOTES:
1. RGS TO PVC COUPLING SHALL BE INSTALLED BELOW GRADE.



OPGW SPLICE CASE CONDUIT DETAIL

N.T.S. (4/222)

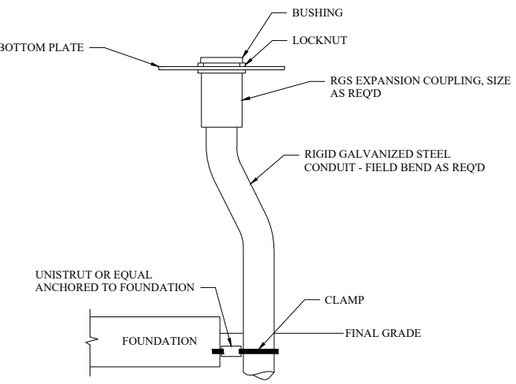
NOTES:
1. RGS TO PVC COUPLING SHALL BE INSTALLED BELOW GRADE.



TYPICAL PVC CONDUIT CONNECTION TO ATC CABINET (USE AS REQUIRED)

N.T.S. (5/222)

NOTE:
1. THIS DETAIL SHALL BE BELOW TRANSFORMER ATC CABINET. ALL PVC ABOVE GRADE SHALL BE SCHEDULE 80.



TYPICAL PVC CONDUIT CONNECTION TO CABINET

N.T.S. (6/222)

NOTES:
1. CONDUIT RISERS AT ALL FOUNDATIONS SHALL BE ANCHORED TO THE FOUNDATION USING UNISTRUT AND CLAMPS OR SIMILAR SYSTEMS APPROVED BY OWNER. ANCHORS SHOULD BE ATTACHED TO THE RGS ABOVE THE LOCATION WHERE PVC TRANSITIONS TO RGS BELOW GRADE.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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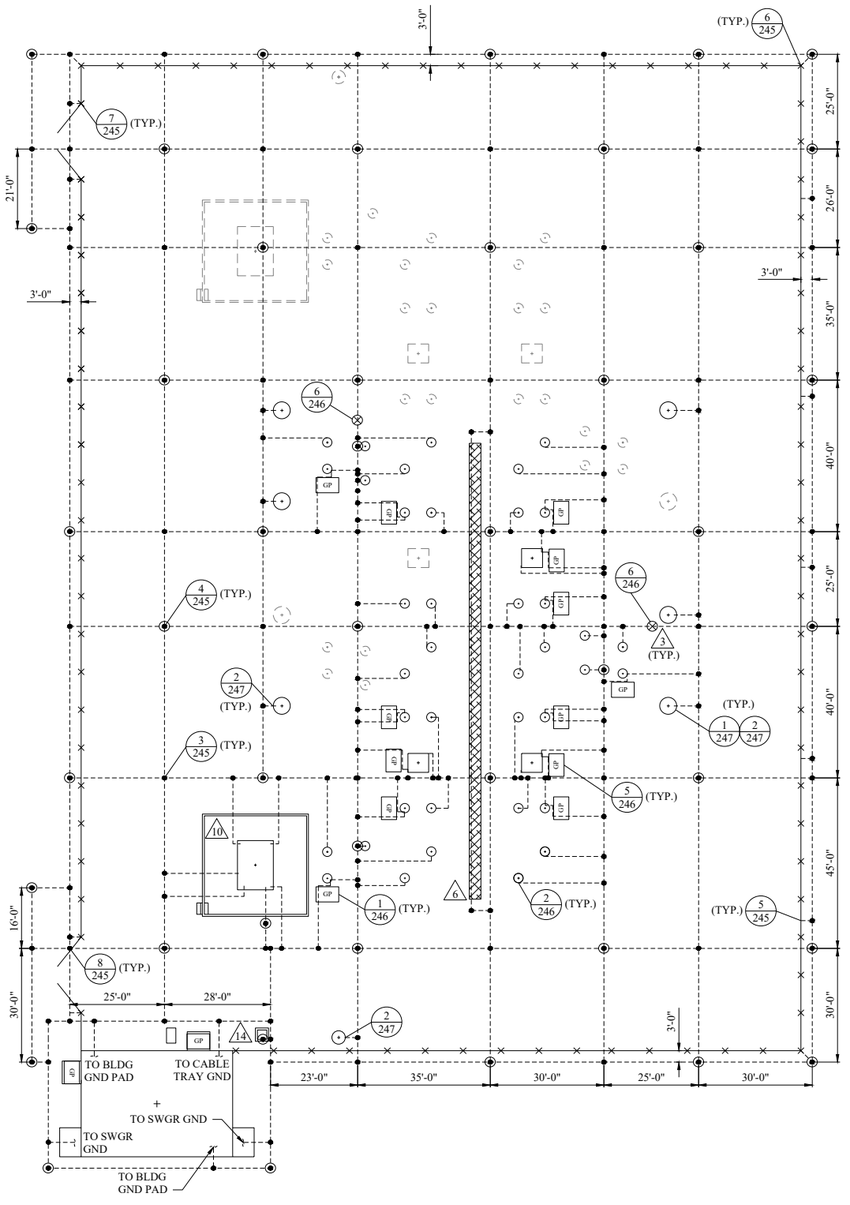
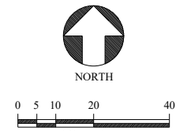
RACEWAY DETAILS
REISNER SUBSTATION

SHEET RS-222





LEGEND

- Future pad or foundation
- Proposed pad or foundation
- Proposed fence
- Station power padmount transformer (P)
- Proposed cable trench
- Ground conductor 4/0 stranded copper
- Personnel ground platform (GP)
- Anode
- Exothermic weld connector
- Driven ground rod, 10' x 3/4"
- Detail number on sheet / Sheet on which detail appears (X / 24X)

NOTES

1. Ground grid shall be installed 18 inches below final subgrade. All underground splices shall be exothermic type.
2. Verify size and location of all pads, conduit, and grounding per supplied equipment.
3. Supply and install sacrificial anode within 5 feet of access pedestals.
4. The Contractor shall record accurate locations of all underground items. This record shall be maintained during construction, and shall be furnished to the Engineer upon completion of the project. Conduit runs, caps, ground conductors, and other items shall be referenced to the substation fence or other permanent object.
5. Ground conductor to be connected to building, station service ground, control panel ground busses, and battery rack ground.
6. Route ground cable through cable trench using ground clips furnished with trench.
7. The ground conductor tails shall be installed against the foundation edge on vertical risers to all substation equipment. There shall be no splice in any ground conductor tail.
8. Ground connections to shield tower and other substation steel structures shall use connectors similar to Burndy type GB.
9. Ground connections to the control enclosure and power transformer shall use 2-hole pad connectors to match ground pads on equipment. Use connectors similar to Burndy type YGA.
10. Ground conductor shall be routed under the containment to transformer prior to clay cap installation. Leave a 10' tail for connection to equipment grounding. Coordinate location with transformer shops drawings and Engineer prior to installation.
11. Install PVC conduit sleeves in building foundations and manhole for ground cable entrances as required.
12. Connect conductor to shield mast. Run conductor up steel and connect to shield wire. Secure with ground connectors at every 5'.
13. Connect conductor to deadend structure and lightning arresters. Run conductor up steel and connect to shield wire. Secure with ground connectors at every 5'. Connection to arresters should be looped between ground wires on both ends of the deadend.
14. Install ground rod in basement of station service transformer. Ground rod shall extend a maximum of 6" above subgrade. Coordinate final rod location with the Owner.
15. Route conductor up and bond to stoop grate.
16. Contractor shall center GOAB switch ground platforms on switch operator handle. Refer to GOAB switch shop drawings for final switch handle location.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

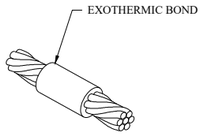
DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

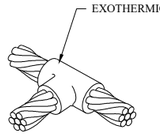
WEBSTER CITY MUNICIPAL UTILITES
WEBSTER CITY, IOWA

GROUNDING PLAN
REISNER SUBSTATION

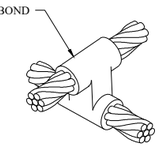
SHEET RS-240



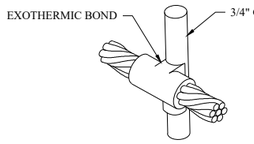
CONDUCTOR SPLICE 1/245



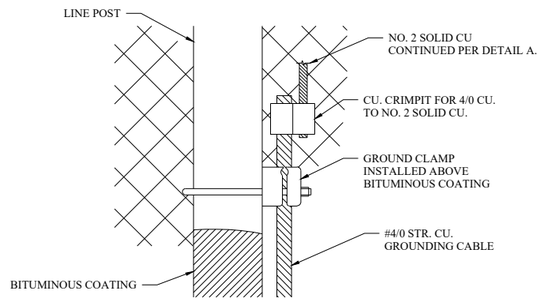
CONDUCTOR TO TEE CONNECTOR 2/245



CONDUCTOR CROSS CONNECTOR 3/245

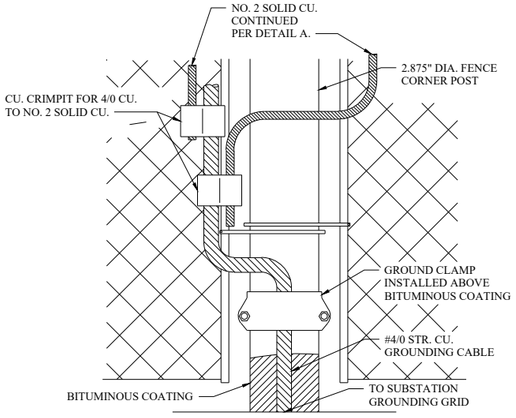


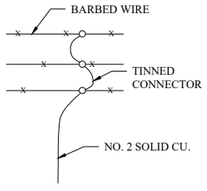
CONDUCTOR TO 3/4" GROUND ROD 4/245



FENCE LINE POST DETAIL 5/245

N.T.S.

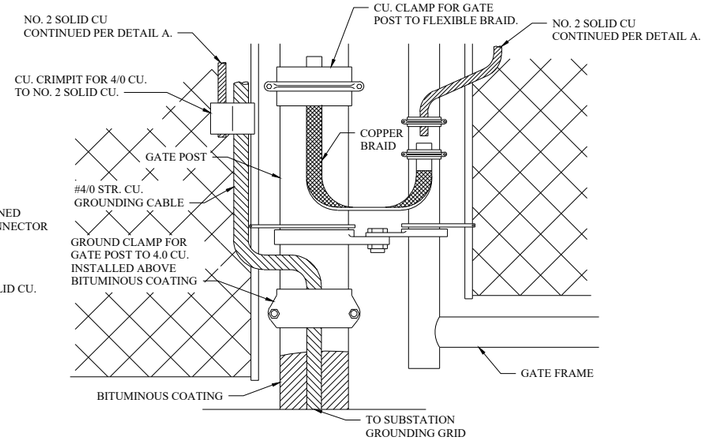




DETAIL A

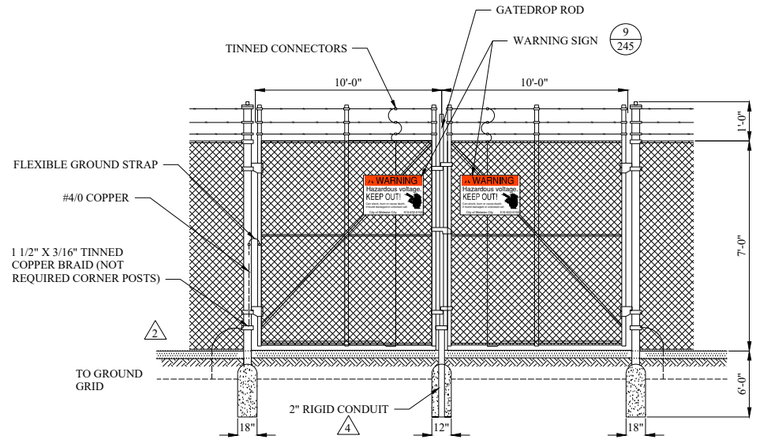
FENCE CORNER POST DETAIL 6/245

N.T.S.



GATE POST GROUNDING DETAIL 7/245

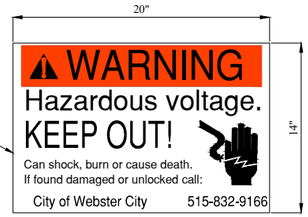
N.T.S.



DOUBLE GATE DETAIL 8/245

N.T.S.

3 PLACE SIGN ON EACH GATE OF DOUBLE GATES, TWO SIGNS ON THE NORTH AND SOUTH SECTIONS, AND ON ALL FOUR SIDE OF SUBSTATION APPROXIMATELY 50' APART. (16 TOTAL)



WARNING SIGN DETAIL 9/245

N.T.S.

NOTES

1. Ground conductor weaved through fabric is typical, use on all gates and at each end of fabric runs.
2. The fabric for the fence shall be buried 1" in the rock surfacing. Install the gates to minimize the distance between the bottom of the gate and the rock surfacing, while yet allowing for the gate to be opened with ease.
3. Coordinate the final wording on the warning sign with the Owner.
4. Conduit shall be set such that top of conduit is flush with top of surface rock.

P:\04\428403\DWG\RS-245.DWG

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

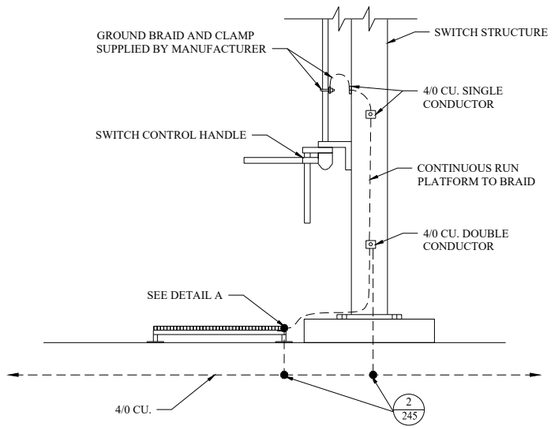
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
571of1149

GROUNDING DETAILS
REISNER SUBSTATION

SHEET RS-245

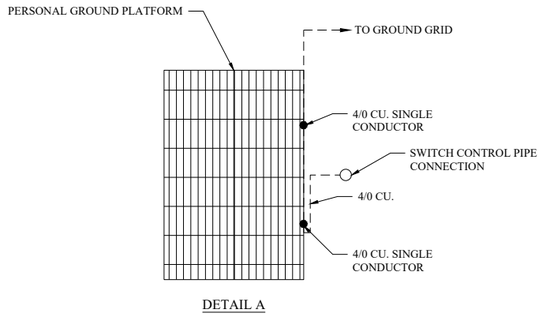
NOTES:
1. PLATFORMS INSTALLED ADJACENT TO SWITCH OPERATORS SHALL BE CONNECTED TO SWITCH OPERATOR GROUND TAP AND SHALL BE CONNECTED TO PLATFORM IN 2 CORNERS, SEE DETAIL A. PROVIDE SUFFICIENT GROUND TAIL LENGTH TO ENSURE GROUND TAIL CAN BE ROUTED ACROSS GROUNDING PLATFORM, UP STEEL LEG, AND OVER TO SWITCH OPERATOR PIPE WITH NO SPLICES.
2. PLATFORM GROUND CONNECTIONS SHALL BE ABOVE GRADE AND ON THE OUTSIDE OF THE PLATFORM TO ALLOW FOR VISIBLE INSPECTION.
3. CONNECTIONS TO GROUND PLATFORM MUST BE CONTINUOUS FROM CONNECTIONS TO EQUIPMENT GROUNDING.
4. GROUND PLATFORMS FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. PLATFORMS ARE TO BE INSTALLED ABOVE FINAL 4" OF CRUSHED SURFACE ROCK.



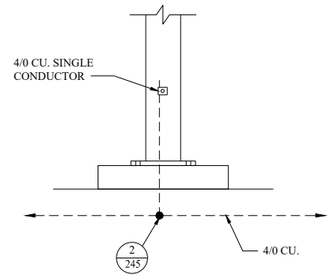
GOAB SWITCH GROUNDING

N.T.S.

1/246



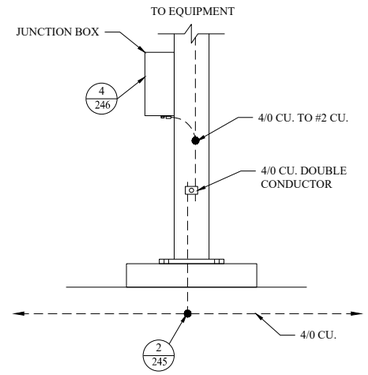
DETAIL A



TYPICAL STRUCTURE GROUND DETAIL

N.T.S.

2/246

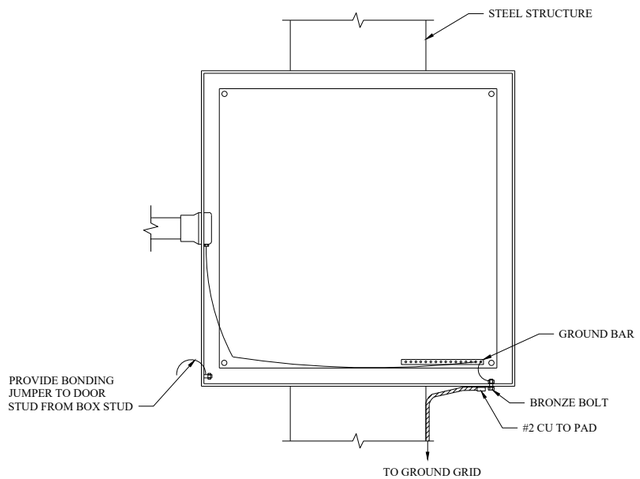


JUNCTION BOX GROUNDING

N.T.S.

3/246

NOTES:
1. CONTRACTOR SHALL FURNISH AND INSTALL GROUNDING JUMPER(S) FROM GROUND BAR TO EXTERIOR GROUND STUD AND CONDUIT HUB AS REQ'D.

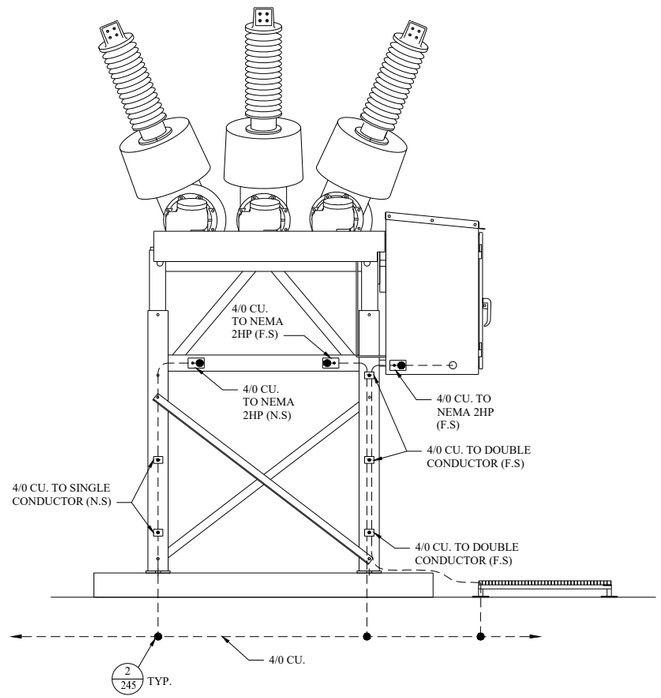


JUNCTION BOX GROUNDING

N.T.S.

4/246

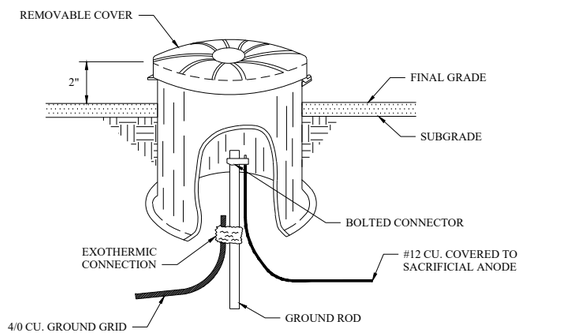
NOTES:
1. GROUND CONDUCTOR SHALL BE ROUTED FROM EXTERIOR GROUND PAD TO INTERIOR GROUND BAR THROUGH MANUFACTURER SUPPLIED GROMMET HOLE IN CABINET.



TYPICAL CIRCUIT BREAKER

N.T.S.

5/246



GROUND ROD TO SACRIFICIAL ANODE

N.T.S.

6/246

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

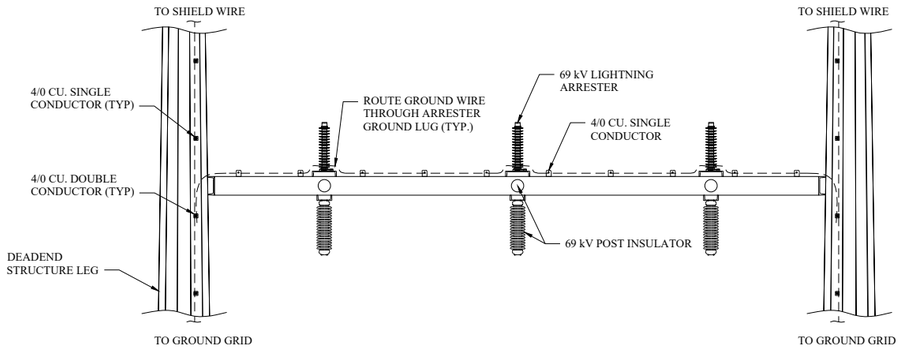
DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
572of1149

GROUNDING DETAILS
REISNER SUBSTATION

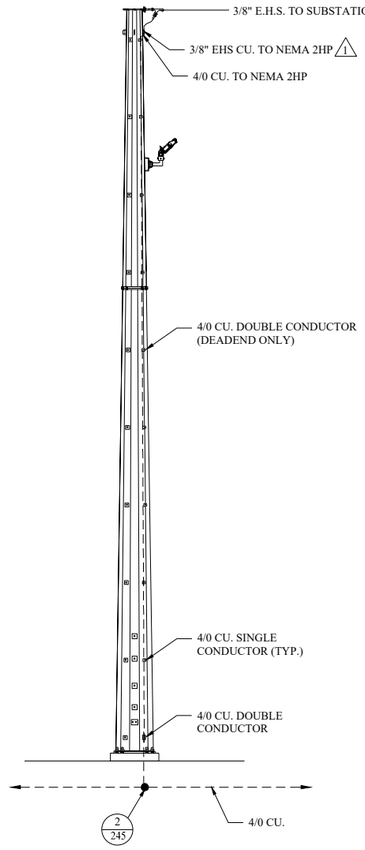
SHEET RS-246



DEADEND LIGHTNING ARRESTER TYPICAL

1/247

N.T.S.



DEADEND AND SHIELD MAST TYPICAL

2/247

N.T.S.

NOTES

1. Bond all shield wires (substation and transmission line) to ground conductor to ground grid.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

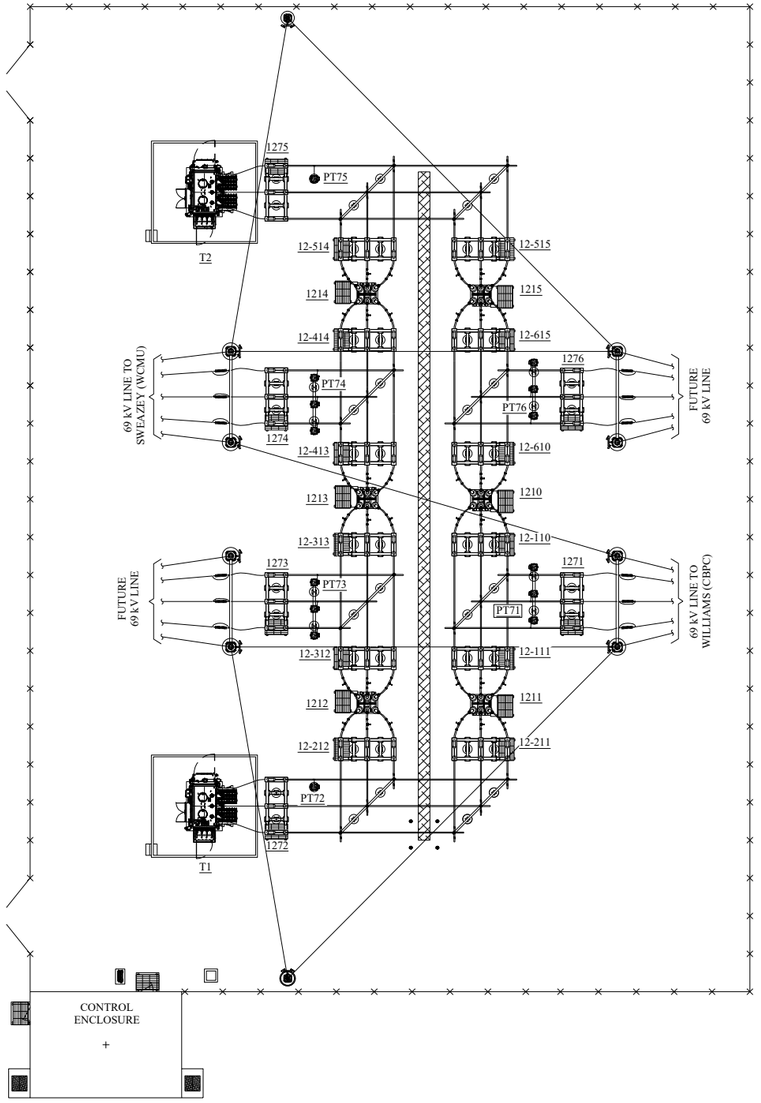
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

GROUNDING DETAILS
REISNER SUBSTATION

SHEET RS-247

Plot Date: 6/10/2024 9:08:51 PM



NORTH

0 5 10 20 40

SCALE (FT.)

LEGEND

- Proposed pad or foundation
- Proposed fence
- Station power padmount transformer
- Proposed cable trench

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

ULTIMATE ARRANGEMENT
REISNER SUBSTATION

SHEET RS-300

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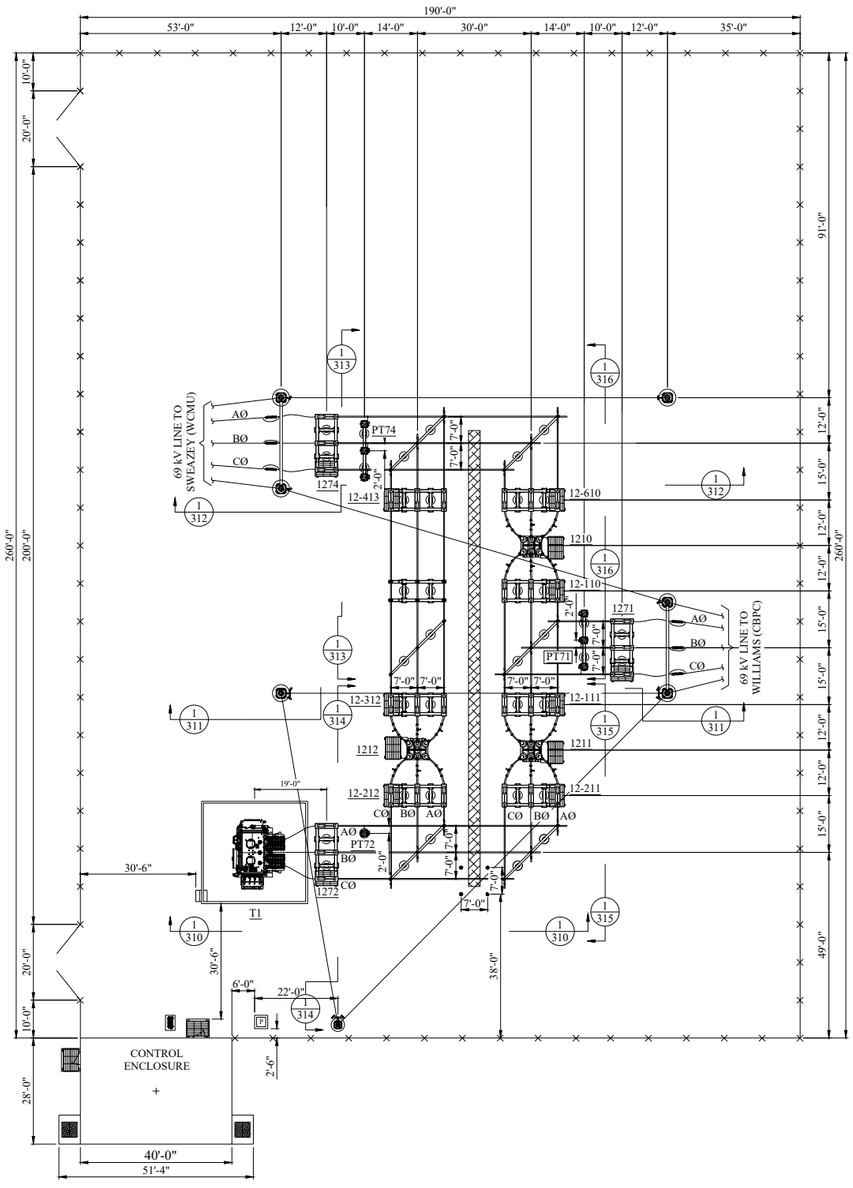
Plot Date: 6/10/2024 9:09:55 PM



NORTH

0 5 10 20 40

SCALE (FT.)

LEGEND

- Proposed pad or foundation
- Proposed fence
- Station power padmount transformer
- Proposed cable trench
- Detail number on sheet / Sheet on which detail appears

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

575of1149

GENERAL ARRANGEMENT
REISNER SUBSTATION

SHEET RS-301

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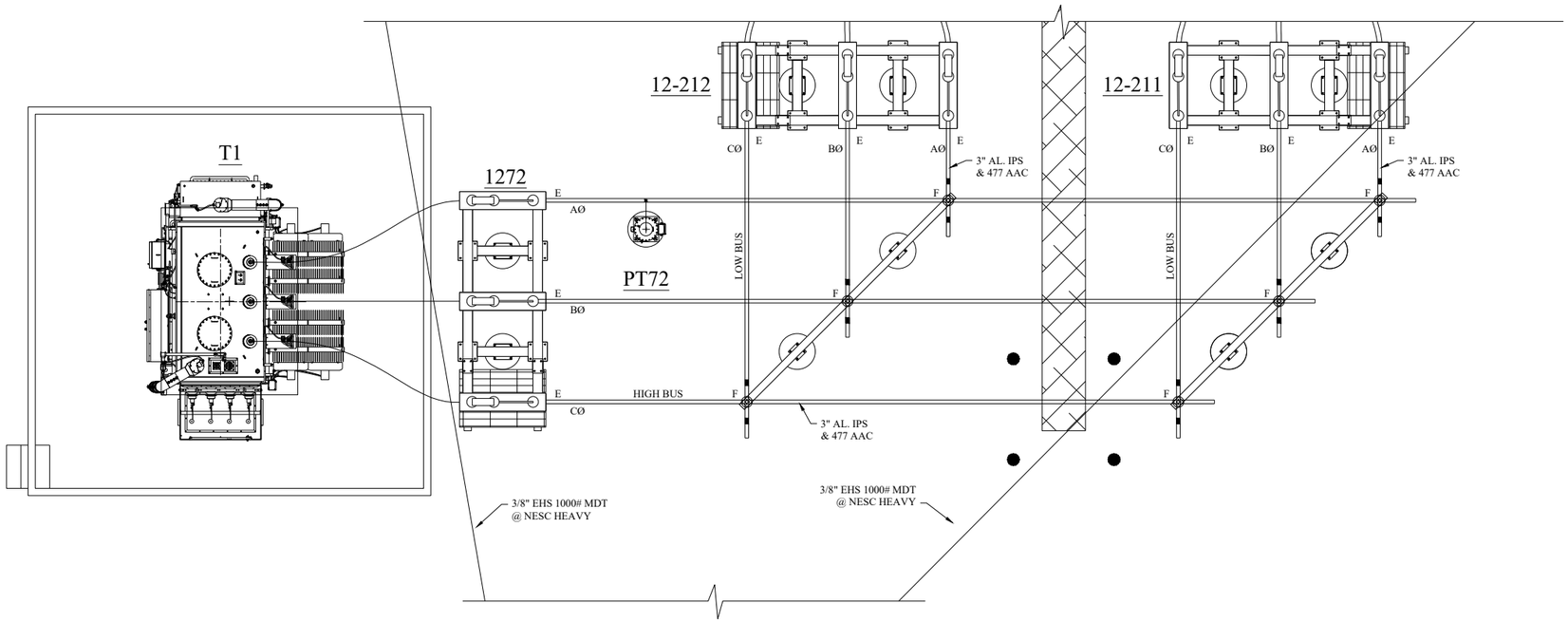
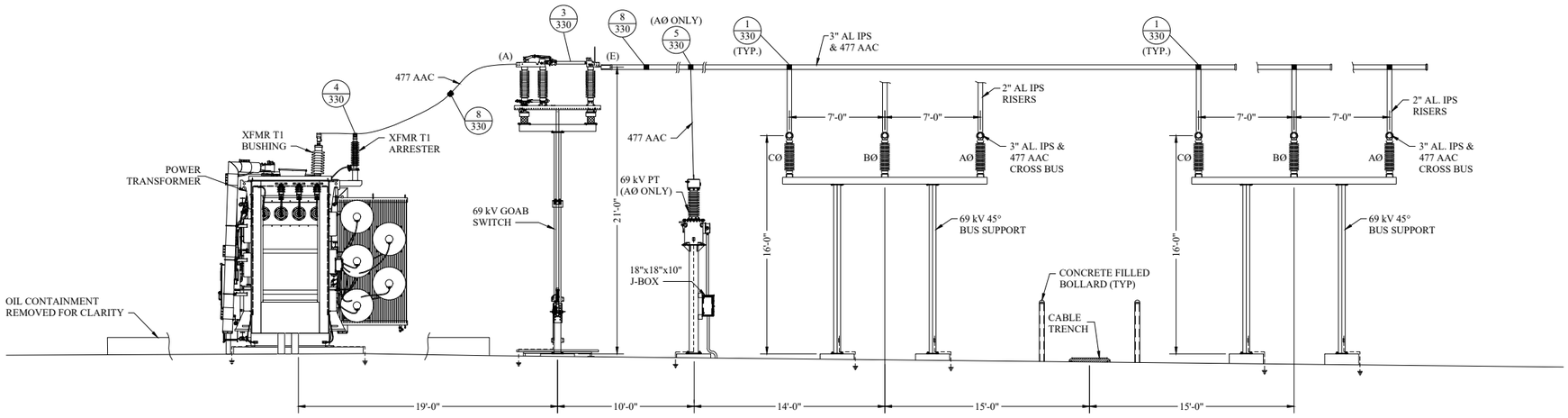


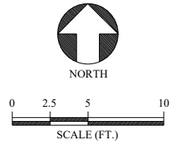
BUS PLAN VIEW (1/310)



BUS SECTION VIEW (1/310)

NOTES

1. Bus Conductors
   3" AL. = SCH. 40 IPS, 6063-T6
   1272 AAC = 'NARCISSUS' 61 Stranding
   477 AAC = 'COSMOS' 19 Stranding
   3" AL. Dampening Cable = 477 AAC 'COSMOS' 19 Stranding
2. Fittings shall be fixed, slip or expansion as noted by the following key on plan view:
   F = fixed
   E = expansion
   S = slip
   (A) = section view sub-detail assignment, see detail 3/330
3. Verify location, size, and quantity of conduits and anchor bolts as per supplied equipment.
4. Contractor shall install phase identification signs on both sides of bus supports, GOAB switch structures, PT structures, and deadend structures. Labels shall be yellow letters on black background. Provide ELECTROMARK SUNYK2.5.
5. Coordinate bus height with supplied equipment.
6. All horizontal tubular bus shall be level, as viewed from any direction. Minimum ground clearance as shown shall be maintained. Drill weep holes at low point of all horizontal bus.
7. All bus ends shall extend 24" past support insulator unless noted otherwise.
8. Mounting height of GOAB switch operating handles shall be approximately 42 inches above top of switch operating platform.
9. Contractor shall connect power to cabinet heating elements for all outdoor equipment as soon as the equipment is installed, in order to discourage condensation and damage to equipment in cabinet. Construction power shall be arranged by the Contractor, with the cost thereof included in the bid prices submitted.
10. Contractor shall center GOAB switch ground platforms on switch operator handle. Refer to GOAB switch shop drawings for final switch handle location.
11. Power transformer T1 will be furnished, delivered, placed onto pad, and tested by Others. The Contractor shall coordinate the placement of the transformer so that center of gravity of transformer is located on center of foundation.



REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

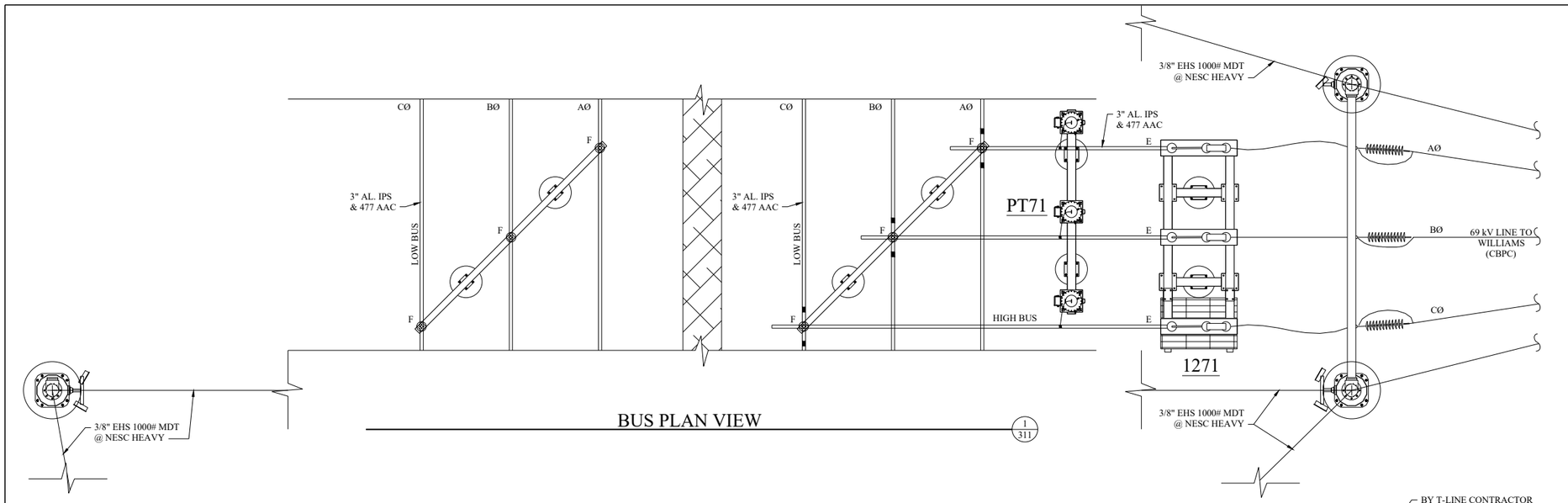
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

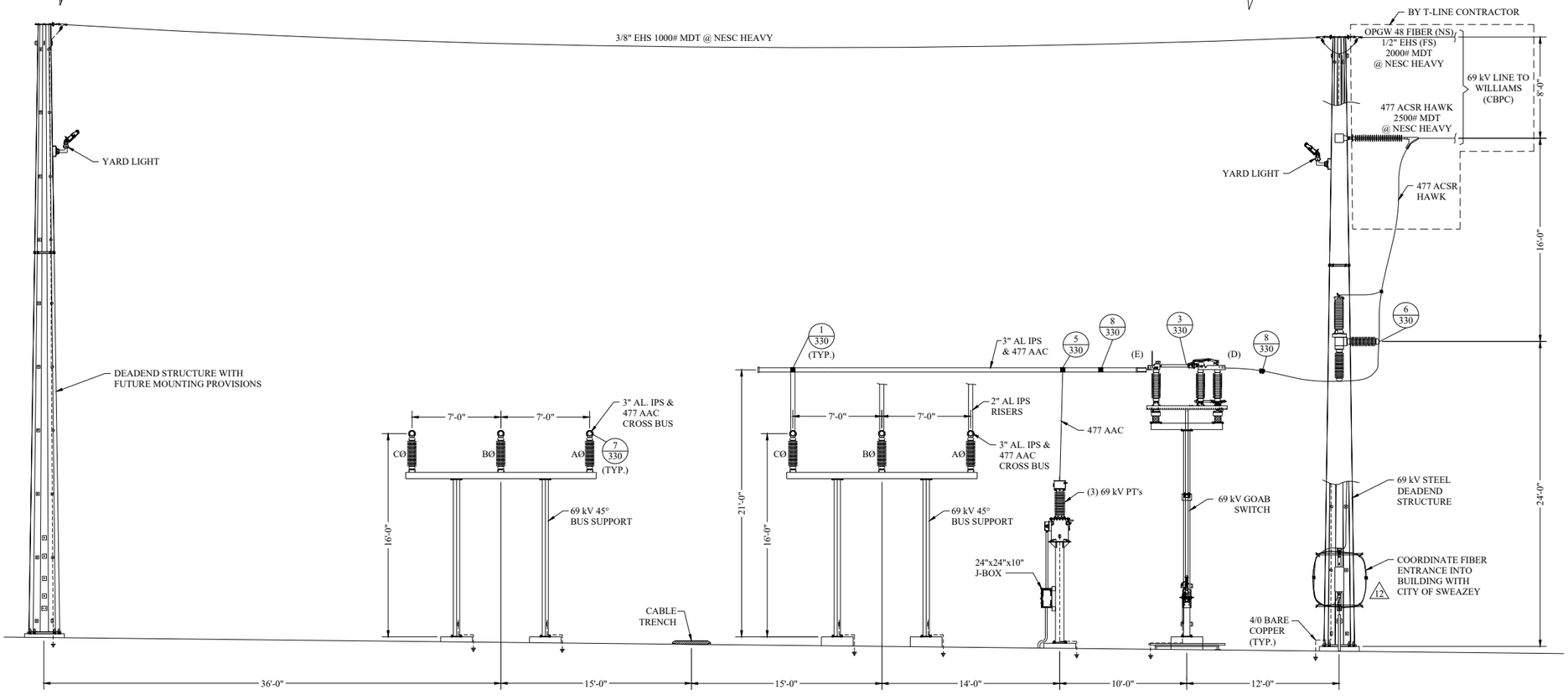
69 kV BUS SECTION VIEW
REISNER SUBSTATION

SHEET RS-310

Plot Date: 6/10/2024 8:33:33 PM



BUS PLAN VIEW 1/311



BUS SECTION VIEW 1/311

NOTES

1. Bus Conductors
   3" AL. = SCH. 40 IPS, 6063-T6
   1272 AAC = 'NARCISSUS' 61 Stranding
   477 AAC = 'COSMOS' 19 Stranding
   3" AL. Dampening Cable = 477 AAC 'COSMOS' 19 Stranding
2. Fittings shall be fixed, slip or expansion as noted by the following key on plan view:
   F = fixed
   E = expansion
   S = slip
   (A) = section view sub-detail assignment, see detail 3/330
3. Verify location, size, and quantity of conduits and anchor bolts as per supplied equipment.
4. Contractor shall install phase identification signs on both sides of bus supports, GOAB switch structures, PT structures, and deadend structures. Labels shall be yellow letters on black background. Provide ELECTROMARK SUNYK2.5.
5. Coordinate bus height with supplied equipment.
6. All horizontal tubular bus shall be level, as viewed from any direction. Minimum ground clearance as shown shall be maintained. Drill weep holes at low point of all horizontal bus.
7. All bus ends shall extend 24" past support insulator unless noted otherwise.
8. Mounting height of GOAB switch operating handles shall be approximately 42 inches above top of switch operating platform.
9. Contractor shall connect power to cabinet heating elements for all outdoor equipment as soon as the equipment is installed, in order to discourage condensation and damage to equipment in cabinet. Construction power shall be arranged by the Contractor, with the cost thereof included in the bid prices submitted.
10. Contractor shall center GOAB switch ground platforms on switch operator handle. Refer to GOAB switch shop drawings for final switch handle location.
11. T-line Contractor will furnish 477 ACSR transmission line and deadend shoe, install conductor through deadend shoe, and leave a tail. They will also furnish shield wire that connects to transmission line structure outside the substation fence. Substation Contractor shall install 477 ACSR transmission tail to substation insulators and GOAB switch, and make final connections to arresters.Substation Contractor shall also bond shield wire tail to deadend ground wire.
12. Splicing, fiber splice tray, closure kit, protective dome enclosure, cable storage system, and downlead cushions furnished and installed by the T-line Contractor.

NORTH

0 2.5 5 10

SCALE (FT.)

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

69 kV BUS SECTION VIEW
REISNER SUBSTATION

SHEET RS-311

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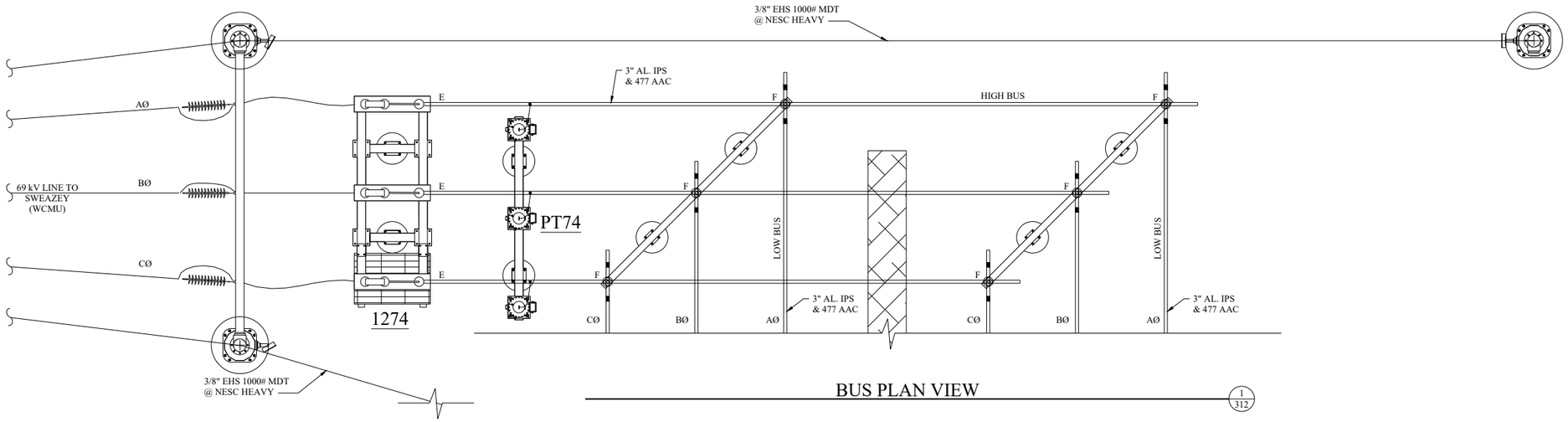
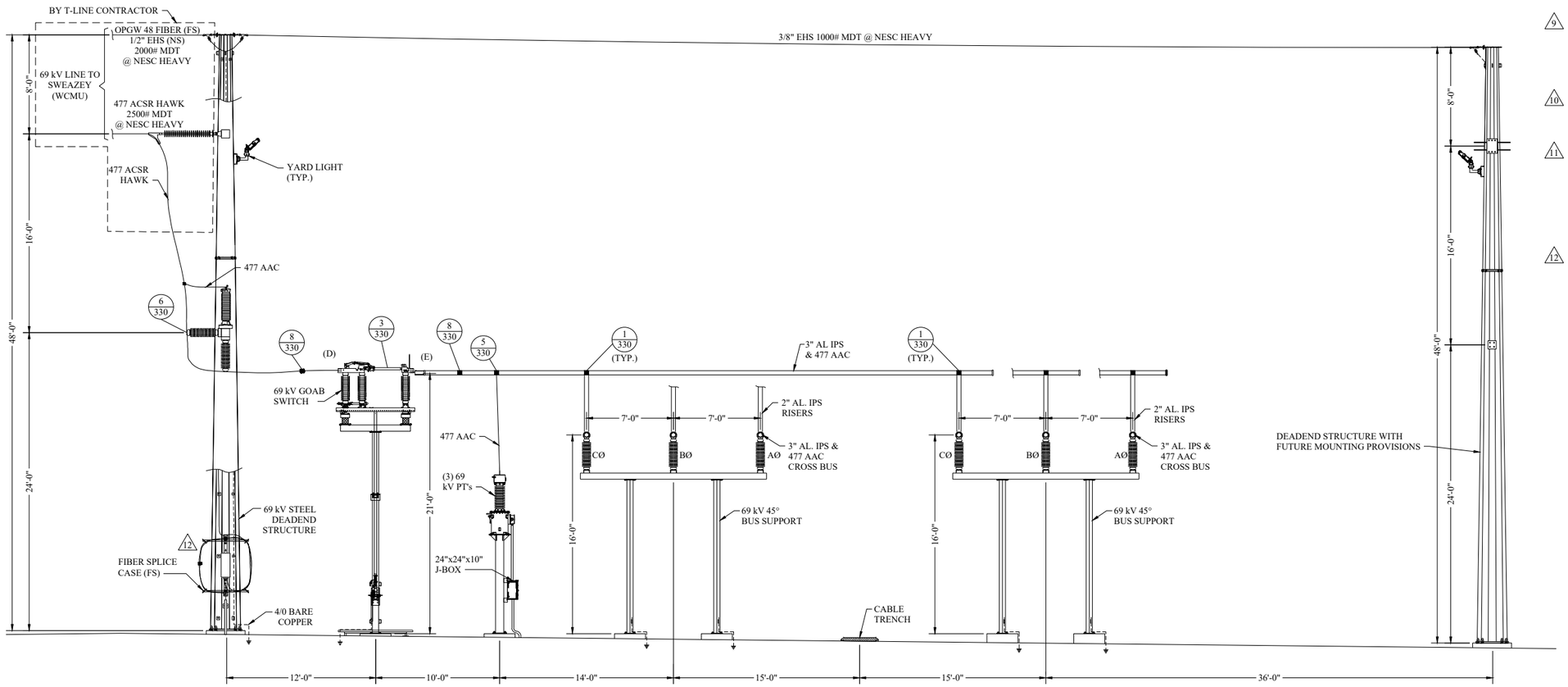
Plot Date: 6/10/2024 9:11:57 PM



BUS PLAN VIEW

1/312



BUS SECTION VIEW

1/312

NOTES

1. Bus Conductors
   3" AL. = SCH. 40 IPS, 6063-T6
   1272 AAC = 'NARCISSUS' 61 Stranding
   477 AAC = 'COSMOS' 19 Stranding
   3" AL. Dampening Cable = 477 AAC 'COSMOS' 19 Stranding
2. Fittings shall be fixed, slip or expansion as noted by the following key on plan view:
   F = fixed
   E = expansion
   S = slip
   (A) = section view sub-detail assignment, see detail 3/330
3. Verify location, size, and quantity of conduits and anchor bolts as per supplied equipment.
4. Contractor shall install phase identification signs on both sides of bus supports, GOAB switch structures, PT structures, and deadend structures. Labels shall be yellow letters on black background. Provide ELECTROMARK SUNYK2.5.
5. Coordinate bus height with supplied equipment.
6. All horizontal tubular bus shall be level, as viewed from any direction. Minimum ground clearance as shown shall be maintained. Drill weep holes at low point of all horizontal bus.
7. All bus ends shall extend 24" past support insulator unless noted otherwise.
8. Mounting height of GOAB switch operating handles shall be approximately 42 inches above top of switch operating platform.
9. Contractor shall connect power to cabinet heating elements for all outdoor equipment as soon as the equipment is installed, in order to discourage condensation and damage to equipment in cabinet. Construction power shall be arranged by the Contractor, with the cost thereof included in the bid prices submitted.
10. Contractor shall center GOAB switch ground platforms on switch operator handle. Refer to GOAB switch shop drawings for final switch handle location.
11. T-line Contractor will furnish 477 ACSR transmission line and deadend shoe, install conductor through deadend shoe, and leave a tail. They will also furnish shield wire that connects to transmission line structure outside the substation fence. Substation Contractor shall install 477 ACSR transmission tail to substation insulators and GOAB switch, and make final connections to arresters. Substation Contractor shall also bond shield wire tail to deadend ground wire.
12. Splicing, fiber splice tray, closure kit, protective dome enclosure, cable storage system, and downlead cushions furnished and installed by the T-line Contractor.

NORTH

0 2.5 5 10

SCALE (FT.)

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

578of1149

69 kV BUS SECTION VIEW
REISNER SUBSTATION

SHEET RS-312

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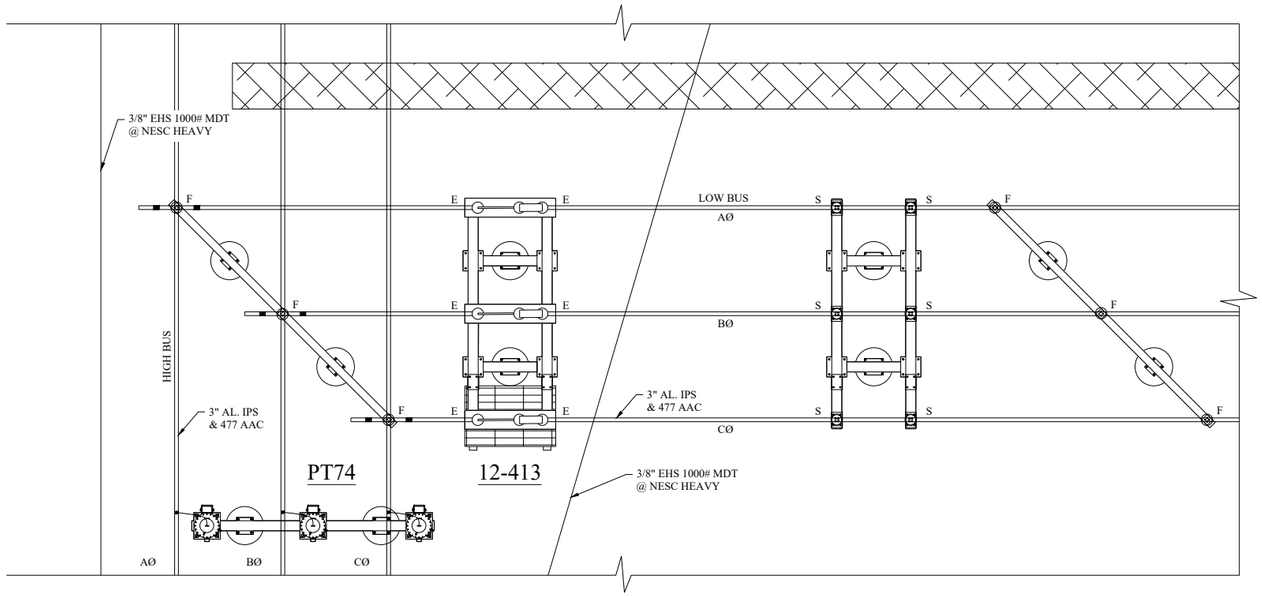
Plot Date: 6/10/2024 8:35:14 PM



BUS PLAN VIEW

1
313

NOTES

1. Bus Conductors
   3" AL. = SCH. 40 IPS, 6063-T6
   1272 AAC = 'NARCISSUS' 61 Stranding
   477 AAC = 'COSMOS' 19 Stranding
   3" AL. Dampening Cable = 477 AAC 'COSMOS' 19 Stranding
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   (A) = section view sub-detail assignment, see detail 3/330
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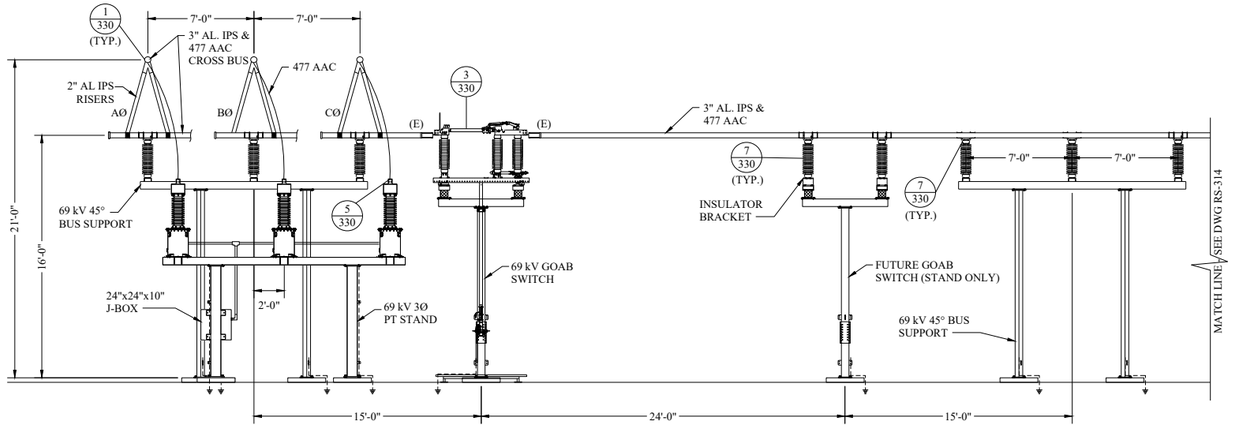
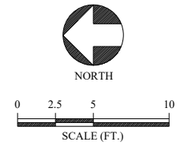
4. Contractor shall install phase identification signs on both sides of bus supports, GOAB switch structures, PT structures, and deadend structures. Labels shall be yellow letters on black background. Provide ELECTROMARK SUNYK2.5.
5. Coordinate bus height with supplied equipment.
6. All horizontal tubular bus shall be level, as viewed from any direction. Minimum ground clearance as shown shall be maintained. Drill weep holes at low point of all horizontal bus.
7. All bus ends shall extend 24" past support insulator unless noted otherwise.
8. Mounting height of GOAB switch operating handles shall be approximately 42 inches above top of switch operating platform.
9. Contractor shall connect power to cabinet heating elements for all outdoor equipment as soon as the equipment is installed, in order to discourage condensation and damage to equipment in cabinet. Construction power shall be arranged by the Contractor, with the cost thereof included in the bid prices submitted.
10. Contractor shall center GOAB switch ground platforms on switch operator handle. Refer to GOAB switch shop drawings for final switch handle location.



BUS SECTION VIEW

1
313



REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

69 kV BUS SECTION VIEW
REISNER SUBSTATION

SHEET RS-313

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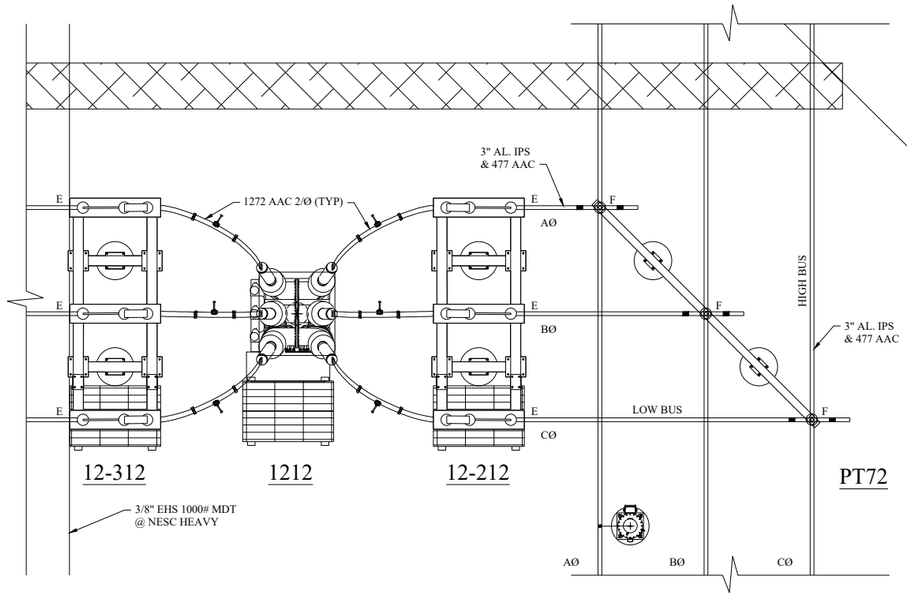
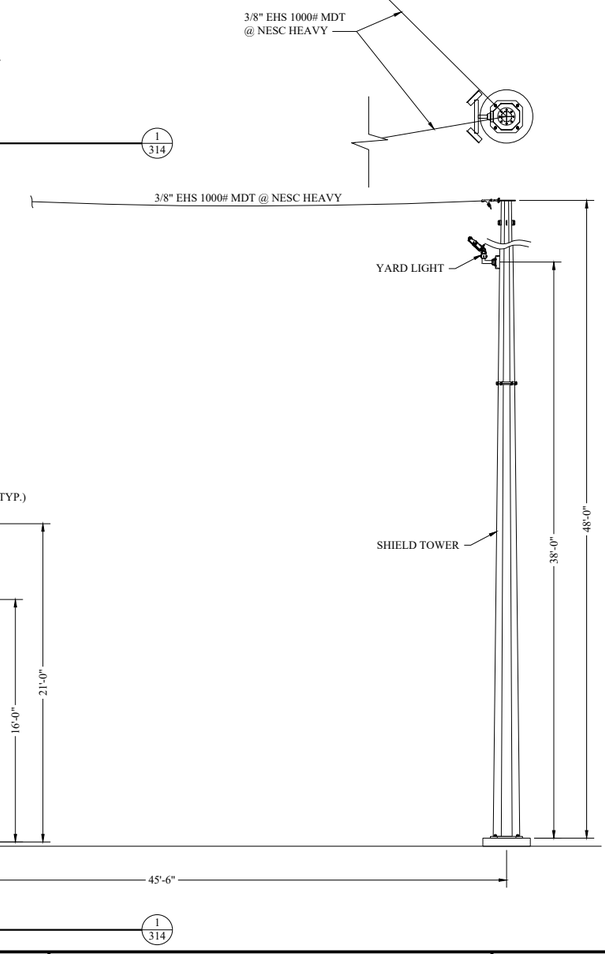
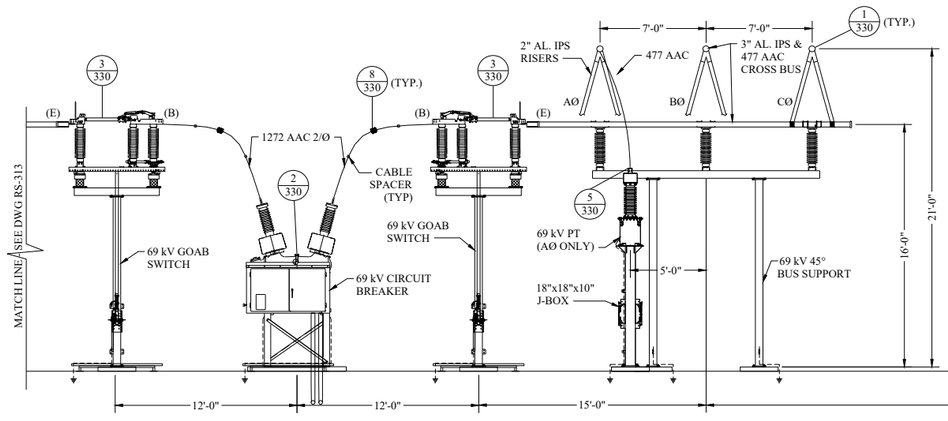


BUS PLAN VIEW 1/314





BUS SECTION VIEW 1/314

NOTES

1. Bus Conductors
   3" AL. = SCH. 40 IPS, 6063-T6
   1272 AAC = 'NARCISSUS' 61 Stranding
   477 AAC = 'COSMOS' 19 Stranding
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5. Coordinate bus height with supplied equipment.
6. All horizontal tubular bus shall be level, as viewed from any direction. Minimum ground clearance as shown shall be maintained. Drill weep holes at low point of all horizontal bus.
7. All bus ends shall extend 24" past support insulator unless noted otherwise.
8. Mounting height of GOAB switch operating handles shall be approximately 42 inches above top of switch operating platform.
9. Contractor shall connect power to cabinet heating elements for all outdoor equipment as soon as the equipment is installed, in order to discourage condensation and damage to equipment in cabinet. Construction power shall be arranged by the Contractor, with the cost thereof included in the bid prices submitted.
10. Contractor shall center GOAB switch ground platforms on switch operator handle. Refer to GOAB switch shop drawings for final switch handle location.

NORTH

0 2.5 5 10
SCALE (FT.)

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

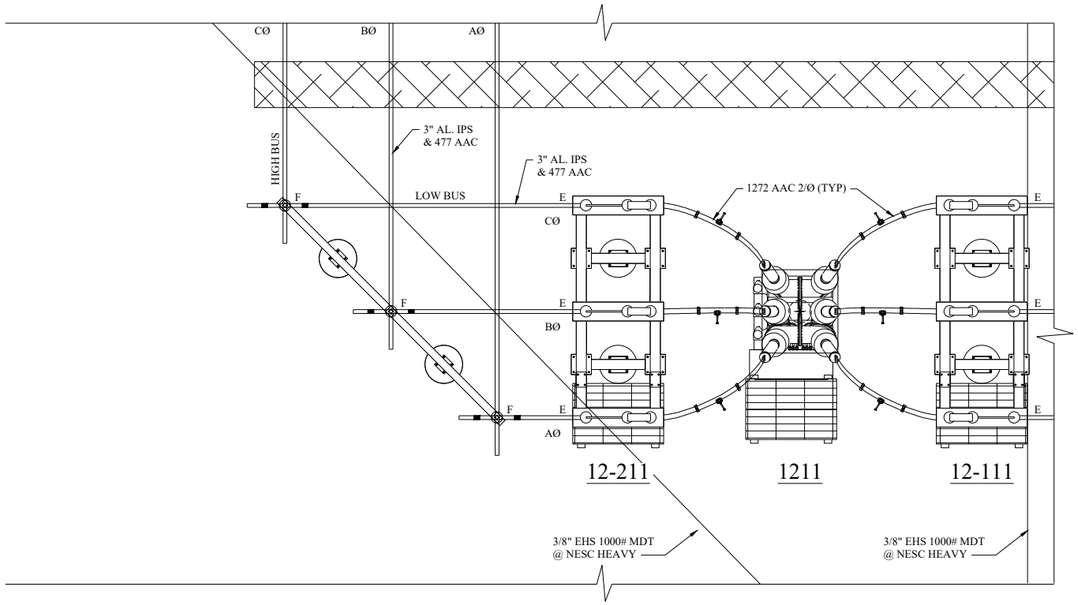
DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

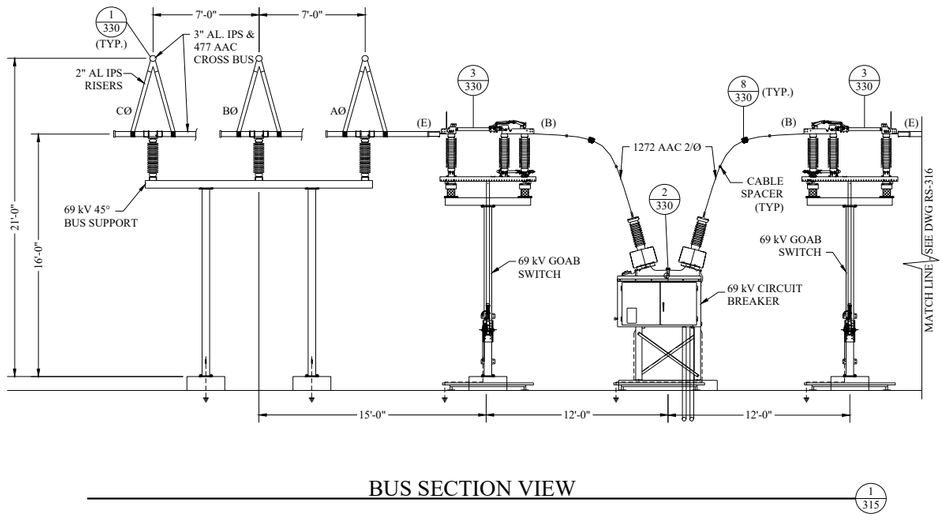
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

69 kV BUS SECTION VIEW
REISNER SUBSTATION

SHEET RS-314



BUS PLAN VIEW 1/315



BUS SECTION VIEW 1/315

NOTES

1. Bus Conductors
   3" AL. = SCH. 40 IPS, 6063-T6
   1272 AAC = 'NARCISSUS' 61 Stranding
   477 AAC = 'COSMOS' 19 Stranding
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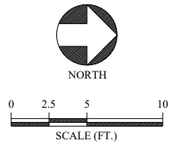
5. Coordinate bus height with supplied equipment.
6. All horizontal tubular bus shall be level, as viewed from any direction. Minimum ground clearance as shown shall be maintained. Drill weep holes at low point of all horizontal bus.
7. All bus ends shall extend 24" past support insulator unless noted otherwise.
8. Mounting height of GOAB switch operating handles shall be approximately 42 inches above top of switch operating platform.
9. Contractor shall connect power to cabinet heating elements for all outdoor equipment as soon as the equipment is installed, in order to discourage condensation and damage to equipment in cabinet. Construction power shall be arranged by the Contractor, with the cost thereof included in the bid prices submitted.
10. Contractor shall center GOAB switch ground platforms on switch operator handle. Refer to GOAB switch shop drawings for final switch handle location.



REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

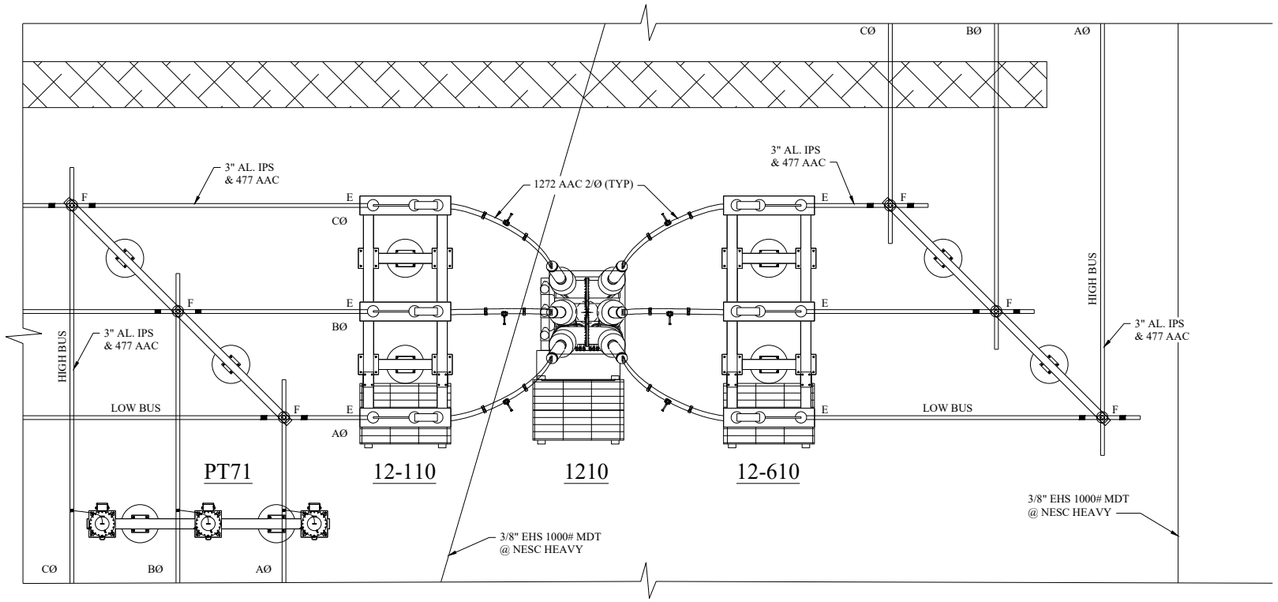
DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

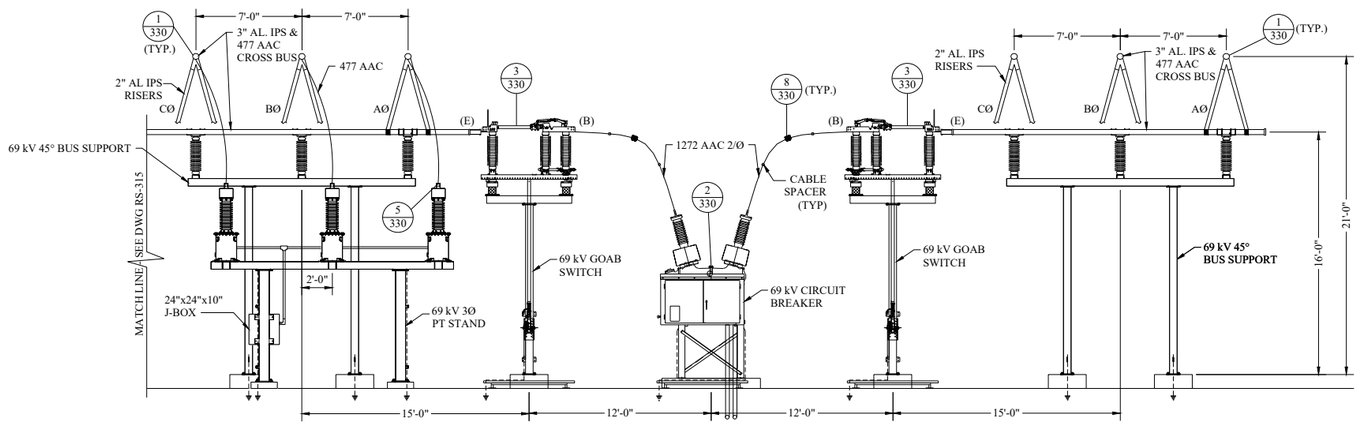
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

69 kV BUS SECTION VIEW
REISNER SUBSTATION

SHEET RS-315



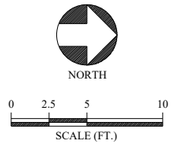
BUS PLAN VIEW 1/316



BUS SECTION VIEW 1/316

NOTES

1. Bus Conductors
   3" AL. = SCH. 40 IPS, 6063-T6
   1272 AAC = 'NARCISSUS' 61 Stranding
   477 AAC = 'COSMOS' 19 Stranding
   3" AL. Dampening Cable = 477 AAC 'COSMOS' 19 Stranding
2. Fittings shall be fixed, slip or expansion as noted by the following key on plan view:
   F = fixed
   E = expansion
   S = slip
   (A) = section view sub-detail assignment, see detail 3/330
3. Verify location, size, and quantity of conduits and anchor bolts as per supplied equipment.
4. Contractor shall install phase identification signs on both sides of bus supports, GOAB switch structures, PT structures, and deadend structures. Labels shall be yellow letters on black background. Provide ELECTROMARK SUNYK2.5.
5. Coordinate bus height with supplied equipment.
6. All horizontal tubular bus shall be level, as viewed from any direction. Minimum ground clearance as shown shall be maintained. Drill weep holes at low point of all horizontal bus.
7. All bus ends shall extend 24" past support insulator unless noted otherwise.
8. Mounting height of GOAB switch operating handles shall be approximately 42 inches above top of switch operating platform.
9. Contractor shall connect power to cabinet heating elements for all outdoor equipment as soon as the equipment is installed, in order to discourage condensation and damage to equipment in cabinet. Construction power shall be arranged by the Contractor, with the cost thereof included in the bid prices submitted.
10. Contractor shall center GOAB switch ground platforms on switch operator handle. Refer to GOAB switch shop drawings for final switch handle location.



REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

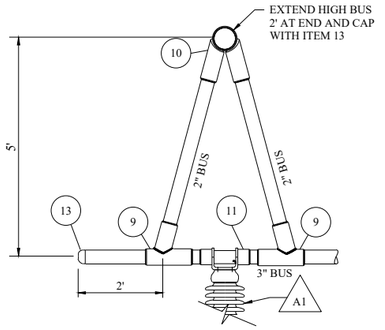
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

69 kV BUS SECTION VIEW
REISNER SUBSTATION

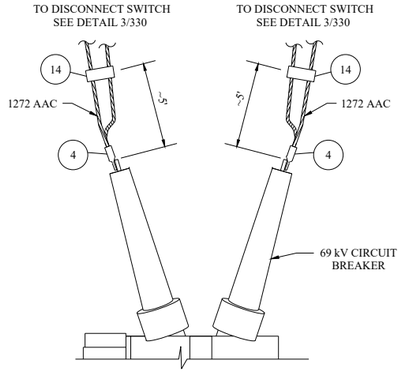
SHEET RS-316

Plot Date: 6/11/2024 9:06:52 AM



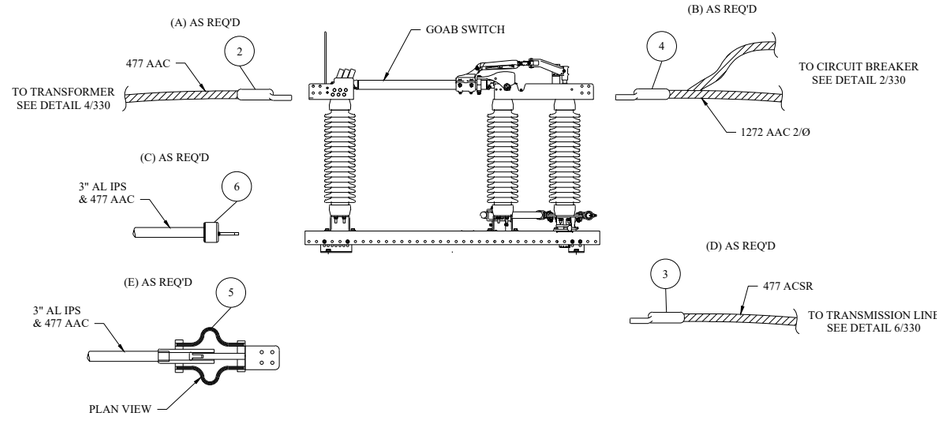
BUS BI-LEVEL SUPPORT ASSEMBLY DETAIL

N.T.S. — 1 / 330



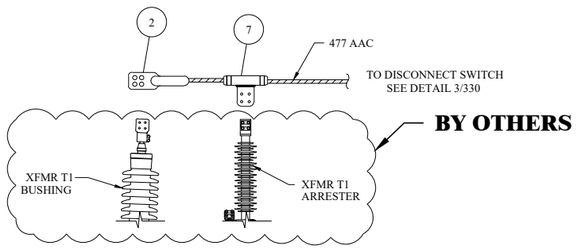
69 kV PCB CONNECTION DETAIL

N.T.S. — 2 / 330



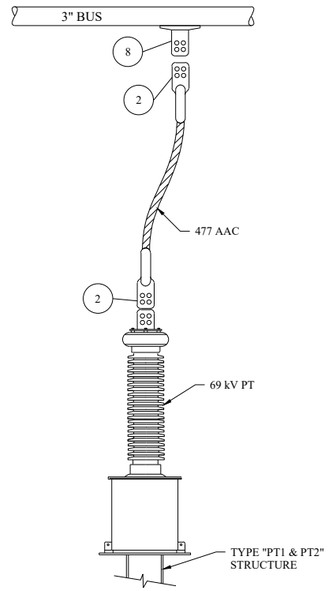
GOAB SWITCH TERMINAL CONNECTION DETAIL

N.T.S. — 3 / 330



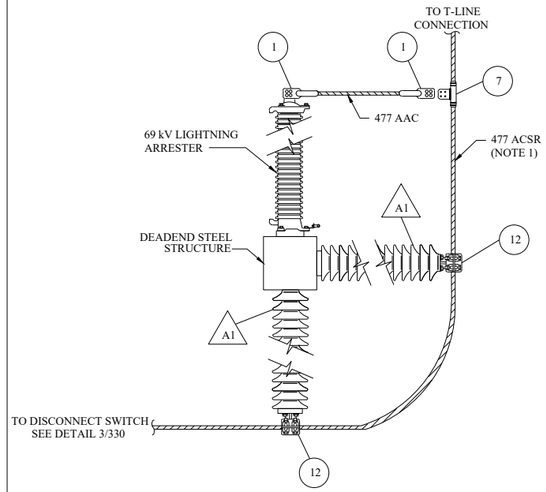
TRANSFORMER CONNECTION DETAIL

N.T.S. — 4 / 330



69 kV PT CONNECTION DETAIL

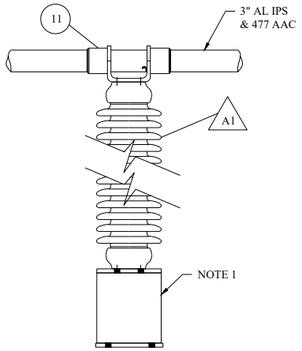
N.T.S. — 5 / 330



T-LINE DOWNLEAD CONNECTION DETAIL

N.T.S. — 6 / 330

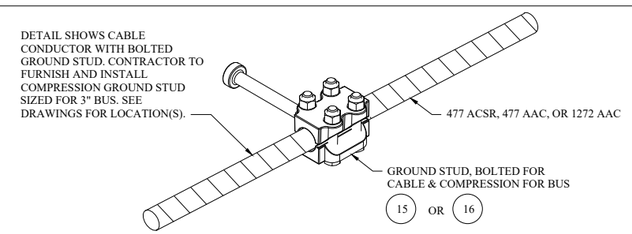
NOTES:
1. T-LINE DOWNLEAD WILL BE COILED AT TOP OF DEADEND STRUCTURE. SUBSTATION CONTRACTOR TO CONNECT TO EQUPMENT AS SHOWN.



INSULATOR TO FITTING DETAIL

N.T.S. — 7 / 330

NOTES:
1. USE BRACKET ADAPTER ON GOAB SWITCH SUPPORT STRUCTURE AS NOTED ON DRAWINGS.



GROUND STUD

N.T.S. — 8 / 330

NOTES:
1. STUD TO BE CONNECTED HORIZONTAL

2. OUTER PHASES SHALL HAVE STUD POINTED OUTWARD.

P:\04\284\03\DWG\RS-330.DWG

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

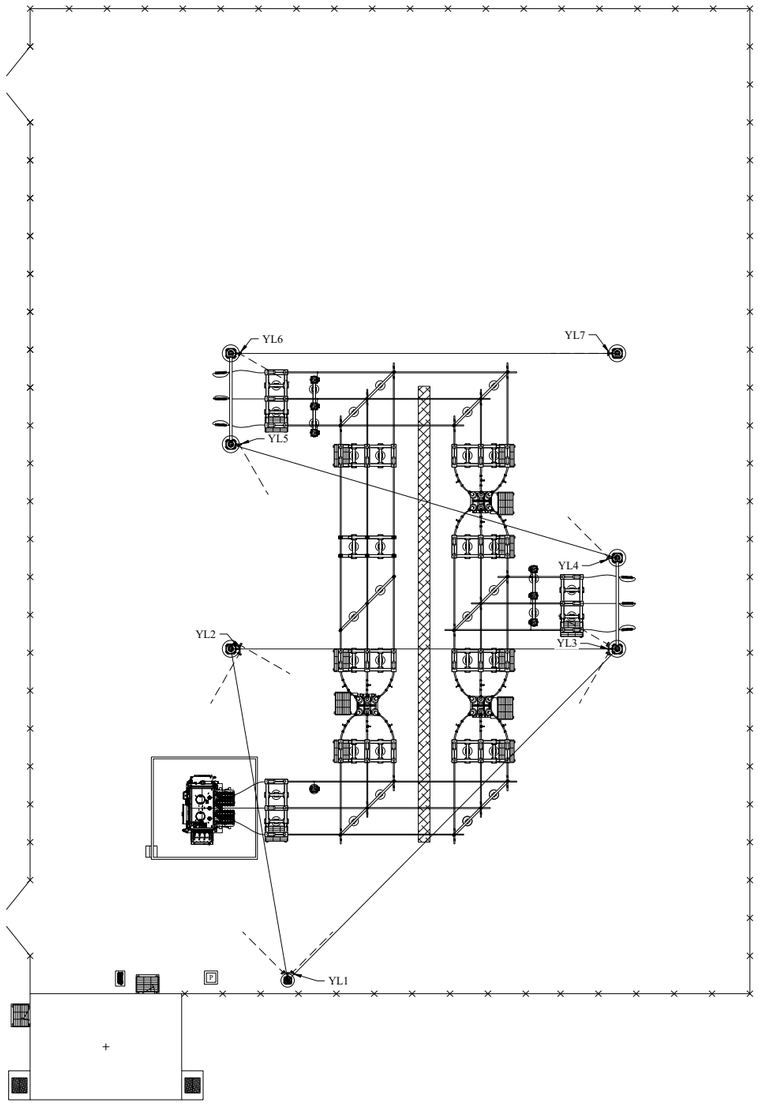
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
583of1149

CONNECTOR DETAILS
REISNER SUBSTATION

SHEET RS-330

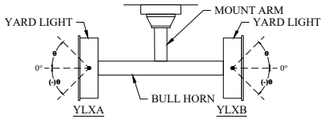
Plot Date: 6/10/2024 8:42:18 PM

YARD LIGHT SCHEDULE					
DWG REF	ID	DESCRIPTION	MOUNT HEIGHT	ORIENTATION ANGLE (θ)	TILT ANGLE (Φ)
YL1	YL1A	130 W YARD LIGHT	38'-0"	-45°	45°
	YL1B	130 W YARD LIGHT	38'-0"	-45	45°
YL2	YL2A	130 W YARD LIGHT	38'-0"	30°	45°
	YL2B	130 W YARD LIGHT	38'-0"	-120°	45°
YL3	YL3A	130 W YARD LIGHT	38'-0"	-60°	45°
	YL3B	130 W YARD LIGHT	38'-0"	-30°	45°
YL4	YL4	130 W YARD LIGHT	38'-0"	45°	45°
YL5	YL5	130 W YARD LIGHT	38'-0"	60°	45°
YL6	YL6	130 W YARD LIGHT	38'-0"	30°	45°
YL7	YL7	130 W YARD LIGHT	38'-0"	0°	45°

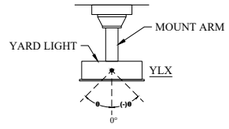


LEGEND

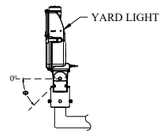
- Proposed pad or foundation
- Proposed fence
- Station power padmount transformer
- Proposed cable trench



ORIENTATION - TWIN



ORIENTATION - SINGLE



TILT

P:\04\284\03\DWG\RS-340.DWG

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

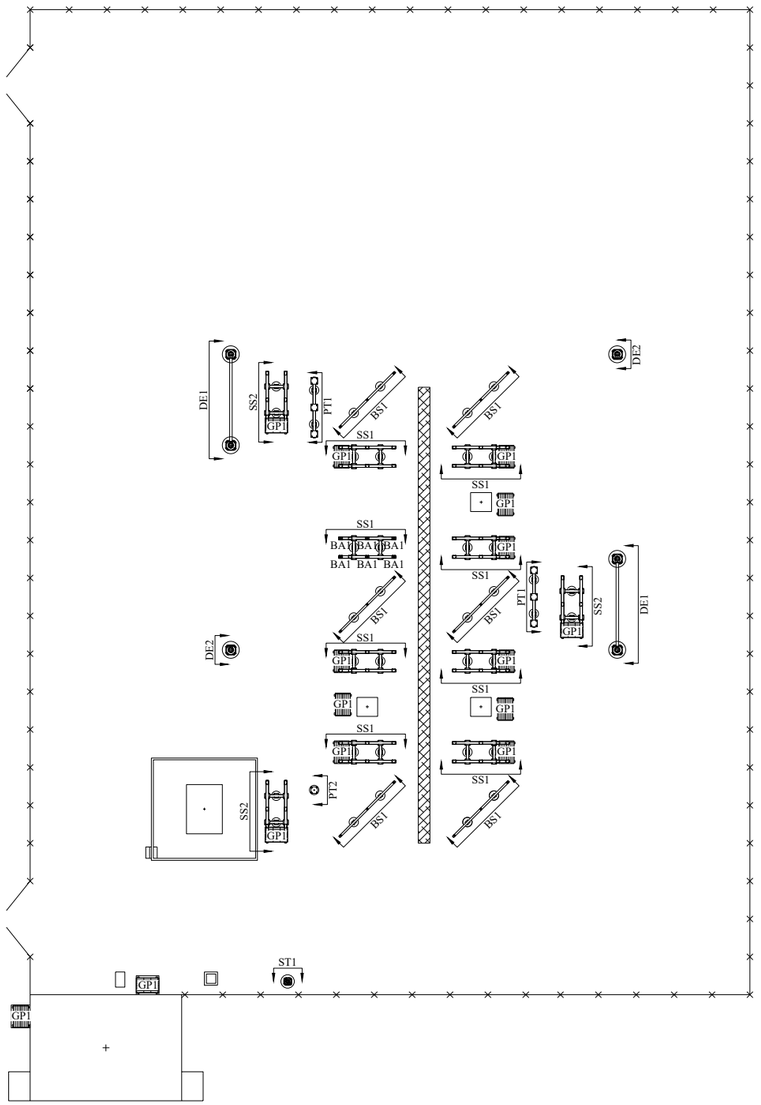
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

LIGHTING PLAN
REISNER SUBSTATION

SHEET RS-340

Plot Date: 6/10/2024 8:40:45 PM

STRUCTURAL STEEL SCHEDULE				
ITEM	DESCRIPTION	QUANTITY		DRAWING
		EXIST	NEW	
DE1	69 kV DEADEND H-FRAME		2	RS-351
DE2	69 kV FUTURE DEADEND H-FRAME		2	RS-352
ST1	SHIELD TOWER		1	RS-354
SS1	69 kV LOW SWITCH SUPPORT		8	RS-355
SS2	69 kV HIGH SWITCH SUPPORT		3	RS-356
BA1	INSULATOR BRACKET		6	RS-357
BS1	69 kV 3Ø BUS SUPPORT		6	RS-358
PT1	69 kV 3Ø PT SUPPORT		2	RS-359
PT2	69 kV 1Ø PT SUPPORT		1	RS-360
GP1	GROUNDING PLATFORM		15	RS-361



LEGEND

- Proposed pad or foundation
- Proposed fence
- P — Station power padmount transformer
- Proposed cable trench
- DE1 — Steel elevation detail view callout

P:\04\284\03\DWG\RS-350.DWG

REV	DATE	DESCRIPTION
A	03-01-2024	PRELIMINARY
B	03-08-2024	ISSUED FOR MATERIAL BIDS
C	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

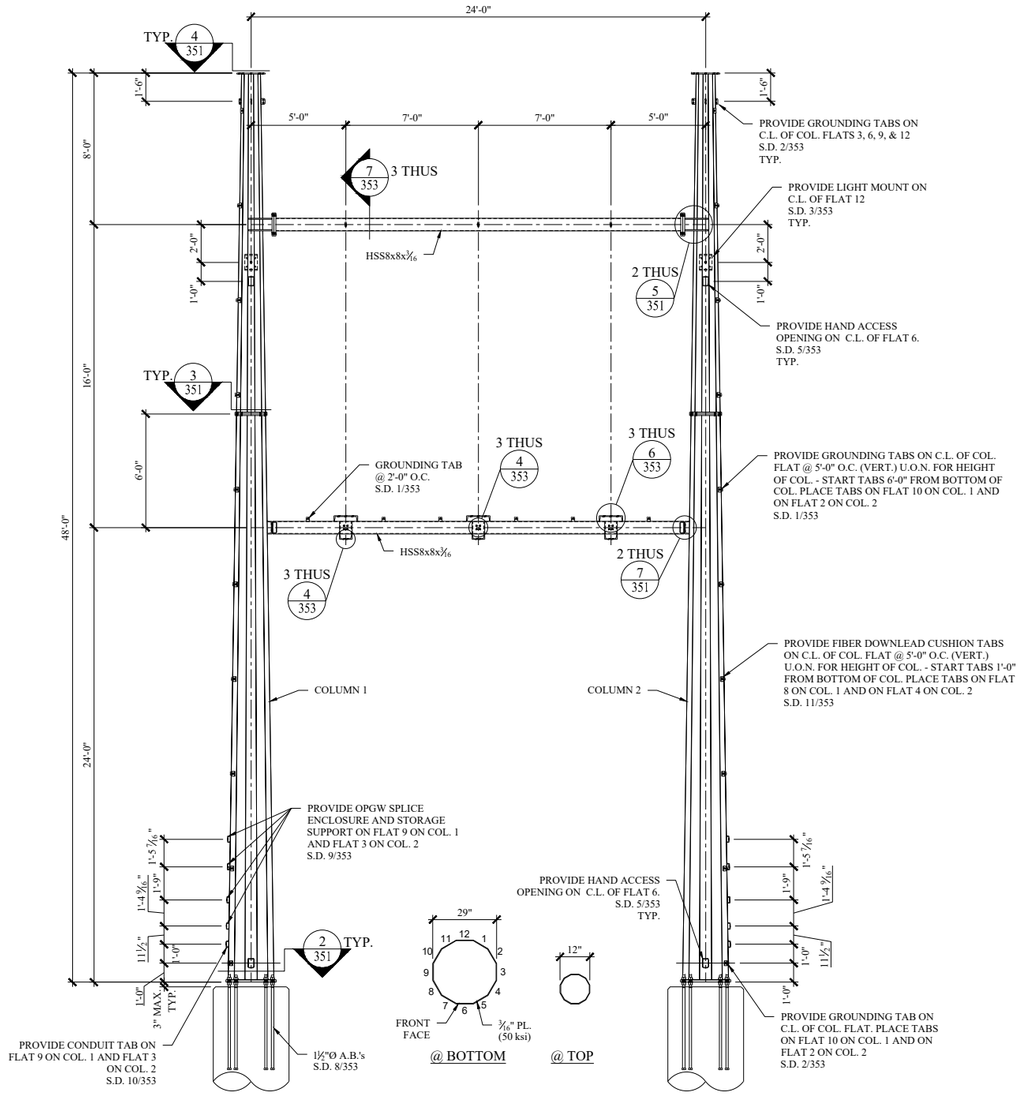
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
585of1149

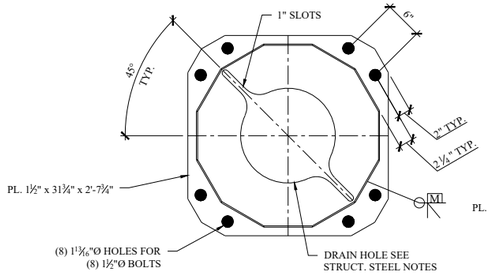
STEEL PLAN
REISNER SUBSTATION

SHEET RS-350

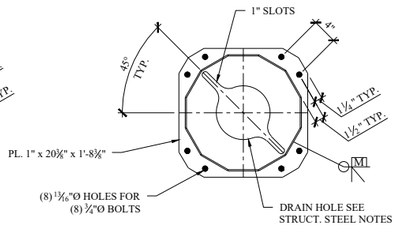
Plot Date: 5/31/2024 4:31:32 PM



1/351 69 kV DEADEND STRUCTURE
0 2 4
SCALE (FT.)

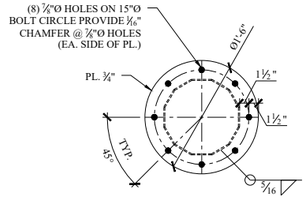


2/351 BASE PLATE DETAIL
0 0.5 1
SCALE (FT.)

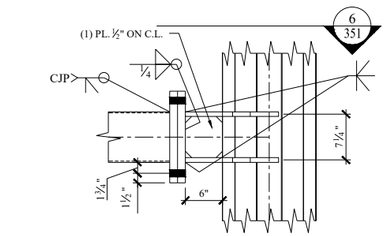


3/351 SPLICE PLATE DETAIL
0 0.5 1
SCALE (FT.)

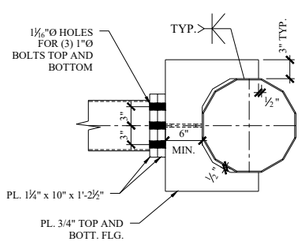
NOTE:
PROVIDE HOLES IN CAP PL. AS REQ'D FOR GALVANIZING - PLUG OR CAP ALL HOLES FOR FINAL.



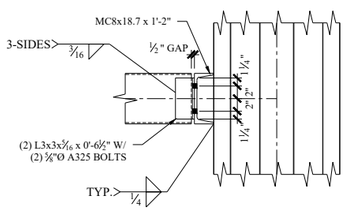
4/351 TOP PLATE DETAIL
0 0.5 1
SCALE (FT.)



5/351 CONNECTION DETAIL
0 0.5 1
SCALE (FT.)



6/351 CONNECTION DETAIL
0 0.5 1
SCALE (FT.)



7/351 CONNECTION DETAIL
0 0.5 1
SCALE (FT.)

Sheet Notes:

1. See sheet RS-211 for Structural Steel Notes.
2. See detail 8/353 for anchor bolt details.

Design Criteria:

NESC Heavy (w/o OCF's)
Conductors 2500 lbs
E.H.S. 2000 lbs

NESC Extreme Wind (w/o OCF's)
Conductors 1900 lbs
E.H.S. 1300 lbs

Design line angle:
±15° from plan

Structure designed as full deadend.

FOR REFERENCE ONLY

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	3-1-2024	PRELIMINARY
B	3-8-2024	ISSUED FOR MATERIAL BIDS
C	6-3-2024	ISSUED FOR STEEL FABRICATION

DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

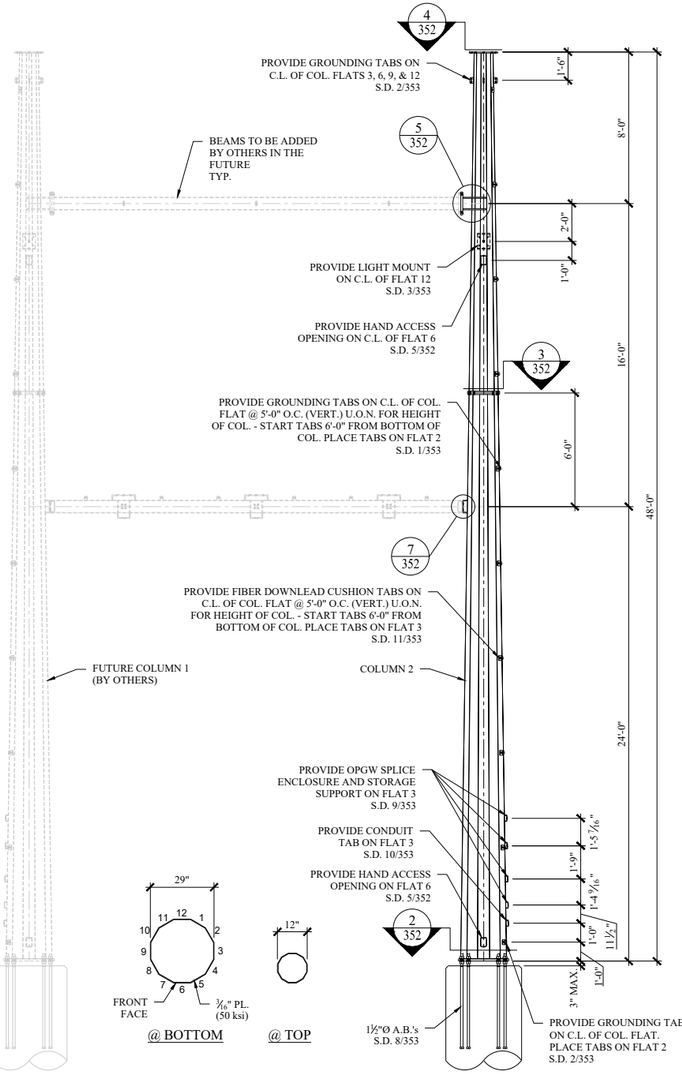
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
586of1149

69 kV DEADEND H-FRAME DETAIL
REISNER SUBSTATION

SHEET RS-351

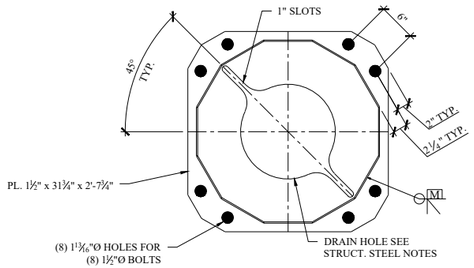
S:\2023\2387\2387-25 REISNER SUBST\DRAWINGS\2387-25 REISNER SUBST DETAILS RS-351.DWG | SHEET DGR

Plot Date: 5/31/2024 4:31:37 PM



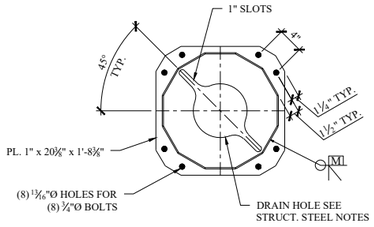
1 352 69 kV DEADEND STRUCTURE

SCALE (FT.) 0 2 4



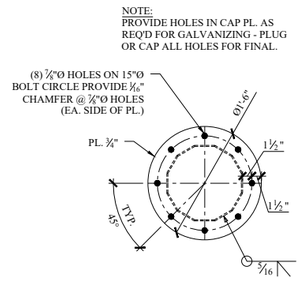
2 352 BASE PLATE DETAIL

SCALE (FT.) 0 0.5 1



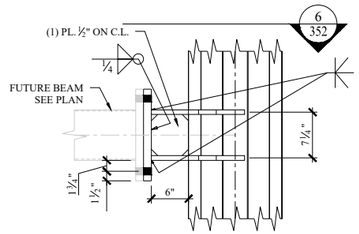
3 352 SPLICE PLATE DETAIL

SCALE (FT.) 0 0.5 1



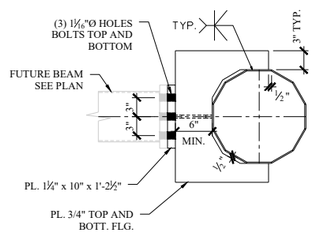
4 352 TOP PLATE DETAIL

SCALE (FT.) 0 0.5 1



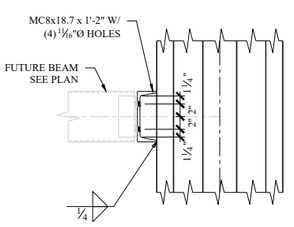
5 352 CONNECTION DETAIL

SCALE (FT.) 0 0.5 1



6 352 CONNECTION DETAIL

SCALE (FT.) 0 0.5 1



7 352 CONNECTION DETAIL

SCALE (FT.) 0 0.5 1

Sheet Notes:

1. See sheet RS-211 for Structural Steel Notes.
2. See detail 8/353 for anchor bolt details.

Design Criteria:

NESC Heavy (w/o OCF's)
- Conductors 2500 lbs
- E.H.S. 2000 lbs

NESC Extreme Wind (w/o OCF's)
- Conductors 1900 lbs
- E.H.S. 1300 lbs

Design line angle:
±15° from plan

Structure designed as full deadend.

FOR REFERENCE ONLY

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-15

REV	DATE	DESCRIPTION
A	3-1-2024	PRELIMINARY
B	3-8-2024	ISSUED FOR MATERIAL BIDS
C	6-3-2024	ISSUED FOR STEEL FABRICATION

DGR ENGINEERING

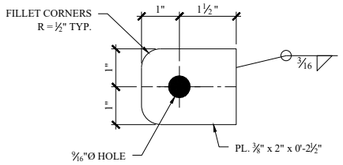
Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

69 kV FUTURE DEADEND H-FRAME DETAIL
REISNER SUBSTATION

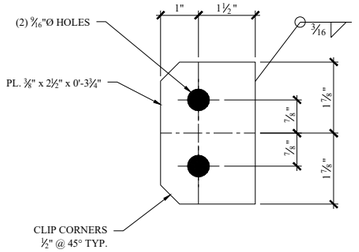
SHEET RS-352

S:\2023\2387\2387-25 REISNER SUBST\DRAWINGS\2387-25 REISNER SUBST DETAILS\RS-352.DWG | SHEET DGR



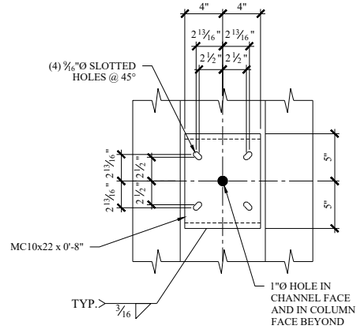
1/353 GROUND TAB DETAIL

SCALE (IN.)



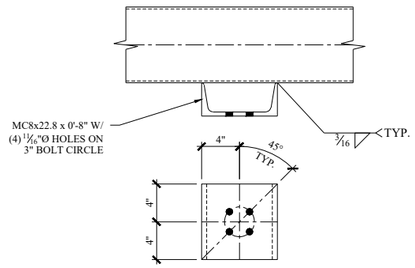
2/353 GROUND TAB DETAIL

SCALE (IN.)



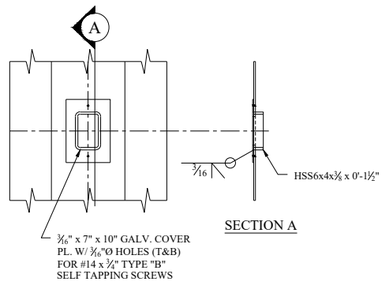
3/353 LIGHT MOUNT

SCALE (FT.)

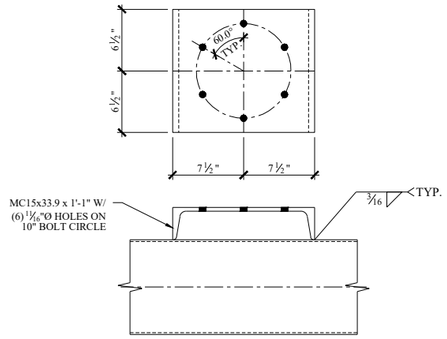


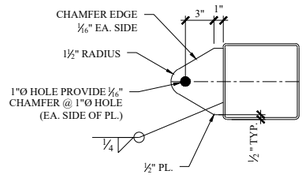
4/353 INSULATOR ATTACHMENT

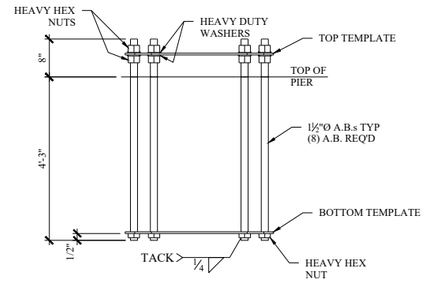
SCALE (FT.)



SECTION A







5/353 HAND ACCESS OPENING DET.

SCALE (FT.)

6/353 ARRESTER MOUNTING

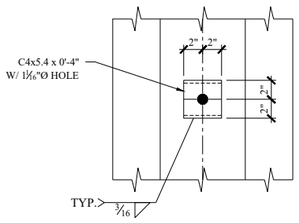
SCALE (FT.)

7/353 VANG DETAIL

SCALE (FT.)

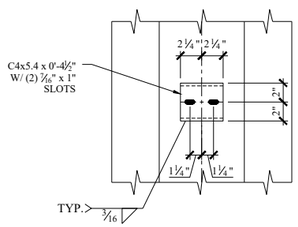
8/353 ANCHOR BOLT ASSEMBLY DETAIL ①②

NO SCALE



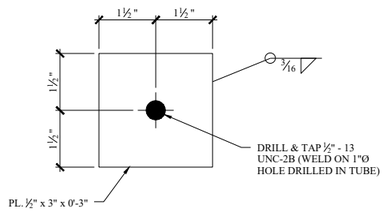
9/353 OPGW SPLICE STORAGE DETAIL

SCALE (FT.)



10/353 CONDUIT TAB DETAIL

SCALE (FT.)



11/353 FIBER DOWN LEAD TAB DETAIL

SCALE (IN.)

Sheet Notes:

1. Verify mounting details with the Engineer during shop drawing review process.

Key Notes:

① Anchor bolts and templates are to be furnished by steel supplier. Ship as an assembled cage.

② All anchor bolts to be F1554 GR. 55 and shall have S1 certification to be weldable.

FOR REFERENCE ONLY

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com
Project: 2387-25

REV	DATE	DESCRIPTION
A	3-1-2024	PRELIMINARY
B	3-8-2024	ISSUED FOR MATERIAL BIDS
C	6-3-2024	ISSUED FOR STEEL FABRICATION

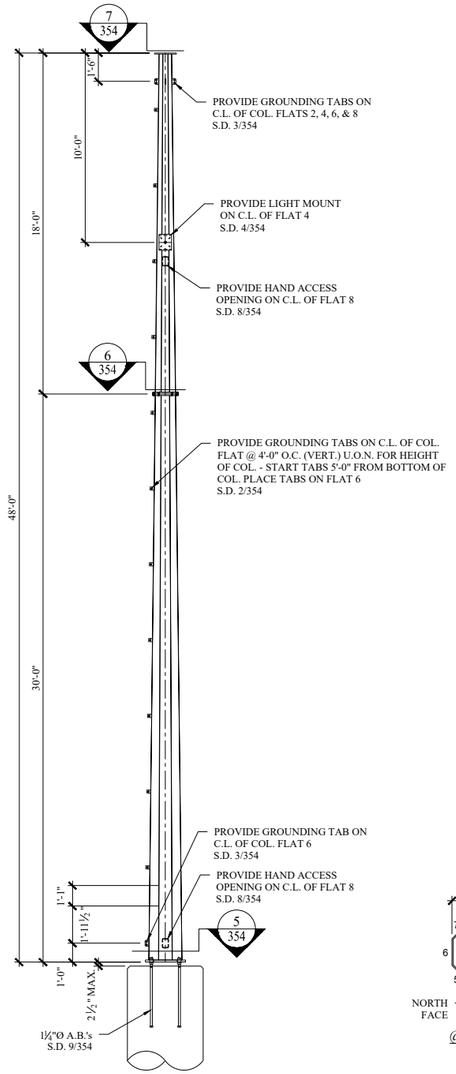
DGR ENGINEERING
Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

588of1149

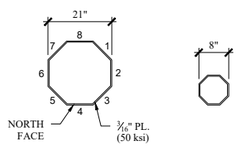
DEADEND STRUCTURAL DETAILS
REISNER SUBSTATION

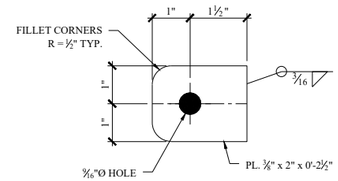
SHEET RS-353



1 / 354 SHIELD TOWER

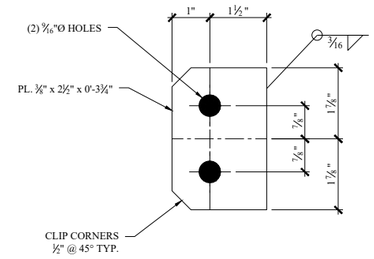
SCALE (FT.) 0 2 4





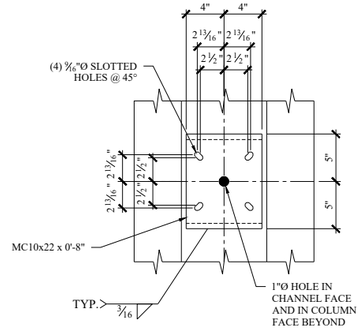
2 / 354 GROUND TAB DETAIL

SCALE (IN.) 0 1 2



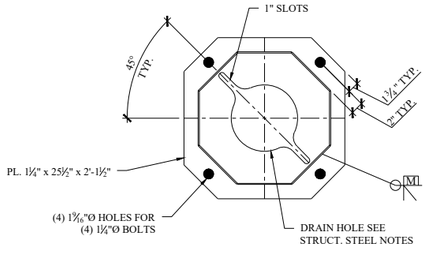
3 / 354 GROUND TAB DETAIL

SCALE (IN.) 0 1 2



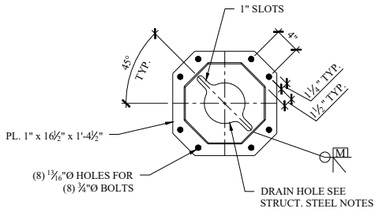
4 / 354 LIGHT MOUNT

SCALE (FT.) 0 0.5 1



5 / 354 BASE PLATE DETAIL

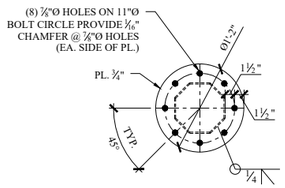
SCALE (FT.) 0 0.5 1



6 / 354 SPLICE PLATE DETAIL

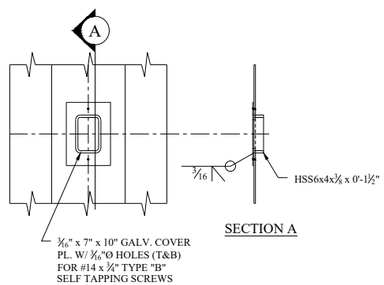
SCALE (FT.) 0 0.5 1

NOTE:
PROVIDE HOLES IN CAP PL. AS REQ'D FOR GALVANIZING - PLUG OR CAP ALL HOLES FOR FINAL.



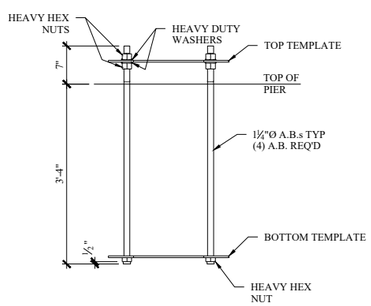
7 / 354 TOP PLATE DETAIL

SCALE (FT.) 0 0.5 1



8 / 354 HAND ACCESS OPENING DET.

SCALE (FT.) 0 0.5 1



9 / 354 ANCHOR BOLT ASSEMBLY DETAIL ①②

NO SCALE

Sheet Notes:

1. See sheet RS-211 for Structural Steel Notes.
2. See detail 9/354 for anchor bolt details.

Design Criteria:

NESC Heavy (w/o OCF's)
E.H.S. 1000 lbs

NESC Extreme Wind (w/o OCF's)
E.H.S. 700 lbs

Design line angle:
±15° from plan

Structure designed as full deadend.

Key Notes:

① Anchor bolts and templates are to be furnished by steel supplier. Ship as an assembled cage.

② All anchor bolts to be F1554 GR. 55 and shall have S1 certification to be weldable.

FOR REFERENCE ONLY

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Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	3-1-2024	PRELIMINARY
B	3-8-2024	ISSUED FOR MATERIAL BIDS
C	6-3-2024	ISSUED FOR STEEL FABRICATION

DGR ENGINEERING

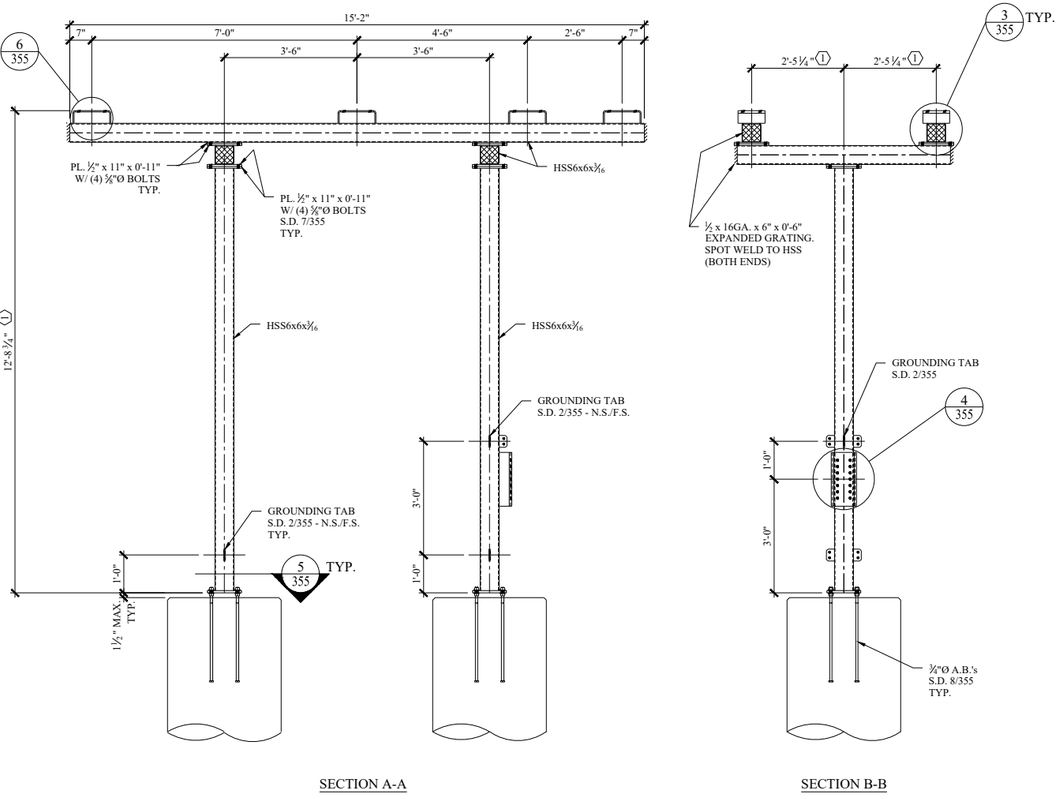
Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
589of1149

SHIELD TOWER DETAILS
REISNER SUBSTATION

SHEET RS-354

Plot Date: 5/31/2024 4:31:48 PM

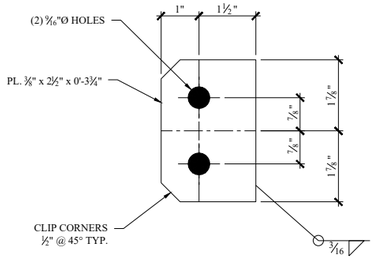


SECTION A-A

SECTION B-B

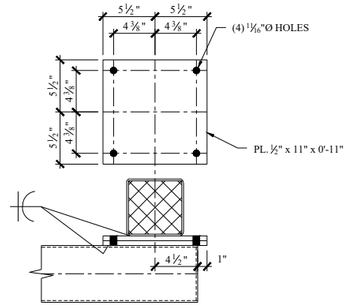
1/355 69 kV 3Ø LOW SWITCH SUPPORT STRUCTURE

0 1 2
SCALE (FT.)



2/355 GROUND TAB DETAIL

0 1 2
SCALE (IN.)



3/355 CONNECTION DETAIL

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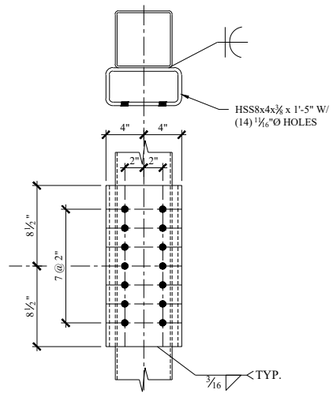
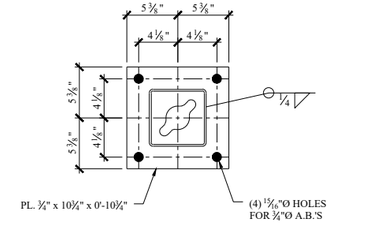
SCALE (FT.)



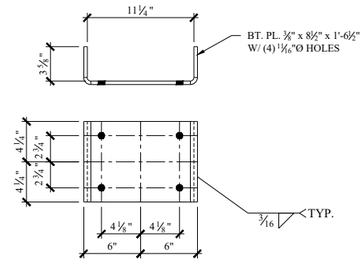
4/355 SWITCH HANDLE MOUNTING

0 0.5 1
SCALE (FT.)



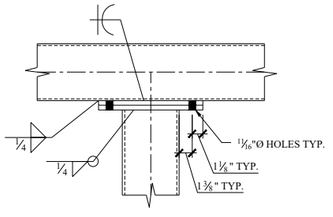
5/355 BASE PLATE DETAIL

0 0.5 1
SCALE (FT.)



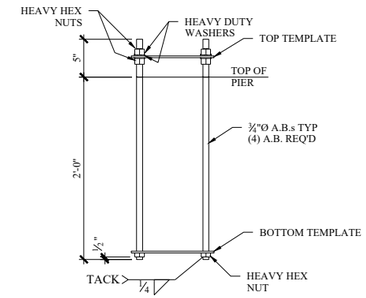
6/355 SWITCH MOUNTING

0 0.5 1
SCALE (FT.)



7/355 CAP PLATE DETAIL

0 0.5 1
SCALE (FT.)



8/355 ANCHOR BOLT DETAIL ②③

NO SCALE

Sheet Notes:

1. See sheet RS-211 for Structural Steel Notes.
2. See detail 8/355 for anchor bolt details.
3. Steel manufacturer shall obtain switch details to coordinate final dimensions before assembling.

Key Notes:

① Verify dimensions with Engineer during shop drawing review process.

② Anchor bolts and templates are to be furnished by steel supplier. Ship as an assembled cage.

③ All anchor bolts to be F1554 GR. 55 and shall have S1 certification to be weldable.

FOR REFERENCE ONLY

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	3-1-2024	PRELIMINARY
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C	6-3-2024	ISSUED FOR STEEL FABRICATION

DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

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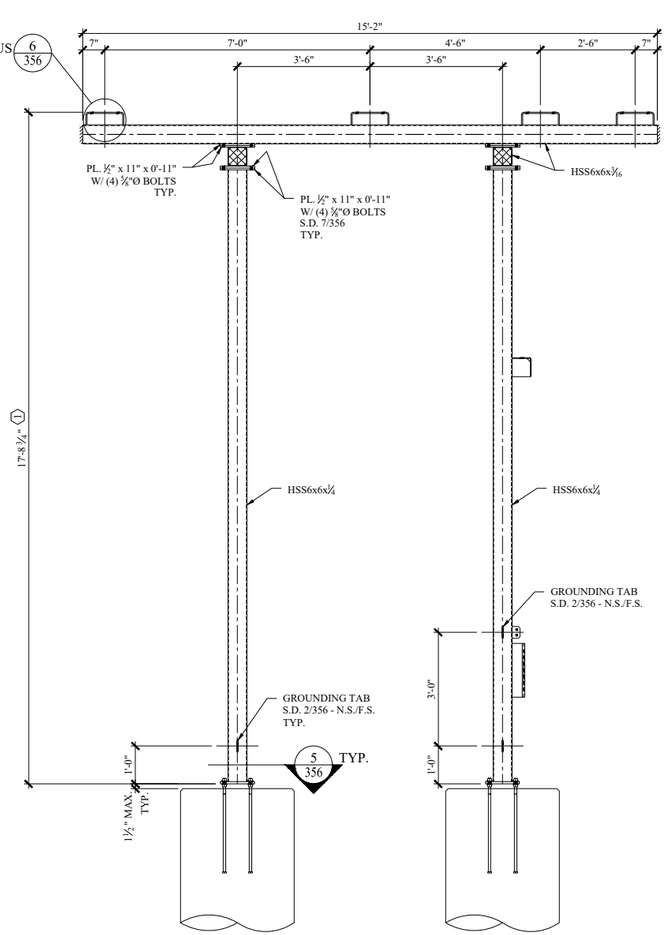
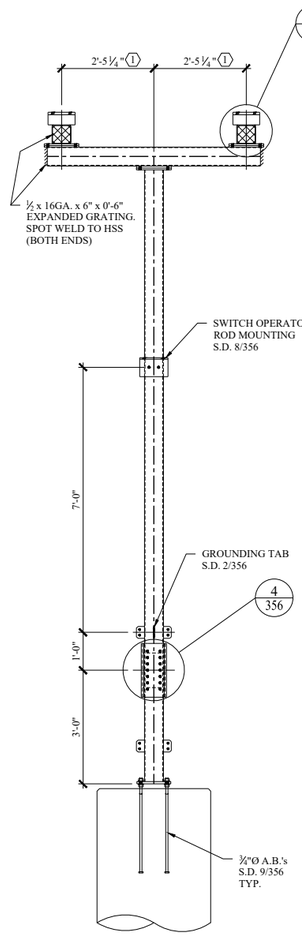
69 kV LOW SWITCH SUPPORT DETAILS
REISNER SUBSTATION

SHEET RS-355

S:\2023\2387\2387-25 REISNER SUBST\DRAWINGS\2387-25 REISNER SUBST DETAILS RS-355.DWG | SHEET DGR



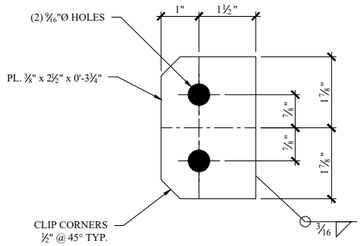
SECTION A-A



SECTION B-B

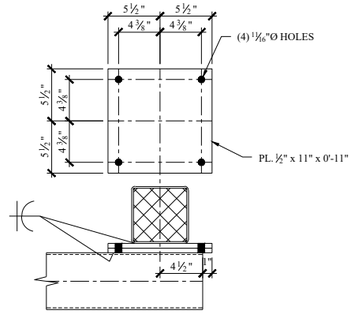
1/356 69 kV 3Ø HIGH SWITCH SUPPORT STRUCTURE

SCALE (FT.) 0 1 2



2/356 GROUND TAB DETAIL

SCALE (FT.) 0 1 2



3/356 CONNECTION DETAIL

SCALE (FT.) 0 0.5 1

Sheet Notes:

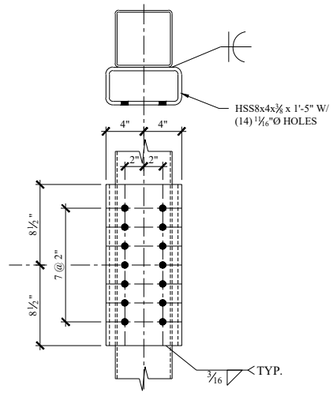
1. See sheet RS-211 for Structural Steel Notes.
2. See detail 9/356 for anchor bolt details.
3. Steel manufacturer shall obtain switch details to coordinate final dimensions before assembling.

Key Notes:

① Verify dimensions with Engineer during shop drawing review process.

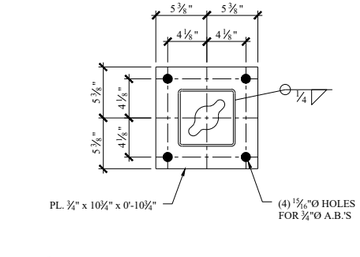
② Anchor bolts and templates are to be furnished by steel supplier. Ship as an assembled cage.

③ All anchor bolts to be F1554 GR. 55 and shall have S1 certification to be weldable.



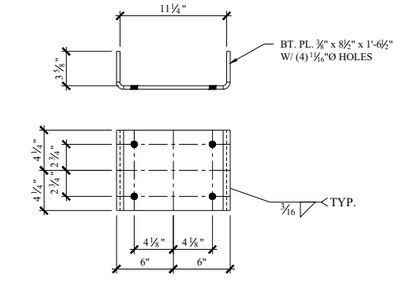
4/356 SWITCH HANDLE MOUNTING

SCALE (FT.) 0 0.5 1



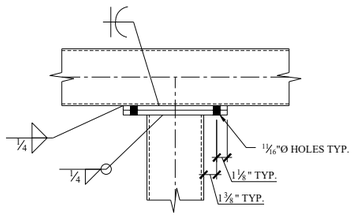
5/356 BASE PLATE DETAIL

SCALE (FT.) 0 0.5 1



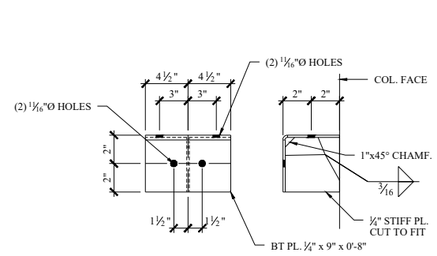
6/356 SWITCH MOUNTING

SCALE (FT.) 0 0.5 1



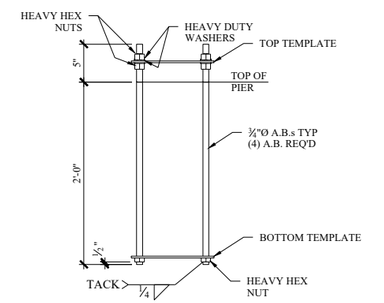
7/356 CAP PLATE DETAIL

SCALE (FT.) 0 0.5 1



8/356 SWITCH OPERATOR ROD MOUNTING

SCALE (FT.) 0 0.5 1



9/356 ANCHOR BOLT DETAIL ②③

NO SCALE

REV	DATE	DESCRIPTION
A	3-1-2024	PRELIMINARY
B	3-8-2024	ISSUED FOR MATERIAL BIDS
C	6-3-2024	ISSUED FOR STEEL FABRICATION

DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

69 kV HIGH SWITCH SUPPORT DETAILS
REISNER SUBSTATION

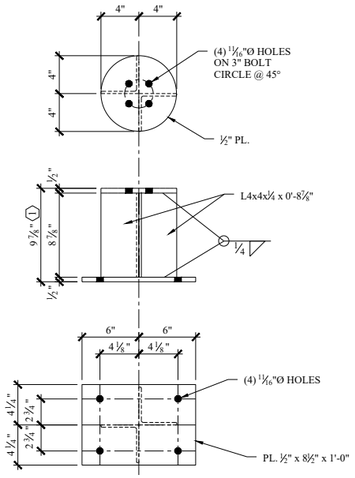
SHEET RS-356

Sheet Notes:

1. See sheet RS-211 for Structural Steel Notes.

Key Notes:

⟨1⟩ Verify dimensions with Engineer during shop drawing review process.



1/357 INSULATOR BRACKET DETAIL

0 0.5 1
SCALE (FT.)

FOR REFERENCE ONLY

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
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DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

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WEBSTER CITY, IOWA

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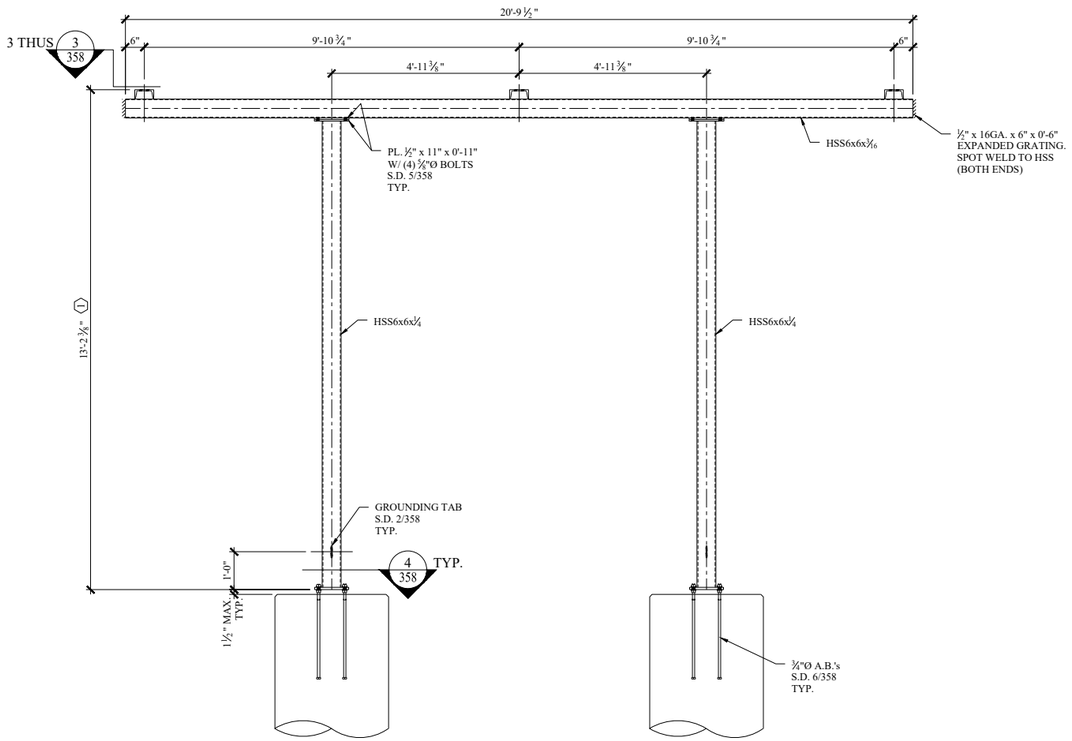
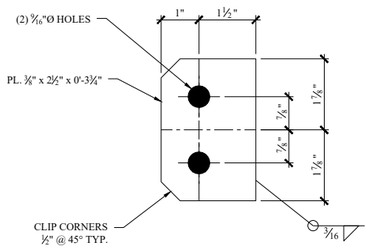
INSULATOR BRACKET DETAILS
REISNER SUBSTATION

SHEET RS-357



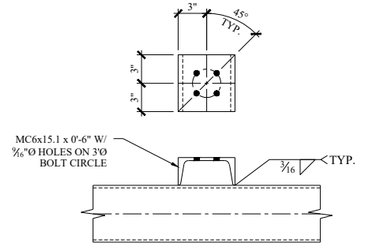
1/358 69 kV 3Ø BUS SUPPORT @ 45°

SCALE (FT.) 0 1 2



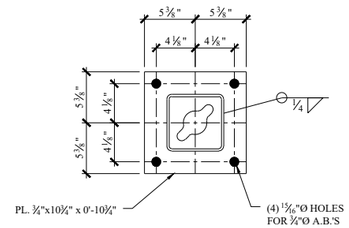
2/358 GROUND TAB DETAIL

SCALE (IN.) 0 1 2



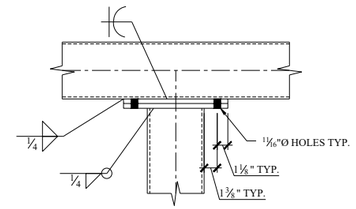
3/358 INSUSLATOR ATTACHMENT

SCALE (FT.) 0 0.5 1



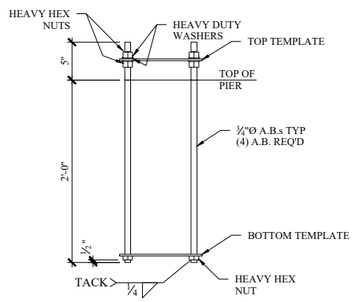
4/358 BASE PLATE DETAIL

SCALE (FT.) 0 0.5 1



5/358 CAP PLATE DETAIL

SCALE (FT.) 0 0.5 1



6/358 ANCHOR BOLT DETAIL 2 3

NO SCALE

Sheet Notes:

1. See sheet RS-211 for Structural Steel Notes.
2. See detail 6/358 for anchor bolt details.

Key Notes:

1. Verify dimensions with Engineer during shop drawing review process.
2. Anchor bolts and templates are to be furnished by steel supplier. Ship as an assembled cage.
3. All anchor bolts to be F1554 GR. 55 and shall have S1 certification to be weldable.

FOR REFERENCE ONLY

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com
Project: 2387-25

REV	DATE	DESCRIPTION
A	3-1-2024	PRELIMINARY
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C	6-3-2024	ISSUED FOR STEEL FABRICATION

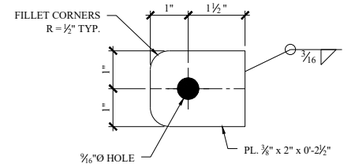
DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
593of1149

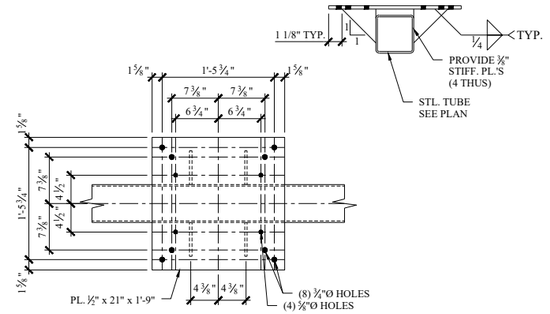
69 kV BUS SUPPORT DETAILS
REISNER SUBSTATION

SHEET RS-358



2 359 GROUND TAB DETAIL

SCALE (IN.) 0 1 2



3 359 PT MOUNTING DETAIL ①

SCALE (FT.) 0 0.5 1

Sheet Notes:

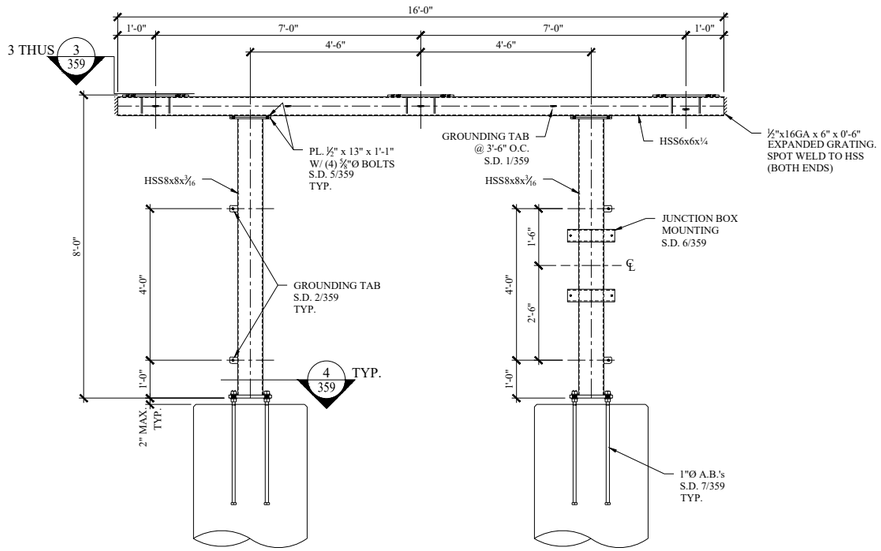
1. See sheet RS-211 for Structural Steel Notes.
2. See detail 7/359 for anchor bolt details.

Key Notes:

① Verify dimensions with Engineer during shop drawing review process.

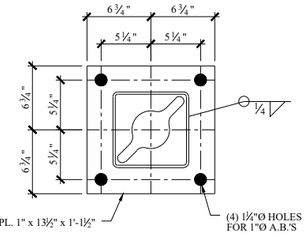
② Anchor bolts and templates are to be furnished by steel supplier. Ship as an assembled cage.

③ All anchor bolts to be F1554 GR. 55 and shall have S1 certification to be weldable.



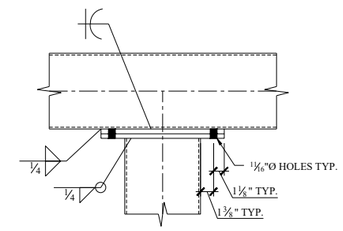
1 359 69 kV 3Ø PT SUPPORT

SCALE (FT.) 0 1 2



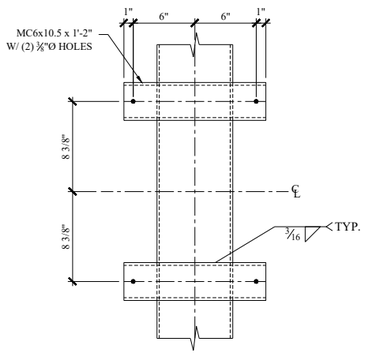
4 359 BASE PLATE DETAIL

SCALE (FT.) 0 0.5 1



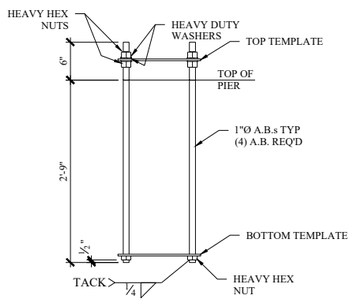
5 359 CAP PLATE DETAIL

SCALE (FT.) 0 0.5 1



6 359 J-BOX SUPPORT DETAIL

SCALE (FT.) 0 0.5 1



7 359 ANCHOR BOLT DETAIL ②③

NO SCALE

FOR REFERENCE ONLY

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com
Project: 2387-25

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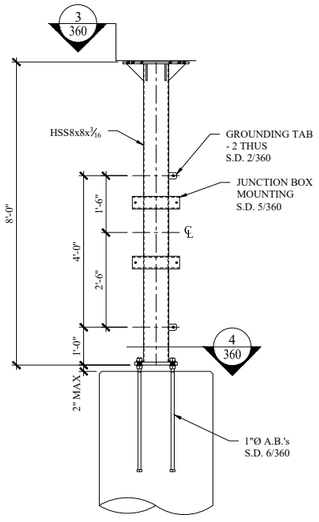
DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

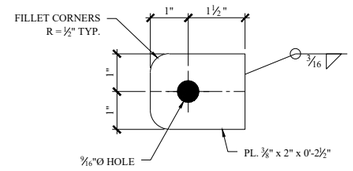
69 kV 3Ø PT SUPPORT DETAILS
REISNER SUBSTATION

SHEET RS-359



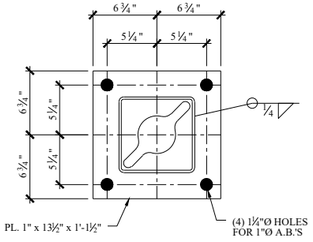
1/360 69 kV 1Ø PT SUPPORT

SCALE (FT.)



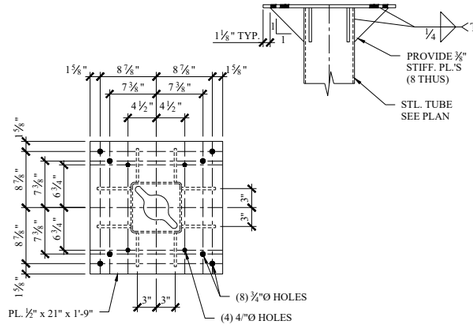
2/360 GROUND TAB DETAIL

SCALE (IN.)



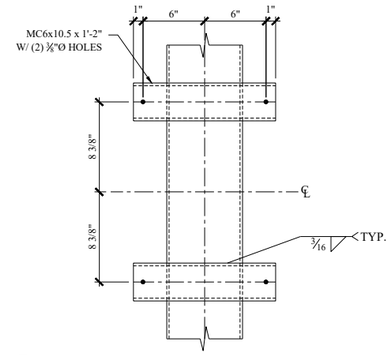
4/360 BASE PLATE DETAIL

SCALE (FT.)



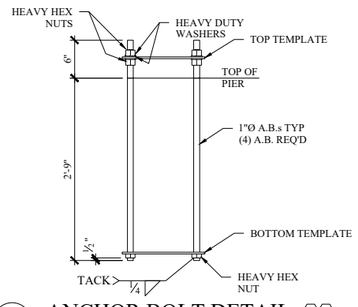
3/360 PT MOUNTING DETAIL ①

SCALE (FT.)



5/360 J-BOX SUPPORT DETAIL

SCALE (FT.)



6/360 ANCHOR BOLT DETAIL ②③

NO SCALE

Sheet Notes:

1. See sheet RS-211 for Structural Steel Notes.
2. See detail 6/360 for anchor bolt details.

Key Notes:

① Verify dimensions with Engineer during shop drawing review process.

② Anchor bolts and templates are to be furnished by steel supplier. Ship as an assembled cage.

③ All anchor bolts to be F1554 GR. 55 and shall have S1 certification to be weldable.

FOR REFERENCE ONLY

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Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

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Phone: (712) 472-2531

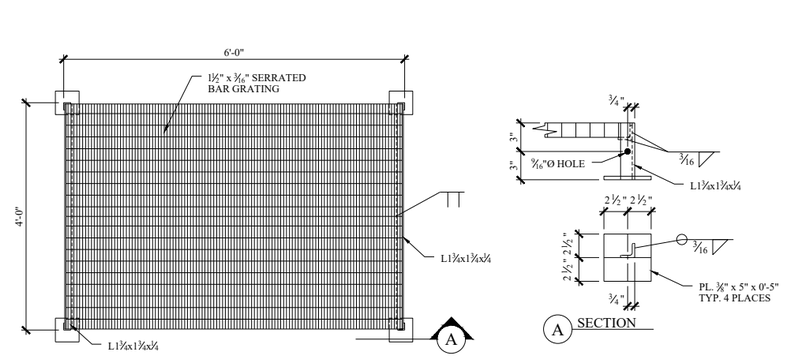
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

69 kV 1Ø PT SUPPORT DETAILS
REISNER SUBSTATION

SHEET RS-360

Sheet Notes:

1. See sheet RS-211 for Structural Steel Notes.
2. Welded bar grating and angle assembly shall be hot dipped galvanized in accordance with ASTM A-123.



1/361 GROUNDING PLATFORM

0 1 2
SCALE (FT.)

FOR REFERENCE ONLY

SANDMAN Structural Engineers
Moorhead | Brainerd | Minneapolis
www.SandmanSE.com Project: 2387-25

REV	DATE	DESCRIPTION
A	3-1-2024	PRELIMINARY
B	3-8-2024	ISSUED FOR MATERIAL BIDS
C	6-3-2024	ISSUED FOR STEEL FABRICATION

DGR ENGINEERING

Project Manager: ADK
Designer: CVW
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
596of1149

GROUNDING PLATFORM DETAILS
REISNER SUBSTATION

SHEET RS-361

Plot Date: 6/11/2024 10:17:59 AM

SUBSTATION MATERIAL LIST - Webster City Reisner - 428403

ITEM NO.	DESCRIPTION	MANUFACTURER	PART # (OR EQUAL)
BUS CONNECTOR MATERIALS			
1	CONNECTOR, TERMINAL, COMPRESSION, 477 AAC TO 3" NEMA 4HP	AFL	SWCTC2447-4N-AA
2	CONNECTOR, TERMINAL, COMPRESSION, 477 AAC TO 4" NEMA 4HP	AFL	SWCTC2447-4N4-AA
3	CONNECTOR, TERMINAL, COMPRESSION, 477 ACSR TO 4" NEMA 4HP	AFL	SWCTC2455-4N4-AA
4	CONNECTOR, TERMINAL, COMPRESSION, (2) 1272 AAC TO 4" NEMA 4HP	AFL	SW2CT36127-4N4-AA
5	CONNECTOR, TERMINAL, COMPRESSION, EXPANSION, 3" IPS TO 4" NEMA 4HP, CENTER FORMED	AFL	SWXL300-4N4-90V-AA
6	CONNECTOR, TERMINAL, COMPRESSION, 3" IPS TO 4" NEMA 4HP	AFL	SWTPC300-4N4-AA
7	CONNECTOR, TEE, COMPRESSION, 477 AAC OR 477 ACSR TO 3" NEMA 4HP	AFL	2824.1D
8	CONNECTOR, TEE, COMPRESSION, 3" IPS TO 4" NEMA 4HP	AFL	SWTC300-4N4-4.5-AA
9	CONNECTOR, TEE, COMPRESSION, 75 DEGREE, 3" IPS MAIN TO 2" IPS TAP	AFL	SWTA300-200-75-AA
10	CONNECTOR, VEE, COMPRESSION, 30 DEGREE, 3" IPS MAIN TO 2" IPS VEE	AFL	SWVBP300-200-30-AA
11	CONNECTOR, BUS SUPPORT, COMPRESSION, RIGID/SLIP FIT, 3" IPS TO 3" B.C.	AFL	SWPS300-3-CH-AA
12	CONNECTOR, BUS SUPPORT, BOLTED, 477 ACSR TO 3" B.C.	AFL	CSP87-3-AA
13	CONNECTOR, END CAP, COMPRESSION, 3" IPS	AFL	SWEC300-AA
14	CONNECTOR, SPACER, BOLTED, (2) 1272 AAC, 4" SPACING	AFL	SWAS36127-4-AA
15	GROUND STUD, BOLTED, 477 ACSR OR 477 AAC OR 1272 AAC TO CABLE GROUNDING CLAMP	AFL	GCHV-159A-62R-AA
16	GROUND STUD, COMPRESSION, 3" IPS TO GROUNDING ROD	AFL	SWGPH300-AA
JUNCTION BOX MATERIALS			
370	JBOX, 18"L X 18"W X 10"D WITH INTERIOR PANELS	HOFFMAN	A18R1810HCR
380	JBOX, 24"L X 24"W X 10"D WITH INTERIOR PANELS	HOFFMAN	A24R2410HCR
BUS WORK MATERIALS			
A1	STATION POST INSULATOR, PORCELAIN, 69 kV, 350 kV BIL, TR216, STANDARD STRENGTH, 30" HIGH, 3" B.C.	LAPP	315216-70

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

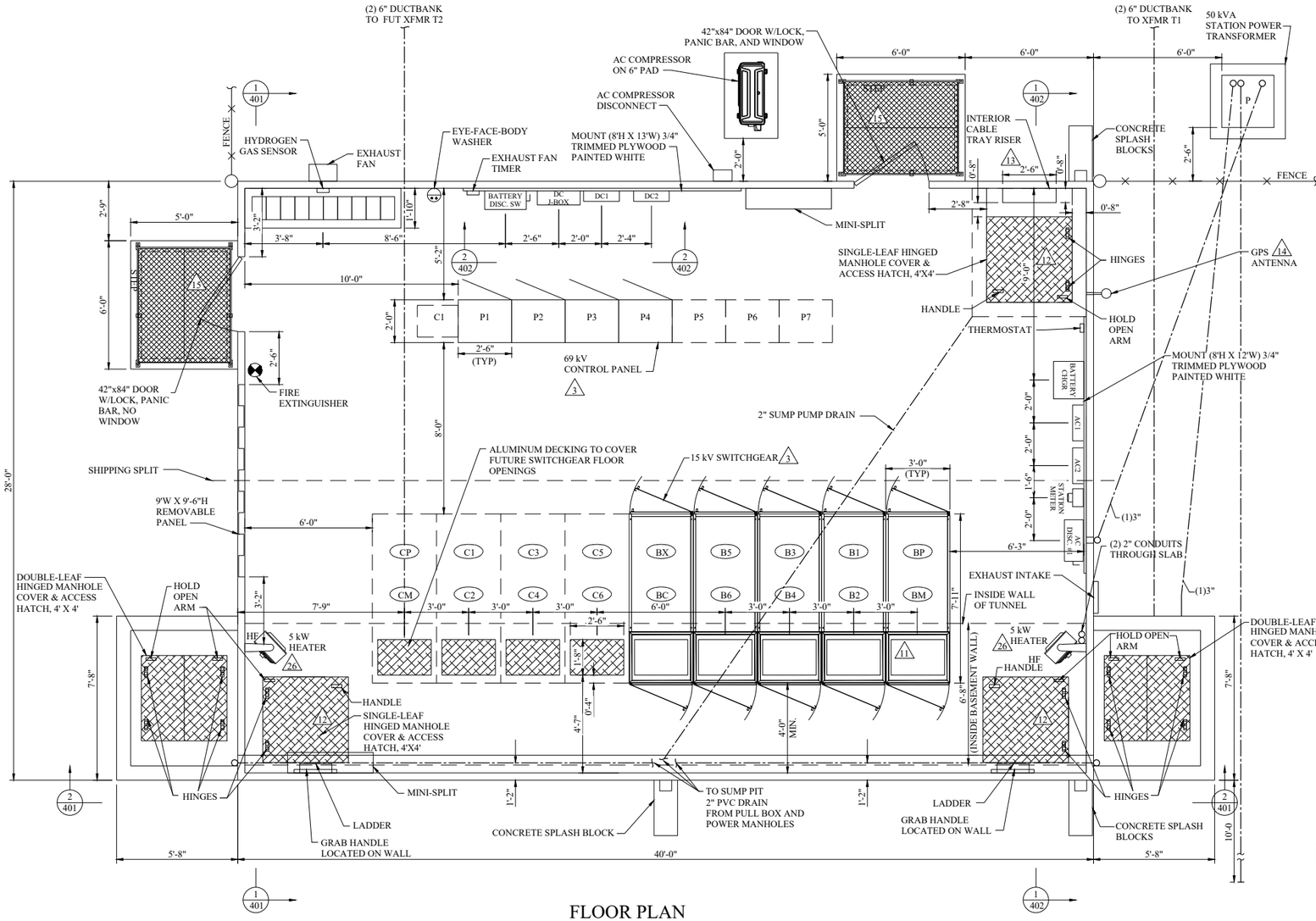
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

BILL OF MATERIALS
REISNER SUBSTATION

SHEET RS-390

\\RRJ\ADGR01\PRJ\04\428403\DWG\RS-390.DWG

Plot Date: 6/11/2024 8:19:55 AM



FLOOR PLAN

SCALE (FT.) 0 1.5 3 6

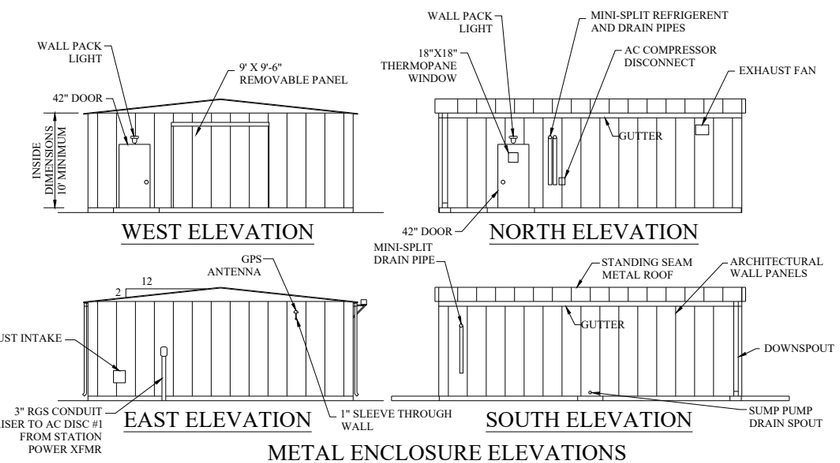
NORTH

NOTES (SUBSTATION CONTRACTOR)

1. All low-voltage power and control cables will be run in the cable tray. Single conductor wires are not allowed in the cable tray and must be ran in conduit.
2. Contractor shall coordinate all floor opening locations and sizes with the equipment. Coordinate exact placement and openings so that cable entrances line up correctly with floor openings such that cables may be easily trained into switchgear. Enclosure will have a partial basement where switchgear cables will enter and exit the enclosure.
3. The control panels and switchgear will be supplied and installed by Others. The Contractor shall be responsible for removing and reinstalling the control enclosure's removable panel to aid in the switchgear and control panel installation. The Contractor shall coordinate the timing of switchgear and control panel installation with the suppliers.
4. The Contractor shall verify dimensions shown on this drawing.
5. Connect enclosure, equipment and station power transformer to ground grid. Ground both ends of 15 kV switchgear and control panels with #4/0 bare Copper and connect to ground grid.
6. Cap all unused conduits. Seal all conduits with and without cables installed.
7. Battery rack shall be bolted to the floor and connected to the ground conductor in cable tray.
8. Top of manhole covers shall be flush with the surrounding supplied floor.
9. Provide recessive and/or removable handles on manhole covers.
10. Layout is diagrammatic in nature and does not show all items required. See specifications for details.
11. Contractor shall coordinate all floor openings with supplied equipment.
12. The hatch doors shall be aluminum 4' X 4". Provide Nystrom, see structural drawings for details.
13. See detail 3/402 for conduit layout on north wall.
14. Route GPS antenna wiring through respective conduit sleeves into enclosure. GPS antenna will be furnished by Others and installed by this Contractor.
15. Stoop grate will be furnished by the Owner and placed by this Contractor.
16. Coordinate conduit route and final stub up locations for the station power transformer with the Engineer and the Owner.

NOTES (ENCLOSURE CONTRACTOR)

21. All low-voltage power and control cables will be run in the cable tray. Single conductor wires are not allowed in the cable tray and must be ran in conduit.
22. Contractor shall ensure all equipment is grounded per latest version of NEC.
23. AC and DC panels will be shipped to supplier for installation prior to enclosure shipment to the site.
24. The Contractor shall verify dimensions shown on this drawing.
25. Layout is diagrammatic in nature and does to show all items required. See specifications for details.
26. Mount heaters minimum of 7' from floor on east and west walls. Provide one thermostat for both heaters. This thermostat shall be separate from HVAC thermostat.
27. Provide sleeves through wall for equipment noted as required.



METAL ENCLOSURE ELEVATIONS

NOT TO SCALE

REV	DATE	DESCRIPTION
B	05-14-2024	ISSUED FOR SWITCHGEAR BIDS
C	06-07-2024	ISSUED FOR REVIEW - CONTROL PANEL BIDS
D	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

598of1149

CONTROL ENCLOSURE
FLOOR PLAN
REISNER SUBSTATION

SHEET RS-400

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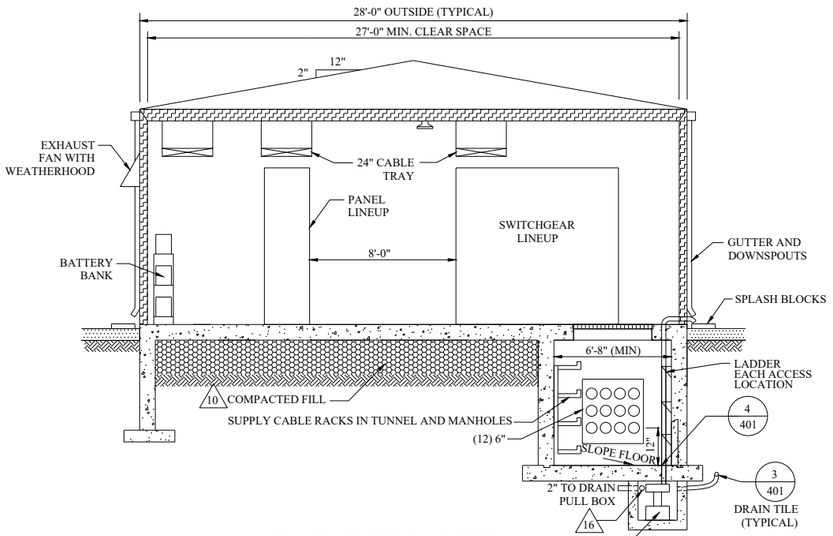
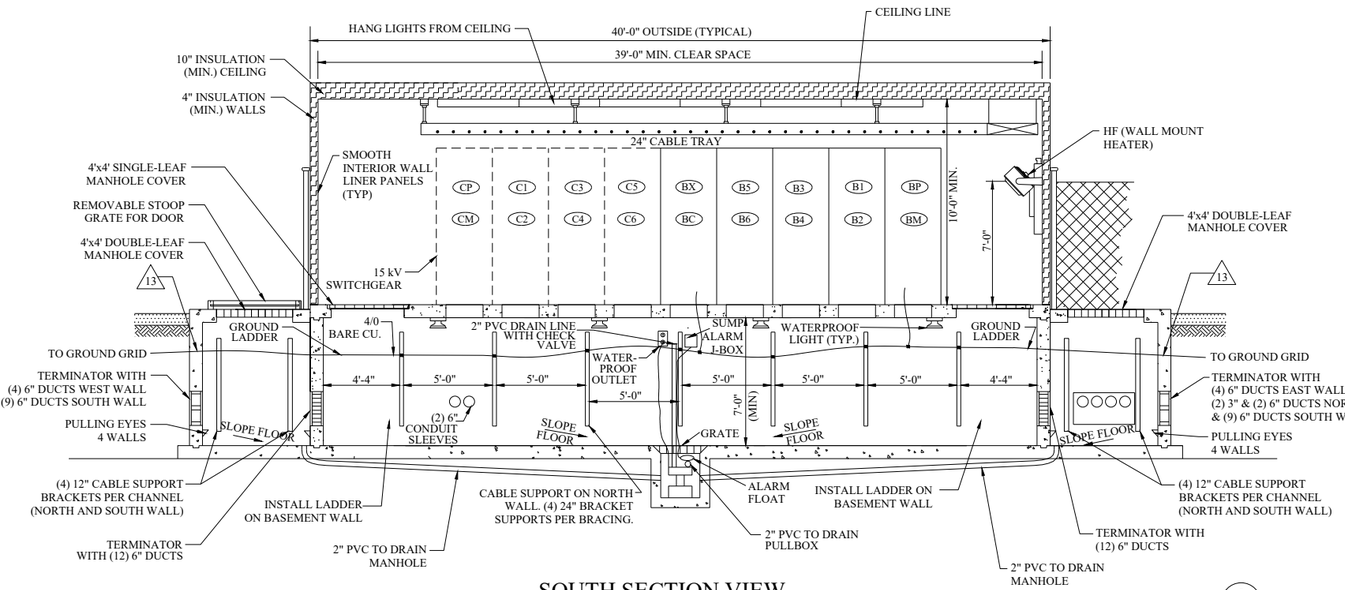
Plot Date: 6/11/2024 7:23:36 AM



EAST SECTION VIEW

N.T.S.



SOUTH SECTION VIEW

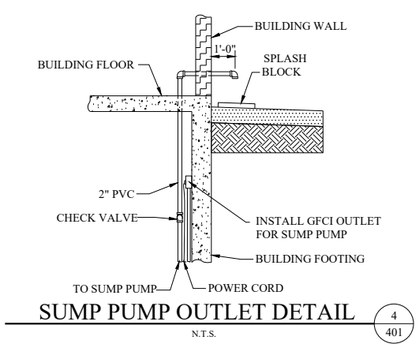
N.T.S.

2
401

DRAIN TILE DETAIL

N.T.S.

3
401



SUMP PUMP OUTLET DETAIL

N.T.S.

4
401

NOTES (SUBSTATION CONTRACTOR)

1. Height of ceiling, removable panel size, other clearances and dimensions shall be coordinated with supplied equipment.
2. Ground both ends of 15 kV switchgear with #4/0 bare Copper. Connect to ground grid.
3. Connect enclosure equipment, ladders, and station power transformers to ground grid.
4. Cap all unused conduits. Seal all used and unused conduits once cables have been installed.
5. Contractor shall verify all conduit locations as per equipment requirements.
6. Battery rack shall be bolted to the floor and grounded to the ground grid.
7. Contractor shall coordinate all floor openings with supplied equipment.
8. Contractor shall provide floor openings for equipment being placed by Others.
9. Drain outside manholes into sump pit with minimum 2" duct.
10. See foundation drawings for construction details.
11. Coordinate exact placement of switchgear and openings such that the cable entrances line up correctly with basement tunnel wall such that cables may be easily trained into cable racks below.
12. Distribution feeder cable routing and terminations to 15 kV switchgear feeder bays will be by Others, including power cable and terminations. Power cables for transformer-to-switchgear main run shall be supplied by the Owner and installed by this Contractor. Terminations shall be furnished and installed by this Contractor.
13. Contractor shall install ground grid all around the exterior of the enclosure. Provide sleeves for ground conductor entrances as required.
14. Contractor to cover each bracket with PVC conduit for cable saddles. All metal brackets shall be grounded.
15. Provide cable support racks and ladder in the manholes and basement.
16. Furnish a 2" conduit on the near side to drain the west power manhole and a 2" conduit on the far side to drain the east power manhole.
17. Contractor shall install GPS antenna as required by manufacturer's instructions. This includes obtaining a clear signal from the GPS satellite at all times.
18. For grate support, furnish and install galvanized steel angles in sump pit and secure into concrete slab as required. Grate shall be level with surrounding floor and top of sump pit.

NOTES (ENCLOSURE CONTRACTOR)

21. Height of ceiling, removable panel size, other clearances and dimensions shall be coordinated with supplied equipment.
22. All low-voltage power and control cables will be run in the cable tray. Single conductor wires are not allowed in the cable tray and must be ran in conduit.
23. Contractor shall ensure all equipment is grounded per latest version of NEC.
24. AC and DC panels will be shipped to supplier for installation prior to enclosure shipment to the site.
25. The Contractor shall verify dimensions shown on this drawing.
26. Layout is diagrammatic in nature and does to show all items required. See specifications for details.
27. Mount heaters minimum of 7' from floor on east and west walls. Provide one thermostat for both heaters. This thermostat shall be separate from HVAC thermostat.
28. Provide sleeves through wall for equipment noted as required.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
599of1149

CONTROL ENCLOSURE
SECTION VIEWS
REISNER SUBSTATION

SHEET RS-401

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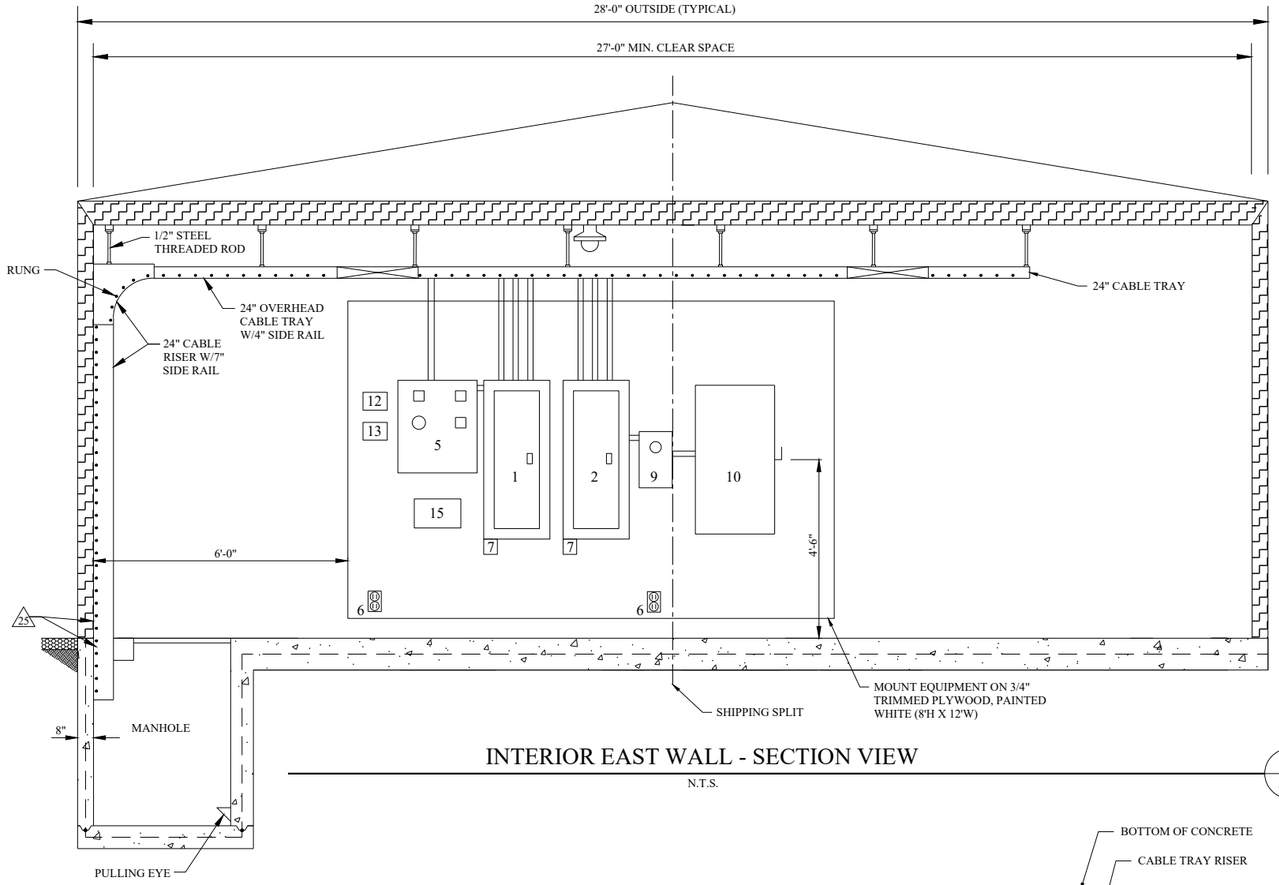
Plot Date: 6/11/2024 7:23:37 AM



INTERIOR EAST WALL - SECTION VIEW

N.T.S.

1/402

NOTES (ENCLOSURE CONTRACTOR)

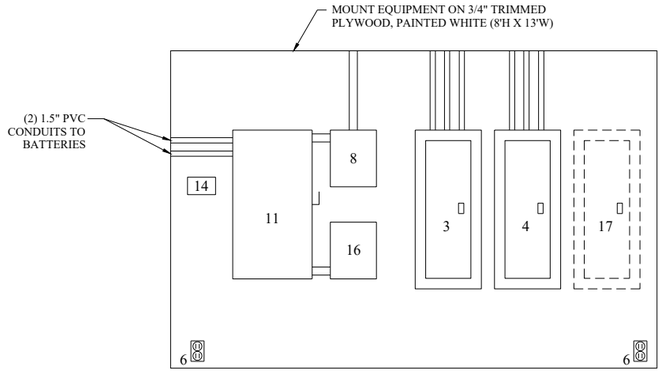
21. Furnish conduits as required.
22. Contractor shall leave space for future equipment.
23. Conduits shall be installed and sized per NEC code. Conduits shall be sized for all future and spare circuits from the AC and DC panels.
24. Contractor shall provide mounting provisions as required for continuous cable riser run if interior building wall does not align with interior 8" foundation wall. Supply cable tray riser for installation in the field by the Substation Contractor.

NOTES (SUBSTATION CONTRACTOR)

1. Furnish conduits as required.
2. Install cable tray riser in the field. Coordinate with Enclosure Contractor.
3. Breaker test cubicle will be furnished by Others and installed by this Contractor.

EQUIPMENT

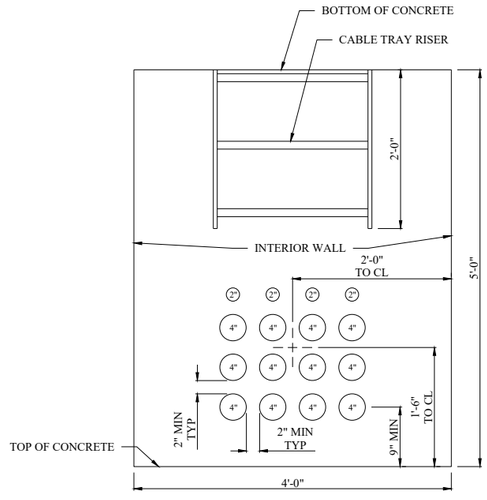
1. AC panel "AC1"
2. AC panel "AC2"
3. DC panel "DC1"
4. DC panel "DC2"
5. Battery charger 125 VDC
6. Duplex outlet, 120V, 20 amp
7. Surge protector
8. DC junction box
9. Station Meter
10. AC disconnect #1
11. DC disconnect
12. Thermostat (mini-splits)
13. Thermostat (Wall mounted heaters)
14. Exhaust fan timer/control
15. Breaker test cubicle
16. Alarm junction box
17. Future DC panel "DC3"



INTERIOR NORTH WALL PANELS - SECTION VIEW

N.T.S.

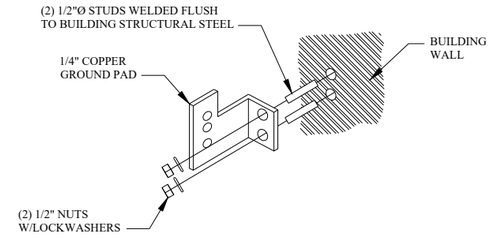
2/402



PULLBOX NORTH WALL DETAIL

N.T.S.

3/402



BUILDING GROUND PAD DETAIL

N.T.S.

4/402

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
600of1149

CONTROL ENCLOSURE
SECTION VIEWS
REISNER SUBSTATION

SHEET RS-402

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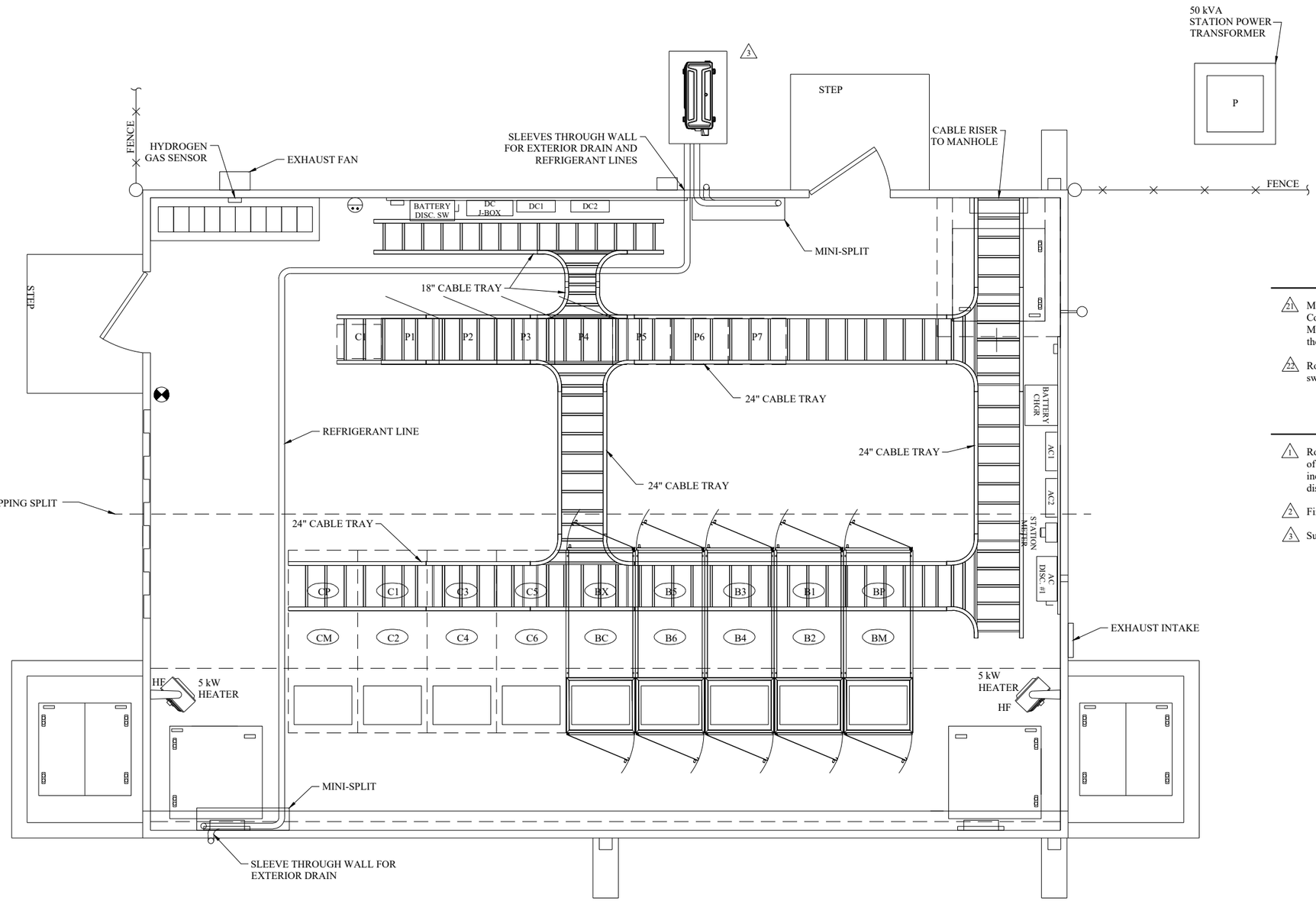
Plot Date: 6/11/2024 8:20:33 AM



CABLE TRAY AND HVAC PLAN

0 1.5 3 6

SCALE (FT.)

NORTH

NOTES (ENCLOSURE CONTRACTOR)

21 Mount mini-splits as high as possible. Control Enclosure supplier shall size the units per the Control Enclosure. The minimum size shall not be smaller than the ratings in the specifications. Mini-splits to be interlocked with smoke detector auxiliary relays and to be controlled with one thermostat.

22 Route refrigerant lines as required. Do not route above electrical panels, control panels, or switchgear.

NOTES (SUBSTATION CONTRACTOR)

1 Route 4/0 ground conductor through cable tray and bond to exterior ground grid. Bond each piece of cable tray to ground conductor. Bond all electrical equipment to ground conductor in cable tray, including but not limited to: control panels, switchgear, battery bank rack, AC panels, DC panels, disconnects, battery charger.

2 Fire extinguisher and eye wash shall be furnished and installed by the Substation Contractor.

3 Substation Contractor shall coordinate final pad size for condensing unit with supplied equipment.

LEGEND

Fire Extinguisher

Emergency Eye Wash

P:\04\428403\DWG\RS-405.DWG

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

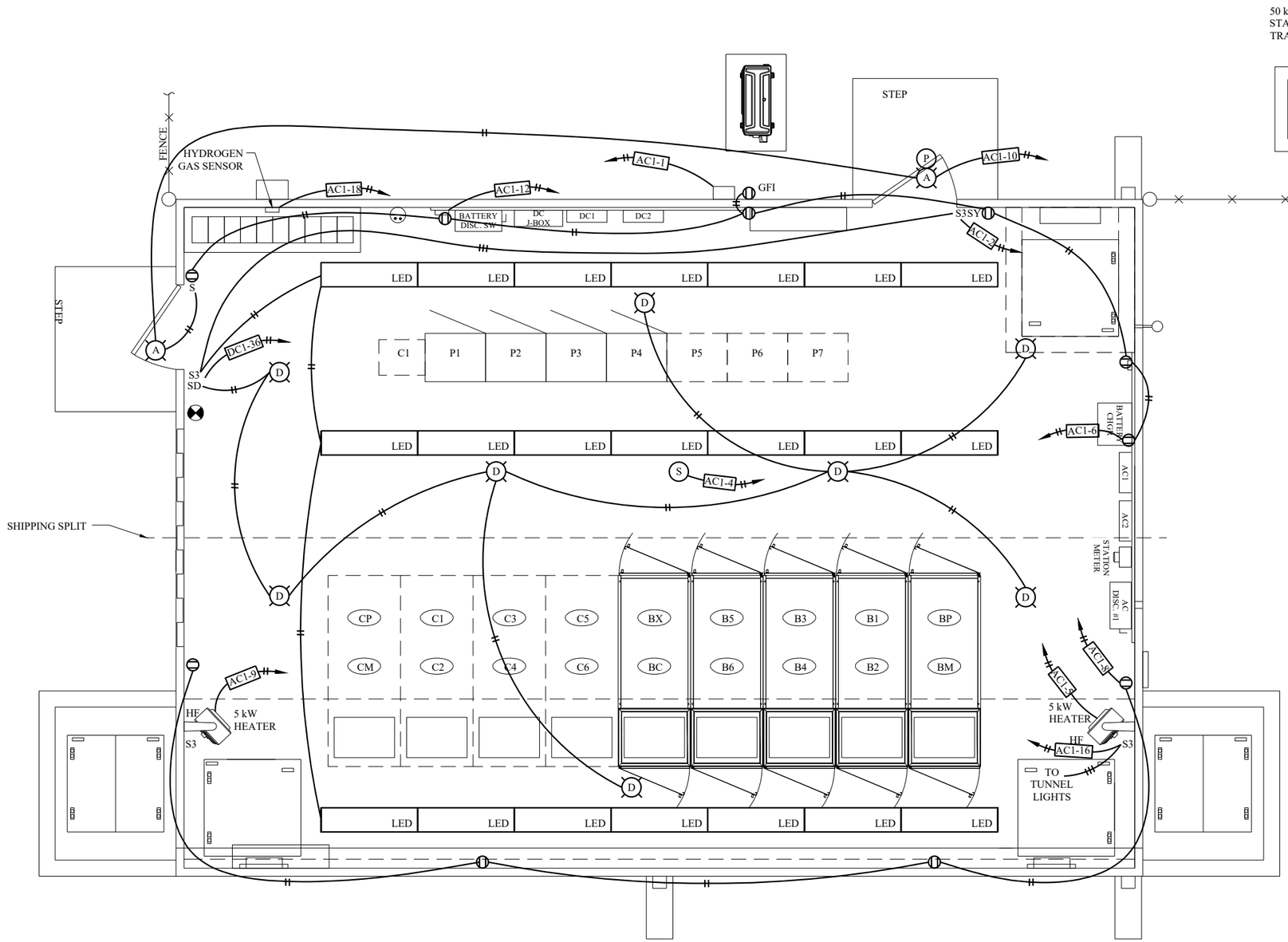
DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
601of1149

CONTROL ENCLOSURE
CABLE TRAY & HVAC PLAN
REISNER SUBSTATION

SHEET RS-405



ELECTRICAL AND LIGHTING PLAN

0 1.5 3 6
SCALE (FT.)

NORTH

NOTES (ENCLOSURE CONTRACTOR)

21. Coordinate all station service equipment with needs of supplied equipment.
22. Not all circuits shown. See drawings RS-410 & RS-411 for AC and DC panel layouts.
23. Smoke detectors and door switches shall be wired for alarming to SCADA. See detail 2/407 for typical schematic.
24. Lighting fixtures shall be 4'-0" LED with (2) tubes.
25. Hydrogen gas sensor shall be located above battery bank. Main control shall be located next to battery bank. Install system per Manufacturer's instructions.
26. Furnish and install tunnel light circuit from AC panel to light switches.

NOTES (SUBSTATION CONTRACTOR)

1. Furnish and install tunnel light circuit from light switch to tunnel lights.

LEGEND

SD	Switch, 125 VDC, with pilot lamp (label)
S	Switch, 120 VAC, 20 Amp (label)
S3	Switch, 120 VAC, 3-Way (label)
SY	Switch, 240 VAC, yard light (label)
	Duplex Outlet, 120 VAC, 20 Amp
LED	LED Lighting Fixture, 120V
A	Wallpack LED lighting fixture, 60 watt, 120 VDC
D	125 VDC light, 100 Watt
S	Smoke Detector
	Fire Extinguisher
P	External Photocell

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

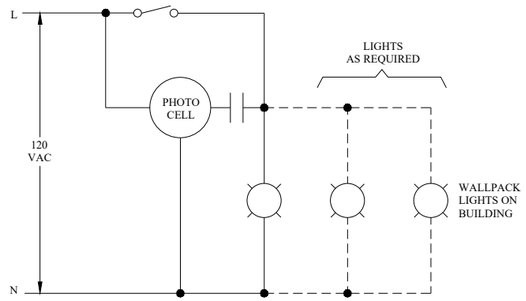
DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

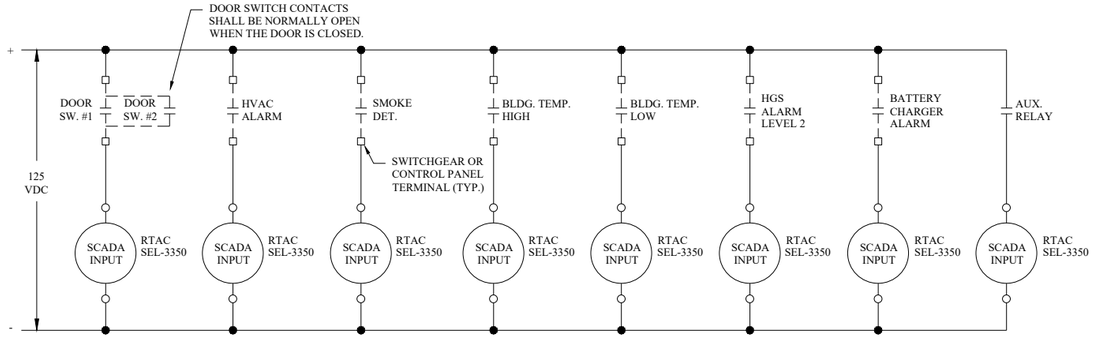
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
602of1149

CONTROL ENCLOSURE
ELECTRICAL & LIGHTING PLAN
RESINER SUBSTATION

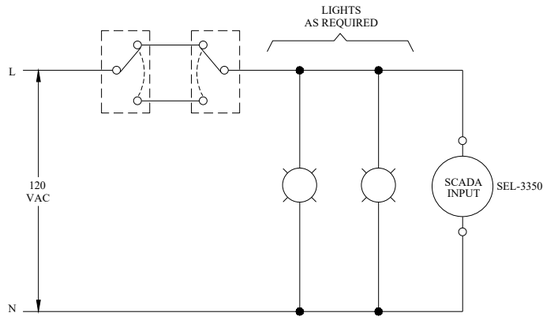
SHEET RS-406



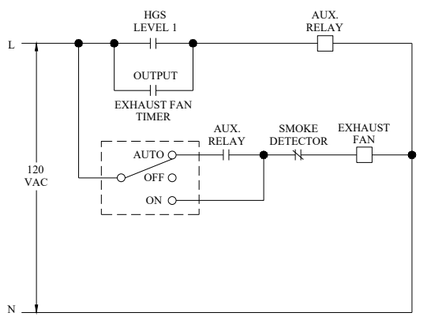
TYPICAL OUTDOOR BUILDING LIGHTING SCHEMATIC — 1/407



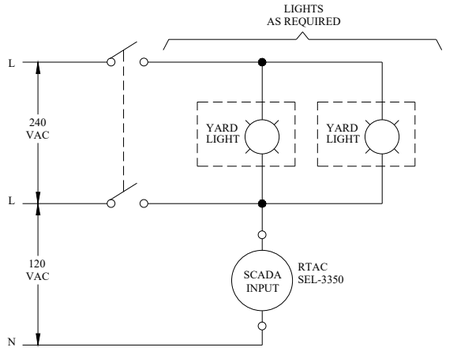
BUILDING ALARM SCHEMATIC — 2/407



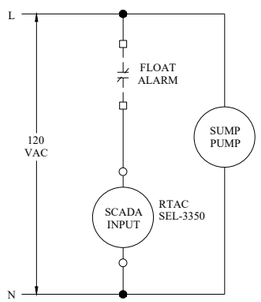
TYPICAL AC INTERIOR LIGHTS MONITORING SCHEMATIC — 3/407



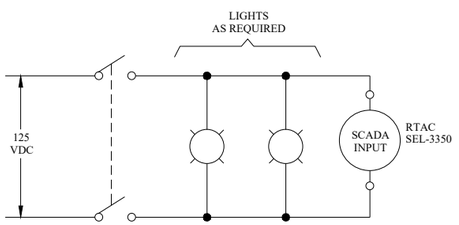
HVAC VENTILATION SCHEMATIC — 4/407



TYPICAL OUTDOOR YARD LIGHTING SCHEMATIC — 5/407



BUILDING SUMP PUMP SCHEMATIC — 6/407



DC LIGHTS SCHEMATIC — 7/407

NOTES (ENCLOSURE CONTRACTOR)

21 Furnish and install an alarm junction box to interconnect building equipment circuits to RTAC inputs and yard lights. Size junction box as required.

22 Enclosure Contractor shall furnish detailed building schematics and wiring diagrams based on the schematics shown and other systems required for building electrical.

NOTES (SUBSTATION CONTRACTOR)

1 Furnish and install sump pump and associated alarm float, receptacle, and wiring.

2 Furnish and install yard lights. Cable between yard lights and alarm junction box will be furnished and installed by the Owner.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

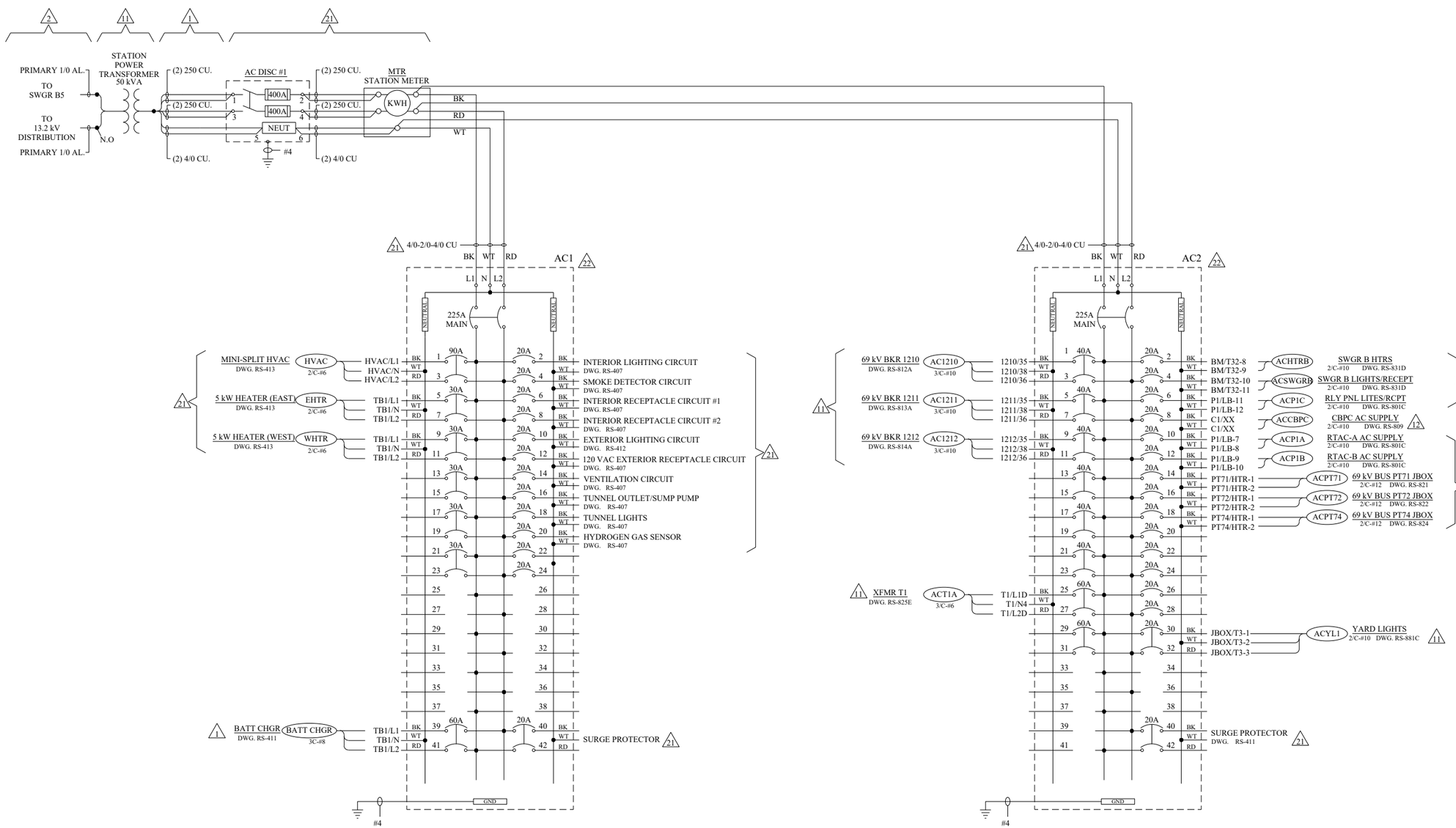
Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

603of1149

CONTROL ENCLOSURE - ELECTRICAL SCHEMATICS
RESINER SUBSTATION

SHEET RS-407



NOTES (GENERAL)

1. Equipment and cables furnished and installed by the substation contractor.
2. Cables furnished and installed by the distribution contractor.
3. Wire terminations are not verified and are subject to change.
4. Breakers to be rated for 22 KAIC.

NOTES (OWNER)

11. Equipment and cables furnished and installed by the Owner.
12. Owner to furnish and leave coiled in cable tray above panel for CBPC use.

NOTES (ENCLOSURE CONTRACTOR)

21. Equipment and cables furnished and installed by the control enclosure supplier.
22. Panels are Owner furnished. Control enclosure supplier shall install panels in building prior to shipping to site. Breaker layouts and sizes shall be added and/or modified as required per supplied equipment prior to shipment.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
604of1149

AC PANEL DETAILS
REISNER SUBSTATION

SHEET RS-410

Plot Date: 6/11/2024 8:27:17 AM

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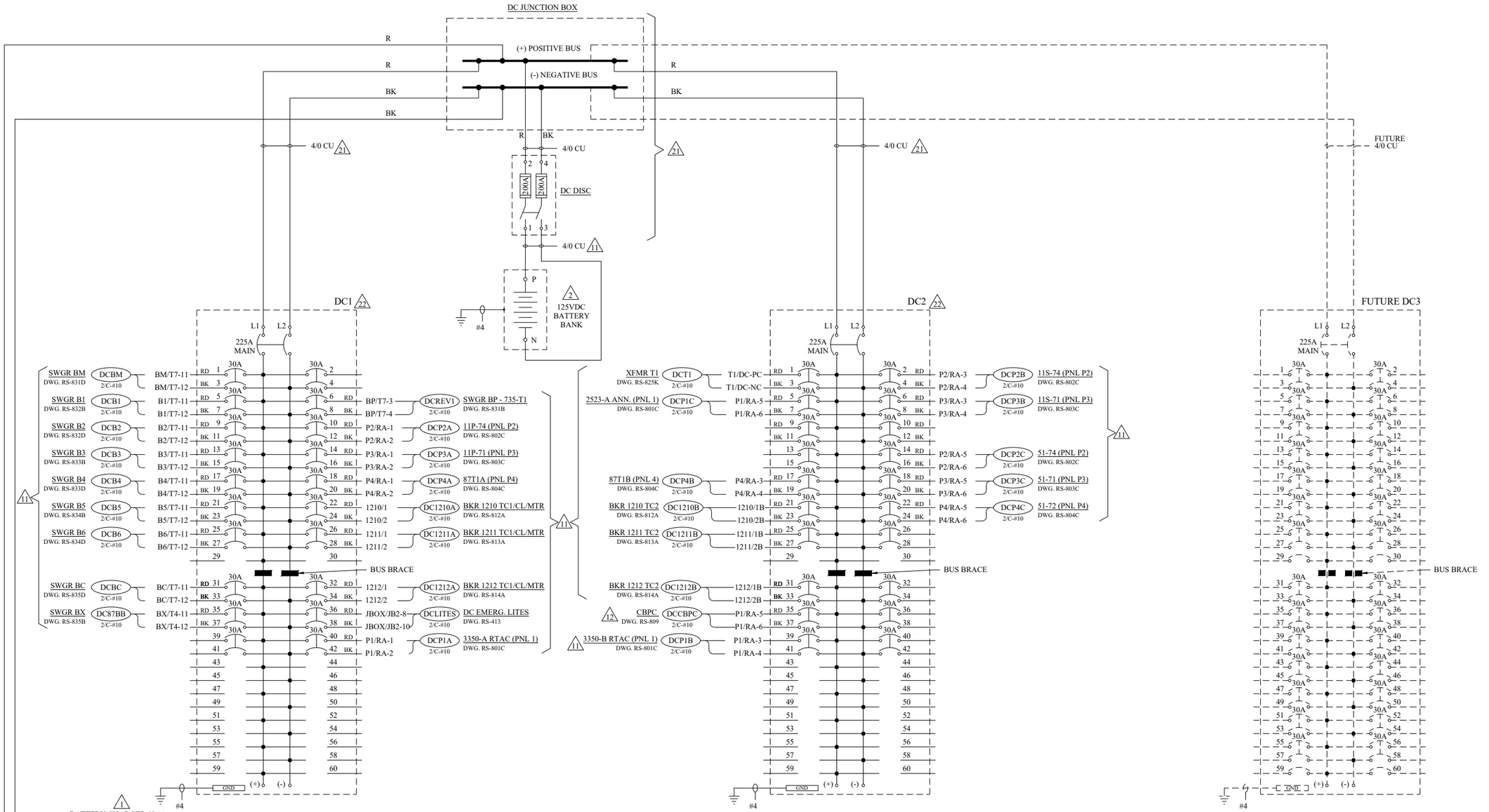
Plot Date: 6/11/2024 9:30:54 AM



NOTES (GENERAL)

1. Equipment and cables furnished and installed by the substation contractor.
2. Battery Bank, VRLA, 162 AH (Furnished and installed by substation contractor)
3. Wire terminations are not verified and are subject to change.
4. Breakers to be rated for 22 KAIC.

NOTES (OWNER)

11. Equipment and cables furnished and installed by the Owner.
12. Owner to furnish and leave coiled in cable tray above panel for CBPC use.

NOTES (ENCLOSURE CONTRACTOR)

21. Equipment and cables furnished and installed by the control enclosure supplier.
22. Panels are Owner furnished. Control enclosure supplier shall install panels in building prior to shipping to site. Breaker layouts and sizes shall be added and/or modified as required per supplied equipment prior to shipment.

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR CONTROL ENCLOSURE AND CONSTRUCTION BIDS

ENGINEERING

Project Manager: ADK
Designer: KEB
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

605of1149

DC PANEL DETAILS
REISNER SUBSTATION

SHEET RS-411

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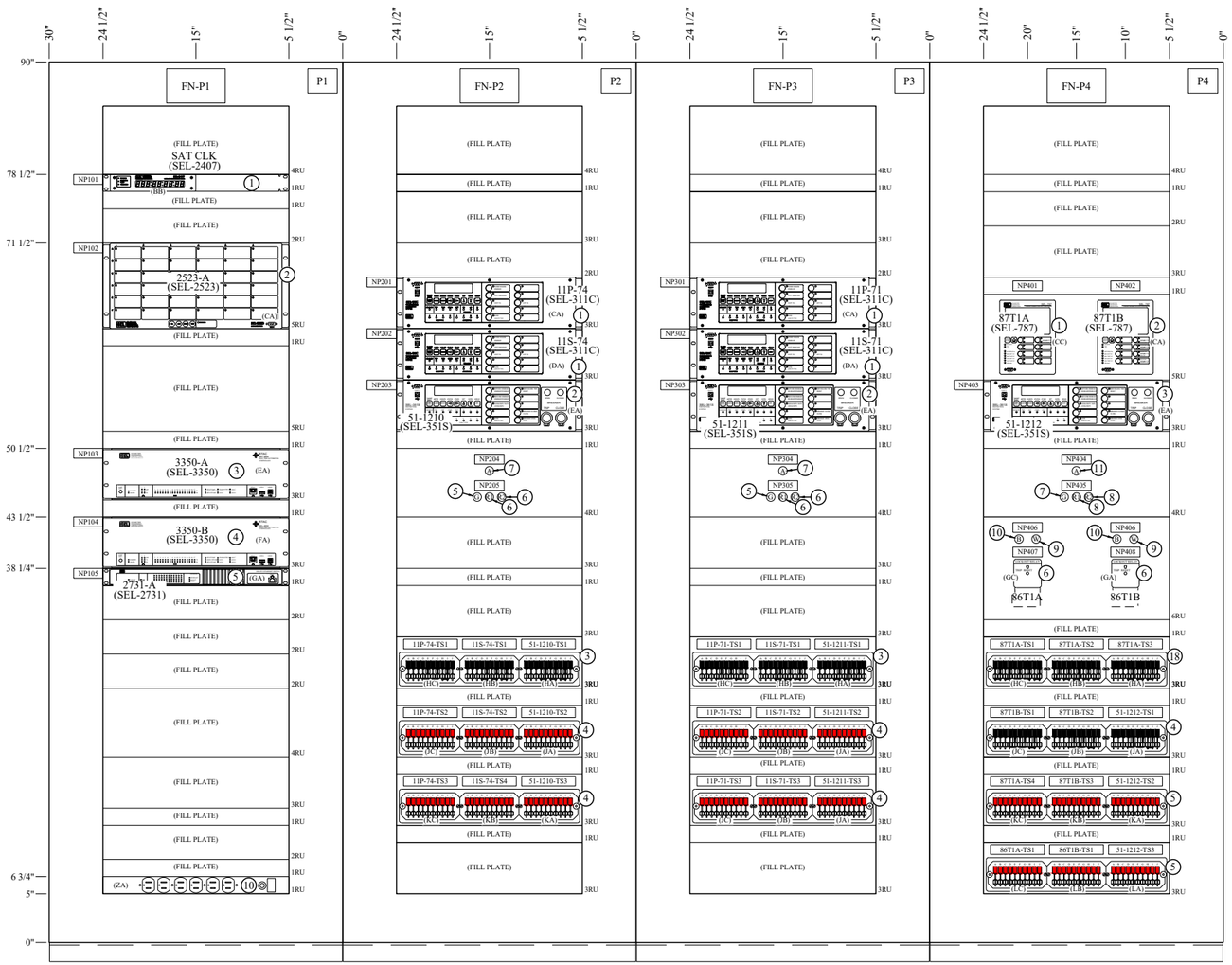

COMMUNICATIONS
PANEL P1

69 kV LINE
TO SWEAZEY
PANEL P2

69 kV LINE
TO WILLIAMS
PANEL P3

69/13.2 kV XFMR
T1
PANEL P4

FOR REFERENCE ONLY

REV	DATE	DESCRIPTION
A	04-25-2024	PRELIMINARY

DGR ENGINEERING

Project Manager: ADK
Designer: KAG
Project Number: 428403
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
606of1149

CONTROL PANEL LAYOUT
REISNER SUBSTATION

SHEET RS-500

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Category V

Technical Data

- Geotechnical Report
  (This data is presented for informational purposes only and is not part of the Contract Documents.)

GEOTECHNICAL EXPLORATION REPORT

ALLENDER BUTZKE ENGINEERS INC.
GEOTECHNICAL • ENVIRONMENTAL • CONSTRUCTION Q. C.

DECEMBER 22, 2023 **PN 231247**

GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PERFORMED FOR

DGR ENGINEERING
1302 SOUTH UNION STREET
ROCK RAPIDS, IA 51246

3660 109TH STREET • URBANDALE, IOWA 50322 • PHONE 515-252-1885 • FAX 515-252-1888

ALLENDER BUTZKE ENGINEERS INC.
GEOTECHNICAL • ENVIRONMENTAL • CONSTRUCTION Q. C.

December 22, 2023

DGR Engineering
1302 South Union Street
Rock Rapids, IA 51246
Attn: Mr. Ryan Kleinjan, P.E.

RE: Geotechnical Exploration
Reisner Substation
Millards Ln and Closz Drive
Webster City, Iowa
PN 231247

Dear Mr. Kleinjan:

As authorized by you, Allender Butzke Engineers Inc. (ABE) has completed the geotechnical exploration for the above referenced project. The geotechnical exploration was conducted to evaluate physical characteristics of subsurface conditions with respect to design and construction of this project. The enclosed report summarizes the project characteristics as we understand them, presents the findings of the borings and laboratory tests, discusses the observed subsurface conditions, and provides geotechnical engineering recommendations for this project.

We appreciate the opportunity to provide our geotechnical engineering services for this project. If you have any questions or need further assistance, please contact us at your convenience. We are also staffed and equipped to provide construction testing and inspection services on this project as well as environmental site assessments.

Respectfully submitted,
ALLENDER BUTZKE ENGINEERS INC.

Seth Hansen, P.E.
Project Engineer

Matt Drummond, P.E.
Principal Engineer

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

12-22-23

Seth A. Hansen, P.E. License Number 26401 Date

My license renewal date is December 31, 2023.

Pages covered by this seal: All Pages.

1 PC and Email Above

GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PN 231247

TABLE OF CONTENTS

GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PN 231247

December 22, 2023

PROJECT INFORMATION

The City of Webster City with design assistance from DGR Engineering is planning the design of a new substation near Millards Lane and Closz Drive. The following Figure No. 1 prepared by DGR Engineering depicts the conceptual site layout.

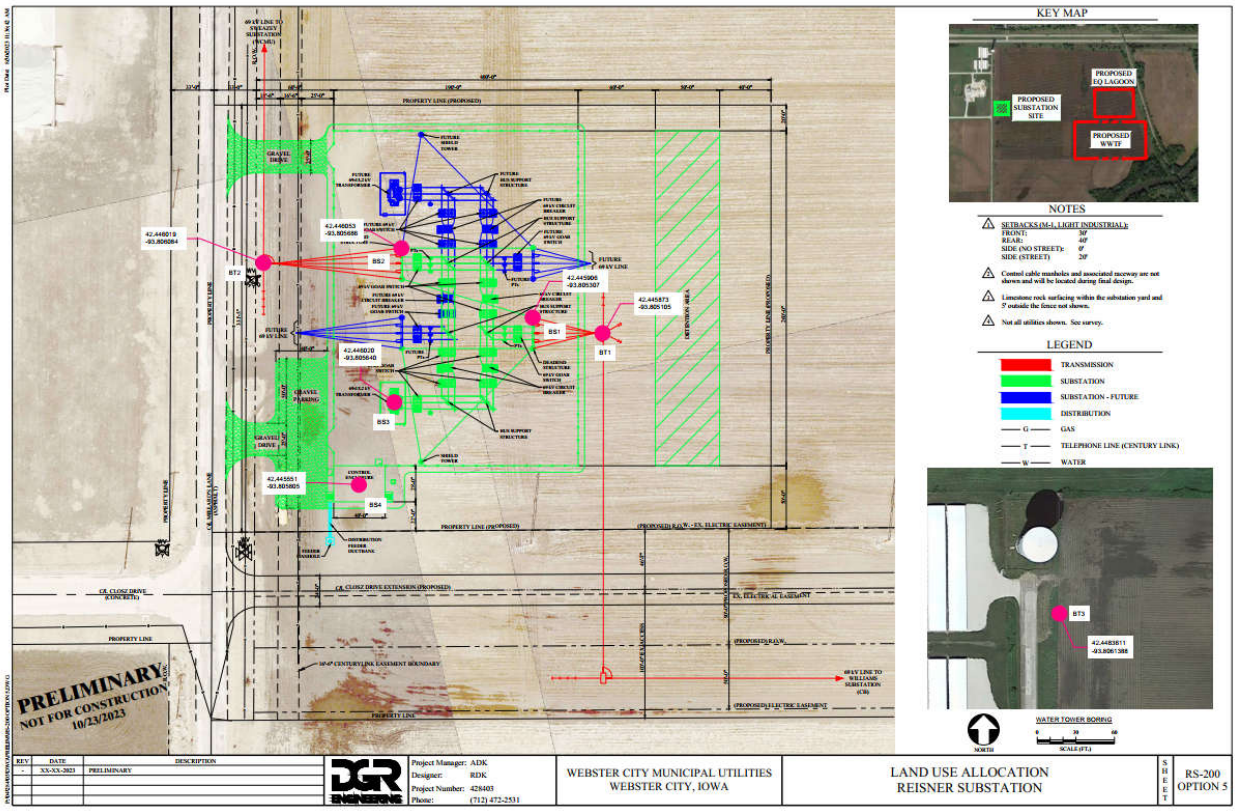


Figure No. 1 – Reisner Substation Conceptual Layout (DGR Engineering)

The following project information has been provided by DGR Engineering. The substation will include dead end structures, shield wire masts, transformers, control buildings, and switchgear enclosures. DGR Engineering has indicated that all structures at the site will be supported on

drilled shafts. Structural steel floor slabs for the Switchgear enclosures and control buildings will be also be supported on drilled shafts. Anticipated axial load on the drilled shafts at the transformer is 140 kip (including an increase for group load factor) whereas other structures will be subject to primarily lateral loads. Typical axial loads for the control buildings and switchgear enclosures will be 20 kips.

We assume final grades for the substation pad will be established 2 to 4 feet above existing grades or near elevation 1,066 feet. We assume the top of the drilled shafts will be near the final substation pad elevation. Based on the existing grades of our borings we assume fill depths of 2 to 4 feet or less will be required to achieve final grades. Deeper cut depths on the order of 10 to 15 feet may be required in the detention basin east of the substation structures. We assume soils excavated from the detention basin will be used for borrow. We request the opportunity to review the final grading plan, once available, to ensure our recommendations match plans for construction.

FIELD EXPLORATION

Seven borings were conducted at this site to depths of 30 and 43 feet below existing grades on October 27 and 30, 2023. Approximate locations of test borings are shown on the enclosed Site Plan and were located and staked at the site by Bolton & Menk prior to field exploration. The location of boring BT-3 was offset from the staked location to avoid buried utilities. The boring surface elevations, indicated on the enclosed Boring Logs, were provided by Bolton & Menk. The boring surface elevation of boring BT-3, indicated on the enclosed Boring Logs, was determined by ABE using GPS survey equipment and was Iowa Real-Time Network (RTN) derived. Methods of drilling, sampling, standard laboratory testing, and classifying of subsurface materials are discussed in the Boring Log Description/Legend pages of the Appendix.

SUBSURFACE CONDITIONS

Site Geology

This project site is located within a geomorphic region known as the "Des Moines Glacial Lobe." The Wisconsinan glacier was the last glacier to advance into north central Iowa. The brown to brown-gray Wisconsinan glacial till present near the surface and deposited as the glacier retreated, typically consists of sandy lean clay with random zones of high sand and silt content. Fine grained deposits of very dark gray locally derived alluvium are commonly encountered at the surface in isolated upland depressions. The deeper dark gray Wisconsinan glacial till, deposited as the glacier advanced, consists of a more homogeneous mixture of sand, silt and clay. It is not

uncommon to encounter relatively thick sand layers, termed glacial outwash deposits, within the glacial till formation as well as random cobbles and boulders. The overburden soils are underlain by the Mississippian bedrock system consisting of dolomite, limestone, and sandstone.

Detailed descriptions of soils encountered by this exploration are provided on the Boring Logs enclosed in the Appendix. The Profile of Borings (Plate A-1) presented in the Appendix depicts the relative deposit elevations in the borings. Following is a discussion of the subsurface materials encountered in the borings. Unless otherwise indicated, the depths of soil stratum and groundwater levels are referenced from below existing grade at the individual boring locations at the time of drilling.

In general the borings encountered natural soils consisting predominately of sandy lean clay (CL) Wisconsinan glacial till and glacial outwash (sand) soils typical to this area of Iowa. The upper 1 to 2 feet consisted of sandy lean clay (CL) or lean to fat clay (CL-CH) topsoil. Below the topsoil the upper 8 to 10 feet of the Wisconsinan glacial till is medium stiff to stiff, moist to very moist and consists of more variable deposits of sand, silts, and clay. Below depths of 8 to 10 feet the dark gray sandy lean clay (CL) Wisconsinan glacial till is less variable, moist, and stiff to very stiff. As is common in glacial deposits, sand seams and/or thicker glacial outwash sand layers were encountered in borings at various depths and thicknesses. Saturated sand soils present in the upper 10 to 15 feet tended to be very loose to loose while the deeper sand layers tended to be medium dense to dense. The overburden soils were underlain by hard limestone encountered between depths of 36 and 40.5 feet in 3 out of the 7 borings.

Groundwater Level Observations

The borings were monitored during and shortly after drilling operations to detect moisture seepage and groundwater accumulation. The results of our groundwater level observations are noted on the Boring Logs enclosed in the Appendix.

During drilling operations, moisture seepage or saturated sand was noted between depths of 5 and 11 feet in all borings. Shortly after the completion of drilling operations, groundwater accumulation was observed between depths of 5 and 13 feet in all borings. After a period of approximately 24 hours, groundwater accumulation was observed near respective depths of 4.5 and 5 feet in boring BT-2 and BS-2. The majority of Iowa has experienced a nearly 12-month period of below normal precipitation which has likely caused lower than normal water levels at this site. These short-term water levels are not necessarily a true indication of the groundwater table. Long-term observations would be necessary to accurately define the groundwater variations at this site.

Brown-gray coloring of the Wisconsinan glacial till is an indication of past fluctuations of the groundwater in this zone. Furthermore, local alluvium soils typically develop under high seasonal groundwater levels at or near the surface. Therefore, we interpret that past seasonal high groundwater tables have been near or above the surface in the isolated depressions and shallow drainageways across the site and near depths of 2 to 4 feet or deeper in the upland areas of the site. Fluctuation of groundwater levels can occur due to seasonal variations in the amount of rainfall, surface drainage, subsurface drainage, site topography, irrigation practices, and ground cover (pavement or vegetation).

ANALYSIS AND RECOMMENDATIONS

Site Preparation and Grading

Based on the existing grades of our borings we assume fill depths of 2 to 4 feet or less will be required to achieve final grades. Deeper cut depths on the order of 10 to 15 feet may be required in the detention basin east of the substation structures. Prior to the placing of concrete floors or pavements on this site, or before any fill is placed, the organic and loose materials in addition to all vegetation must be stripped. We expect that a minimum stripping depth of 6 inches will be required. The stripping depths may vary due to localized variations in vegetation cover and subgrade stability. Deeper stripping on the order of 1 to 2 feet may be required to remove accumulated sediments in low-lying areas of the site. The strippings could be used for landscaping purposes in non-critical areas where support for foundations, floor slabs, and pavements is not required. The subgrade should then be proof-rolled to delineate zones of soft soils present near the surface which may require additional removal or compaction.

We recommend that low plasticity cohesive (Liquid Limit of 45 or less and Plasticity Index of 23 or less) or cohesionless soils, free of rubble and organics, be used as compacted fill. Inorganic existing soil such as the sandy lean clay (CL) Wisconsinan glacial till and glacial outwash sands (SP, SP-SM, SC, SM) would be suitable soil types for general fill applications. Inorganic portions of the lean to fat clay (CL-CH) topsoil are moderately expansive and should not be placed within 2 feet of movement sensitive structures.

The following Table A lists recommended minimum compaction requirements for cohesive and cohesionless fill materials in specific applications. For cohesive soils, moisture contents within a range of -1 to +4 percent of the material's optimum moisture content are

necessary to achieve the desired fill qualities. Soil compacted closer to its optimum moisture content will exhibit greater stability under repeated construction traffic.

TABLE A
RECOMMENDED DEGREE OF COMPACTION GUIDELINES

Construction Application	Standard Proctor (ASTM D698) Cohesive Soil	Standard Proctor (ASTM D698) Cohesionless Soil	*Relative Density (D4253 & D4254) Cohesionless Soil
Class 1	95%	98%	70%
Class 2	90%	93%	45%
Class 3	85%	88%	20%

Class 1 - Subgrade for building foundations, slabs-on-grade, pavements and other critical backfill areas.
Class 2 - Backfill adjacent to structures not supporting other structures - Minor subsidence possible.
Class 3 - Backfill in non-critical areas - Moderate subsidence possible.

*Use Relative Density technique (ASTM D4253 & D4254) where Standard Proctor technique (ASTM D698) does not result in a definable maximum dry density and optimum moisture content.

The on-site soils can be excavated utilizing conventional excavation equipment. Granular soils can generally be suitably compacted with vibratory compaction equipment whereas cohesive soils are more suitable for compaction with sheepsfoot or pneumatic type compactors. Care should be exercised in properly backfilling and compacting all trenches, especially utility trenches under or adjacent to the pavement. Loosely compacted or sand backfilled trenches can collect surface water and inadvertently direct it to the pavement subgrade and cause softening of the soil as well as increasing frost heave potential.

At the time of this geotechnical exploration, moisture contents of the Wisconsinan glacial till deposits were generally near to slightly above the recommended moisture content range for compaction. Depending upon precipitation levels prior to and during construction, adjustment of soil moisture content may be required in order to lower or raise the moisture to within the recommended moisture content range. Controlled wetting and discing may be necessary to raise soil moisture content of dry soils. Discing and aeration is generally the most economical method to lower soil moisture content, if climatic conditions allow. Chemical modification (drying) of very moist soils with Class C fly ash, Portland cement, or quicklime can be accomplished if construction scheduling does not permit field drying. Common chemical modification methods

may not be reactive when temperatures are near or below 40° Fahrenheit if grading or fill placement at the site will be conducted during colder weather.

The contractor should be aware that very moist and soft lean clay (CL) portions of the Wisconsinan glacial till and saturated sand (SP, SP-SM, SM, and SC) soils at the site are easily disturbed by construction traffic and may not provide adequate support for heavy construction equipment, especially in deeper cuts such as in the future detention area under repeated traffic loading. Therefore, low impact excavation methods, such as top loading with excavators may be required in deeper cut areas to reduce disturbance and deterioration of these softer soils. High construction traffic areas will require periodic repair of disturbed or loosened soils.

Excavation Stability and Dewatering

Boring information indicates shallow excavations at this site will encounter both cohesive and granular soils including random wet sand seams and glacial outwash layers within the Wisconsinan glacial till. If excavations encounter only cohesive soils with no wet sand seams or layers, it is expected that the water seepage can be controlled by permitting it to drain into temporary construction sumps and be pumped outside the perimeter of the excavations. More extensive dewatering such as sand points and wells may be required for excavations which extend down into water bearing sand layers. We recommend that prior to excavating in saturated sand, water levels be maintained 2 feet or more below the bottom of excavations in saturated sand to prevent upward seepage forces which could reduce subgrade support.

The extent of bracing or sloping of open cut excavations will be dependent upon depth of cut, groundwater conditions, soils encountered, length of time the excavation will be open, area available for excavation and local governing regulations. Predominately cohesive soils may appear to stand nearly vertical in shallow excavations for short periods of time. However, soil creep, surcharge loads, precipitation, subsurface moisture seepage, construction activity vibrations and other factors may cause these soils to cave within an unpredictable period of time. Excavations encountering sand may tend to cave rapidly, especially if water is flowing through the sand. Unstable granular excavation walls may also cause surrounding cohesive soils to become unstable. Temporary shoring, flattening of the excavation slopes or use of trench boxes may be required to maintain a safe condition. Determining the appropriate OSHA classifications of the soil types encountered and implementing the required provisions for sloping, shoring, and bracing of excavations throughout the project during construction are the responsibility of the contractor per OSHA.

Shallow Foundation Design

In our opinion, newly placed engineered compacted fill and suitable natural soils can provide adequate support for the proposed structure. We recommend that continuous and isolated spread foundations bearing above approximately elevation 1054 feet be proportioned for a maximum net allowable soil bearing pressures of 2,000 pounds per square foot. Higher bearing pressures on the order of 3,000 to 4,000 pounds per square foot could be realized for footings bearing at or below elevation 1054 feet on very stiff Wisconsinan glacial till. We estimate long-term total settlement due to structural loads will be less than 1 inch and differential settlement may be on the order of ½ of the total settlement when foundations bear on newly placed engineered compacted fill and suitable natural soils.

Depending on final structure location softer cohesive soils or loose sand may be encountered near foundation level such as was encountered in the upper 8 feet of boring BS1 in and in BS4 between depths of 3 and 6 feet. Raising existing grades such that spread foundations bear on 2 feet or more of new engineered compacted fill would reduce, but not necessarily eliminate, the necessity of over-excavation during construction. Assuming frost-depth footings bear approximately 4 feet below final grade, final grades near or above approximately elevation 1,069 feet would provide 2 feet or more separation between the foundation level and soft/very loose natural soils. Another option may be to design footings for a lower net allowable bearing pressure of 1,500 pounds per square foot may also reduce, but not necessarily eliminate the need for over-excavation during construction.

Continuous foundations should be adequately reinforced to limit deflections caused by non-uniform soil support characteristics. All exterior foundations and foundations in unheated areas should be placed a minimum of 3.5 feet below final grade to provide protection against frost penetration and reduce movements associated with changes in soil moisture content. The on-site cohesive soils and newly placed cohesive fill would be suitable for trench foundations while sand soils should be expected to cave. Footing excavations should be kept free of water accumulation to prevent softening of subgrade soils.

Observations and test probing of the foundation subgrade soils should be conducted by an ABE geotechnical engineer to determine that the soils are compatible with the design criteria. If zones of soft or otherwise unsuitable soils are encountered at foundation level, we recommend that footings be extended to bear on firmer soils or an over-excavation and compacted backfill procedure be implemented. Over-excavations should extend 9 inches laterally in each direction beyond the foundation edges for each foot of over-excavation depth.

Deep Foundation Design

Drilled Shaft Deep Foundations

In our opinion, a deep foundation system consisting of diameter drilled straight shafts embedded into the very stiff glacial till would provide reliable foundation support for the proposed structures. Drilled shafts will derive support from skin friction and end bearing within the Wisconsinan glacial till (and/or glacial outwash) deposits. The following Table B provides recommendations for allowable skin friction and end bearing values for these two deep foundation systems. The values provided in Table B include consideration of variations in the soil conditions encountered at this site.

TABLE B
DEEP FOUNDATION SOIL PARAMETERS

Soil Type	Approximate Elevation (ft)	Skin Friction (psf)	End Bearing (psf)
Wisconsinan Glacial Till and Glacial Outwash	Above 1054	300	NA
Wisconsinan Glacial Till	Below 1054	800	8,000*

* Drilled shafts should not be terminated in the glacial outwash sand layers

**Assumes ACIP piles achieve auger refusal on limestone

As an example for this project, using the above parameters we calculate a 3 feet diameter drilled shaft with a length on the order of 30 feet, would have an allowable capacity on the order of 245 kips. These are example calculations, actual design of deep foundations will depend upon soil conditions, anticipated loads, and the configuration which will be most economical to construct.

Group reduction factors applied to the skin friction portions alone should be used for deep foundation members established closer than 3 times the pile diameter. Deep foundation groups with closer spacing should have the skin friction reduced (on the order of 15 to 20 percent) to account for group action. We would be available to review proposed ACIP pile spacing and provide specific group reduction recommendations if requested. End bearing is not reduced by group action. Uplift reactions due to overturning loads can be resisted by skin friction and buoyant weight of the foundation. For belled drilled shafts, the buoyant weight of the soil within a cylindrical area above the bell bottom area could be included to resist uplift. We recommend that skin friction values for uplift be limited to 75 percent of the compression skin friction values as

provided in Table B. Belled and straight drilled shafts should not be terminated in sand layers and skin friction should be ignored for a distance above the bottom of a belled shaft equal to the bell diameter.

Laterally Loaded Deep Foundations

Deep foundations will be subject to lateral loads in addition to vertical loads. There are several methods for evaluating the transfer of lateral loads to deep foundations. Depending upon the magnitude of lateral loads and the deflection tolerance of deep foundations, the widely accepted p-y method of analysis may be appropriate for this project to provide more accurate predictions of soil response to lateral loads. We understand the computer program L-Pile may be used to aid in laterally loaded pile design. Estimated properties for use in L-Pile of soil and bedrock materials encountered at this site are provided in the following Table C. The information provided in Table C may also be used if the Broms' method is used to calculate lateral resistance of soils.

TABLE C
SOIL PARAMETERS FOR LATERALLY LOADED
DRILLED SHAFT DESIGN USING L-PILE

Formation	Wisconsinan Glacial Till Above Elevation 1054 feet[1]	Wisconsinan Glacial Till Below Elevation 1054 feet[1]	Glacial Outwash Above Elevation 1054[1]	Glacial Outwash Below Elevation 1054[1]
Estimated Buoyant Unit Weight	63	73	53	63
Static Subgrade Modulus, k (pci)	500	1,000	20	60
Friction Angle, φ	N/A	N/A	29°	34°
Undrained Shear Strength, psf	1,000	3,000	N/A	N/A
Strain Factor, E_{50}	0.007	0.005	N/A	N/A

1) Boring BT3 conducted near the existing water tower north of the site encountered softer glacial till soils to near elevation 1048 feet. Therefore, the lower values provided for the Wisconsinan glacial till and glacial outwash should be applied above elevation 1048 feet and the higher values should be used below elevation 1048 feet.

General

The contractor should be aware of the soil and water conditions which will be encountered during drilled shaft installation. Caving of the on-site saturated sand should be expected. Therefore, temporary casing and/or slurry drilling methods will be required to complete drilled shaft excavations to the desired bearing levels. It is not uncommon to encounter occasional large rocks or boulders within the glacial till deposits that may require special excavation techniques, such as carbide tip core barrel, gadding, or hand excavation. Refusal encountered above the design depth could require a replacement pile. Deep foundation depths may require some adjustments in the field depending upon conditions encountered at time of construction.

Deep foundation depths may require adjustment in the field depending upon conditions at the time of construction. Hand cleaning of drilled shaft bottoms will not be required if the drilling tools are capable of removing soft or loose fragments to provide a plane bearing surface. The bottom should be sounded from ground level to verify removal of loose materials. Concrete should be placed as soon as possible after the drilled shaft excavation has been completed to the confirmed bearing level and the bearing surface has been cleared of loosened material. Concrete should not be placed in drilled shaft excavations without tremie where the depth of water exceeds several inches.

With deep foundations installed as previously described, we estimate long-term settlement due to structural loads will be less than one-half inch and differential settlement will be negligible. Installation of all deep foundations should be observed by a geotechnical representative from our firm to determine that design bearing conditions have been achieved, to note changes in the foundation materials, and observe construction procedures. We recommend that one or two axial load tests be performed at the site to confirm pile capacity. Piles should be load tested to a minimum of 200 percent of pile design capacity, preferably higher.

Floor Slab Support

Interior floor slabs can be adequately supported on a minimum of one foot of reworked inorganic low plasticity (LL $\leq$ 45 and PI $\leq$ 23) natural soils or new engineered compacted fill required to provide the desired final grades. Moderately expansive lean to fat clay (CL-CH) soils should not be present naturally or as fill within 2 feet of movement sensitive floor slabs. The floor slabs can be designed for a modulus of subgrade reaction value of 100 pounds per cubic inch when bearing on a minimum of one foot of prepared subgrade. Testing, observations and probing should be conducted during construction to delineate zones of soft soils which may require repair prior to concrete placement.

Floor Slab Moisture Considerations

American Concrete Institute Guide to Concrete Floor and Slab Construction (ACI 302.1R-15) indicates the use of a moisture vapor barrier or retarder should be considered below concrete slabs on grade with moisture sensitive floor coverings, when the slab-on-grade will support moisture-sensitive equipment, humidity-controlled environment, or climate controlled cooled environment.

The selection of moisture vapor retarders or vapor barriers and granular base materials and their location relative to the bottom of the floor slab oftentimes are a compromise between reducing water vapor movement through the slab, construction techniques, and providing the desired short-term and long-term concrete properties. Items to be considered are use of vapor-sensitive floor coverings/adhesive; humidity-controlled areas; and building and weather environment conditions prior to, during, and after the concrete floor placement.

A granular base should be compactable, trimmable, free-draining in some cases, and remain stable during concrete placement. Compacted crushed aggregate is preferable for this purpose as it usually remains stable under foot or equipment traffic, whereas alluvial derived fill sand does not remain stable and is not recommended. True vapor retarders and vapor barriers must be durable, puncture-resistant, sealable, and have respective water vapor transmission rates (WVTR) of 1.0 US Perm or less (retarder) and 0.01 US Perm or less (barrier). The concrete mix is an important factor since the placement, finish, and cure procedures can influence slab performance with respect to moisture vapor transmission rates. All of these considerations should be addressed in more detail with the owner, designer, engineer, and contractor to arrive at the appropriate design and construction solution for the specific floor application. The American Concrete Institute ACI Manual of Concrete Practice should be consulted for more detailed information on these items.

Lateral Earth Pressures

Walls constructed to retain soil should be designed to accommodate unbalanced lateral earth pressures. Estimated lateral earth pressures for cohesive and cohesionless (granular) backfill are presented in the following Table D. Active earth pressure design assumes that the wall can rotate and deflect at the top. If the wall is rigidly fixed, higher lateral earth pressures will develop against the wall and at-rest pressure parameters should be used for design. Increased earth pressures can also develop from restricted soil drainage, surcharge loads adjacent to the wall, and compaction of the adjacent backfill. Expansive materials (CH), either natural or backfill, should not be within 3 feet of below grade walls.

TABLE D
LATERAL EARTH PRESSURE PARAMETERS

Condition	Cohesive Soil (non-expansive clay)	Cohesionless Soil (Sand)	Cohesionless Soil (Crushed Rock)
Assumed Backfill Characteristics			
Approximate Total Density	130 pcf	120 pcf	130 pcf
Approximate Friction Angle	15° - 20°	30° - 35°	40° - 45°
Active Pressure Coefficient, K_a	0.5	0.3	0.2
At-Rest Pressure Coefficient, K_o	0.7	0.5	0.3
Passive Pressure Coefficient, K_p	2	3.3	5.2
Estimated Lateral Earth Pressure[1] (Equivalent Fluid Pressures)			
Active – Drained	65 pcf	35 pcf	25 pcf
Active - Undrained[2]	95 pcf	80 pcf	75 pcf
At-Rest – Drained	90 pcf	60 pcf	40 pcf
At-Rest - Undrained[2]	110 pcf	90 pcf	85 pcf
Passive – Drained	260 pcf	400 pcf	670 pcf
Passive - Undrained[3]	135 pcf	190 pcf	350 pcf

1) Assumes no safety factor, negligible wall friction, vertical wall, level backfill, zero surcharge loads and ignores cohesion shear strength.
2) Combined buoyant backfill unit weight and hydrostatic (water @ 62.4 pcf) loading.
3) Excludes hydrostatic loading.

A coefficient of sliding friction value of 0.3 may be used for Portland cement concrete on a cohesive subgrade. This ultimate value assumes no safety factor and design with this ultimate value should include a minimum factor of safety of 1.5.

Cohesionless (granular) backfill lateral earth pressure parameters may be used where granular backfill is installed behind the subsurface wall in accordance with the following Figure No. 2. The granular backfill should have a minimum width of 2 feet and be wide enough to accommodate the back slope limit line of 2:1 (vertical to horizontal) or flatter. The area between the required minimum zone of granular material and the actual limits of excavation may be backfilled with either cohesive or granular soils.

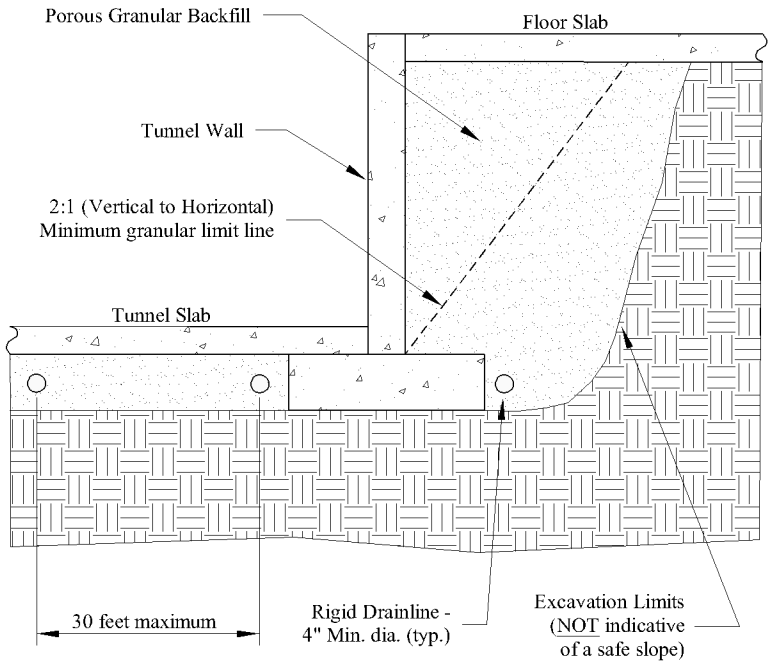


Figure No. 2 – Typical Lateral Earth Pressure Section for Below Grade Tunnels

All Weather Surface

Due to the overall size of this project, constructing a relatively level building pad will tend to collect surface water that will not sheet drain and will cause deterioration due to construction traffic. If it is desired to have an all-weather surface during construction, it may be necessary to place 6 inches or more of crushed rock or recycled concrete aggregate on the subgrade to provide a suitable working surface. The working surface may have to be repaired periodically in areas of higher traffic. The working surface should be kept low enough to accommodate placement of the floor granular subbase.

Water accumulation in the rock could soften the underlying cohesive subgrade. Water standing in the rock may seep into footing excavations and will need to be pumped out prior to footing construction. Subfloor drain lines could be installed below the granular working surface to drain and release trapped water and reduce possible softening of the underlying cohesive subgrade.

Frost Heave and Unheated Floor Slabs

Buildings unheated in the winter can subject the floor slab to frost heave. There are two common methods to reduce the potential for frost heave problems. One is to insulate the floor and foundations walls with horizontal and vertical rigid foam insulation board. The second option is to

place free draining granular fill under the floor for a minimum depth of 2 feet, or more, for greater protection. The granular zone should be drained to prevent pooling of water beneath floor slabs. If on-site expansive soils are encountered within 2 feet under the floor slab, the drained granular separation layer would also provide protection from slab movement.

Key elements contributing to frost heave including freezing temperatures, available water, and fine-grained frost susceptible soils are generally present at sites in Iowa. As a result, frost heave problems are generally common (and most noticeable) in pavements or sidewalks adjacent to non-frost susceptible elements such as manholes, light poles, and exterior doors or frost protected stoops. Frost heave can cause pavement cracks to develop parallel to and several feet from curbs. This generally occurs where cleared paved areas exposed to freezing temperatures heave more than adjoining paved areas insulated by piled snow. Sometimes it is not readily apparent why frost heave problems occur at one location and not at another seemingly similar location.

While it is appropriate to implement measures to reduce frost heave such as insulation, replacing frost susceptible soils with less frost susceptible soils, void forms, sealing cracks/joints to reduce surface water infiltration, or drainage improvements (surface and subsurface), these measures may simply move the frost heave problem to a different location where preventative measures have not been implemented. Having a smooth transition between heaved and non-heaved areas is desirable but may be difficult and/or costly to accomplish. We are available to meet with you to discuss options for your consideration to reduce frost heave potential on this project.

GENERAL

The analyses and recommendations in this report are based in part upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations which may occur between borings or across the site. The nature and extent of such variations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

It is recommended that the geotechnical engineer be provided the opportunity to review the plans and specifications so that comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications. It is further recommended that the geotechnical engineer be retained for testing and observation during earthwork and foundation construction phases to help determine that the design requirements are fulfilled.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranty, expressed or implied, is made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the conclusions of this report modified or verified in writing by the geotechnical engineer.

The scope of our service was not intended to include any environmental assessment or exploration for the presence of hazardous or toxic materials in the soil, surface water, groundwater, or air on, below or adjacent to this site.

APPENDIX

BORING LOG DESCRIPTION/LEGEND

The material types encountered during the drilling operations were recorded on field logs. The profile represented on the Boring Log is based on final classification performed by a geotechnical engineer using the field logs, laboratory observation and testing. The material stratigraphy demarcation lines shown on the Boring Logs indicate changes in soil characteristics, however, actual soil changes or variations may occur as a gradual transition. Soil profile discussion, Log Boring information, water levels and recommendations presented in this report are based upon measured depths below ground levels existing at time of the field exploration, unless otherwise specified.

DRILLING AND SAMPLING

The borings were conducted with either a truck or all-terrain rotary drill rig using the drilling methods indicated on each Boring Log. Soil sampling and/or in-situ testing such as Shelby Tube (ST), split-spoon (SS), drive cone (DC), or core (C) was conducted at depth intervals which were selected in consideration of the characteristics of the proposed construction. Generally undisturbed soil samples are taken at 5 foot depth intervals or change in soil types. Disturbed soil samples from the auger, either jar size or bulk size samples, may be taken at intermediate intervals for the purpose of soil classification or laboratory testing. Borings conducted for soil classification only, will show no designation of sampling although disturbed sampling is performed. Soil samples obtained in the field were identified and sealed for transportation to the laboratory for performance of pertinent physical testing and engineering classification.

Drilling Methods

CFA - Continuous Flight Auger: 4, 6, or 8-inch diameter (ASTM D1452).
RD - Rotary Drilling: Using drilling fluid in cased or uncased boring (ASTM D2113).
HSA - Hollow Stem Auger: 6 or 8-inch diameter, continuous flight auger remains in boring with soil removed from the hollow stem through which undisturbed sampling is conducted.
HA - Hand Auger: 4-inch or less diameter.

Sample Types

ST - Shelby Tube: Thin-walled tube samples of cohesive soils (ASTM D1587).
SS - Split Spoon with 140 lb. manual hammer: Standard penetration test and split-barrel samples (ASTM D1586).
SSA - Split Spoon with 140 lb. automatic hammer: Standard penetration test and split-barrel samples (ASTM D1586).
DC - Drive Cone: Dynamic in-place testing of soil using a 2-inch diameter cone with a 60 degree point driven into the soil for continuous 1-foot intervals in the same manner as Split Spoon, no sample is obtained.
C - Core: Sampling hard soil or bedrock with a diamond core barrel in a rotary drill boring (ASTM D2113).
SPT - Standard Penetration Test: Number of blows required to drive sampler (split spoon or drive cone) into the soil with a 140-pound weight dropping a distance of 30-inches (ASTM D1586), number of blows recorded for each 6-inch interval in an 18-inch (or more) penetration depth, values shown are for each 6-inch interval (if series of number sets are shown) or a total of the last two 6-inch intervals (if only one number is shown) which is commonly referred to as "N" in blows per foot. High resistance is indicated by a high number of blows for a lesser penetration depth listed in inches.
BS - Bulk Sample: Disturbed.
CPT - Cone Penetration Test: Quasi-static in-place testing of soils using a 60 degree cone and friction sleeve which are steadily pushed into the soil and measure skin friction and end bearing (ASTM D3441).

STANDARD LABORATORY TESTING

Representative undisturbed soil samples obtained by the Shelby Tube sampler were tested for moisture content (ASTM D2216), density (dry) and unconfined compressive strength (ASTM D2166) in the laboratory. Results of these tests appear on the respective Boring Logs. Additional soil testing including particle size analysis (ASTM D422) and Atterberg Limits (ASTM D4318) may be conducted, if necessary, to define in more detail pertinent soil characteristics for classification in accordance with the Unified Soil Classification System. Specialized laboratory tests (if conducted) to determine pertinent soil characteristics are discussed in the "Laboratory Testing" section of the report.

WATER LEVEL MEASUREMENT

Water levels indicated on the Boring Logs are the levels measured in the borings at the times indicated. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels is not possible with short term observations.

BORING LOG DESCRIPTION/LEGEND

(page 2 of 3)

DESCRIPTIVE SOIL CLASSIFICATION

Soil description is based on the Unified Classification System as outlined in ASTM Designations D-2487 and D-2488. This classification is primarily based upon visual and apparent physical soil characteristics, comparison with other soil samples, and our experience with the soil. Additional laboratory testing may be conducted, if necessary to define in more detail pertinent soil characteristics. The Unified Soil Classification group symbol shown on the boring logs corresponds with the group names listed below. The description includes soil constituents, moisture conditions, color and any other appropriate descriptive terms.

Group Symbol	Group Name	Group Symbol	Group Name	Group Symbol	Group Name	Group Symbol	Group Name
GW	Well-Graded Gravel	SW	Well-Graded Sand	CL	Lean Clay	CH	Fat Clay
GP	Poorly-Graded Gravel	SP	Poorly-Graded Sand	ML	Silt	MH	Elastic Silt
GM	Silty Gravel	SM	Silty Sand	OL	Organic Clay Organic Silt	OH	Organic Clay Organic Silt
GC	Clayey Gravel	SC	Clayey Sand			PT	Peat

RELATIVE PROPORTIONS			GRAIN SIZE TERMINOLOGY	
Descriptive Term(s) (Of components also present in sample)	Sand and Gravel % of Dry Weight	Fines % of Dry Weight	Major Component of Sample	Size Range
Trace	<15	<5	Cobbles	12 in. to 3 in. (300mm to 75mm)
With	15-30	5-12	Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Modifier	>30	>12	Sand	#4 to #200 sieve (4.75mm to 0.074mm)
			Silt or Clay	Passing #200 sieve (.074 mm)

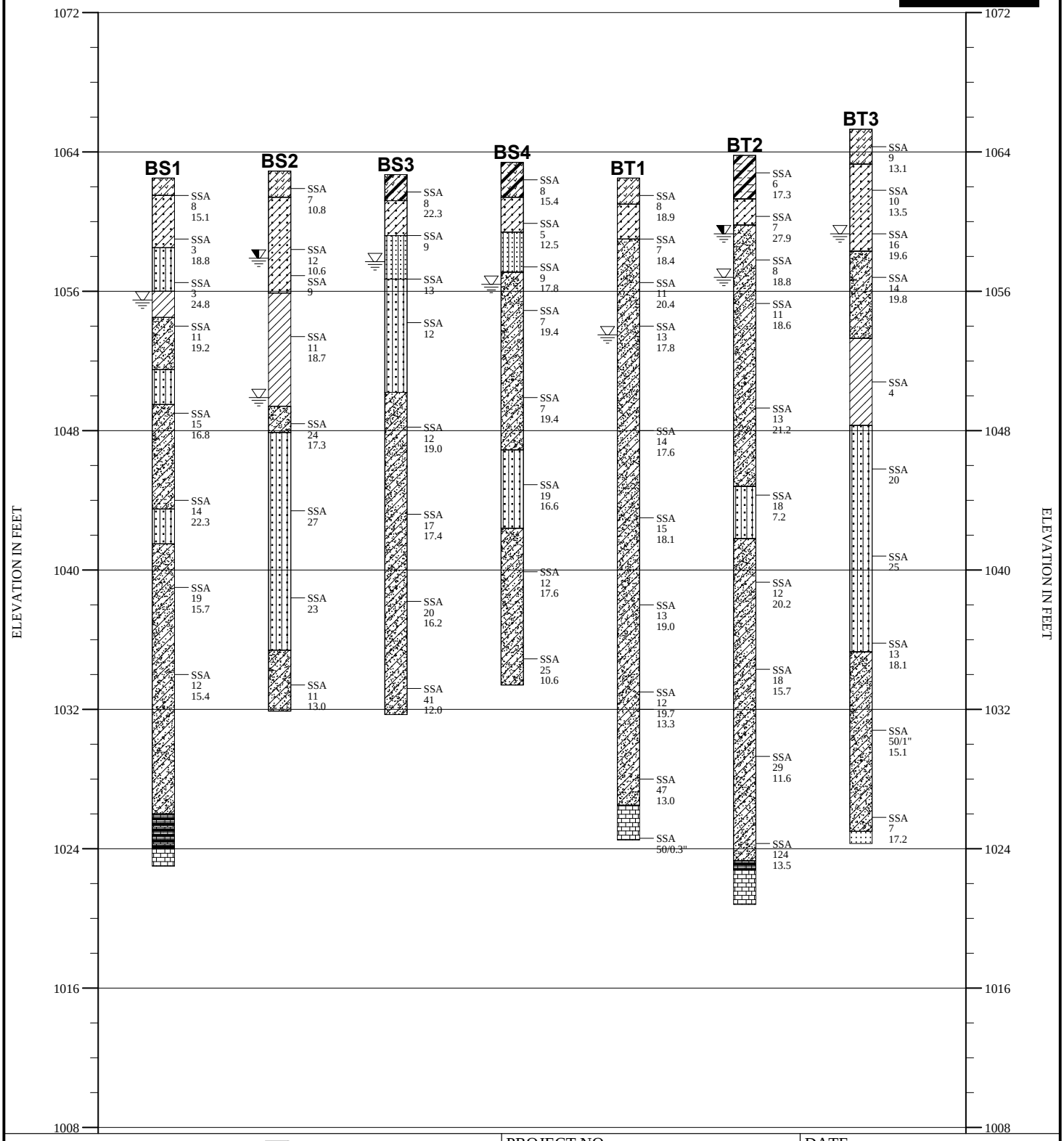
CONSISTENCY OF FINE-GRAINED SOILS			RELATIVE DENSITY OF COARSE-GRAINED SOILS	
Unconfined Compressive Strength, Qu, psf	Consistency	SPT, bpf	SPT, bpf	Relative Density
< 500	Very Soft	0-2	0-4	Very Loose
500-1,000	Soft	2-4	4-10	Loose
1,000-2,000	Medium Stiff	4-8	10-30	Medium Dense
2,000-4,000	Stiff	8-15	30-50	Dense
4,000-8,000	Very Stiff	15-30	50-80	Very Dense
8,000-16,000	Hard	30-100	80+	Extremely Dense
> 16,000	Very Hard	>100		

BORING LOG DESCRIPTION/LEGEND

ABBREVIATIONS

COMMONLY USED ABBREVIATIONS	
ft. or ' - feet	elev. - Elevation
in. or " - inches	% - Percent
psf - pounds per square foot	No. - Number
plf - pound per lineal foot	TB - Test Boring
pcf - pounds per cubic feet	N - blow count (SPT, bpf)
kip - 1000 pounds	USCS - Unified Soil Classification System
ksf - 1000 pounds per square foot	LL - Liquid Limit
klf - 1000 pounds per lineal foot	PL - Plastic Limit
tsf - tons per square foot	PI - Plasticity Index
bpf - blows per foot (SPT, N)	

PROFILE OF BORINGS



Strata symbols

- Lean Clay Topsoil
- Clayey Sand
- Silty Sand
- Lean Clay
- Sandy Lean Clay
- Weathered Limestone
- Limestone
- Lean to Fat Clay Topsoil
- Poorly Graded Sand With Silt

PROJECT NO.: 231247	DATE: 12/14/2023
PROJECT: Reisner Substation Millards Ln and Closz Dr Webster City, Iowa	
PLATE: A-1	SCALE: 8 feet/in.

ALLENDER BUTZKE ENGINEERS, INC.

BORING LOG NO. BS1

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.5'**
Datum: **Site Survey**

Date Drilled: **10/27/2023**
Drilling Depth, ft.: **39.5**

Drilling Method: **4" CFA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
1062	0							Very dark brown sandy lean clay, moist		CL		1
		1	SSA	8	15.1			**TOPSOIL**		SC		1061.5
1060								Brown-gray clayey fine to medium sand, moist				
		2	SSA	3	18.8			**GLACIAL OUTWASH**		SM		
								Dark gray silty fine to medium sand, very moist after 4'				6.5
1056		3	SSA	3	24.8			Moisture seepage near 6'		CL	▽	1056
	8											
		4	SSA	11	19.2			Brown-gray lean clay, trace sand, very moist				
1052								Dark gray sandy lean clay, trace gravel, moist after 8'				
								With interbedded silty sand seams throughout 8' to 22.5'				
1048		5	SSA	15	16.8			Dark gray silty fine sand seam from 11' to 13'				
	16											
1044		6	SSA	14	22.3			Dark gray silty fine sand seam from 19' to 21'				
								WISCONSINAN GLACIAL TILL				
1040												
	24	7	SSA	19	15.7							
1036												
		8	SSA	12	15.4							
1032												
	32											
1028												36.5
								Light brown weathered limestone, damp				1026
1024								**BEDROCK**				39.5
	40							Dense after 38.5'				1023
1020								End of Boring				
1016												
	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: 7 ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BS2

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.9'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **31**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean clay, moist		CL		1.5
		7	SSA	7	10.8			**TOPSOIL**		SC		1061.4
1060								Brown-gray clayey fine to coarse sand, trace gravel, moist				
		1	SSA	12	10.6			**GLACIAL OUTWASH**			▼	
1056		8	SSA	9				Moisture seepage near 5'				7
	8							Dark gray lean clay, trace sand, moist		CL		1055.9
		2	SSA	11	18.7			**WISCONSINAN GLACIAL TILL**				
1052											▽	
								Dark gray sandy lean clay, trace gravel after 13.5'				15
1048		3	SSA	24	17.3			Dark gray silty fine sand, saturated		SM		1047.9
	16											
1044												
		4	SSA	27				**GLACIAL OUTWASH**				
1040												
	24											
		5	SSA	23								
1036												27.5
								Dark gray sandy lean clay, trace gravel, moist		CL		1035.4
1032		6	SSA	11	13.0			**WISCONSINAN GLACIAL TILL**				31
	32							End of Boring				1031.9
1028												
1024												
	40											
1020												
1016												
	48											
1012												
1008												
	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation

Time: at completion **24** hrs. _____ days

Depth to water: **13** ft. ▽ **5** ft. ▼ _____ ft. ▼

ALLENDER BUTZKE ENGINEERS, INC.

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BORING LOG NO. BS3

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.7'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **31**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
1062.7	0							Very dark brown sandy lean to fat clay, damp		CL-CH		1.5
								TOPSOIL				1061.2
1060		1	SSA	8	22.3			Brown-gray clayey fine to medium sand, moist		SC		
		2	SSA	9				Brown-gray fine to medium sand with silt after 3.5'		SP-SM	▽	
1056		3	SSA	13				Moisture seepage near and saturated after 5'		SM		
	8							Brown-gray silty fine sand after 6'		SM		
		4	SSA	12				**GLACIAL OUTWASH**				
1052								Gray and very moist after 8'				12.5
								Dark gray sandy lean clay, trace gravel, moist		CL		1050.2
1048		5	SSA	12	19.0							
	16							With interbedded sand seams throughout after 16'				
1044		6	SSA	17	17.4							
								WISCONSINAN GLACIAL TILL				
1040	24											
		7	SSA	20	16.2							
1036												
1032		8	SSA	41	12.0							31
	32							End of Boring				1031.7
1028												
1024												
	40											
1020												
1016												
	48											
1012												
1008												
	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: **5** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BS4

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1063.4'**
Datum: **Site Survey**

Date Drilled: **10/27/2023**
Drilling Depth, ft.: **30**

Drilling Method: **4" CFA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean to fat clay, moist		CL-CH		2
		1	SSA	8	15.4			**TOPSOIL**				
1060								Brown-gray clayey fine to medium sand, damp		SC		1061.4
		2	SSA	5	12.5			Brown-gray fine to medium sand with silt after 4'		SP-SM		
								GLACIAL OUTWASH				6.3
		3	SSA	9	17.8			Saturated after 5'		CL	▽	1057.1
1056	8							Dark gray sandy lean clay with interbedded silty				
		4	SSA	7	19.4			fine sand seams throughout, trace gravel, moist				
1052								**WISCONSINAN GLACIAL TILL**				
		5	SSA	7	19.4							
1048	16											16.5
								Dark gray silty fine sand, very moist		SM		1046.9
1044		6	SSA	19	16.6			**GLACIAL OUTWASH**				21
								Dark gray sandy lean clay, moist		CL		1042.4
1040	24	7	SSA	12	17.6							
1036								**WISCONSINAN GLACIAL TILL**				
		8	SSA	25	10.6							30
1032	32							End of Boring				1033.4
1028												
1024	40											
1020												
1016	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: 7 ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT1

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.5'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **38**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean clay, trace gravel, moist		CL		1.5
		1	SSA	8	18.9			**TOPSOIL**		SC		1061
1060								Brown-gray clayey fine to coarse sand, moist		CL		
		2	SSA	7	18.4			Brown-gray sandy lean clay after 3.5'				
								With interbedded silty sand seams throughout 3.5' to 18'				
1056		3	SSA	11	20.4							
	8							Dark gray after 6.5'			▽	
		4	SSA	13	17.8							
1052								Saturated sand seam near 11.5'				
1048		5	SSA	14	17.6							
	16							**WISCONSINAN GLACIAL TILL**				
1044												
		6	SSA	15	18.1							
1040								With interbedded sand seams throughout after 22'				
	24											
		7	SSA	13	19.0							
1036												
1032		8	SSA	12	19.7							
					13.3							
	32											
1028		9	SSA	47	13.0							36
								Light gray limestone, damp				1026.5
		10	SSA	50/0.3"				**BEDROCK**				38
1024								End of Boring				1024.5
	40							***Auger Refusal at 38'				
1020												
1016												
	48											
1012												
1008												
	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: **9** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT2

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1063.8'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **43**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean to fat clay, trace organics, moist		CL-CH		2.5
		1	SSA	6	17.3			**LOCAL ALLUVIUM**		SC		1061.3
1060		2	SSA	7	27.9			Brown-gray clayey fine to medium sand, trace gravel, moist		CL	▼	
		3	SSA	8	18.8			Brown-gray sandy lean clay, very moist to moist after 4'			▽	
1056	8	4	SSA	11	18.6			Dark gray, moist after 6.5' Moisture seepage near 8.5'				
1052								With interbedded sand silty sand seams throughout 9' to 19'				
		5	SSA	13	21.2							
1048	16											
1044		6	SSA	18	7.2			Dark gray silty fine sand from 19' to 22'		SM		
								WISCONSINAN GLACIAL TILL				
1040	24											
		7	SSA	12	20.2							
1036												
		8	SSA	18	15.7							
1032	32											
		9	SSA	29	11.6							
1028												
1024	40	10	SSA	124	13.5			With limestone fragments after 39'				40.5
								Light brown weathered limestone, damp Dense after 41'				1023.3 43
1020								**BEDROCK**				1020.8
								End of Boring				
1016	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation

Time: at completion **2.3** hrs. _____ days

Depth to water: **7** ft. ▽ **4.5** ft. ▼ _____ ft. ▼

ALLENDER BUTZKE ENGINEERS, INC.

Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT3

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1065.3'**
Datum: **Site Survey**

Date Drilled: **11/6/2023**
Drilling Depth, ft.: **41**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
1064	0							Very dark brown sandy lean clay, moist		CL		2
		1	SSA	9	13.1			**TOPSOIL**				
								Brown-gray clayey fine to medium sand, moist		SC		1063.3
		2	SSA	10	13.5			**GLACIAL OUTWASH**				
1060											▽	
		3	SSA	16	19.6			Moisture seepage near 6'				7
	8							Brown-gray sandy lean clay, trace gravel, moist		CL		1058.3
1056		4	SSA	14	19.8			Dark gray after 8.5'				
								WISCONSINAN GLACIAL TILL				
1052								Dark gray lean clay, trace sand and gravel with interbedded silty sand seams throughout, very moist after 12'		CL		
		5	SSA	4								
	16											17
1048								Dark gray silty fine sand, moist to very moist		SM		1048.3
		6	SSA	20								
1044												
	24							**GLACIAL OUTWASH**				
1040		7	SSA	25								
1036												30
		8	SSA	13	18.1			Dark gray sandy lean clay, trace gravel, moist		CL		1035.3
	32											
1032												
		9	SSA	50/1"	15.1			Boulder near 35'				
1028								**WISCONSINAN GLACIAL TILL**				
	40	10	SSA	7	17.2							41
1024								Dark gray medium to coarse sand, saturated after 40.3'		SP		1024.3
								End of Boring				
1020												
	48											
1016												
1012												
	56											
1008												

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: **6** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

ALLENDER BUTZKE ENGINEERS INC. 3660 109th Street Urbandale, IA 50322	Reisner Substation Millards Ln and Closz Drive Webster City, Iowa	PN 231247 Site Plan

NOTES

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Adam Dickinson, Line Department Superintendent
John Harrenstein, Interim City Manager

DATE: June 17, 2024

RE: Bidding Package: 69 kV Transmission Line Reconstruction

SUMMARY: Requesting permission to seek bids and schedule a Public Hearing for construction of the 69 kV Transmission Line Reconstruction project as defined in the attached bidding documents.

PREVIOUS COUNCIL ACTION: The City Council has previously authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.) for the 69 kV Transmission Line Reconstruction project.

BACKGROUND/DISCUSSION: The proposed construction is described in general as follows:

Reconstruction of approximately 6.97 miles of 69 kV Transmission Line

The attached bidding documents reference in more detailed and complete description of the construction specifications. At the proposed Public Hearing on August 5th, 2024 at 6:05 P.M., the City Council will also receive and consider any objection to said plans, specifications and form of contract or cost of the project made by any interested party.

FINANCIAL IMPLICATIONS: The cost of construction is the responsibility of Corn Belt Power Cooperative.

The estimated cost of this portion of the project, along with the breakdown of the responsibility for those costs, is as follows:

Portion of Project	Total Project Cost Estimate	Estimated City of Webster City Portion	Estimated Corn Belt Power Co-op Portion
69 kV Transmission Line – Reconstruction	$2,426,000	$0	$2,426,000*

***** These funds will initially be provided by the City but will be fully reimbursed by Corn Belt.

The costs shown above are estimates; the agreement with Corn Belt and NIMECA includes a provision that actual reimbursement will be made on the basis of actual final project costs.

PROJECT TIMELINE:

The current timeline for construction is as follows:

- Bid Opening: Tuesday, July 23, 2024 @ 2:00 PM at City Hall
- Milestones:
    - Construction Start: March 31, 2025
    - Substantial Completion: September 30, 2025
    - Construction End: November 15, 2025

RECOMMENDATION: Approve the request to set public hearing for August 5th, 2024 at 6:05 P.M. at which the City Council will consider the plans and specifications, proposed form of contract and the estimate of cost to construct the project as defined.

RESOLUTION NO. 2024 - xxx

RESOLUTION APPROVING THE REQUEST TO SEEK BIDS AND SCHEDULE A PUBLIC HEARING FOR THE CONSTRUCTION OF THE 69 kV TRANSMISSION LINE RECONSTRUCTION PROJECT

WHEREAS, the City Council of Webster City has previously authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.) for the 69 kV Transmission Line Reconstruction project; and

WHEREAS, the proposed construction is described in general as reconstruction of approximately 6.97 miles of 69 kV Transmission Line; and

WHEREAS, the attached bidding documents provide a more detailed and complete description of the construction specifications; and

WHEREAS, the Bid Opening is scheduled for Tuesday, July 23, 2024 @ 2:00 PM at City Hall; and

WHEREAS, the proposed Public Hearing on August 5th, 2024, at 6:05 P.M. will allow the City Council to receive and consider any objections to said plans, specifications, form of contract, or cost of the materials made by any interested party; and

WHEREAS, the cost of construction will initially be provided by the City but will be fully reimbursed by Corn Belt; and

WHEREAS, the current timeline for construction is as follows:

- Construction Start: March 31, 2025
- Substantial Completion: September 30, 2025
- Construction End: November 15, 2025.

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa, as follows:

Section 1. Approval to Seek Bids: The City Council hereby approves the request to seek bids for the construction of the 69 kV Transmission Line Reconstruction project.

Section 2. Public Hearing Scheduled: The City Council hereby schedules a Public Hearing for August 5th, 2024, at 6:05 P.M. at which time the Council will consider the plans and specifications, proposed form of contract, and the estimate of cost to furnish materials for the 69 kV Transmission Line Reconstruction project as defined.

Section 3. Authorization: Authorize the City Manager to take all necessary actions to proceed with the bidding process for the construction of the 69kV Transmission Line Reconstruction Project and Authorize the City Clerk to ensure proper notice of the Public Hearing as required.

Passed and adopted this 17th day of June, 2024.

_____
John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PLANS AND SPECIFICATIONS, AND PROPOSED FORM OF CONTRACT, AND ESTIMATE OF COST FOR THE 69 KV TRANSMISSION LINE RECONSTRUCTION FOR THE CITY OF WEBSTER CITY, IOWA.

Notice is hereby given that the City Council of Webster City, Iowa will meet in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595 on August 5, 2024 at 6:05 PM, at which time and place the City Council will consider adoption of the plans and specifications, and proposed form of contract for the 69 kV Transmission Line Reconstruction project, which are now on file in the City Offices. At said meeting the City Council will receive and consider any objections to said plans, specifications, form of contract and estimate of cost made by any interested party.

The proposed construction is described in general as follows:

Reconstruction of approximately 6.97 miles of 69 kV Transmission Line

Publication upon order of the City Council of Webster City, Iowa.

Dated this 19th day of July 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

NOTICE TO BIDDERS

Notice is hereby given that sealed bids will be received by the City Clerk of the City of Webster City, Webster City, Iowa, at City Hall, 400 Second Street, Webster City, Iowa 50595, until 2:00 PM, on July 23, 2024, for the 69 kV Transmission Line Reconstruction for the City of Webster City, Iowa. At said time, the bids will be publicly opened and read aloud in the Council Chambers, 400 Second Street, Webster City, Iowa 50595. Bids will be considered by the City Council at its meeting at 6:05 PM on August 5, 2024 in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595. The City Council may award the contract at said meeting or at such other time and place as shall then be announced.

The proposed construction is described in general as follows:

Reconstruction of approximately 6.97 miles of 69 kV Transmission Line

The above work shall be in accordance with the specifications and proposed form of contract now on file in the offices of the Municipal Electric Utility in said City of Webster City, Iowa, by this reference made a part hereof, as though fully set out and incorporated herein.

Complete digital project bidding documents are available at www.questcdn.com. You may download the digital plan documents at no charge by inputting the **Quest project #9167361** on the website's Project Search page. Please contact QuestCDN.com at 952-233-1632 of info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information. An optional paper set of the proposal forms and specifications for individual use may be obtained from the office of the Engineer, DGR Engineering, 1302 South Union Street, PO Box 511, Rock Rapids, IA 51246, telephone: 712-472-2531, fax: 712-472-2710, email: dgr@dgr.com, no deposit required.

Each bid shall be made out on a blank form furnished by the City of Webster City and must contain bid security as required by Iowa Code Section 26.8. The bidder's security shall be in the form of either (1) a cashier's check of certified check drawn on a state chartered or federally chartered bank, in an amount equal to ten (10) percent of the amount of the Bid; or (2) a certified share draft drawn on a state-chartered or federally chartered credit union, in an amount equal to ten (10) percent of the amount of the Bid; or (3) a Bid Bond executed by a corporation authorized to contract as a surety in the State of Iowa, in an amount equal to ten (10) percent of the amount of the Bid. The bid security shall be made payable to City of Webster City. The bid security must not contain any conditions either in the body of as an endorsement thereon. Such bid security shall be forfeited to the City of Webster City as liquidated damages in the event the successful bidder fails or refuses to enter into a contract within fifteen (15) days after the award of the contract and post satisfactory Performance and Payment Bonds.

The sealed envelope containing the bid shall be clearly marked BID ENCLOSED – 69 KV TRANSMISSION LINE RECONSTRUCTION on the outside of the envelope.

Payment to the Contractor for said construction work will be made from cash on hand of such other funds that legally may be used or obtained for such purposes. Estimates will be paid monthly by the Utility to the Contractor in accordance with the following schedule:

Ninety-five (95) percent upon certification of units completed; five (5) percent within thirty (30) days after final completion and acceptance.

Construction may be started after the execution of the Construction Agreement (the Contract) and the issuance of the Notice to Proceed. Substantial Completion of the project shall be no later than September 30, 2025. See the "Construction Schedule" of the Technical Specifications for special instructions relating to this project.

By virtue of statutory authority, a preference will be given to products and provisions grown, and coal produced within the State of Iowa, and preference shall be given to Iowa domestic labor in the construction of said improvements. The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

The City Council reserves the right to defer acceptance of any bid for a period not to exceed thirty (30) days after the date bids are received and no bid may be withdrawn during this period. The Utilities also reserves the right to waive irregularities, reject any or all bids, and enter into such contract as it shall be deemed to be in the best interest of the Utility.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

Project Manual

69 kV Transmission Line Reconstruction

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

DGR Project No. 428404
City Project No. 9-24-003

Project Manual

69 kV Transmission Line Reconstruction

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by:

Dennis Haselhoff, P.E. on June 11, 2024

The official copy of this engineering document is on file at the office of the Owner.

Pages of sheets covered by this seal: All pages except Geotechnical Exploration Report.

DGR Project No. 428404

DGR Engineering
1302 South Union Street
Rock Rapids, IA
(712) 472-2531
dgr@dgr.com

Project Manual

69 kV Transmission Line Reconstruction

City of Webster City/Municipal Utilities
Webster City, Iowa

Contact persons for this project are as follows:

Owner's Representative:

City of Webster City/Municipal Utilities
400 Second Street
Webster City, IA 50595
Phone: 515-832-9151

Adam Dickinson
Electric Utility Supervisor
Phone: 515-832-9159
Cell: 515-297-1307
Email: adam@webstercity.com

Ryan Orton
Utility Technician
Phone: 515-432-9159
Cell: 515-297-0820
Email: rorton@webstercity.com

Engineer:

DGR Engineering
1302 S Union Street
Rock Rapids, Iowa 51246
Phone: 712-472-2531

Dennis Haselhoff, P.E.
Project Manager
Email: dennis.haselhoff@dgr.com

Dylan Schueler, P.E.
Project Engineer
Email: dylan.schueler@dgr.com

Project Manual

69 kV Transmission Line Reconstruction

City of Webster City/Municipal Utilities
Webster City, Iowa

Table of Contents

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Bidding Information and Contract Forms

- Notice to Bidders
- Notice of Public Hearing
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- Bidder Status Form
- Bid Form
- Performance Bond
- Payment Bond
- Agreement

Miscellaneous Forms

- Notice of Award
- Notice to Proceed
- Certificate of Substantial Completion
- Work Change Directive
- Change Order
- Field Order
- Waiver and Release of Lien
- Certificate of Contractor and Indemnity Agreement
- Engineer's Statement of Final Completion and Owner's Acceptance of Contract Construction
- Contractor's Receipt for Final Payment
- Iowa Contractor's Tax Statement
- Property Damage Release Form

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Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

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CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office* - The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

B. *Successful Bidder* - The responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER's evaluations as hereinafter provided) makes an award.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement for Bids or Notice of Public Hearing and Letting may be obtained from the Issuing Office.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, prior to award, within five days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, statement of compliance with any statutory requirements, and such other data as may be deemed appropriate by OWNER for making a complete evaluation.

3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 - SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:

a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.

b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and

data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others. Information or data regarding Underground Facilities may be missing or incomplete. Location and avoidance of underground facilities is a part of the Work as required by the Supplementary Conditions.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.04 Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 - BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;

B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;

E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;

I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and

J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 - NOT USED

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties

recorded by Engineer as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents.

ARTICLE 8 - BID SECURITY

8.01 Each Bid must be accompanied by Bid security made payable to Owner in an amount of ten percent (10%) of the Bidder's maximum Bid price if in the form of a certified or bank check or a Bid Bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement the expiration of the Bid time for acceptance as specified on the Bid Form, whereupon Bid security furnished by such Bidders will be released on request.

8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be released on request within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute or materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an "or-equal" or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids. Each such request shall comply with the requirements of Paragraphs

7.04 and 7.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS AND OTHERS

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 7.06 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

C. Where the Bid Form includes more than one item, the Bidder may attach a substitute Proposal Form printed by a computer in lieu of completing the printed

Proposal Form. If a substitute Proposal Form is used, it shall be attached to the back side of the printed Proposal Form. Such computer printed substitute Proposal Form shall include the following at the top of each page:

1. Project Title
2. Letting Date
3. Bidder's Name

13.02 The substitute computer printed Proposal Form shall have column headings that include the Item Number, Number of Units, Item Description, Unit Bid Price, Amount Bid for each item, Total Gross Sum Bid below the last bid item and bidder's name, signature in ink and title at the end of the Proposal Form. The signature on the substitute computer printed Proposal Form shall be the same as that on the bound Bid Form. The total gross sum bid shall also be written in ink in the space provided in the bound Bid Form. In case of a discrepancy between the item number, item description, and/or quantity shown in the bound Bid Form and those shown in the substitute computer printed Proposal Form, the bid item description and/or quantity shown in the bound Bid Form shall govern. The unit bid price shown on the substitute computer printed Proposal Form shall govern whether or not the amount bid shown is correct. The substitute Proposal Form page size and size of printed characters shall be approximately the same as the bound Bid Form. Solid lines for separating may be arranged either vertically or horizontally on the substitute Proposal Form. Pages must be numbered by page number of the total pages (Page 1 of 4). Item numbers must follow the Item numbers on the Bid Form. Any abnormalities which are not waived by the Owner as a technicality will result in rejection of the bid.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. If required by State where work is to be performed, the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.

13.08 All names shall be typed or printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

13.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, for the state of the Project, shall also be shown on the Bid Form.

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

The Bid shall be furnished on the basis (lump sum or unit price) as indicated on the Bid Form.

14.01 *Unit Price*

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

ARTICLE 15 - SUBMITTAL OF BID

15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy each of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with all attachments listed in Article 7 of the Bid.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." Whether using the mail, personal delivery, or some other delivery system, the Bidder is totally responsible for the mail or other delivery system delivering the Bid at the place and prior to that time indicated in the Advertisement for Bid. Note that the location for the Bid opening may be a rural location not reliably covered by the "delivery time guarantee" of various delivery services. A mailed Bid shall be addressed to the Owner at the address specified by the Bidding Notice.

15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

15.04 Two (2) copies of the Bid Form and all supporting documentation shall be provided. Bids shall be placed in an opaque envelope and the envelope sealed and marked "Bid Enclosed – 69 kV Transmission Line Reconstruction" to indicate its contents. If forwarded by mail, the envelope shall be mailed to the following address:

City of Webster City
Attn: Dedra Nerland, Public Works Management Assistant
400 Second Street
Webster City, IA 50595
BID ENCLOSED – 69 KV TRANSMISSION LINE RECONSTRUCTION

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.

16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work. This provision to withdraw a Bid without forfeiting the Bid Security does not apply to Bidder's errors in judgment in preparing the Bid

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 - EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.
If the Contract is to be awarded, Owner will award the Contract to the responsible Bidder whose Bid is in the best interests of the Project.

19.06 The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

ARTICLE 20 - BONDS AND INSURANCE

20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 22 - SALES AND USE TAXES

22.01 The unit prices for construction units in this Proposal shall be deemed to include provisions for the payment of all moneys which will be payable by the Bidder or the Owner in connection with the construction of the project on account of taxes imposed by any taxing authority upon the sale, purchase or use of materials, supplies, labor, and equipment to be incorporated in the project as part of such construction units. The Bidder shall furnish to the appropriate taxing authorities, all required information and reports pertaining to materials and services used in the construction of the project.

The Contractor shall pay sales and use taxes to the State of Iowa, for all materials incorporated in the work. The Contractor shall, at the conclusion of the project, furnish the Owner with a complete and accurate schedule of all purchases of equipment used in the project, along with the associated taxes paid on this equipment. See SC-7.09.A.1 for additional requirements.

ARTICLE 23 - RETAINAGE

23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

ARTICLE 24 - OWNER-FURNISHED MATERIAL

24.01 The Owner will supply certain materials for the project. The Contractor shall become familiar with the quantity, size, and type of Owner-furnished material, including delivery schedule and conditions.

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name, and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name— Include Location)*:

BOND

Bond Number:

Date:

Penal sum _____ $ _____

(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
Title	Title

Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

_____

2. Does your company's home state or foreign country offer preferences to resident bidders, resident labor force preferences or any other type of preference to bidders or laborers? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156. This form has been approved by the Iowa Labor Commissioner.

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Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

BID FORM

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Owner Name: City of Webster City
Owner Address: 400 Second Street
Webster City, IA 50595

1.02 This Bid is submitted by:

_____

_____

_____

1.03 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 30 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	**Addendum Date**
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied, if any are available, all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BID FORM

CITY OF WEBSTER CITY/MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

The bid pricing shall be made on a unit basis so that Engineer may specify any combination of construction units deemed necessary. The various construction units included in this bid and upon which quotations are required are defined by symbols and descriptions listed in Section 01 2000 of the Technical Specifications.

Unit	Description	Unit Price				
		Est # of Units	Labor	Materials	Labor & Materials	Extended Price
60(1)	Wood Pole, Length 60', Class 1, Contractor-furnished (ea.)	1				
65(1)	Wood Pole, Length 65', Class 1, Contractor-furnished (ea.)	18				
65(H1)	Wood Pole, Length 65', Class H1, Contractor-furnished (ea.)	1				
65(H2)	Wood Pole, Length 65', Class H2, Contractor-furnished (ea.)	1				
70(1)	Wood Pole, Length 70', Class 1, Contractor-furnished (ea.)	38				
70(H1)	Wood Pole, Length 70', Class H1, Contractor-furnished (ea.)	13				
75(1)	Wood Pole, Length 75', Class 1, Contractor-furnished (ea.)	3				
75(H1)	Wood Pole, Length 75', Class H1, Contractor-furnished (ea.)	13				
80(H1)	Wood Pole, Length 80', Class H1, Contractor-furnished (ea.)	3				
85(H1)	Wood Pole, Length 85', Class H1, Contractor-furnished (ea.)	1				
85(H2)	Wood Pole, Length 85', Class H2, Contractor-furnished (ea.)	1				
90(H1)	Wood Pole, Length 90', Class H1, Contractor-furnished (ea.)	1				
90(H2)	Wood Pole, Length 90', Class H2, Contractor-furnished (ea.)	2				
95(H2)	Wood Pole, Length 95', Class H2, Contractor-furnished (ea.)	1				
95(H3)	Wood Pole, Length 95', Class H3, Contractor-furnished (ea.)	1				
LWP-1	Laminated Wood Pole #1, Owner-furnished (ea.)	1				
LWP-2	Laminated Wood Pole #2, Owner-furnished (ea.)	1				
LWP-3	Laminated Wood Pole #3, Owner-furnished (ea.)	1				
LWP-5	Laminated Wood Pole #5, Owner-furnished (ea.)	1				
LWP-6	Laminated Wood Pole #6, Owner-furnished (ea.)	1				
LWP-7	Laminated Wood Pole #7, Owner-furnished (ea.)	1				
LWP-8	Laminated Wood Pole #8, Owner-furnished (ea.)	1				
LWP-17	Laminated Wood Pole #17, Owner-furnished (ea.)	1				
LWP-27	Laminated Wood Pole #27, Owner-furnished (ea.)	1				
LWP-29	Laminated Wood Pole #29, Owner-furnished (ea.)	1				
LWP-31	Laminated Wood Pole #31, Owner-furnished (ea.)	1				
LWP-32	Laminated Wood Pole #32, Owner-furnished (ea.)	1				

BID FORM

CITY OF WEBSTER CITY/MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

The bid pricing shall be made on a unit basis so that Engineer may specify any combination of construction units deemed necessary. The various construction units included in this bid and upon which quotations are required are defined by symbols and descriptions listed in Section 01 2000 of the Technical Specifications.

Unit	Description	Unit Price				
		Est # of Units	Labor	Materials	Labor & Materials	Extended Price
LWP-33	Laminated Wood Pole #33, Owner-furnished (ea.)	1				
LWP-34	Laminated Wood Pole #34, Owner-furnished (ea.)	1				
LWP-35	Laminated Wood Pole #35, Owner-furnished (ea.)	1				
LWP-37	Laminated Wood Pole #37, Owner-furnished (ea.)	1				
LWP-38	Laminated Wood Pole #38, Owner-furnished (ea.)	1				
LWP-43	Laminated Wood Pole #43, Owner-furnished (ea.)	1				
LWP-44	Laminated Wood Pole #44, Owner-furnished (ea.)	1				
LWP-47	Laminated Wood Pole #47, Owner-furnished (ea.)	1				
LWP-1	Laminated Wood Pole #1, Owner-furnished (ea.)	1				
LWP-2	Laminated Wood Pole #2, Owner-furnished (ea.)	1				
LWP-5	Laminated Wood Pole #5, Owner-furnished (ea.)	1				
LWP-7	Laminated Wood Pole #7, Owner-furnished (ea.)	1				
LWP-12	Laminated Wood Pole #12, Owner-furnished (ea.)	1				
LWP-15	Laminated Wood Pole #15, Owner-furnished (ea.)	1				
LWP-16	Laminated Wood Pole #16, Owner-furnished (ea.)	1				
LWP-17	Laminated Wood Pole #17, Owner-furnished (ea.)	1				
LWP-23	Laminated Wood Pole #23, Owner-furnished (ea.)	1				
TM-1	69 kV Phase Deadend Assembly, Quadrant, 1Ø (ea.)	12				
TM-2	Single, Static, Deadend Assembly (ea.)	3				
TM-3	Single, OPGW, Deadend Assembly (ea.)	6				
TP-69	69 kV Tangent, Horizontal Line Post, 3Ø (ea.)	94				
TP-69B	69 kV Tangent, Stacked, Horizontal Line Post, 3Ø (ea.)	4				
TP-69B-BLP	69 kV Tangent, Stacked, Braced Line Post, 3Ø (ea.)	3				
TS-4L	69 kV Vertical, Medium Angle, LWP, 3Ø (ea.)	4				
TS-5GL	69 kV Vertical, Double Deadend, Corner, LWP, 3Ø (ea.)	6				
TS-5GAL	69 kV Vertical, Double Deadend, Large Angle, LWP, 3Ø (ea.)	14				
TH-2L	69 kV H-frame, Double Deadend, LWP, 3Ø (ea.)	1				

BID FORM

CITY OF WEBSTER CITY/MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

The bid pricing shall be made on a unit basis so that Engineer may specify any combination of construction units deemed necessary. The various construction units included in this bid and upon which quotations are required are defined by symbols and descriptions listed in Section 01 2000 of the Technical Specifications.

Unit	Description	Unit Price				
		Est # of Units	Labor	Materials	Labor & Materials	Extended Price
TH-2AL	69 kV H-frame, Double Deadend, Large Angle, LWP, 3Ø (ea.)	1				
477 ACSR	Phase Conductor, 477ACSR, Hawk (Mft.)	110.44				
3/8" EHS	Shield Wire, 3/8" EHS (Mft.)	0.75				
OPGW	Optical Ground Wire, 48-fiber (Mft.)	36.82				
E3-3	Insulated Down Guy, 7/16" EHS, Single (ea.)	9				
D6	Screw Anchor, Triple Helix (ea.)	9				
E7	7' Anchor Extension (ea.)	18				
RC	Remove Conductor (Mft.)	133				
RI	Remove Insulator (ea.)	6				
RP	Remove Pole & Pole Top Assembly (ea.)	96				
RSW	Remove Switch Structure (ea.)	1				
FOS-1	Fiber Optic Storage System, Wood Pole (ea.)	5				
FOS-2	Fiber Optic Storage System, Steel Structure (ea.)	3				
WPG	Wood Pole Ground (ea.)	129				
FST	Fiber Splicing and Testing (as req'd)	1				
LC	Line Clearance (as req'd)	1				
TC	Traffic Control (as req'd)	1				
U1	Mobilization (as req'd)	1				
V1	Construction Allowance (as req'd)	75,000	$ -	$ -	$ 1.00	$ 75,000.00

TOTAL (BASE BID): $

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security in the form of _____;

B. List of proposed subcontractors

C. List of proposed suppliers

D. List of project references

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

_____

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

_____

_____

_____

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

_____

Bidder's License No.: _____
(where applicable)

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:
   3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
   3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
   3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
   5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
   5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
   5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
   5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
      5.4.1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
      5.4.2. Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
   7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
   7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
   7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Definitions
   14.1. Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
   14.2. Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
   14.3. Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
   14.4. Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
   14.5. Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
16. Modifications to this Bond are as follows:

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT

Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND

Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
    5.1. Claimants who do not have a direct contract with the Contractor,
        5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
        5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
    5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
    7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
    7.2. Pay or arrange for payment of any undisputed amounts.
    7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
    16.1. **Claim:** A written statement by the Claimant including at a minimum:
        1. The name of the Claimant;
        2. The name of the person for whom the labor was done, or materials or equipment furnished;
        3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
        4. A brief description of the labor, materials, or equipment furnished;
        5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
        6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
        7. The total amount of previous payments received by the Claimant; and
        8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
    16.2. **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
    16.3. **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
    16.4. **Owner Default**: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
    16.5. **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:

AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between **City of Webster City, Iowa** ("Owner") and

_____("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: **69 kV Transmission Line Reconstruction**.

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **69 kV Transmission Line Reconstruction**.

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by DGR Engineering.

3.02 The Owner has retained DGR Engineering ("Engineer") to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Dates*

A. The Work will be substantially completed on or before **September 30, 2025**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **November 15, 2025**.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner $500.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.

2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner $500.00 for each day that expires after such time until the Work is completed and ready for final payment.

3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

B. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in the Contractor's Bid. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 10.06 of the General Conditions. Unit prices have been computed as provided in Paragraph 13.03 of the General Conditions.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the **1st** day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract

a. 95 percent of Work completed (with the balance being retainage); and

b. 0 percent (with the balance being retainage) of cost of materials and equipment not incorporated in the Work (but delivered, suitably stored, and accompanied by documentation satisfactory to Owner.

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of 7 percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings. If no such reports have been made available to Contractor, Contractor agrees that none are required from Owner.

E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages A-1 to **A-8**, inclusive).

2. Performance Bond (pages 1 to 2, inclusive).

3. Payment Bond (pages 1 to 2, inclusive).

4. General Conditions (pages 1 to 65, inclusive).

5. Supplementary Conditions (pages SC-1 to **SC-6**, inclusive).

6. Specifications as listed in the table of contents of the Project Manual.

7. Drawings (not attached but incorporated by reference) consisting of **34** sheets with each sheet bearing the following general title: **69 kV Transmission Line Reconstruction - 2024**.

8. Addenda (numbers ___ to ___, inclusive).

9. Exhibits to this Agreement (enumerated as follows):

   a. Contractor's Bid (pages BF-1 to **BF-8**, inclusive).

10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:

    a. Notice to Proceed.

    b. Work Change Directives.

    c. Change Orders.

    d. Field Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 Multiple Parts; Copies Same as Originals; Electronic and Scanned Signatures Permitted

A. This Agreement may be executed in multiple parts and in duplicates. Any duplicates of this Agreement shall each be given full effect.

B. Any photocopies, electronic copies, or scanned copies of this Agreement shall be given full force and effect as the original(s).

C. Given the distance between the parties and the time-sensitive nature of this Agreement, the parties stipulate that each party and/or their individual representatives may execute this Agreement using an electronic or scanned signature. Such electronic or scanned signatures shall be given full effect by the parties.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:	CONTRACTOR:
City of Webster City	
Sign:	Sign:
Print:	Print:
Title:	Title:
	(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Attest:	Attest:
Print:	Print:
Title:	Title:
Address for giving notices:	Address for giving notices:
400 Second Street	
Webster City, IA 50595	
	License No.: _____ *(where applicable)*

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

Miscellaneous Forms

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

NOTICE OF AWARD

Date of Issuance: _____

Owner: _____ Owner's Contract No.: _____

Engineer: **DGR Engineering** Engineer's Project No.: _____

Project: _____ Contract Name: _____

Bidder: _____

Bidder's Address: _____

TO BIDDER:

You are notified that Owner has accepted your Bid dated _____, 20___ for the above Contract, and that you are the Successful Bidder and are awarded a Contract for: **Total Work**.

The Contract Price of the awarded Contract is: **$**_____ *[Contract is subject to unit prices]*

[**1**] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

☒ Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver with the executed Agreement(s) the Contract security **Performance and Payment Bonds** and insurance documentation as specified in the Instructions to Bidders (Article 20), General Conditions (Articles 2 and 6) and the Supplementary Conditions.
2. Other conditions precedent (if any): **Insurance Certificates – Including additional insureds as specified in the Supplementary Conditions**

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner**:** _____

_____

Authorized Signature

Sign: _____

Print: _____

Title: _____

Copy: **DGR Engineering**

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

NOTICE TO PROCEED

Owner:		Owner's Contract No.:	
Contractor:		Contractor's Project No.:	
Engineer:	**DGR Engineering**	Engineer's Project No.:	
Project:		Effective Date of Contract:	

Contract Name:

TO CONTRACTOR:

Contractor shall start performing its obligations under the Contract Documents. No Work shall be done at the Site prior to such date. In accordance with the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is _____.

Before starting any Work at the Site, Contractor must comply with the following:

1. **Attend Preconstruction Meeting**
2. **Provide Shop Drawings for Engineer Review**

Owner**:**

Authorized Signature:

Sign:

Print:

Title:

Date Issued:

Copy: **DGR Engineering**

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:		Owner's Contract No.:	
Contractor:		Contractor's Project No.:	
Engineer:	DGR Engineering	Engineer's Project No.:	
Project:			

This [preliminary] [final] Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work shall be as provided in the Contract, except as amended as follows: *[Note: Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.]*

Amendments to Owner's Responsibilities: ☐ None ☐ As follows:

Amendments to Contractor's Responsibilities: ☐ None ☐ As follows:

The following documents are attached to and made a part of this Certificate: *[punch list; others]*

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract.

EXECUTED BY ENGINEER:	RECEIVED:	RECEIVED:
By: _____ Engineer (Authorized Signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Print:	Print:	Print:
Title:	Title:	Title:
Date:	Date:	Date:

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Work Change Directive

No. _____

Date of Issuance: _____ Effective Date: _____

Project: _____

Owner: _____ Owner's Contract No.: _____

Engineer: DGR Engineering Engineer's Project No.: _____

Contractor: _____ Contractor's Project No.: _____

Contractor is directed to proceed promptly with the following change(s):

Description:

Attachments (list documents supporting change):

Purpose for Work Change Directive:

Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to (check one or both of the following):

- ☐ Non-agreement on pricing of proposed change.
- ☐ Necessity to proceed for schedule or other project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: $ _____ [increase] [decrease].

Contract Time: _____ days [increase] [decrease].

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of Work ☐ Other

RECOMMENDED:	AUTHORIZED BY:	RECEIVED:
By: _____	By: _____	By: _____
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Print: _____	Print: _____	Print: _____
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable):

By: _____ Date: _____

Print: _____ Title: _____

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Change Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project: _____

Owner: _____ Owner's Contract No.: _____

Engineer: DGR Engineering Date of Contract: _____

Contractor: _____ Engineer's Project No.: _____

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments (list documents supporting change):

CHANGE IN CONTRACT PRICE:

Original Contract Price:

$ _____

[Increase] [Decrease] from Previously Approved Change Orders No. _____ to No. _____:

$ _____

Contract Price Prior to this Change Order:

$ _____

[Increase] [Decrease] of this Change Order:

$ _____

Contract Price Incorporating this Change Order:

$ _____

CHANGE IN CONTRACT TIMES:

Original Contract Times: ☐ Working Days ☐ Calendar Days

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

[Increase] [Decrease] from Previously Approved Change Orders No. _____ to No. _____:

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

Contract Times Prior to this Change Order:

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

[Increase] [Decrease] of this Change Order:

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

Contract Times with all Approved Change Orders:

Substantial Completion (days or date): _____

Ready for Final Payment (days or date): _____

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____	By: _____	By: _____
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Print: _____	Print: _____	Print: _____
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____

Approved by Funding Agency (if applicable):

By: _____ Date: _____

Print: _____ Title: _____

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

Field Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project: _____

Owner: _____ Owner's Contract No.: _____

Engineer: DGR Engineering Engineer's Project No.: _____

Contractor: _____ Contractor's Project No.: _____

Contractor is hereby directed to promptly execute this Field Order, issued in accordance with General Conditions Paragraph 11.01, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference: _____ _____

Specification(s) Drawing(s) / Detail(s)

Description:

Attachments (list documents supporting change):

ISSUED:	RECEIVED:
By: _____	By: _____
Engineer (Authorized Signature)	Contractor (Authorized Signature)
Print: _____	Print: _____
Title: _____	Title: _____
Date: _____	Date: _____

Copy to: Owner

WAIVER AND RELEASE OF LIEN

WHEREAS, the undersigned, _____
NAME OF MANUFACTURER, MATERIALMAN OR SUBCONTRACTOR

has furnished to _____ the following:

_____ for use in the construction of a
KIND OF MATERIAL AND SERVICES FURNISHED

project belonging to _____, and designated as, _____.

NOW, THEREFORE, the undersigned, _____
NAME OF MANUFACTURER, MATERIALMAN OR SUBCONTRACTOR

for and in consideration of $_____, and other good and valuable consideration, the receipt whereof is hereby acknowledged, do(es) hereby waive and release any and all liens, or right to or claim of lien, on the above described project and premises, under any law, common or statutory, on account of labor or materials, or both, heretofore or hereafter furnished by the undersigned to or for the account of said _____ for said project.

Given under my (our) hand(s) and seal(s) this _____ day of _____, 20_____.

_____
NAME OF MANUFACTURER, MATERIALMAN OR SUBCONTRACTOR

Sign: _____
PRESIDENT, VICE PRESIDENT, PARTNER OR OWNER, OR, IF SIGNED BY OTHER THAN ONE OF FOREGOING, ACCOMPANIED BY POWER OF ATTORNEY SIGNED BY ONE OF THE FOREGOING IN FAVOR OF THE SIGNER (USE DESIGNATION APPLICABLE)

Print: _____

CERTIFICATE OF CONTRACTOR
AND INDEMNITY AGREEMENT

_____, certifies that he/she is the *_____
REPRESENTATIVE NAME TITLE OR DESIGNATION

of _____, the Contractor, in a contract No. _____ dated _____, 20 __, entered into between the Contractor and _____ the Owner, for the construction of _____: and that he/she is authorized to and does make this Certificate and Indemnity Agreement on behalf of the Contractor in order to induce the Owner to make payment to the Contractor, in accordance with the provisions of the Contract. Undersigned further certifies that:

1. The Project has been completed in accordance with provisions of the Construction Contract; provided however, that acceptance by the Owner shall not be deemed to relieve the Contractor of his obligations contained in the Construction Contract with respect to defective workmanship and materials. The Contractor shall provide a warranty of materials and workmanship as outlined and provided in the Contract Documents.

2. All persons who have finished labor in connection with the Project have been paid in full at hourly wage rates not less than those, if any, set forth in the Construction Contract; that all manufacturers, materialmen and subcontractors which furnished any materials or services, or both, for the Project have been paid in full; that no lien has been filed against the Project and no person has any right to claim any lien against the Project.

3. That the Contractor has delivered to the Owner duplicate releases of liens executed by all manufacturers, materialmen and subcontractors that furnished materials or services for the project as follows:

Name	Kind of Material and Services

If the Owner pays the Contractor the total amount due under the Contract, which the Contractor agrees is $_____, including $_____ for ** state sales and use taxes paid by the Contractor, the Contractor will indemnify and hold harmless and does hereby undertake and agree to indemnify and hold harmless the Owner, including the defense of any suit, from any claim, demand or lien arising out of the acts of the Contractor in the performance of the Contract for which the Contractor is liable and which may have been or may be filed against the Owner.

_____
SIGNATURE

_____
PRINT

* President, Vice President, Partner or Owner, or, if undersigned is other than one of the foregoing, Power of Attorney signed by one of the foregoing in favor of the undersigned should be attached. Indicate applicable designation.

** In addition, Contractor shall submit a detailed statement of sales and use taxes paid in accordance with requirements of statute in state having jurisdiction.

ENGINEER'S STATEMENT OF FINAL COMPLETION
AND
OWNER'S ACCEPTANCE OF CONTRACT CONSTRUCTION

TO: _____

_____

_____

_____

PROJECT DESIGNATION

I, the undersigned Engineer of the above designated project, do hereby state that:

1. The construction provided for pursuant to Construction Contract No. _____, dated _____, 20__, including all approved amendments and change orders, (hereinafter called the "Project") between _____ ("Owner") and _____ ("Contractor") has been completed as of _____, 20__ and to the best of my knowledge, information and belief, based on observations made during the period of construction, is in substantial compliance with the provisions of the Construction Contract, including all plans, specifications and drawings, and modifications thereof.

To the best of my knowledge, information, and belief,

2. Defects in workmanship and materials reported during the period of construction of the Project have been corrected.
3. The total cost of the project as completed is _____ dollars (**$**_____).
4. The Final Inventory attached hereto and made a part hereof is a complete and accurate summary of the work performed in accordance with the Construction Contract.

Accepted:

_____	**DGR Engineering**
Owner	Engineer
Sign _____	Sign _____
Print _____	Print _____
Title _____	Title _____
Date _____	Date _____

CONTRACTOR'S RECEIPT FOR FINAL PAYMENT

Name of Project: _____

Previous Contract Payment	**$**_____
Final Contract Payment	**$**_____
Total Contract Payment	**$**_____

The undersigned acknowledges receipt of the final contract payment shown above as satisfaction in full or all claims of the undersigned under the Construction Contract between the undersigned and _____ dated _____, 20__ as amended, and as complete performance by the Owner of all obligations to be performed by him pursuant thereto. The total amount received under this contract is shown above.

Name of Contractor: _____

Sign: _____

Print: _____

Date: _____

Iowa Department of REVENUE

Iowa Contractor's Statement

tax.iowa.gov

Contractor's name: _____

Address: _____

City: _____ State: _____ ZIP: _____

Iowa sales or use tax permit number (if any): _____

SSN or FEIN: _____

Project description: _____

Is your contract written? No ☐ Yes ☐ Date signed ____/____/____

Name of designated exempt entity: _____

_____

Address: _____

City: _____ State: _____ ZIP: _____

If contract is not directly with the above name, who is your contract directly with? _____

A Name, city, and state of supplier	B Type of building material, supply, equipment, or service	C Purchase price	D Amount of Iowa sales/use tax	E Name, tax period, and Iowa permit number under which the tax was remitted to the state of Iowa	F Amount of Iowa local option tax	G County number where Iowa local option was paid
Total (provide the totals for columns C, D and F)						

I, the undersigned, declare under penalties of perjury or false certificate, that I have examined this statement, and, to the best of my knowledge and belief, it is true, correct, and complete.

Signature: _____ Date: _____

Title: _____

Instructions

This Contractor's Statement must be prepared and sworn to by each general contractor, special contractor, or subcontractor who fulfills a contract or subcontract pertaining to a project that is sponsored by agencies or instrumentalities of the tribal, federal, state, county, municipal governments, private nonprofit educational institutions, nonprofit museums, businesses in economic development areas, rural water districts, or Habitat for Humanity. Upon completion of the contract, this form must be presented to that sponsor so they may file for a tax refund in accordance with Iowa Code section 423.4.

The Iowa Department of Revenue may require additional information.

Contractor:
Forward this statement to the sponsor (governmental unit, private nonprofit educational institution, nonprofit museum, business in economic development area, rural water district, or Habitat for Humanity). Do not send it to the Iowa Department of Revenue.

Sponsor:
This statement must be attached to the Construction Contract Claim for Refund (35-003). Both forms must be filed before the Department can process your claim. **File using this form.** Substitutes or photocopies will not be accepted. The claim for refund must be filed within one year of the final settlement date of the contract.

Columns A through E must be completed. If local option sales tax was paid on the purchase price, complete columns A through G.

A. Name, city, and state of supplier
Enter "out of stock" or "inventory" in column A for materials that the contractor has manufactured or has in inventory, making the contractor the material supplier.

B. Type of building material, supply, equipment, or service
Only list building materials, supplies, equipment, or services that are completely consumed in the performance of the contract. The property must become public property or the property of an exempt entity upon completion of the project. Be specific. See Iowa Administrative Code rule 701—219.3 for information on building materials, supplies, and equipment.

C. Purchase price
Enter the cost of materials shown in column B. Do not include transportation charges, delivery charges, or hauling charges. Do not include sales and use or local option sales tax in column C.

D. Amount of Iowa sales / use tax
Compute on the purchase price recorded in column C. Do not include local option sales tax in column D. Invoices may be requested to verify amounts.

E. Who remitted the tax?
Enter the name, tax period, and Iowa permit number under which the tax was remitted to the State of Iowa. If no Iowa tax was paid, explain why. If tax was paid to another state, provide the name of state.

F. Amount of Iowa local option tax
In addition to Iowa sales and use tax in column D, purchases may be subject to Iowa local option sales tax. Enter the amount of Iowa local option sales tax in column F. Do not include local option sales tax in column D.

G. County number where Iowa local option was paid
Enter the number of the county for which local option sales tax was paid. See the list below.

IOWA COUNTIES AND COUNTY NUMBERS

01-Adair	26-Davis	51-Jefferson	76-Pocahontas
02-Adams	27-Decatur	52-Johnson	77-Polk
03-Allamakee	28-Delaware	53-Jones	78-Pottawattamie
04-Appanoose	29-Des Moines	54-Keokuk	79-Poweshiek
05-Audubon	30-Dickinson	55-Kossuth	80-Ringgold
06-Benton	31-Dubuque	56-Lee	81-Sac
07-Black Hawk	32-Emmet	57-Linn	82-Scott
08-Boone	33-Fayette	58-Louisa	83-Shelby
09-Bremer	34-Floyd	59-Lucas	84-Sioux
10-Buchanan	35-Franklin	60-Lyon	85-Story
11-Buena Vista	36-Fremont	61-Madison	86-Tama
12-Butler	37-Greene	62-Mahaska	87-Taylor
13-Calhoun	38-Grundy	63-Marion	88-Union
14-Carroll	39-Guthrie	64-Mahaska	89-Van Buren
15-Cass	40-Hamilton	65-Mills	90-Wapello
16-Cedar	41-Hancock	66-Mitchell	91-Warren
17-Cerro Gordo	42-Hardin	67-Monona	92-Washington
18-Cherokee	43-Harrison	68-Monroe	93-Wayne
19-Chickasaw	44-Henry	69-Montgomery	94-Webster
20-Clarke	45-Howard	70-Muscatine	95-Winnebago
21-Clay	46-Humboldt	71-O'Brien	96-Winneshiek
22-Clayton	47-Ida	72-Osceola	97-Woodbury
23-Clinton	48-Iowa	73-Page	98-Worth
24-Crawford	49-Jackson	74-Palo Alto	99-Wright
25-Dallas	50-Jasper	75-Plymouth	

PROPERTY DAMAGE RELEASE

Date: _____

Landowner Name: _____

Landowner's Affected Parcel(s) Address/Location: _____

_____

The undersigned, being the record owners or tenants of land located in _____ County, State of Iowa, hereby release and discharge the Construction Contractor, _____ and the Owner, **City of Webster City**, their agents and employees from any and all liability to them, to the date of this instrument by reasons of any damage to lands, crops growing thereon, fences, and personal property, by reason of the enacting upon said lands for the purpose of installing the **overhead transmission line** owned by **the City of Webster City**, under project number #**428404**.

_____
SIGNATURE

_____
PRINTED NAME

_____
WITNESSED BY SIGNATURE

_____
WITNESS PRINTED NAME

Category II

Contract Conditions

- General Conditions
- Supplementary Conditions

General Conditions

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

Issued and Published Jointly by

These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

National Society of Professional Engineers

1420 King Street, Alexandria, VA 22314-2794

(703) 684-2882

www.nspe.org

American Council of Engineering Companies

1015 15th Street N.W., Washington, DC 20005

(202) 347-7474

www.acec.org

American Society of Civil Engineers

1801 Alexander Bell Drive, Reston, VA 20191-4400

(800) 548-2723

www.asce.org

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. *Bidder*—An individual or entity that submits a Bid to Owner.

6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision

regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.

13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.

14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .

15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.

17. *Cost of the Work*—See Paragraph 13.01 for definition.

18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.

20. *Engineer*—The individual or entity named as such in the Agreement.

21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.

23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.

26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.

27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.

32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.

33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.

34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.

35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.

38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.

42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.

44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

46. *Unit Price Work*—Work to be paid for on the basis of unit prices.

47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment

into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 *Terminology*

A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*:

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day*:

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*:

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).

E. *Furnish, Install, Perform, Provide*:

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.

C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.

B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.

C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

A. Standards Specifications, Codes, Laws and Regulations

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*:

1. *Contractor's Verification of Figures and Field Measurements*: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents*: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*:

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.

B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If

Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

A. Contractor and its Subcontractors and Suppliers shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. abnormal weather conditions;

3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and

4. acts of war or terrorism.

D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.

E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*:

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable,

brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and

3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or

2. is of such a nature as to require a change in the Drawings or Specifications; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Possible Price and Times Adjustments*:

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or

b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or

c. Contractor failed to give the written notice as required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

A. *Contractor's Responsibilities*: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;

c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

C. *Engineer's Review*: Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. *Owner's Statement to Contractor Regarding Underground Facility*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Possible Price and Times Adjustments*:

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

    a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;

    b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

    c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and

    d. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

2. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous

Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.

H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.

B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.

D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.

E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or

any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.

H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.

I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.

J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.

2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).

3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).

B. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:

1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.

2. claims for damages insured by reasonably available personal injury liability coverage.

3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:

1. Products and completed operations coverage:

a. Such insurance shall be maintained for three years after final payment.

b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.

2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.

3. Broad form property damage coverage.

4. Severability of interest.

5. Underground, explosion, and collapse coverage.

6. Personal injury coverage.

7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.

8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.

D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.

E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.

F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.

H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:

1. include at least the specific coverages provided in this Article.

2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.

3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.

5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.

J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."

2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.

3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.

4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).

6. extend to cover damage or loss to insured property while in transit.

7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

8. allow for the waiver of the insurer's subrogation rights, as set forth below.

9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.

10. not include a co-insurance clause.

11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.

12. include performance/hot testing and start-up.

13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.

B. *Notice of Cancellation or Change*: All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.

C. *Deductibles*: The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.

D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

E. *Additional Insurance*: If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.

F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.

D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 *"Or Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.

1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

3) it has a proven record of performance and availability of responsive service; and

4) it is not objectionable to Owner.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be

evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.

E. *Treatment as a Substitution Request*: If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

a. shall certify that the proposed substitute item will:

1) perform adequately the functions and achieve the results called for by the general design,

2) be similar in substance to that specified, and

3) be suited to the same use as that specified.

b. will state:

1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,

2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

c. will identify:

1) all variations of the proposed substitute item from that specified, and

2) available engineering, sales, maintenance, repair, and replacement services.

d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.

B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.

F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.

J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.

K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.

L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements*:

1. Before submitting a Shop Drawing or Sample, Contractor shall have:

a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings*:

a. Contractor shall submit the number of copies required in the Specifications.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples*:

a. Contractor shall submit the number of Samples required in the Specifications.

b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals*: Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review*:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.

3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.

5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures*:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal;

6. the issuance of a notice of acceptability by Engineer;

7. any inspection, test, or approval by others; or

8. any correction of defective Work by Owner.

D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.

B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. an itemization of the specific matters to be covered by such authority and responsibility; and

3. the extent of such authority and responsibilities.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means,

methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.

B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.

C. Engineer's authority as to Change Orders is set forth in Article 11.

D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

1. *Change Orders*:

a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.

b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.

2. *Work Change Directives*: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the

completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.

B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures*: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.

2. *Engineer's Action*: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

3. *Binding Decision*: Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

B. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders covering:

1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and

4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

A. *Claims Process*: The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation*:

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal

and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing

Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

    f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded*: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.

E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.

1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include

but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*:

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

a. the Work is defective, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*:

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

c. Contractor has failed to provide and maintain required bonds or insurance;

d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

f. the Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. the Contract Price has been reduced by Change Orders;

i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;

j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

l. there are other items entitling Owner to a set off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the

amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.

2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record

documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents;

   b. consent of the surety, if any, to final payment;

   c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

   d. a list of all disputes that Contractor believes are unsettled; and

   e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance*:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due*: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions

above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such other adjacent areas;

2. correct such defective Work;

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and

damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this Article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and

2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this Article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

Supplementary Conditions

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the **Standard General Conditions of the Construction Contract, EJCDC No. C-700 (2013 Edition).** All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-1.01.A.8. Add the following language to the end of Paragraph 1.01.A.8:

The Change Order form to be used on this Project is bound in the Miscellaneous Forms section.

SC-1.01.A.40. Add the following new subparagraph to the end of Paragraph 1.01.A.40:

a. Substantial Completion shall include, but not be limited to, installation, testing, and initial cleanup. Final Acceptance will not be made until the entire project has been completed including final cleanup.

SC-4.01.A. Delete Paragraph 4.01.A in its entirety and insert the following in its place:

A. The Contract Times will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement.

SC-5.03. Add the following new paragraphs immediately after Paragraph 5.03.B:

C. The following reports of explorations and tests of subsurface conditions at or contiguous to the site are known to Owner:

1. Report dated December 22, 2023 prepared by Allender Butzke Engineers, entitled: Geotechnical Exploration – Reisner Substation, consisting of 33 pages. The "technical data" contained in such report upon which Contractor may rely is none.

a. None of the contents of such drawings is "technical data" on which Contractor may rely.

D. In the preparation of Drawings and Specifications, Engineer relied upon the following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the Site: none.

E. The reports and drawings identified above are not part of the Contract Documents, but the "technical data" contained therein upon which Contractor may rely, as expressly identified and established above, are incorporated in the Contract Documents by reference. Contractor is not entitled to rely upon any other information and data known to or identified by Owner or Engineer.

SC-5.05. Delete Paragraph 5.05 in its entirety including subparagraphs and insert the following in its place:

5.05. The location of the Underground Facilities is not shown on the Drawings. The cost of all of the following will be included in the Contract price and Contractor shall have full responsibility for: (i) reviewing and checking all available information and data, (ii) locating all Underground Facilities affected by construction, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in Paragraph 7.12 and repairing any damage thereto resulting from the Work.

SC-5.06. Delete Paragraph 5.06.A in its entirety including subparagraphs and insert the following in its place:

A. Engineer or Engineer's Consultants obtained, used or reviewed no specific information regarding Hazardous Environmental Conditions at the site.

SC – 6.03.I.3 Replace the number "10" with the number "30", in reference to the number of days notice to the Owner prior to cancellation of the insurance policies.

SC-6.03. Add the following new paragraphs immediately after Paragraph 6.03.J:

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

a.	State:	Statutory
b.	Applicable Federal (e.g., Longshoreman's):	Statutory
c.	Employer's Liability:	
	Bodily injury, each accident	$ 500,000
	Bodily injury by disease, each employee	$ 500,000
	Bodily injury/disease aggregate	$ 500,000

The Workers' Compensation policy shall include a waiver of subrogation clause in favor of the Owner.

2. Contractor's General Liability under Paragraphs 6.03.B through 6.03.C of the General Conditions.

a.	General Aggregate	$ 2,000,000
b.	Products - Completed Operations Aggregate	$ 2,000,000
c.	Personal and Advertising Injury	$ 1,000,000
d.	Each Occurrence (Bodily Injury and Property Damage)	$ 1,000,000

e. Contractor shall maintain a separate Certificate of Insurance on behalf of the applicable railroad authority, as named insured. Insurance limits will be based on the requirements set forth by the applicable railroad authority. Said coverage(s) shall be in effect whenever Work on this project is underway within the Railroad right-of-way.

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

a.	Combined Single Limit of	$ 1,000,000

4. Excess or Umbrella Liability:

a.	Per Occurrence	$ 5,000,000
b.	General Aggregate	$ 5,000,000

5. Contractor's Pollution Liability

a.	Each Occurrence	$ 1,000,000
b.	General Aggregate	$ 1,000,000

6. Builders Risk
See General Conditions Section 6.05.

7. The following shall be included as additional insureds and certificate holders in addition to any other individuals or entities identified in the contract documents.

Engineer:

DeWild Grant Reckert and Associates Company d/b/a DGR Engineering
1302 South Union Street
Rock Rapids, Iowa, 51246

Owner:

City of Webster City
400 Second Street
Webster City, IA 50595

L. The following clauses shall be added to all liability coverages:

a. The company and the insured expressly agree and state that the purchase of this policy of insurance by the insured does not waive any of the defenses of governmental immunity available to the insured under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.

b. The company and the insured further agree that this policy of insurance shall cover only those claims not subject to the defense of governmental immunity under Iowa Code Section 670.4 as it now exists and as it may be amended from time to time.

M. Subrogation, To the extent that such insurance is in force and collectible and to the extent permitted by law, the City or Utility and Contractor each hereby releases and waives all right of recovery against the other or anyone claiming through or under each of them by way of subrogation or otherwise. The forgoing release and waiver shall apply to damage to contractor's equipment, tools and other personal property as well as automobiles.

SC-7.02. Add the following new paragraphs immediately after Paragraph 7.02.B:

C. It shall be specifically understood that any work relating to this contract shall not be performed on Sunday unless an emergency arises and special permission is given by the Owner.

D. Work will be permitted on Saturday; however, involvement of the Owner's personnel will not be allowed. Saturday work must be approved by the Owner.

SC-7.06. Add the following new paragraphs immediately after Paragraph 7.06.O:

P. The Contractor shall not award work valued at more than fifty percent (50%) of the Contract Price to Subcontractor(s), without prior written approval of the Owner.

SC-7.09. Add the following new subparagraph to the end of Paragraph 7.09.A:

1 CONTRACTOR shall pay all sales, use and excise taxes, and such taxes shall be incidental to the Work and included in the Contract Prices.

SC-9.11. Add the following new paragraph immediately after Paragraph 9.11.A:

B. On request of Contractor prior to the execution of any Change Order involving a significant increase in the Contract Price, Owner shall furnish to Contractor

reasonable evidence that adequate financial arrangements have been made by Owner to enable Owner to fulfill the increased financial obligations to be undertaken by Owner as a result of such Change Order.

SC-9.13. Add the following new paragraph immediately after Paragraph 9.12:

9.13. Owner will furnish an "Owner's Site Representative" to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner's Site Representative is not Engineer's consultant, agent, or employee. Owner's Site Representative will be an employee of Owner. The authority and responsibilities of Owner's Site Representative will be as defined and described at the Preconstruction Conference (Paragraph 2.04).

SC-10.03. Add the following new paragraph immediately after Paragraph 10.03.A:

B. On this Project, by agreement with the Owner, Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work. The authority and responsibilities of the Resident Project Representative (RPR) will be as defined and described at the Preconstruction Conference (paragraph 2.04).

SC-13.03.E. Delete Paragraph 13.03.E in its entirety and insert the following in its place:

E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. if the Bid price of a particular item of Unit Price Work amounts to 20, percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and

2. if there is no corresponding adjustment with respect to any other item of Work; and

3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

SC-15.01.B.3. Add the following language at the end of Paragraph 15.01.B.3.:

No payments will be made that would deplete the retainage, place in escrow any funds that are required for retainage, or invest the retainage for the benefit of the Contractor.

SC-15.01.D.1. Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

1. The Application for Payment with Engineer's recommendations will be presented to the Owner for consideration. If the Owner finds the Application for Payment acceptable, the recommended amount less any reduction under the provisions of Paragraph 15.01.E will become due ten days after the Application for Payment is approved by the Owner, and when due will be paid by Owner to Contractor.

SC-15.08.F. Add the following subparagraph to paragraph 15.08:

F. Contractor shall provide a correction period (warranty) of two (2) years from date of substantial completion for the following items:

1. all work.

SC-17.01. Add the following subparagraphs to Paragraph 17.01.B.3:

C. If Owner or Contractor have a disputed matter per Paragraph 17.01.A, the following process shall apply:

1. Within 30 days of the submittal of such claim, Owner and Contractor shall meet and confer regarding the Claim. A good-faith effort to negotiate resolution shall be made by both parties.

2. If the negotiations contemplated by Paragraph SC-17.01.C.1 are unsuccessful, management representatives of Owner and Contractor at least one tier above the individuals who met under SC 17.01.C.1 shall meet, confer, and negotiate within 30 days of the closure of the unsuccessful negotiations.

3. If the Claim is not resolved by negotiation, Engineer's decision regarding Change Proposals or other requests for decisions shall become final and binding 30 days after termination of the negotiations unless, within that time period, Owner or Contractor:

a. gives to the other party written notice of intent to submit the Claim to a court of competent jurisdiction, or

b. agrees with the other party to submit the Claim to another dispute resolution process.

4. Notwithstanding any applicable statute of limitations, a party giving notice under Paragraph SC 17.01.C.3.a shall commence an action on the Claim within one year of giving such notice. Failure to do so shall result in the Claim being time-barred and Engineer's action or denial shall become final and binding.

Category III

Technical Specifications

- Division 1 – General Requirements
- Division 32 – Exterior Improvements
- Division 33 – Utilities

Division 1
General Requirements

SECTION 01 1100

SUMMARY OF WORK

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section presents a summary of the intended Work and the Contractor's duties and use of premises relating to the Owner’s transmission line construction project.

C. Site Locations:

1. The project is located in Webster City, Iowa. See the Drawings for more detail.

1.02 AWARD OF CONTRACTS:

A. One contract will be awarded for the entire project.

1.03 CONTRACTORS' DUTIES:

A. Except as specifically noted, provide and pay:

1. Labor, materials and equipment.

2. Tools, construction equipment and machinery.

3. Water, heat and utilities required for construction.

4. Other facilities and services necessary for proper execution and completion of Work.

5. All applicable taxes and fees including sales and use taxes.

B. Secure and pay for, as necessary for proper execution and completion of Work, and as applicable at time of receipt of bids:

1. Permits, including building permits.

2. Government fees.

3. Licenses.

C. Give required notices.

D. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities that relate to performance of Work.

1. Promptly submit written notice to Engineer of observed variance of Contract Documents from legal requirements.

2. Assume responsibility for Work known to be contrary to legal requirements if notice is not submitted.

3. Necessary changes to the Contract Documents will be accomplished by Change Order if the Contract price or completion time is affected.

E. Enforce strict discipline and good order among employees. Do not employ on Work:

1. Unfit persons.

2. Persons not skilled in assigned task.

1.04 CONTRACTOR USE OF PREMISES:

A. Confine operations at site to areas permitted by:

1. Law.

2. Ordinances.

3. Permits.

4. Contract Documents.

B. Do not unreasonably encumber site with materials or equipment.

C. Do not load any structures with weight that will endanger structure.

D. Assume full responsibility for protection and safekeeping of products stored on premises.

E. Move any stored products that interfere with operations of Owner or other Contractor.

F. Obtain and pay for use of additional storage or work areas needed for operations.

1.05 ITEMS BY OTHERS:

A. Related items include those in the Drawings or elsewhere specified as “By Others” or “By Owner”. Specific items are as follows:

1. Switching to de-energize and re-energize the transmission line as required: Completed by the Owner and/or Corn Belt Power Cooperative.

1.06 RIGHT-OF-WAY/EASEMENTS:

A. All easements and rights-of-way necessary for the construction of the Project have been or will be obtained by the Owner in such a manner that the construction of the Project may rapidly progress.

B. The Contractor shall restore the public and private properties to their original condition. Any damages to the public and private rights-of-ways will be at the Contractor's expense. See Part 3.01 (Property Damages) in Section 01 4500 for more detail.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section presents the Price and Payment Procedures that will be utilized for the project.

1.02 UNIT PRICES:

A. The proposal is to be made on a unit basis so that the Engineer may specify any combination of construction units that he/she may deem necessary.

B. The various construction units that are included in this quote and upon which quotations are required are defined by symbols and descriptions set forth in this part.

C. Separate assembly units are designed for each different arrangement that may be used in the construction of the project. The proposal is based on a consideration of each unit in place and includes only the materials listed on the corresponding construction drawings or as spelled out herein.

D. The quote prices stated in the proposal shall include all labor, materials, freight, drayage, loading, protection from weather, fabrication, and installation to assure the Owner that the equipment will operate as specified.

1.03 MEASUREMENT:

A. Measurement for work completed is to be made on a monthly basis or as deemed necessary by the Engineer.

1. All items will be computed in the units of the Quote Form.

a. Periodic payments for lump sum items will be on an estimated percentage of completion basis.

B. The Contractor shall participate in the measurement of completed Work unless agreed otherwise.

1. Specific differences are to be resolved at the time of measurement.

2. Unresolved differences shall be directed to the Engineer.

1.04 PAYMENT:

A. All Work required to complete construction shall be deemed to be included in the unit price or lump sum price items listed in the Contractor's Quote Form.

B. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective Work or material.

C. Payment will be for installed units only.

1.05 PAYMENTS TO BE WITHHELD:

A. Applicable retainage, as defined in the Contract Conditions, shall apply to all payments due the Contractor including payment for stored material.

B. Amounts equal to maximum potential liquidated damages may be withheld from payments due Contractor when Work is not completed within the specified time. Such amounts shall be in addition to other payments withheld.

C. Payments withheld will be paid as follows:

1. Normal retainage will be paid as required by the General Conditions.

2. Potential liquidated damages withheld will be retained until final resolution of Liquidated Damages is made by the Owner.

1.06 UNIT PRICES:

A. Payment items shall be as listed on the Quote Form. Measurement of completed work shall be the number of units installed for each unit price item and percentage of completion of the entire item for each lump sum item. (No separate payment will be made for mobilization, engineering, or related project initiation expenses, unless specifically identified as a quote unit.) Payment will be at respective unit or lump sum prices as per the Quote Form.

B. Unit and lump sum prices as listed on the Quote Form shall be the full payment for each item as described by the applicable sections of the Technical Specifications and the Drawings.

C. The Description of Assembly Units are as follows:

1. Wood Poles (No Drawing): Consists of furnishing, loading, offloading, transporting, sorting, moving, hauling, and installing one **contractor-furnished** wood pole in place. Unit includes digging, pumping, filling and tamping selected backfill gravel, and field drilling to install the pole. It does not include pole top assembly unit or other parts attached to the pole. The first two digits indicate the length of the pole; the third and fourth digits

shows the classification per ASA standard (example: 70-1 means pole 70 feet long, class 1).

AA (B)	Wood Pole, Length AA', Class B (ea.) ["AA" represents the pole height and "B" the pole class.]

2. Engineered Laminated Wood Structures (Drawing): Consists of receiving, offloading, sorting, moving, hauling an **Owner-furnished** engineered laminated wood pole as indicated by unit description, with connection points, arms, anchor bolts and templates as shown on the drawing. Unit includes any field drilling of holes required for crossarms, braces, and insulator assemblies. Unit does not include the pole top assembly, ground rods, concrete footing, or foundation. Unit does include setting and plumbing pole. Also includes supplying, filling, and tamping the selected backfill gravel for the direct-buried steel poles. Specific unit as follows:

LWP-X	Laminated Wood Pole #X, Contractor-furnished (ea.) [X designates pole number]

3. Transmission Pole Top Assemblies (Drawings): Consists of furnishing all required materials and installing the pole top assemblies, attachments, crossarms, braces, hardware, brackets, **Owner-furnished** insulators, extension links, connectors, jumpers, clamps, deadend tees, etc. required to support and deadend the primary and overhead shield conductors. Unit(s) also include installation of the ground conductor, pole down ground, ground conduit, and grounding attachments as shown on the drawings. These units do not include the pole. Units to be installed on proposed structures are as follows:

TM-1	69 kV Phase Deadend Assembly, Quadrant, 1Ø (ea.)
TM-2	Single, Static, Deadend Assembly (ea.)
TM-3	Single, OPGW, Deadend Assembly (ea.)
TP-69	69 kV Tangent, Horizontal Line Post, 3Ø (ea.)
TP-69B	69 kV Tangent, Stacked, Horizontal Line Post, 3Ø (ea.)
TP-69B-BLP	69 kV Tangent, Stacked, Braced Line Post, 3Ø (ea.)
TS-4L	69 kV Vertical, Medium Angle, LWP, 3Ø (ea.)
TS-5GL	69 kV Vertical, Double Deadend, Corner, LWP, 3Ø (ea.)
TS-5GAL	69 kV Vertical, Double Deadend, Large Angle, LWP, 3Ø (ea.)
TH-2L	69 kV H-frame, Double Deadend, LWP, 3Ø (ea.)

TH-2AL 69 kV H-frame, Double Deadend, Large Angle, LWP, 3Ø (ea.)

4. Conductor Assemblies (No Drawing): Consists of furnishing equipment, labor, and materials to install one thousand feet of **Owner-furnished** phase conductor, shield wire, and optical ground wire (OPGW). Unit includes installation of all conductor marking spheres or bird flight diverters where noted on the drawings. Unit includes moving, hauling, stringing, tensioning, and installing splices, connectors, clamps, and ties. Also included in this unit is supplying traffic control, temporary guard structures, and insulating blankets, etc. as required. **The length of the conductor unit payment shall be determined by the span length as measured on the plan and profile stationing at time of construction.** The units represent each type of conductor or wire. Specific units are as follows

   477 ACSR Phase Conductor, 477 ACSR, Hawk (Mft.)

   3/8" EHS Shield Wire, 3/8", EHS (Mft.)

   OPGW Optical Ground Wire, 48-fiber (Mft.)

5. Guy and Anchor Assembly Units (Drawing): Consists of furnishing and installing the guy, anchor, rod, guy guard, extension rods, eye assembly and associated connection hardware, including but not limited to guy wire, deadend tees, guy insulators, clevises, shackles, eye assemblies, bonding to down ground and guy insulator, where necessary. Specific units are as follows:

   E3-3 Insulated Down Guy, 7/16" EHS, Single (ea.)

   D6 Screw Anchor, Triple Helix (ea.)

   E7 7' Anchor Extension (ea.)

6. Removal Construction Units (No Drawing):

   All removed materials will become property of the Contractor unless otherwise noted.

   RC Remove Conductor: Includes all necessary labor and work to remove 1,000 feet of existing overhead phase conductor or shield wire. (Mft.)

   RI Remove Insulator: Includes all necessary labor and work required to remove an insulator, phase clamps, and associated hardware. (ea.)

RP — Remove Pole & Pole Top Assembly: Includes all necessary labor and work required to remove all equipment and assemblies from a pole, remove pole(s), and backfill the pole hole(s). (ea.)

RSW — Remove Switch Structure: Includes all necessary labor and work required to remove all equipment and assemblies from a switch pole, remove pole(s), and backfill the pole hole(s). (ea.)

7. Fiber Optic System: Consists of furnishing labor, materials, and equipment for a fiber optic storage system including storage reel, enclosure, splice tray, splicing of fibers, and associated hardware as per application as shown on the drawings.

A separate unit consists of furnishing labor, materials, tools, and equipment required to splice the fiber optic cables and test all fibers to assure continuity. Specific units are as follows:

FOS-1 — Fiber Optic Storage System, Wood Pole (ea.)

FOS-2 — Fiber Optic Storage System, Steel Structure (ea.)

FST — Fiber Optic System Splicing & Testing (as Req'd)

8. Miscellaneous Construction Units (Drawing, unless noted):

WPG — Wood Pole Ground: Includes furnishing and installing the pole ground and associated hardware as shown on drawings. (ea.)

LC — Line Clearance: Includes all necessary equipment, labor, material and tools required to protect the existing 69 kV, and any other line or add pole and insulators to provide adequate clearance to install all new construction units. Unit includes leaning the line or poles, if necessary and removing any installed items to provide the necessary line clearance. (No Drawing) (as req'd)

TC — Traffic Control: This item includes furnishing, installing, maintaining, relocating, and subsequently removing traffic control devices, including flagpersons. (No Drawing) (as req'd)

The schedule for payment of this unit shall be as follows:

(1) When 5 percent of the Contract amount is earned, 50 percent of the amount bid for traffic control will be paid.

(2) When 10 percent, or more, of the Contract amount is earned, an additional 25 percent of the amount bid for traffic control will be paid.

(3) When 50 percent, or more, of the Contract amount is earned, an additional 20 percent of the amount bid for traffic control will be paid.

(4) The remaining 5 percent bid for traffic control will be paid when all work has been completed and accepted.

(5) In all items above, the original Contract amount shall be the total value of all Contract Items including the traffic control item, but the percentage earned in each case shall be exclusive of the traffic control item.

U1 Mobilization: This item shall consist of preparatory work and operations, including but not limited to the necessary movement of personnel, equipment, traffic control, and incidentals to the project site; for the establishment of offices, buildings and other facilities necessary for work on the projects; and for work and operations which must be performed, and for cost incurred before starting work on the various contract times on the project site. When an item for Mobilization is included in the proposal, payment will be made at the contract unit lump sum price and be considered full compensation for costs incidental thereto for all construction seasons. Unit to be paid when work on construction site for applicable line section commences. (No Drawing) (as req'd.)

V1 Construction Allowance: Allowance for payment to Contractor for miscellaneous items and tasks required for completion of construction due to unforeseen project events. Miscellaneous items and tasks may include but are not limited to sub-soil rock, utilities, terrain, structures encountered during foundation excavation or other construction activities required for completion of the work. Payment to contractor for this Bid Item requires Owner and Engineer approval. (No Drawing) (as req'd.)

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's project management and coordination responsibilities.

1.02 PROJECT MANAGEMENT AND COORDINATION:

A. Verify layout information shown on Drawings, in relation to property survey and existing benchmarks, before laying out the Work.

B. Any Contractor or subcontractor working on a specific portion of the project shall so schedule and conduct his work as not to impede unnecessarily any work being done by others on or adjacent to his work.

C. The Contractor shall be aware that this project will require a high-level of coordination and scheduling with the Owner, Engineer, and material suppliers.

D. The Contractor shall have a construction foreman on site at all times during construction, including when subcontractors are working at the site.

1.03 INTERFERENCE WITH SYSTEM OPERATION:

A. All work by the Contractor in connection with this contract shall be planned with the consent of the Owner and the Engineer, and shall not in any way interfere with electric service other than specified herein unless consent is given by authorized representatives of the Owner.

1.04 WEEKEND WORK:

A. See Supplementary Conditions section.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 3119

PROJECT MEETINGS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the intended project meetings required of the Contractor.

1.02 PAYMENT:

A. Project meetings are considered incidental Work with no separate measurement and payment to be made.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL:

A. Project meetings shall be coordinated among the respective Contractors, Owner, and Engineer.

B. The individual requesting the meeting shall contact those to be in attendance in writing providing the following:

1. Purpose of meeting.

2. Date, time and place.

3. Names of others to be in attendance.

4. Additional information as necessary.

3.02 SCHEDULE:

A. A preconstruction conference will be scheduled by the Engineer to review the following:

1. Contract-Legal Documents and Specifications.

2. Drawings.

3. General construction requirements.

4. Coordination of different contractors.

5. Pay request procedure.

6. Shop drawing submittal.

7. Project observation and inspection.

8. Coordination with affected agencies and utility companies.

B. Progress meetings shall be scheduled and held as the need arises throughout the Work.

* * * END OF SECTION * * *

SECTION 01 3213

CONSTRUCTION SCHEDULE

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's project management and coordination responsibilities.

1.02 CONSTRUCTION SCHEDULE:

A. Prepare a horizontal bar-chart-type, construction schedule. Provide a separate time bar for each activity and a vertical line to identify the first workday of each week. As Work progresses, mark each bar to indicate actual completion.

1. Submit within 20 days after the notification of award of contract.

2. Prepare the schedule on reproducible media, of width sufficient to show data for the entire construction period.

3. Coordinate each element with other activities. Show each activity in proper sequence. Indicate sequences necessary for completion of related Work.

4. Indicate Substantial Completion and allow time for Engineer's procedures necessary for certifying Substantial Completion.

5. Schedule Distribution: Distribute copies to Owner, Engineer, subcontractors, and parties required to comply with dates.

6. Updating: Revise the schedule after each meeting or activity where revisions have been made.

The following is a list of the required timeframes for this project. The dates marked with an asterisk are critical in nature and are subject to the liquidated damages clause of the Contract.

Task	Required Completion Date
Bid Opening	July 23, 2024
Contract Award	August 5, 2024 (Assumed)
Submit Material Shop Drawings	September 15, 2024

Task	Required Completion Date
Construction Start Date (Assumed)	March 31, 2025
Substantial Completion	September 30, 2025 **
Final Completion of All Work	October 31, 2025 **
Ready for Final Payment	November 15, 2025

**Liquidated damages apply to these dates for this Contractor.

B. Any outages on the existing substations or transmission lines are to be coordinated with Webster City Municipal Utilities.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 3236

PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's responsibilities regarding the assembly and maintenance of project records.

1.02 PAYMENT:

A. Project record documents are considered incidental Work with no separate measurement or payment to be made.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION

3.01 GENERAL:

A. Maintain at office one copy of:

1. Contract-Legal Documents and Specifications.
2. Addenda.
3. Drawings.
4. Staking sheets.
5. Construction schedules and progress reports.
6. Minutes of preconstruction conference and other construction meetings.
7. Shop Drawings.
8. Change Orders.
9. Field Orders.
10. Test reports.

B. File documents in an orderly, readily accessible manner.

3.02 RECORDING:

A. Legibly mark documents to record location of other facilities and changes made by Change Order or Field Order.

B. Keep project records current.

3.03 SUBMITTAL:

A. At completion of construction, the Drawings indicating ‘as-constructed’ and buried facility information shall be delivered to the Engineer.

B. With completion of record Drawings, the Contractor's Drawings will be returned.

* * * END OF SECTION * * *

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the submittal procedures the Contractor shall follow for the project.

1.02 SHOP DRAWINGS, PROJECT DATA AND SAMPLES:

A. SHOP DRAWINGS: Original drawings, prepared by Contractor, subcontractor, supplier or distributor, which illustrate some portion of the Work; showing fabrication, layout, setting or erection details.

1. Prepared by a qualified detailer.

2. Identify details by reference to specification section or detail number from the Drawings.

3. Minimum sheet size: 8-1/2" x 11".

4. Maximum sheet size: 11" x 17".

B. PROJECT DATA:

1. Manufacturer's standard schematic drawings:

a. Modify drawing to delete information that is not applicable to the Work.

b. Supplement standard information to provide additional information applicable to the Work.

2. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.

a. Clearly mark each copy to identify pertinent materials, products or models.

b. Show dimensions and clearances required.

c. Show performance characteristics and capacities.

d. Show wiring diagrams and controls.

C. CONTRACTOR RESPONSIBILITIES:

1. Review Shop Drawings, Project Data and Samples prior to submission to Engineer for review.

2. Verify:

a. Performance criteria.

b. Field measurements and field construction criteria.

c. Catalog numbers and similar data.

3. Coordinate the timing of each submittal with requirements of the Work.

4. Contractor's responsibility for errors and omissions in submittals is not relieved by Engineer's review of submittals.

5. Notify Engineer, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.

6. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Engineer's review of submittals, unless Engineer gives written acceptance of specific deviations.

7. Begin no work that requires submittals until return of submittals with Engineer's stamp and initials or signature indicating review.

8. After Engineer's review, distribute copies.

D. SUBMISSION REQUIREMENTS:

1. Schedule submissions at least fourteen (14) days before date reviewed submittals will be needed.

2. Accompany submittals with transmittal letter or email containing:

a. Date.

b. Project title and number.

c. Contractor's name and address.

d. An electronic .pdf file of each shop drawing.

e. Notification of deviations from Contract Legal Documents, Specifications and Drawings.

3. Submittals shall include:

a. Date and revision dates.

b. The names of:

(1) Subcontractor.

(2) Supplier.

(3) Manufacturer.

(4) Separate detailer when pertinent.

c. Identification of product or material.

d. Relation to adjacent structure or materials.

e. Field dimensions, clearly identified as such.

f. Specification section number.

g. Applicable standards, such as ASTM number or Federal Specification.

h. A statement signed by the Contractor that the submittal has been reviewed and meets the requirements except as noted.

E. ENGINEER'S DUTIES:

1. Review and return within fourteen (14) days of receipt.

2. Review of separate item does not constitute review of an assembly in which item functions.

3. Affix stamp and initials or signature certifying review of submittal noting one of the following:

a. No exception taken.

b. Make corrections noted – No resubmittal required.

c. Revise and resubmit.

d. Submit specified item.

e. Rejected.

4. Return submittals to Contractor.

F. RESUBMISSION REQUIREMENTS:

1. Shop Drawings:

a. Revise initial drawings as required and resubmit as specified for initial submittal.

b. Indicate on drawings any changes which have been made other than those requested by Engineer.

G. DISTRIBUTION OF SUBMITTALS AFTER REVIEW:

1. Contractor shall distribute reviewed copies of Shop Drawings and Project Data that carries the Engineer's stamp, to:

a. Contractor's file.

b. Job site file.

c. Supplier, as appropriate.

2. Engineer will distribute reviewed copies of Shop Drawings and Project Data to:

a. Engineer's file.

b. Resident Project Representative, if applicable.

c. Owner.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 3523

SAFETY REQUIREMENTS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. The Contractor shall be responsible for maintaining and enforcing their own safety program and procedures.

1.02 OCCUPATIONAL SAFETY AND HEALTH STANDARDS:

A. The Contractor shall be responsible for the proper application of the Occupational Safety and Health Standards (OSHS) with regard to construction of the project. The Owner will not be responsible for enforcing any part of the OSHS with respect to the Contractor's equipment or labor practices.

1.03 WORK ON OR NEAR ENERGIZED LINES:

A. Work is anticipated near or adjacent to energized underground distribution lines. The Contractor shall be responsible for providing expertise and experience necessary for working near these energized lines. All extra costs associated with working adjacent to energized lines shall be included in the construction units and assemblies of the project.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 4113

APPLICABLE CODES AND STANDARDS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's responsibilities to adhere to applicable codes and standards.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

1.03 CODES AND STANDARDS:

A. Design and workmanship of installation and material shall be judged by tests and requirements set forth in the latest revisions of the following codes and standards:

1. American Society for Testing Materials (ASTM).

2. American National Standards Institute (ANSI).

3. American Institute of Steel Construction (AISC).

4. American Concrete Institute (ACI)

5. National Electrical Manufacturer's Association (NEMA).

6. National Electrical Code (NEC).

7. National Electric Safety Code (NESC).

8. Uniform Building Code (UBC).

9. Insulated Cable Engineers Association (ICEA).

10. Institute of Electronic and Electrical Engineers (IEEE).

B. Where these specifications specifically reference codes or standards and make changes or interpretations of codes or standards, the unchanged provisions of said codes or standards shall remain in effect.

C. Where these specifications provide more stringent requirements than referenced standards, the specifications shall prevail.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 4126

PERMITS, LAWS AND ORDINANCES

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the Contractor's responsibilities pertaining to permits, laws and ordinances.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION

3.01 GENERAL:

A. The Contractor shall comply with all Federal, State, County and local laws, ordinances and rules and regulations relating to the performance of the Work.

3.02 PERMITS/APPROVALS:

A. The Contractor shall, at his expense, procure all permits, certificates, and licenses required of him by law for the execution of his Work.

B. The Owner has or will be obtaining approval and/or permits from State, Department of Transportation authorities, and Railroad Owners. Copies of these permits will be provided to the Contractor prior to commencement of the line construction.

C. The Contractor shall notify all State authorities as necessary prior to commencing construction in order to coordinate proper traffic control and project staging according to requirements of the transportation authorities.

D. Where pipeline crossings occur, the Contractor shall notify the applicable pipeline companies before working in these areas.

3.03 TRAFFIC CONTROL:

A. Barricades, signs, flashing lights and flares shall be properly placed adjacent to all excavations which are subject to pedestrian and vehicular traffic. The Contractor shall furnish and be responsible for the proper placement and operation of the above devices.

B. Where performing work near or in State, City, County, or railroad right-of-ways, the Contractor shall conform to that particular entity's traffic control and notification requirements.

C. Contractor shall coordinate traffic control requirements with the Iowa Department of Transportation office.

* * * END OF SECTION * * *

SECTION 01 4500

QUALITY CONTROL

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the quality control items pertaining to the project.

1.02 QUALITY CONTROL:

A. Quality-control services include inspection, tests, and related actions including reports, performed by Contractor, by independent agencies, and by governing authorities.

B. Contractor shall employ and pay a qualified independent testing agency to perform tests and inspections specified in other Sections, and those required by authorities having jurisdiction.

1. Contractor is responsible for scheduling inspections and tests.

C. Retesting: Contractor shall pay for retesting where results of inspections and tests prove unsatisfactory and indicate noncompliance with requirements.

D. Auxiliary Services: Cooperate with agencies performing inspections and tests. Provide auxiliary serves as requested. Notify agency in advance of operations requiring tests or inspections, to permit assignment of personnel. Auxiliary services include the following:

1. Access to the Work.

2. Incidental labor and facilities to assist inspections and tests.

3. Adequate quantities of samples of materials that require testing and assisting in taking samples.

4. Facilities for storage and curing of test samples.

E. Duties of Testing Agency: Testing agency shall cooperate with Engineer and Contractor in performing its duties. Agency shall provide qualified personnel to perform inspections and tests.

1. Agency shall notify Engineer and Contractor of irregularities or deficiencies observed in the Work during performance of its services.

2. Agency shall not release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.

3. Agency shall not perform duties of Contractor.

F. Submittals: Testing agency shall submit a certified written report of each inspection and test to the following:

1. Owner.

2. Engineer.

3. Contractor.

4. Authorities having jurisdiction, when authorities so direct.

G. Report Data: Reports of each inspection, test, or similar service shall include at least the following:

1. Date of issue.

2. Project title and number.

3. Name, address, and telephone number of testing agency.

4. Dates and locations of samples and tests or inspections.

5. Names of individuals making the inspection or test.

6. Designation of the Work and test method.

7. Identification of product.

8. Complete inspection or test data.

9. Test results and an interpretation of test results.

10. Ambient conditions at the time of sample taking and testing.

11. Comments or professional opinion on whether inspected or tested Work complies with requirements.

12. Name and signature of laboratory inspector.

13. Recommendations on retesting or reinspection.

H. Qualifications for Service Agencies: Engage inspection and testing service agencies that are prequalified as complying with the American Council of

Independent Laboratories' "Quality Assurance Manual" and that specialize in the types of inspections and tests to be performed.

1. Each agency shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION

3.01 PROPERTY DAMAGES:

A. The Contractor shall limit the movement of its crews and equipment so as to cause as little damage as possible to lawns, gardens, crops, orchards, or property and shall endeavor to avoid marring the lands. All fences and facilities that are damaged shall be replaced in as good condition as they were found, and precautions shall be taken to prevent the escape of livestock**. The Contractor shall be responsible for all loss of or damage to any property, including crop or lawn damages, whether on or off the right-of-way caused by his operations during the construction of the project**.

B. If private right-of-way, outside the Owner's acquired/existing easements or public right-of-way, is required by the Contractor, that right-of-way shall be negotiated, purchased, and subsequent damages paid by the Contractor. Any time the Contractor accesses the private right-of-way (whether an existing easement or one obtained by the Contractor), the Contractor will be required to furnish the Owner with a written release signed by the property owner and/or tenant indicating that all damages caused by the Contractor have been settled. The written release form is included in the Miscellaneous Forms section.

C. The Contractor shall be responsible for all damage to any existing city, state, county, or private streets, roads, parks, or other property by reason of its operation, or those of its subcontractors. The Contractor shall take all necessary precautions to avoid damages to all roads and comply with all load limits. The Contractor shall repair all roads damaged by their crews in a timely fashion.

* * * END OF SECTION * * *

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the temporary facilities and controls the Contractor needs to adhere to for the project.

1.02 SECTION REQUIREMENTS:

A. At the earliest possible time, change over from use of temporary utility services to use of permanent utilities.

B. Remove temporary facilities and controls before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

1.03 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 – PRODUCTS

2.01 MATERIALS AND EQUIPMENT:

A. Provide new materials and equipment for construction of temporary facilities and controls.

PART 3 – EXECUTION

3.01 TEMPORARY UTILITIES:

A. Provide temporary utilities such as electric power and telephone service(s) to project site for use during construction. Arrange for and coordinate service(s) with local utility companies.

1. Contractor shall pay all use charges for temporary utilities.

B. Provide temporary heat for curing or drying of work, and for protection of new construction from adverse effects of low temperatures. Proper safety controls and

devices shall be on all temporary heating and ventilation equipment used. Use of gasoline-burning heaters and open-flame heaters is not permitted.

C. Provide temporary sanitary facilities. Comply with regulations and health codes for type, number, location, and maintenance of facilities. Temporary toilet facilities shall be removed from the site when no longer necessary.

3.02 TEMPORARY CONSTRUCTION FACILITIES:

A. Provide and maintain field offices, storage trailers, and other support facilities near the project site.

1. Temporary facilities located within the construction area or within 30 feet (9 m) of building lines shall be of noncombustible construction.

B. Provide temporary enclosures for protection of construction and workers from exposure and inclement weather and for containment of heat.

C. Install project identification and other signs in locations approved by Owner to inform the public and persons seeking entrance to Project.

D. Collect waste daily and dispose of waste off-site according with local ordinances when containers are full.

1. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material according to applicable laws and regulations.

E. Material Storage:

1. The Contractor shall be fully responsible to provide adequate storage for materials that must be housed against weather exposure during entire construction. Materials which may suffer any type of deterioration or damage due to weather exposure shall be covered and/or housed. Housing and protection shall be approved by the Owner or Engineer. The responsible Contractor shall pay for and/or replace any damaged materials caused by their negligence or failure to provide proper protection.

2. The Contractor will be responsible for providing storage and laydown yard locations for the project. It will be the responsibility of the Contractor to secure their materials at these sites, along with restoring them to their original site conditions after all of their equipment is removed.

3.03 TEMPORARY CONTROLS:

A. Provide temporary barricades, warning signs, and lights to protect the public and construction personnel from construction hazards.

1. Enclose construction area(s) with fence(s) with lockable entrance gates, to prevent unauthorized access.

2. General Contractor shall build and maintain all such provisions to fully comply with all state and local safety requirements and fully protect the public and all workmen throughout the entire construction. Walkways are to be kept well-maintained, well-lit, free from ice and snow, and reasonably clean at all times.

3. Furnish, install, and maintain for the duration of construction all required scaffolds, tarpaulins, barricades, canopies, warning signs, steps, bridges, platforms, and other temporary construction necessary for proper completion of the work in compliance with all pertinent safety and other regulations.

4. All open trenches and other excavations shall be protected with suitable barriers, signs, and lights to the extent that adequate protection is provided to the public against accident by reason of such open construction. Obstructions such as material piles and equipment shall be provided with similar warning signs and lights.

B. Provide temporary environmental controls as required by authorities having jurisdiction including, but not limited to, erosion and sediment control, dust control, noise control, and pollution control.

3.04 SITE COMMUNICATIONS:

A. The construction foreman shall be equipped with a cellular phone permitting on-site communications during all times of the construction activity, 24-hours per day.

* * * END OF SECTION * * *

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the product requirements for the project.

1.02 SECTION REQUIREMENTS:

A. To fullest extent possible, provide products, materials, and equipment of same kind from a single source.

B. Equipment manufactured within the continental limits of the United States shall be encouraged.

C. Deliver, store, and handle products, materials, and equipment according to manufacturer's written instructions, using means and methods that will prevent damage, deterioration, and loss, including theft.

1. Schedule delivery to minimize long-term storage and to prevent overcrowding construction spaces.

2. Deliver in manufacturer's original sealed packaging with labels and written instructions for handling, storing, protecting, and installing.

3. Inspect to ensure compliance with the Contract Documents and to ensure items are undamaged and properly protected.

4. Store heavy items in a manner that will not endanger supporting construction.

5. Store items subject to damage above ground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required.

PART 2 – PRODUCTS

2.01 PRODUCT OPTIONS:

A. Provide items that comply with the Contract Documents, are undamaged, and are new at the time of installation.

B. Do not attach manufacturer's labels or trademarks, except for required nameplates, on surfaces exposed to view in occupied spaces or on the exterior.

C. Select products, materials, and equipment as follows:

1. Where these Specifications name only a single product, equipment, or manufacturer, provide the item indicated. No substitutions will be permitted.

2. Where these Specifications name 2 or more products, equipment or manufacturers, provide 1 of the items indicated. No substitutions will be permitted.

3. Where products or equipment are specified by name, accompanied by the term "or equal," comply with provisions concerning "substitutions" to obtain approval for use of an unnamed product or equipment.

4. Where these Specifications describe a product, material, or equipment, listing characteristics required, provide an item that provides the characteristics and complies with requirements.

5. Where these Specifications require compliance with performance requirements, provide products, materials, or equipment that comply and are recommended in writing by the manufacturer for the application.

D. Unless otherwise indicated, Owner will select color, pattern, and texture of any product, material, or equipment from manufacturer's full range of options.

2.02 PRODUCT SUBSTITUTIONS:

A. Submit four copies of each request for product substitution. Identify product to be replaced, provide complete documentation showing compliance of proposed substitution with all specified requirements, and include the following:

1. A full comparison with the specified product.

2. A list of changes to other Work required to accommodate the substitution.

3. Any proposed changes in the Contract Sum or Contract Time should the substitution be accepted.

B. Engineer will review the proposed substitution and notify Contractor of its acceptance or rejection.

PART 3 – EXECUTION: – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 6400

OWNER-FURNISHED PRODUCTS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the products that will be furnished by the Owner and installed by the Contractor.

1.02 OWNER-FURNISHED MATERIAL:

A. A Builders Risk policy shall be secured by the Contractor to cover the Owner-furnished material that will be handled, worked within or on, and/or installed by the Contractor. The following estimated values shall be used in obtaining insurance coverage for these materials. These prices shall not be included in the unit prices submitted in the Bid.

Owner-Furnished Item	Total Cost
Engineered Laminated Wood Structures	$ 1,200,000
69 kV Suspension Insulators	$ 30,000
69 kV Horizontal Line Post Insulators	$ 160,000
69 kV Braced Line Post Insulator Assemblies	$ 11,000
477 ACSR Conductor	$ 220,000
Optical Ground Wire	$ 115,000
3/8” EHS Overhead Shield Wire	$ 2,000
	Total $ 1,738,000

B. The Contractor recognizes that substantial value is being placed in his responsibility and shall do all that is necessary to safeguard the Owner’s material.

C. The Owner may change delivery location. If such change results in extra expense to the Contractor, the Contractor may request reimbursement by providing detailed justification of the extra expense.

D. The Owner intends and has attempted to furnish all materials listed. However, shortages whether by omission, miscount, or loss may be expected. Contractor shall plan his work so that any shortages are identified and the Owner notified a

minimum of thirty days in advance of intended use, allowing the Owner to verify the shortage and to purchase the required necessary replacement. The Owner shall have no liability what-so-ever for associated costs and delays for material shortages not identified in the above timely manner.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 6500

PRODUCT DELIVERY REQUIREMENTS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the requirements that the Contractor shall follow for all products that will be delivered to the project site.

1.02 DELIVERY, STORAGE, AND HANDLING:

A. Contractor shall make arrangements to load the materials at the storage locations, transport them to the project site and unload them.

B. Materials furnished by the Contractor shall be addressed and delivered to the Contractor's project facilities.

C. The Owner will not receive, unload, or store the Contractor's materials.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

SECTION 01 7100

EXAMINATION AND PREPARATION

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the examination and preparation requirements the Contractor shall conform to during construction.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION

3.01 EXAMINATION:

A. Examine substrates and conditions for compliance with manufacturer's written requirements including, but not limited to, surfaces that are sound, level, and plumb; substrates within installation tolerances; surfaces that are smooth, clean, and free of deleterious substances; and application conditions within environmental limits. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PROTECTION OF OTHER UTILITES:

A. Have all foreign utilities located by contacting the Iowa One-Call. Any other utilities that are not included in the One Call system shall be notified separately by the Contractor.

B. Give foreign utility management 48-hour notice prior to excavating in a questioned area. After exposing the foreign utility, notification shall again be given the foreign utility management to allow for on-site inspection before the backfilling operation shall begin. The Contractor, from time to time, shall assist the foreign utility in exposing parallel or intersecting lines to ensure that no damage will be done.

C. Do all things necessary or expedient to properly protect any and all parallel, converging and intersection lines, joint trenches, highways, pipelines, and all

property of others from damage. Make minor trench location adjustments, if necessary.

D. In the event that such parallel, converging and intersection lines, joint lines, poles, highways or other property are damaged in the course of construction of the project, the Contractor shall at his/her own expense restore any or all of such damaged property immediately to as good a state as before such damage occurred.

* * * END OF SECTION * * *

SECTION 01 7300

EXECUTION REQUIREMENTS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the execution requirements that the Contractor shall follow during construction.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION

3.01 STAKING

A. The Engineer's representative will stake all new pole locations and the bisect angles for all new direct-buried angle structures and/or self-supporting structures.

B. The Engineer's representative will provide staking requirements once. Any additional staking will be completed at the Contractor's expense, unless agreed to in writing or electronic mail (e-mail) by the Owner.

3.02 EXCAVATIONS:

A. When working in trenches or excavations, Contractor shall incorporate required shoring of sidewalls, including trench boxes, braces, or other means of shoring to ensure the safety of all personnel.

B. Contractor is responsible for all open excavations associated with the Contract. Guard open or unattended trenches, foundations, or pole holes 4 inches or more in width with one of the following methods:

1. 1/2 inch plywood that is weighted to prevent movement during windy conditions.

2. Continuous snow fence and appropriate flashing warning lights.

3.03 TREE CLEARING:

A. The Owner or its Representative will be responsible for clearing all trees and shrubs that are located within the transmission line corridor along the line route, as required.

* * * END OF SECTION * * *

SECTION 01 7400

CLEANING AND DISPOSAL MANAGEMENT

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the cleaning and disposal management that the Contractor shall conform to during construction.

1.02 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION

3.01 DISPOSAL OF SALVAGE MATERIALS:

A. Contractor to properly dispose all non-salvageable materials. **No removed materials shall be left in any public right-of-ways (i.e. ditches, etc.) or Owner easement areas after being removed by the Contractor.**

3.02 PROTECTION AND CLEANING OF SITE:

A. Protect all structures within the construction limits.

B. At all times maintain premises free from accumulations of waste material and rubbish.

1. Upon completion of Work remove all tools and surplus materials from premises.

C. Where sodded areas were disturbed, restore surface to original elevation, replacing final 6 inches with topsoil, rake smoothly, and reseed.

1. Drainageways disturbed by trenching operations shall be restored as nearly as possible to their original grade and cross section.

D. At the end of each day's work leave construction area in such a condition so to permit unencumbered access to all private properties in vicinity of Project.

E. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials and clean all sight-exposed surfaces; leave project clean and ready for occupancy.

F. Hazards Control:

1. Store volatile wastes in covered metal containers and remove from premises daily.

2. Prevent accumulation of wastes which create hazardous conditions.

G. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on project site.

2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.

3. Do not dispose of wastes into streams or waterways.

H. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

I. At reasonable intervals during progress of work, clean site and public properties, and dispose of waste materials, debris and rubbish. Legally dispose of at public or private dumping areas off Owner's property.

J. Provide on-site containers for collection of waste materials, debris, and rubbish.

K. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

L. Employ experienced workmen, or professional cleaners, for final cleaning.

M. In preparation for substantial completion or occupancy, conduct final inspection of project site.

N. Maintain cleaning until project, or portion thereof, is occupied by Owner.

3.03 FINAL CLEANING:

A. Clean each surface or item as follows before requesting inspection for certification of Substantial Completion:

1. Remove labels that are not permanent.

2. Clean transparent materials, including mirrors. Remove excess glazing compounds. Replace chipped or broken glass.

3. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Leave concrete floors broom clean.

4. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication. Clean light fixtures and lamps.

5. Clean the site. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds to a smooth, even-textured surface.

B. All site conditions disturbed by the Contractor shall be restored to their original conditions at the Contractor's expense.

* * * END OF SECTION * * *

SECTION 01 7800

CLOSEOUT SUBMITTALS

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the execution requirements that the Contractor shall follow during construction.

1.02 SUBMITTALS:

A. Record Drawings: Maintain one (1) set of Contract Drawings as Record Drawings. Mark to show installation that varies from the Work originally shown.

B. Record Specifications: Maintain one (1) copy of the Project Manual, including addenda, as Record Specifications. Mark to show variations in Work performed in comparison with the text of the Specifications and modifications.

C. Operation and Maintenance Data:

1. The Contractor shall prepare and furnish four (4) manuals of all equipment specified.

2. The Manual shall cover the installation, operation, and maintenance of all equipment and material including:

a. Complete catalog data.

b. Manufacturer's literature.

c. Parts list.

d. Maintenance instructions.

e. Approved shop drawings.

f. Supplier's name, address and telephone number.

3. All such literature shall be bound under hard cover and submitted to the Engineer for review and transmittal to the Owner.

a. Should modification be required, the bound literature will be returned to the Contractor for modification and resubmittal to the Engineer.

1.03 PAYMENT:

A. The requirements of this Section are considered incidental Work with no separate measurement and payment to be made.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION

3.01 CLOSEOUT PROCEDURES:

A. Request Substantial Completion inspection once the following are complete:

1. Advise Owner of pending insurance changeover requirements.

2. Submit Record Drawings and Specifications, maintenance manuals, warranties, and similar record information.

3. Deliver spare parts, extra stock, and similar items.

4. Changeover locks and transmit keys to Owner.

5. Complete startup testing of systems.

6. Remove temporary facilities and controls.

7. Complete final cleanup.

8. Touch up, repair, and restore marred, exposed finishes.

9. Obtain final inspections from authorities having jurisdiction.

10. Obtain certificate of occupancy.

B. Upon notification from the Contractor, the Engineer will proceed with inspection or advise Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or advise Contractor of items that must be completed or corrected before the certificate will be issued.

C. Arrange for each installer of equipment that requires operation and maintenance to provide instruction to Owner's personnel. Include a detailed review of the following:

1. Maintenance manuals.

2. Spare parts, tools, and materials.

3. Lubricants and fuels.

4. Identification systems.

5. Control sequences.

6. Hazards.

7. Warranties and bonds.

D. Final Completion procedures include supplying the following documentation:

1. Waiver and Release of Lien forms from the Contractor and all associated parties that have worked onsite (Subcontractors and any of their Subcontractors) or supplied materials (Suppliers). No partial or conditional lien waivers will be accepted.

2. Certificate of Contractor and Indemnity Agreement.

3. Contractor's statement of taxes paid.

4. Other final documentation as required by the Contract.

* * * END OF SECTION * * *

SECTION 01 7839

WARRANTIES

PART 1 – GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract are hereby made part of this Section.

B. This Section describes the warranty clause that the Contractor shall conform to for the project.

1.02 WARRANTIES:

A. See Supplementary Conditions.

PART 2 – PRODUCTS – Not Applicable.

PART 3 – EXECUTION – Not Applicable.

* * * END OF SECTION * * *

Division 32
Exterior Improvements

SECTION 32 9219

LAWN DAMAGE SEEDING

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL, and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes supplying and installing the lawn seeding as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Section 010001 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. Payment shall be at the Contract unit prices as shown on the Bid Form.

B. See Standard Terms and Special Conditions, section 8 for payment description.

1.04 WARRANTY:

A. See Section 010001 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. Urban Standard Specification for Public Improvements Manual, latest edition.

PART 2 - PRODUCTS

2.01 SEED:

A. For all lawn repair and seeding, the Contractor shall refer to Section 9010 - Seeding, of the Urban Standard Specification for Public Improvements Manual.

B. Seeding shall be Type (1) Lawn Mixture.

2.02 FERTILIZER:

A. All areas seeded shall be fertilized with a commercial fertilizer having a nitrogen, phosphorous, potassium analysis ratio of 16-16-16 at the minimum rate of 15 lbs. per 1,000 sq. ft.

PART 3 - EXECUTION

3.01 GENERAL:

A. Where vehicular traffic, trenching, or drilling operations take place in previously-seeded rights-of-way, the Contractor shall prepare the soil, fill tire ruts, fertilize, and seed the area.

3.02 AREA PREPARATION:

A. Prior to the commencement of seeding, all large stones, cables, wire, or any waste materials shall be removed from the site.

B. Prior to seeding the areas shall be given a finished grading as needed to correct irregularities in the surface, due to previous operations or other causes and to restore the prescribed grade.

3.03 FERTILIZING:

A. Fertilizer shall be distributed uniformly over the areas to be seeded at a rate that will provide not less than the minimum quantity of each fertilizer ingredient specified.

B. Distribution shall be by hand or by a common fertilizer distributor, or other equipment approved by the Engineer.

3.04 SOWING SEED:

A. All sowing of seed shall be completed between the dates of April 1 to June 1 and/or August 15 to September 30.

B. Sowing delayed beyond the specified dates, and due to circumstances beyond the Contractor's control, may be continued upon written approval from the Engineer.

C. The Contractor shall employ a method of sowing satisfactory to the Engineer, and where practical he shall make use of approved power drawn drills or seeders, hand seeders or other approved equipment.

3.05 COMPACTING:

A. Immediately after the sowing operations have been completed, unless otherwise directed by the Engineer, the entire area shall be compacted by means of a culti packer, roller, or other approved equipment, in order to reduce air pockets to a minimum.

B. When a culti packer or other equipment that leaves a roughened surface is used, the final rolling shall be along the contour and at right angles to the existing slopes to

reduce water erosion, or at right angles to the prevailing wind to reduce dust, as directed by the Engineer.

3.06 MULCHING:

A. All seeding areas shall be mulched unless otherwise designated in the contract documents.

B. All areas requiring mulch shall be mulched as soon as seed is sown and final rolling completed.

3.07 WATERING:

A. The Contractor shall provide watering equipment, an approved water supply, or make equivalent arrangements to adequately water the seeded areas.

B. One watering shall be required and shall be accomplished the day of the seeding.

C. The watering may be omitted if equivalent rainfall is timely.

D. The watering shall be sufficient to saturate thoroughly the seeded area and shall be not less than one half inch of equivalent rainfall.

E. The watering shall be completed within a 4 hour period and shall be applied as a spray to provide adequate saturation without run off.

3.08 RESEEDING, REFERTILIZING, REMULCHING:

A. When all work related to seeding on an area has been completed, but is washed out or damaged prior to final acceptance of the project by the Engineer, and that area involves seeding in combination with mulching or fertilizing or both, the area shall be reseeded, refertilized, and remulched at no cost to the Owner.

B. Fertilized or seeded areas damaged by rain prior to required mulching shall be refertilized or reseeded or both at a rate not to exceed the specified rate, as designated by the Engineer. This work shall be at no additional cost to the Owner.

* * * END OF SECTION * * *

Division 33
Utilities

SECTION 33 7116.30

LAMINATED WOOD POLES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the laminated wood poles as herein specified and shown on the Drawings.

C. Material furnished by Others:

1. All laminated wood poles.

1.02 SUBMITTALS:

A. See Section 01 0001 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Section 01 0001 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 SELECT BACKFILL MATERIAL:

A. Backfill shall be a crushed rock aggregate. Aggregate shall contain enough natural or artificial moisture to assure a good binding action between the particles at the time of backfilling and tamping. The following specification is desired:

Sieve Size	Percent Passing
2 inch	100
1.5 inch	60-90
1 inch	40-60
1/2 inch	25-50
No. 4	20-40
No. 8	15-30

B. Larger aggregate may be acceptable upon approval by the Engineer.

2.02 GROUNDING MATERIALS:

A. See Drawings for acceptable manufacturers for grounding materials.

B. The down ground on tangent laminated wood poles shall be bonded to each insulator attachment point on the pole via a bonding clip as shown on the drawings.

C. Connectors for connection between copper and copperweld-copper to galvanized conductor or hardware shall be bronze.

D. Ground wire shall be #4 soft-drawn, stranded copper or Copperweld® wire (40% conductivity).

E. Provide bonding clips for applications shown on the Drawings.

F. Staples for securing down ground to pole shall be copper coated, 2" x ½", minimum.

G. Ground plates shall be installed at the base of each pole. The #4 ground wire shall be wrapped around the embedded portion of the pole and fastened to the ground plate.

1. Acceptable Manufacturers:

a. Ground Plate: Blackburn GP114, no equal.

H. The connection between the shield wire clamp and down ground wire shall be a 24" copper, braided strap with a terminal pad on one end. A longer 36" strap with 2 terminal pads for deadend applications shall be used as required. Provide 1/2" mounting hardware (bolt and spring washer) to connect the strap to the shield wire clamp or pole as required. The braided end shall compress to the shield wire (3/8" HSS applications only) via a copper compression connector.

1. Acceptable Manufacturers:

a. 24" Braid: Electric Motion Co, Inc EM241630-24.5, no equal.

b. 36" Braid: Electric Motion Co, Inc EM241630-30.5-2, no equal.

c. Compression Connector: Blackburn CF, or equal.

2.03 STRUCTURE NUMBERING:

A. All laminated wood structures shall be numbered. Each structure shall have a structure number installed on <u>two</u> sides of the structure.

B. The tags shall have a clear-baked enamel top-coating with UV inhibitors. Tag finish to be embossed black letters on yellow background. Numbers to be 4" in height and designed on a .040" thick aluminum plate. Supply Almetek, Electromark, or equal.

C. Provide stainless steel screws to mount the holders to the structures.

PART 3 - EXECUTION

3.01 POLES:

A. Poles shall be handled with care so as not to damage the wood fibers or the preservative treatment.

B. Treat and plug any unused holes, or where new holes are needed on used poles.

C. Set the poles in the location staked by the Engineer, perpendicular and in alignment unless rake is specified in which case the hole shall be dug out-of-line by the amount of the rake so the pole top will be in line with those of adjacent structures and angles on adjacent structures avoided.

D. Holes shall be approximately 12-14 inches larger than the butt diameter of the pole, and shall be at least as large at the bottom as at the top unless otherwise specified.

E. Excavate the hole one additional foot if water is encountered in the hole.

F. Set the poles within 3 inches of the specified depth in sufficiently large holes to admit a tamping bar all around the pole.

G. The minimum setting depths shall be as determined by the manufacturer. On sloping ground, the depth of the hole shall be measured from the low side of the hole.

H. Install foundation reinforcement as per manufacturer's specifications.

I. Care shall be taken during pole setting to avoid damage to pole, ground wires, bearing strips and bearing plates.

J. All poles shall be set on native soil to ensure proper grounding. After setting each pole, backfill each pole hole around the pole with select backfill as described in the products specifications.

K. Backfill of holes shall be machine tamped, using not more than one shoveler for each machine tamp. Backfill shall be well banked and tamped around the base of the pole to a height of 6 inches above the ground line. Any surplus excavation material shall be leveled neatly and to the satisfaction of the Owner.

L. All areas shall be repaired to surrounding area conditions. Excavated material from the pole and foundation holes shall be removed from the site and disposed of by the Contractor. Contractor shall clean up all construction debris and damaged plantings including grass. Lawn seeding or sodding shall be performed in the disturbed areas. Seed mixes and/or sod specifications shall conform to the right-of-way authority's (DOT, County, etc.) requirements.

M. All construction practices must be such as to minimize the amount of work that must be done after the pole or structure is erected. Pole climbing must be held to a minimum. Any pole that is badly spurred must be brushed with an approved preservative at Contractor's expense.

N. Pole numbers shall be installed on the road side of the pole 8' above the ground line. Coordinate the directions the numbers face with the Owner if structure is not located along a road.

3.02 GROUNDING:

A. Ground overhead ground wire(s) at each structure unless otherwise noted. Effectively ground all poles as shown on the Drawings.

* * * END OF SECTION * * *

SECTION 33 7116.33

WOOD POLES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the wood poles as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Section 01 0001 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 ROUND WOOD POLES

A. Acceptable Manufacturers:

1. Bell Lumber Company
2. Bridgewell Resources
3. McFarland Cascade
4. North Pacific Lumber Company
5. Oeser Company
6. Thomasson Lumber Company

B. Wood Pole Construction:

1. General:

a. Poles shall be the length and ASA class as shown in the Bid Form.

b. Poles shall be Pacific Coast Douglas Fir.

c. Poles shall be direct buried with a minimum of 10% +4 feet of pole height.

2. Treatment:

a. Preparation:

(1) All poles shall be radially drilled or deep incised prior to treatment.

(2) Through boring at the ground line is not allowed.

(3) All poles shall be roofed prior to treatment.

(4) Incising:

a) Full incising of Douglas Fir wood poles is required to meet the penetration or checking requirements of the preservative treatment.

b) Incising shall be accomplished in a manner which will not unduly damage the surface of the pole by splintering, raising the wood fibers from the surface, gouging, or loosening the sapwood from the heartwood.

(5) Radial Drilling:

a) This drilling is in the zone extending 2’ above and 4’ below the standard ground line.

b) For radial drilling, the boring shall be 5/16” diameter by 3” long and shall be spaced in a diamond pattern so that holes within a given diamond are approximately 6” apart.

c) Ground line shall be determined per ANSI O5.1.

b. Treatment Process:

(1) Fir poles shall be full length pressure-treated by an empty-cell process in accordance with AWPA UC4B Specification D: Poles, latest revision.

(2) All poles shall be reasonably free of exudates and surface deposits and shall be clean and dry to the touch at the time of delivery. Poles that bleed preservative, either at the plant or at delivery, shall be rejected.

c. Penetration:

(1) For Fir poles penetration for radially drilled or deep incised poles the penetration shall be the depth of incision.

(2) The minimum penetration of preservative shall be 90 percent of sapwood in all other areas where the sapwood has a minimum thickness of 7/8 inch.

(3) If the sapwood is less than 7/8 inch thick, the pole shall be incised, and penetration of preservative shall be a minimum of 3/4 inch.

d. Retention:

(1) For Fir poles, the retention of preservative shall not be less than 0.60 pounds per cubic foot for Penta Chlorophenal in the assay zone of 0.25 to 1.0 inches from the surface and in accordance with AWPA UC4B Specification D: Poles, latest revision.

3. Seasoning:

a. Seasoning of Fir shall be by the Boulton drying method or a combination of Boulton drying with air seasoning or kiln drying in accordance with ANSI O5.1.

b. If Boulton drying is utilized, the Boulton drying solution temperature shall be kept between 180°F and 220°F for not less than 24 hours to remove any incipient decay.

c. The average moisture content using the oven-drying method of AWPA in the 0.5- to 1.5-inch zone at mid-length shall not exceed 18 percent after Boultonizing and prior to pressure treatment.

d. Air seasoning of Fir shall not exceed 2 years.

e. All Douglas Fir poles are required to be sterilized. Poles shall be conditioned prior to or during the treatment process so that the pith center of the pole has been heated for 2 hours at a temperature of not less than 150 degrees F.

4. Moisture Content:

a. The average moisture content after treatment, oven-dry basis or toluene extraction method, of the 0.5 to 1.5-inch zone at midlength shall not exceed 18%.

b. Poles shall be tested at random, after treatment, for moisture content.

c. Measurements shall be made with a resistance type moisture meter equipped with insulated electrodes.

d. These measurements will be taken at midpoint to a depth of 1 inch.

e. Poles having moisture content in excess of that specified shall be rejected.

5. Marking and Identification:

a. All poles shall show a cut or burn mark fourteen (14) feet from the butt for fifty-five (55) feet and longer poles and ten (10) feet from the butt for shorter poles.

b. Adjacent to the mark, the manufacturer's mark and date, length and class, species and preservative code shall be branded. Metal disks may be used for branding.

2.02 SELECT BACKFILL MATERIAL:

A. Backfill shall be a crushed rock aggregate. Aggregate shall contain enough natural or artificial moisture to assure a good binding action between the particles at the time of backfilling and tamping. The following specification is desired:

Sieve Size	Percent Passing
2 inch	100
1.5 inch	60-90
1 inch	40-60
1/2 inch	25-50
No. 4	20-40
No. 8	15-30

B. Larger aggregate may be acceptable upon approval by the Engineer.

2.03 GROUNDING MATERIALS:

A. See Drawings for acceptable manufacturers for grounding materials.

B. The down ground on tangent wood poles shall be bonded to each insulator attachment point on the pole via a bonding clip as shown on the drawings.

C. Connectors for connection between copper and copperweld-copper to galvanized conductor or hardware shall be bronze.

D. Ground wire shall be #4 soft-drawn, stranded copper or Copperweld® wire (40% conductivity).

E. Provide bonding clips for applications shown on the Drawings.

F. Staples for securing down ground to pole shall be copper coated, 2" x ½", minimum.

G. Ground plates shall be installed at the base of each pole. The #4 ground wire shall be wrapped around the embedded portion of the pole and fastened to the ground plate.

1. Acceptable Manufacturers:

a. Ground Plate: Blackburn GP114, no equal.

H. The connection between the shield wire clamp and down ground wire shall be a 24" copper, braided strap with a terminal pad on one end. Provide 1/2" mounting hardware (bolt and spring washer) to connect the strap to the shield wire clamp or pole as required. The braided end shall compress to the shield wire (3/8" HSS applications only) via a copper compression connector.

1. Acceptable Manufacturers:

a. 24" Braid: Electric Motion Co, Inc EM241630-24.5, no equal.

b. Compression Connector: Blackburn CF, or equal.

2.04 STRUCTURE NUMBERING:

A. Every fifth wood pole shall be numbered. Each pole being numbered shall have a structure number installed on <u>two</u> sides of the pole.

B. The tags shall have a clear-baked enamel top-coating with UV inhibitors. Tag finish to be embossed black letters on yellow background. Numbers to be 4" in height and designed on a .040" thick aluminum plate. Supply Almetek, Electromark, or equal.

C. Provide stainless steel screws to mount the holders to the structures.

PART 3 - EXECUTION

3.01 POLE INSTALLATION:

A. Poles shall be handled with care so as not to damage the wood fibers, the preservative treatment, or damage or dent steel.

B. Set the poles in the location staked by the Engineer, perpendicular and in alignment unless rake is specified in which case the hole shall be dug out-of-line by the amount of the rake so the pole top will be in line with those of adjacent structures and angles on adjacent structures avoided.

C. The tops of full length treated poles shall not be cut except under very exceptional conditions and upon approval of the Engineer. If cutting is deemed necessary, the pole top shall be painted with a preservative compound. Under no circumstances shall the butt of any pole be cut.

D. Holes shall be approximately 12-14 inches larger than the butt diameter of the pole, and shall be at least as large at the bottom as at the top unless otherwise specified.

E. Excavate the hole one additional foot if water is encountered in the hole.

F. Set the poles within 3 inches of the specified depth in sufficiently large holes to admit a tamping bar all around the pole.

G. Care shall be taken during pole setting to avoid damage to pole, ground wires, bearing strips and bearing plates.

H. All poles shall be set on native soil to ensure proper grounding. After setting each pole, backfill each pole hole around the pole with select backfill as described in the products specifications.

I. Backfill of holes shall be machine tamped, using not more than one shoveler for each machine tamp. Backfill shall be well banked and tamped around the base of the pole to a height of 6 inches above the ground line. Any surplus excavation material shall be leveled neatly and to the satisfaction of the Owner's Representative.

J. For direct-buried pole structures the minimum setting depths shall be 10% + 4 feet unless noted otherwise on the drawings. See table below for minimum embedment depths:

Pole Length (in feet)	Setting Depth (in feet)
50	9.0
55	9.5
60	10.0
65	10.5

70	11.0
75	11.5
80	12.0
85	12.5
90	13.0
95	13.5
100	14.0

K. On sloping ground, hole depth shall be measured from the low side of the hole.

L. All areas shall be repaired to surrounding area conditions. Excavated material from the pole and foundation holes shall be removed from the site and disposed of by the Contractor. Contractor shall clean up all construction debris and damaged plantings including grass. Lawn seeding or sodding shall be performed in the disturbed areas. Seed mixes and/or sod specifications shall conform to the right-of-way authority's (DOT, County, etc.) requirements.

M. Where poles are removed as a result of retirement or temporary use, the holes shall be filled and thoroughly backtamped.

N. All construction practices must be such as to minimize the amount of work that must be done after the pole or structure is erected. Pole climbing must be held to a minimum. Any pole that is badly spurred must be brushed with an approved preservative at Contractor's expense.

O. Pole numbers shall be installed on the roadside of the pole 8' above the ground line. Coordinate the directions the numbers face with the Owner if structure is not located along a road.

3.02 GROUNDING:

A. Ground overhead ground wire(s) at each structure unless otherwise noted.

B. Effectively ground all poles as shown on the Drawings.

* * * END OF SECTION * * *

SECTION 33 7116.36

GUY ASSEMBLIES

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the guys and anchors as herein specified and shown on the Drawings.

C. Materials supplied by Others:

1.02 SUBMITTALS:

A. See Section 01 0001 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 GUY WIRE:

A. Guy wire shall be 7/16 inch Extra High Strength (EHS), 7 strand, steel double galvanized (Class B) cable.

B. Shall conform to all the latest revisions of ASTM Specifications A122-41, A475, A363 or equivalent. Minimum rated breaking strength shall be 20,800 lbs.

2.02 ANCHOR:

A. All anchors shall be of the power installed screw type.

B. Number of helixes shall be three: 8”, 10”, and 12”.

C. For the triple helix anchors, the shafts shall be 1-1/2 inches square and capable of withstanding 5,500 foot-lbs. of torque.

D. Anchor rods shall be sized to fit the applicable helix section and shall be provided with a triple thimble-type eye assembly.

E. For triple helix application, the extension rods with couplings shall be a minimum of 1-1/2 inch in diameter by the length shown on the drawings.

F. Anchor rods and extensions shall conform to EEI Specification TD-2-1939 or any acceptable revision thereof.

G. See Drawings for acceptable manufacturers.

2.03 FIBERGLASS STRAIN INSULATORS:

A. Fiberglass strain insulators shall be installed in down guys or overhead guys where specified.

B. Strain insulator shall be a minimum of 42 inches in length.

C. End fittings to be clevis-clevis with two rollers.

D. Unit shall have a minimum breaking strength of 30,000 pounds.

E. See Drawings for acceptable manufacturers.

2.04 GUY GRIP:

A. Preformed "Guy-Grip" wrap type deadends shall be used on guys.

B. Grips shall be steel with minimum B-coat galvanizing and suitable for use on 7/16 inch, 7 strand, guy wire.

C. See Drawings for acceptable manufacturers.

2.05 GUY GUARDS:

A. Guy guards shall be PVC material with high impact resistance and high color retention at all temperatures.

B. The guards shall have rib reinforcing or equal the entire length to minimize sag, droop and/or twist in service.

C. Minimum length to be 8 feet, 1.75” in diameter

D. Color = orange.

E. Mount using hot dip galvanized bolt clamps.

F. See Drawings for acceptable manufacturers.

2.06 MISCELLANEOUS GUYING HARDWARE:

A. See Drawings for miscellaneous hardware details and manufacturers.

PART 3 - EXECUTION

3.01 GUYS and GUARDS:

A. Guys shall be made up in accordance with the drawings, using the strand and devices indicated.

B. Guys shall be drawn up to a tension sufficient only to take out all slack in the guy strand.

C. Guy guards shall be installed on all guys.

3.02 ANCHORS:

A. Guy anchors shall be of the power installed screw type.

B. Anchor rods shall be in line with the strain and so installed that approximately 12 inches of the rod shall remain out of the ground.

C. Under no circumstances shall the eye of the rod be covered.

D. If holding strength of anchor is in question or if requested by Engineer, a suitable method such as torque indicator or dynamometer to determine the holding power of the installed anchor shall be applied to installed screw anchors by the Contractor.

1. The test shall be done in the presence of the Owner's Representative.

E. Additional extension rods shall be used where necessary to obtain the required holding strengths.

* * * END OF SECTION * * *

SECTION 33 7123.13

SUSPENSION INSULATORS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing the Owner-furnished suspension insulators as herein specified and shown on the Drawings.

C. Material furnished by Others:

1. Suspension Insulators.

1.02 SUBMITTALS:

A. See Section 01 0001 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Inspect all insulators for chips, cracks, torn sheds or other defects.

B. Handle insulators with care so as not to damage the units. If any units are damaged, they shall be replaced.

C. **Cotter keys shall be spread out on all hardware that has them to prevent them from falling out.**

* * * END OF SECTION * * *

SECTION 33 7123.16

LINE POST INSULATORS

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing the Owner-furnished line post insulators as herein specified and shown on the Drawings.

C. Material furnished by Others:

1. Line Post Insulators.

1.02 SUBMITTALS:

A. See Section 01 0001 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Inspect all insulators for chips, cracks, torn sheds or other defects.

B. Handle insulators with care so as not to damage the units. If any units are damaged, they shall be replaced.

C. **Cotter keys shall be spread out on all hardware that has them to prevent them from falling out.**

* * * END OF SECTION * * *

SECTION 33 7123.19

BRACED LINE POST INSULATOR ASSEMBLY

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing the Owner-furnished line post insulators as herein specified and shown on the Drawings.

C. Material furnished by Others:

1. Braced Line Post Assembly, which includes:

a. Suspension insulator.

b. Line post insulator.

c. Anchor shackle.

d. Turnbuckle.

e. Y-clevis.

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 012000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install the braced line post assembly per the manufacturer's instructions.

B. Inspect all insulators for chips, cracks, or other defects.

C. Handle insulators with care so as not to damage the units. If any units are damaged, they shall be replaced.

D. **Cotter keys shall be spread out on all hardware that has them to prevent them from falling out.**

* * * END OF SECTION * * *

SECTION 33 7126.01

POLE LINE HARDWARE

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes furnishing and installing the pole line hardware as herein specified and shown on the Drawings.

1.02 SUBMITTALS:

A. See Section 01 0001 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 TRANSMISSION LINE CONDUCTOR ATTACHMENTS:

A. Phase conductor – tangent (suspension clamp):

1. Support phase conductors at the ends of the line post insulators with Cushion grip suspension clamps with elastomer insert for the 477 Hawk ACSR conductor.

2. Furnish y-clevis eye connector to attach the clamp to the insulator. Clamp to have a minimum 20,000 lb. rating and be rotated 90º as required.

3. Acceptable manufacturers:

a. Clamp: Preformed CGS-1096, no equal.

b. Y-clevis Eye: Hubbell YCS-05-90, or equal.

B. Phase conductor – deadend:

1. Utilize full tension quadrant/bolted type deadend for the 477 ACSR Hawk conductor for the deadends as applicable.

a. Deadends shall be aluminum with a minimum of four u-bolts.

b. Clamp shall include cotter pin and compression springs.

c. Provide socket eye fitting with clamp for attachment to insulator.

d. Use compression connectors to connect the phase conductors together.

e. Ultimate body strength shall be a minimum of 25,000 lbs.

2. Supply compression splice to connect conductors, as shown on the Drawings.

3. Acceptable manufacturers:

a. Clamp: Hubbell, SD86N, no equal.

b. Socket eye: Hubbell, SA-06, or equal.

c. Compression splice: Preformed 33022, no equal.

C. OPGW – tangent and medium angle:

1. Provide a shield wire support bracket, double bolt.

2. Utilize a suspension clamp for the OPGW tangent fitting.

3. Acceptable manufacturers:

a. Support Bracket: Hughes 2859, or equal.

b. Suspension clamp: Preformed HOS-501/516, no equal.

D. OPGW deadend:

1. Utilize bolted style deadend clamp for OPGW deadends.

a. Body shall be constructed of aluminum.

b. Clamp to have a minimum of 9 keepers.

2. Provide Y-clevis ball hotlink fitting to attach to deadend tee or vang.

3. Provide socket eye fitting to attach bolted deadend to y-clevis ball hotlink.

4. Acceptable manufacturers:

   a. Bolted deadend assembly: AFL OSPDE3-DNO 12496, no equal. (Assembly includes y-clevis ball hotlink and socket eye)

E. OHGW deadend:

1. Utilize quadrant style deadend clamp for shield wire deadends.

   a. Body shall be constructed of galvanized ductile iron.

   b. Clamp to have a minimum of three U-bolts.

2. Provide 3-bolt connector to connect shield wires.

3. Provide y-clevis/eye fitting to attach to deadend tee or vang.

4. Acceptable manufacturers:

   a. Clamp: Hubbell SWDE55N, or equal.

   b. Y-clevis Eye: YCS-04-90, or equal.

   c. 3-Bolt Connector: Maclean J929, or equal.

F. Conductor Splices (Full tension – 477 ACSR Hawk):

1. All splices shall be compression and rated for full tension.

2. Acceptable Manufacturers:

   a. Preformed 33022, no equal.

G. Conductor Splices (Jumpers):

1. All splices shall be compression and rated for full tension.

2. Acceptable Manufacturers:

   a. Preformed 33022, no equal.

2.02 HARDWARE:

A. Machine bolts, carriage bolts, and double-arm bolts shall conform to E.E.I. Specification TD-1-1937.

B. Furnish all bolts with nuts and lock nuts.

C. Accommodate the necessary nuts, washer, etc., without projecting more than 1-1/2 inches at the free end of the bolts.

D. Bolt projection with an eye nut installed should not project more than 1/4 inch into the eye.

E. Furnish twin coil type spring washers.

F. Locknuts shall be free spinning square or hexagonal and galvanized that can be started freely from either end.

G. Locknuts shall have arched surfaces which will be slightly deflected when tightened with wrench into proper place.

H. Provide MF No. 1 locknuts.

I. Steel parts shall conform to the latest revision of ASTM Specification A7-46.

J. Malleable iron parts shall be hot-dip galvanized conforming to ASTM Specification A153-47T.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Assemble and install all hardware products including arresters, cutouts, fuse links, brackets, terminators, and all other miscellaneous hardware according to the drawings and the manufacturer’s recommendations.

B. The Contractor shall use extreme care when installing any compression type fitting to ensure the properly sized die is used according to the manufacturer’s recommendations.

C. The Contractor shall furnish all necessary tools, including compressors and die sets, for applying compression splices, repair sleeves, and compression type deadends.

D. All joints or splices and repair sleeves shall be located at least 10 feet away from structures and no splices or repair sleeves shall be used in spans crossing over or adjoining important highways, railroads, or other public utility lines without approval of the Owner's Representative.

E. In splicing conductor, it is essential that the connection between the metal surfaces be made clean and bright and that all foreign material is removed from between the strands with a wire scratch brush or emery cloth or both prior to making the compression.

F. Alcoa No. 2 electrical joint compound is to be used on the bolted connections of compression-type jumper terminals.

G. Cotter keys shall be spread out on all hardware that has them to prevent them from falling out due to line vibration.

H. At the substation deadends, install a 2 or 4-hole terminal pad, as required, on the phase conductor and terminate it on the terminal pads of the switch or bus section as applicable.

I. Contractor to ensure that all rods are installed and spread evenly in phase and shield wire clamp installations where armor rods are part of the assembly.

* * * END OF SECTION * * *

SECTION 33 7139.13

OVERHEAD HIGH VOLTAGE CONDUCTOR

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing the Owner-furnished overhead high voltage conductor and shield wire as herein specified and shown on the Drawings.

C. Materials furnished by Others:

1. 477 ACSR Hawk.

2. 3/8" EHS.

D. The estimated reel lengths for the Owner-furnished 477 ACSR Hawk are as follows:

Reel Number:	Length:	Line Section (Structure #'s):
Reel # 1, 2, 3	5,500 ft.	Sweazey Sub DE to #17
Reel # 4, 5, 6	6,700 ft.	#17 to #37
Reel # 7, 8, 9	8,800 ft.	#37 to W Reisner Sub DE & E Reisner Sub DE to #12
Reel # 10, 11, 12	4,000 ft.	#12 to #23
Reel # 13, 14, 15, 16, 17, 18	9,100 ft.	#23 to CB Switch

1.02 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.03 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

PART 2 - PRODUCTS – Not Applicable.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Contractor will furnish all tools and equipment for stringing, splicing, and installing the conductors.

B. The equipment and methods used for stringing the conductors shall be subject to the conductor manufacturer's recommended practices.

C. Conductors or structures will not be damaged or injured.

D. Reel stands shall be heavily constructed and have provisions for braking the reels.

E. The minimum diameter of stringing sheaves shall be 12 inches at the bottom of the groove and the size and shape of the groove shall conform to the conductor manufacturer's recommendations.

F. Sheaves shall be equipped with ball or roller bearings.

G. The proper size conductor grips shall be used exclusively in the handling of ACSR conductor.

H. Particular care shall be exercised to ensure that the conductors do not become kinked, twisted or abraded in any manner.

I. The conductors shall not be dragged over rocks, fence wires or any object which might damage the conductor.

J. Suitable guards or sheaves shall be used to protect the conductors from damage where it would otherwise be impossible to keep the conductor from coming in contact with objects which might damage it.

K. Guard structures shall in general be erected at all roads, highways, railroads, power lines, communication lines, etc., in accordance with good construction practice.

L. Guards shall be constructed of spars or other wooden members having a rounded surface over which the conductor may slide without damage.

M. Contractor shall furnish guard poles and all other necessary supports and timbers.

N. Contractor shall install poles and remove them and shall fill and tamp pole holes after removing guard poles.

O. If conductors are damaged, the Contractor shall repair or replace the damaged sections in a manner satisfactory to the Owner's Representative and at no additional cost to the Owner.

P. Conductors shall be allowed to hang freely in the stringing blocks for at least 2 hours before being sagged to permit conductor and air temperatures to equalize.

Q. The total time which the conductor is allowed to remain at sag in the stringing blocks before being clipped in shall not exceed 72 hours.

R. Conductors shall be sagged in accordance with sag tables furnished by the Engineer.

S. The length of conductor sagged in one operation shall be limited to the length that can be sagged satisfactorily.

T. In sagging one-reel lengths, the sag of two spans shall be checked.

U. In sagging lengths of more than one reel, the sag of three or more spans near each end and in the middle of the length being sagged shall be checked.

V. The sag of spans on each side of all horizontal angles of more than 10 degrees shall be checked.

W. After conductors have been brought up to the required sag, intermediate spans shall be inspected to determine whether the sags are uniform and correct.

X. The length of spans used for checking sag shall be approximately equal to the ruling span.

Y. Sagging operations shall not be carried on when, in the opinion of the Engineer, wind prevents satisfactory sagging.

Z. The Contractor shall record the location, span length, sag, and temperature when conductor is sagged.

AA. A tolerance of one-half inch of sag per hundred feet of span length will be permitted.

BB. A limit of 3 inches on the minus side and 6 inches on the plus side provided that all conductors in the span assume the same sag and the necessary ground clearance is obtained.

CC. Conductor tension between successive sagging operations to be equalized so that the suspension insulator assemblies will assume the proper position when the conductor is clipped in.

DD. Contractor shall install the conductor in a manner to minimize the number of splices.

* * * END OF SECTION * *

SECTION 33 7139.16

OPTICAL GROUND WIRE

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes installing the Owner-furnished optical ground wire (OPGW) as herein specified and shown on the Drawings.

C. Materials furnished by Others:

1. OPGW: AFL DNO-12496 CC-19/58/504 48-fiber.

D. The estimated reel lengths for the Owner-furnished OPGW are as follows:

Reel Number:	Length:	Line Section (Structure #'s):
Reel # 1	5,500 ft.	Sweazey Sub DE to #17
Reel # 2	6,700 ft.	#17 to #37
Reel # 3	8,800 ft.	#37 to W Reisner Sub DE & E Reisner Sub DE to #12
Reel # 4	8,200 ft.	#12 to #36
Reel # 5	14,000 ft.	#36 to CB Switch

1.02 SUBMITTALS:

A. See Division 1 – General Requirements, for submittal procedures.

1.03 PAYMENT:

A. See Section 012000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See Division 1 – General Requirements, for warranty requirements.

1.05 REFERENCES:

A. The OPGW must meet the requirements set forth herein and in the latest edition of IEEE Standard 1138 "IEEE Standard Construction of Composite Fiber Optic Overhead Ground Wire (OPGW) for Use on Electric Utility Power Lines."

B. American Society of Testing Materials (ASTM) applicable version, current edition.

PART 2 - PRODUCTS

2.01 OPTICAL GROUND WIRE STORAGE SYSTEM:

A. OPGW SPLICE CASE:

1. Furnish and install splice case to accommodate 48 fibers.
2. Case shall include strain relief kit.
3. Splice tray(s) shall be sized to accommodate 48 fibers.
4. Acceptable manufacturers:
   a. Preformed Line Products Coyote.
   b. Tyco Electronics Guardian II.
   c. Or approved equal.

B. SPLICE CASE ENCLOSURE:

1. Furnish and install a protective enclosure for the splice case.
2. Enclosure shall be impact and corrosion resistant.
3. Acceptable manufacturers:
   a. Preformed Line Products Defender.
   b. Tyco Electronics.
   c. Or approved equal.

C. VERTICAL STORAGE SYSTEM:

1. Furnish and install a storage system as shown on the drawings.
2. Mounting shall be suitable for wood pole or steel pole as per application.
3. Storage system shall be double arm configuration.
4. For steel pole application furnish and install ¾" stainless steel bands.

5. Acceptable manufacturers:

   a. Preformed Line Products.

   b. Tyco Electronics.

   c. Or approved equal.

D. DOWNLEAD CUSHIONS:

1. Furnish and install downlead cushions, including mounting hardware.

2. Material: Aluminum

3. Cushions shall be suitable for wood pole or steel pole as per application.

4. For wood pole application, furnish and install the wood pole hardware kit.

5. For pole application, furnish and install the steel pole hardware kit.

6. For lattice structure application, furnish and install the lattice structure hardware kit.

7. Acceptable manufacturers:

   a. Wood Pole Kit: Preformed Fiberlign, 8003042H1, or equal.

   b. Steel Pole Kit: Preformed Fiberlign, 8003042H3, or equal.

   c. Lattice Structure Kit: Preformed Fiberlign, 8003042LTC1, or equal.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. The successful bidder shall provide all required information for installing the OPGW. This information shall include but not limited to the following:

B. Install the OPGW conductor per the stringing installation specifications in the High Voltage Conductor section (Section 33 7139.13), excluding all references to splicing, and per the manufacturer's recommendations. This includes but is not limited to; supplying installation equipment (anti-rotational devices, etc.) sized specifically for the supplied OPGW, adhering to pulling tensions, and limiting the wire from bending no greater than the specified minimum radius as recommended by the manufacturer.

C. Install colored tape to indicate direction of OPGW at sealed cable ends and 20ft from the sealed ends using the following color code. Splicers shall ensure tape is located or moved to just outside of the splice case after splicing is complete.

1. Orange – North
2. Green – East
3. Brown – South
4. Slate (gray) – West

D. Install all splice trays, enclosures, and storage systems per the Manufacturer's instructions and splice all the fibers in each splice tray.

3.02 CONTRACTOR TESTING:

A. The Contractor shall conduct tests according to industry-standard requirements for OPGW cable as called for by IEEE 1138. These tests shall be performed routinely on sample sizes sufficient to verify quality and continuity or as specified.

B. The continuity and attenuation of each fiber on each reel of cable supplied shall be tested upon delivery and after installation of the OPGW.

C. Testing shall be done with an optical time domain reflectometer (OTDR).

D. All fibers shall be tested at both 1310 and 1550 nm wavelengths using a launch cable of sufficient length to show connector loss when applicable. Point-to-point tests shall be completed in both A-B and B-A directions, with results compiled in PDF and SOR report formats.

E. If a fiber is to be left unterminated a mechanical splice may be used when required by the engineer to accomplish the OTDR trace report.

F. Test reports for the testing specified in previous section 3.01.E.2 shall include total fiber length, total attenuation, attenuation per unit length, measured distance to events, all test parameters, and number of pulses averaged. An electronic copy of these test reports shall be submitted to the Engineer before substantial completion of the project.

G. Any discrepancies resulting between the before and after installation test results on the OPGW installed by this Contractor shall be remedied by the Contractor.

* * * END OF SECTION * * *

SECTION 33 9000

RETIREMENT

PART 1 - GENERAL

1.01 SCOPE:

A. The GENERAL, SUPPLEMENTAL and other CONDITIONS of the Contract and the GENERAL REQUIREMENTS (Division 1) are hereby made part of this Section.

B. Work under this Section includes the furnishing of all labor and equipment for the removal of existing transmission line, disassembling material units, and all labor and disposal costs.

1.02 PAYMENT:

A. See Section 01 2000 – Price and Payment Procedures, for description of units.

B. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.03 DELIVERY, STORAGE, AND HANDLING:

A. All material will become the property of the Contractor and shall be disposed of properly, except the following:

B. Contractor shall be responsible for loading and transporting all salvaged and non-salvaged material to the designated areas.

C. The Contractor shall coordinate delivery items, such as timing, quantity, and weights, with those receiving salvage materials.

PART 2 - PRODUCTS

2.01 SELECT BACKFILL MATERIAL:

A. Backfill shall be topsoil for the top 1’-6”. The remaining fill section can be topsoil, clay, or silt material. The material shall contain enough natural or artificial moisture to assure a good binding action between the particles at the time of backfilling and tamping.

B. Backfill shall not be borrowed from the area around the hole unless prior approval from the landowner is given.

PART 3 - EXECUTION

3.01 SALVAGED CONDUCTOR:

A. The conductor or shield wire shall be placed on wooden reels in a workmanlike manner in such a way that it can be reused and easily transported. Each reel shall contain only one type of conductor (no mixing of types and/or sizes).

B. The removal includes the unclamping or untying of the conductor or shield wire at all attachment locations.

3.02 POLE TOP ASSEMBLIES:

A. All pole top assemblies including hardware shall be removed from the pole and disposed of by the Contractor.

3.03 POLE:

A. The Contractor is not required to remove the ground wire attached to the pole.

B. Direct-buried pole structures are believed to have a 10% plus 2' burial depths unless noted otherwise on the drawings:

C. Backfill all pole holes with select backfill as described in the previous products section.

D. Backfill shall not be borrowed from the area around the hole unless prior approval from the landowner is given.

E. Backfill of holes shall be machine tamped, using not more than one shoveler for each machine tamp. Topsoil material shall be well banked and tamped around the base of the pole to a height of 6 inches above the ground line and uniformly placed to the satisfaction of the Owner.

F. **Removed poles (or associated hardware materials) shall not be placed or left in any public rights-of-way.**

3.04 RESTORATION:

A. After removal, the Contractor shall clean up all construction debris and remove damaged soil and plantings including grass. Excavated material from the foundation holes shall be removed from the site and disposed of by the Contractor.

B. All areas shall be repaired to surrounding area conditions. Lawn seeding or sodding shall be performed as required.

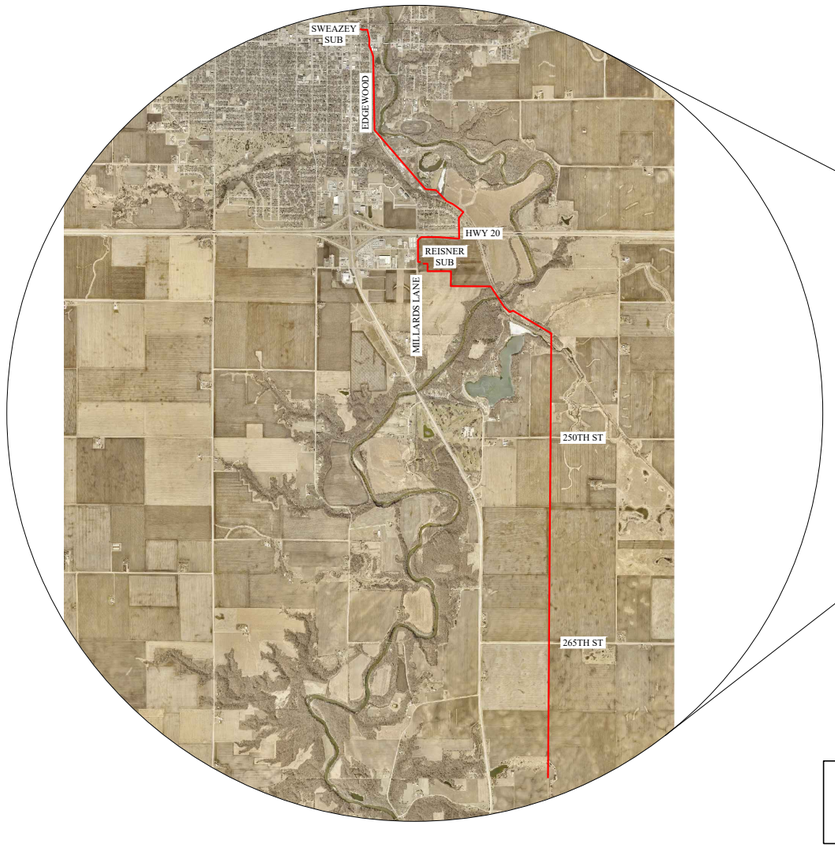
* * * END OF SECTION * * *

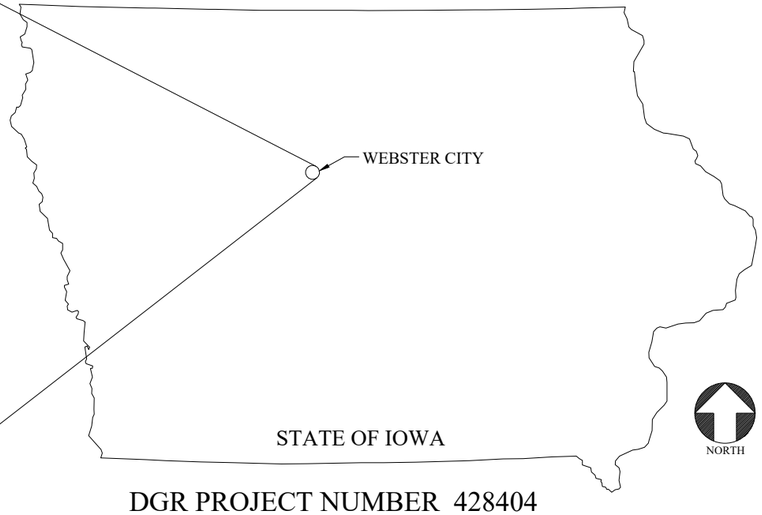
Category IV

Appendix

- Project Drawings (Separate): 34 Sheets

69 kV TRANSMISSION LINE RECONSTRUCTION
-2024-
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA





LIST OF DRAWINGS

3 SHEETS	REMOVAL MAP
1 SHEET	CONSTRUCTION NOTES
16 SHEETS	PLAN & PROFILES
13 SHEETS	CONSTRUCTION UNIT DRAWINGS

DGR PROJECT NUMBER 428404
CITY PROJECT NUMBER 9-24-003

ISSUED FOR BIDS
06-11-2024

DGR ENGINEERING
ROCK RAPIDS, IOWA
(712) 472-2531

LICENSED PROFESSIONAL ENGINEER
DENNIS J. HASELHOFF
13674
IOWA

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by

Dennis J. Haselhoff, P.E. on 06-11-2024

The official copy of this engineering document is on file at the office of the Owner.

Pages or sheets covered by this seal: All drawings.

Legend

- Proposed 69 kV T-Line
- Existing 69 kV T-Line
- Existing 69 kV T-Line to be Relocated

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Plot Date: 6/4/2024 8:17:25 AM

LEGEND

- Proposed line route
- Existing line route
- Existing structures
- Proposed structure location
- Existing structure to remove

NORTH

0 150 300 600

SCALE (FT.)

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

875of1149

EXISTING FACILITY REMOVAL MAP
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET 1 OF 3

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Plot Date: 6/4/2024 8:19:14 AM

LEGEND

- Proposed line route
- Existing line route
- Existing structures
- Proposed structure location
- Existing structure to remove

NORTH

0 150 300 600

SCALE (FT.)

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

876of1149

EXISTING FACILITY REMOVAL MAP
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET 2 OF 3

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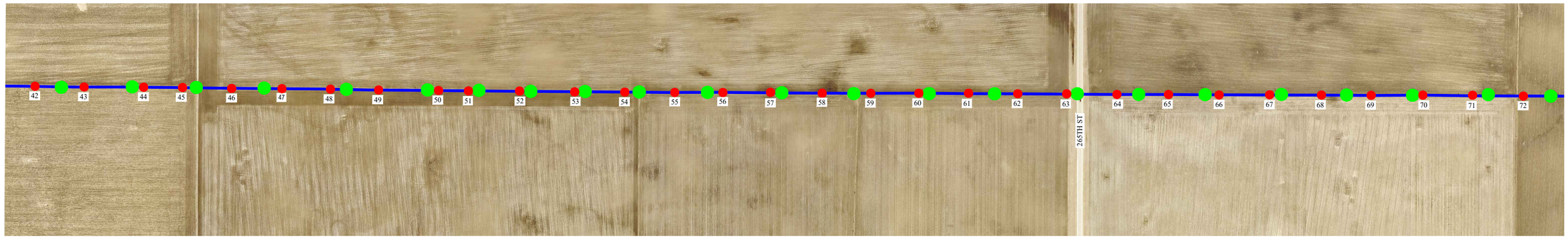

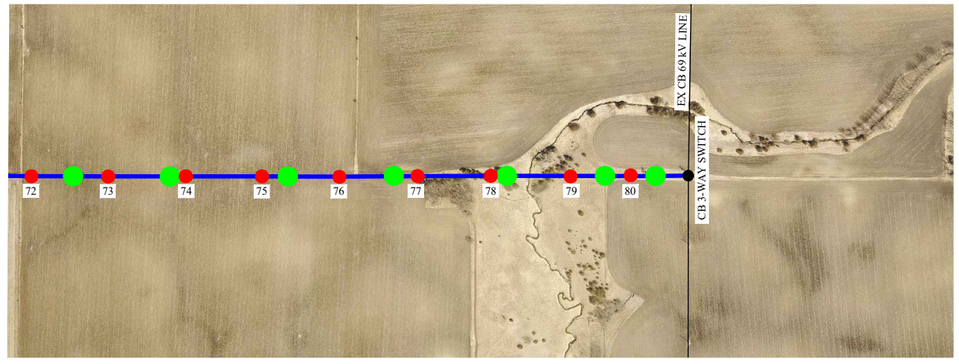

LEGEND

- Proposed line route
- Existing line route
- Existing structures
- Proposed structure location
- Existing structure to remove

NORTH

0 150 300 600

SCALE (FT.)

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

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EXISTING FACILITY REMOVAL MAP
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET 3 OF 3

P:\04-28404\04DWG\REMOVAL MAP.DWG

Plot Date: 6/6/2024 9:42:23 AM

CONSTRUCTION NOTES

1. The staking of the transmission poles will be done once by the Owner's representative. The Contractor must receive approval from the Engineer if they desire to adjust a staked location.

2. The Contractor shall be responsible for calling locates and exposing all foreign utilities prior to any excavation, including and hand digging or vac work as necessary, cost incidental to the project.

3. Contractor shall install temporary guard structures as necessary at road and line crossings to protect crossing lines, cost incidental to the project.

4. Contractor shall string all transmission conductor according to sag charts provided by the Engineer. Notify Engineer 2 weeks in advance of requiring sag charts for stringing operations.

5. The Contractor shall complete verification of phasing before finalizing deadend connections and energization of all circuits.

6. Coordinate all outages with the Owner and Corn Belt Power Cooperative. See Specifications for outage, constraints and schedule information.

7. The project is located in private easement. All areas disturbed by the Contractor shall be restored to their original condition. The Contractor shall stay within the easement areas at all times, unless authorized by private landowners or other authorities.

8. Access to the project sites shall be limited to the easement, or as approved by private land owners. The Contractor shall coordinate private property access with property owners if necessary.

9. The Contractor shall install silt fence, straw wattles or other measures as required for the control of erosion, runoff, and spills due to storm water or construction activities to the project site. The Contractor is solely responsible for site controls for environmental, storm water systems, waterways, private property and public ROW.

10. The Contractor shall remove and dispose of all spoils from the site as necessary. Concrete washout shall be completed off-site and is the responsibility of the Contractor.

11. After completion of the project, the Contractor shall furnish the Owner with a signed written release form from each property Owner where private lands were encroached, accessed, or utilized by the Contractor during construction. The written relaese form is included in the Miscellaneous Forms section of the specification documents.

12. Tangent structures with a line angle of 1 degree or greater shall be field raked a minimum of 12" or as shown on the Unit Sheets or Drawings.

13. Laminated wood structures shall be raked according to manufacturer recommendations.

14. The Contractor is responsible for the disposal and salvage of all removed or unused materials not expressly specified for use on the project.

15. The Contractor is responsible for the storage of all materials utilized on the project, including existing structures and conductor that is to be relocated and re-installed.

16. The Contractor shall procure, set-up, maintain and secure a project laydown yard for storage of all materials as required for the project.

17. The Contractor shall be responsible for offloading and storing all Owner-furnished materials. Contractor shall coordinate with Engineer and Owner for Owner-furnished material delivery schedule and potential storage locations.

GENERAL DESIGN DATA

PHASE CONDUCTOR:	477 ACSR HAWK - 5,000# DTHL U.O.N.
STATIC CONDUCTOR:	OPGW (AFL DNO-12496, 48-FIBER) - 3,250# DTHL U.O.N.
STRUCTURES:	ROUND WOOD POLES & LAMINATED WOOD POLES
INSULATORS	POLYMER
TOTAL LINE LENGTH:	MILES OF 69 KV = ~ 6.97 MILES OR 36,810 ft.

PLAN & PROFILE DRAWING LEGEND

PROFILE SHEET LABEL		EXAMPLE (TYP.)
1ST LINE	STRUCTURE NUMBER	23
2ND LINE	STRUCTURE FRAMING UNIT . LENGTH (CLASS)	TP-69.070(1)
3RD, 4TH, 5TH LINES	(QTY) MISCELLANEOUS UNITS	(1) WPG
LAST LINE	PROJECT STATIONING (FT.)	56+73

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
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CONSTRUCTION NOTES
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET CN 1 OF 1

P:\04\284\04\DWG\UNIT DWGS\LINE REBUILD (1B & 1C)\CONSTRUCTION NOTES.DWG

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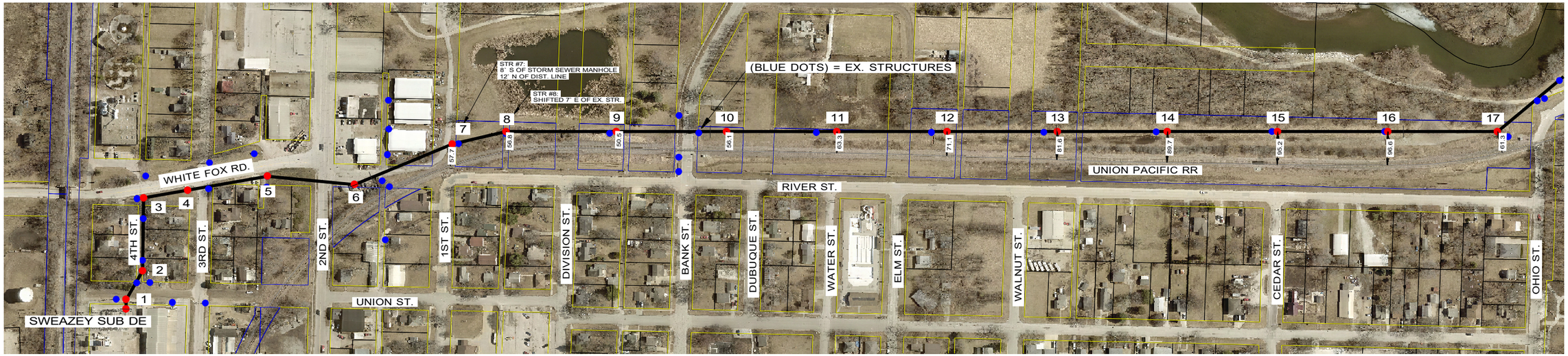

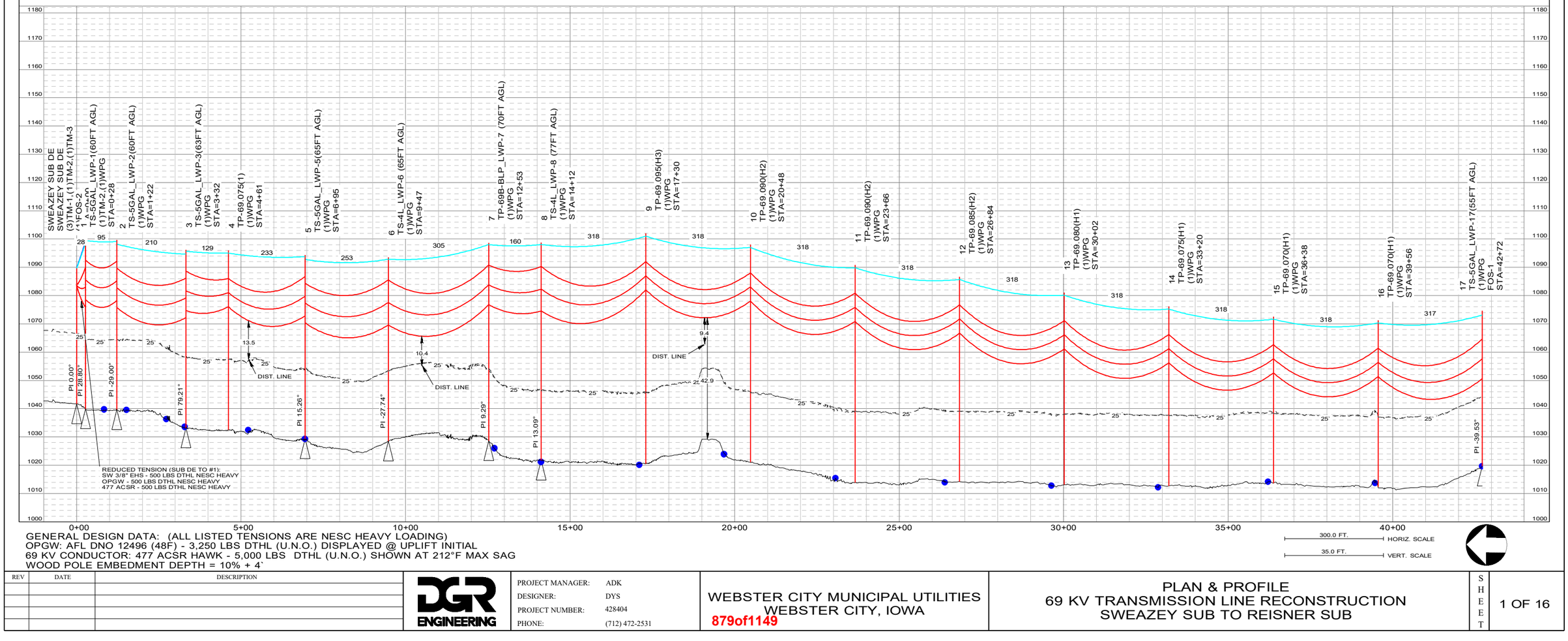

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69 KV CONDUCTOR: 477 ACSR HAWK - 5,000 LBS DTHL (U.N.O.) SHOWN AT 212°F MAX SAG
WOOD POLE EMBEDMENT DEPTH = 10% + 4`

REV	DATE	DESCRIPTION

DGR ENGINEERING

PROJECT MANAGER:	ADK
DESIGNER:	DYS
PROJECT NUMBER:	428404
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WEBSTER CITY, IOWA
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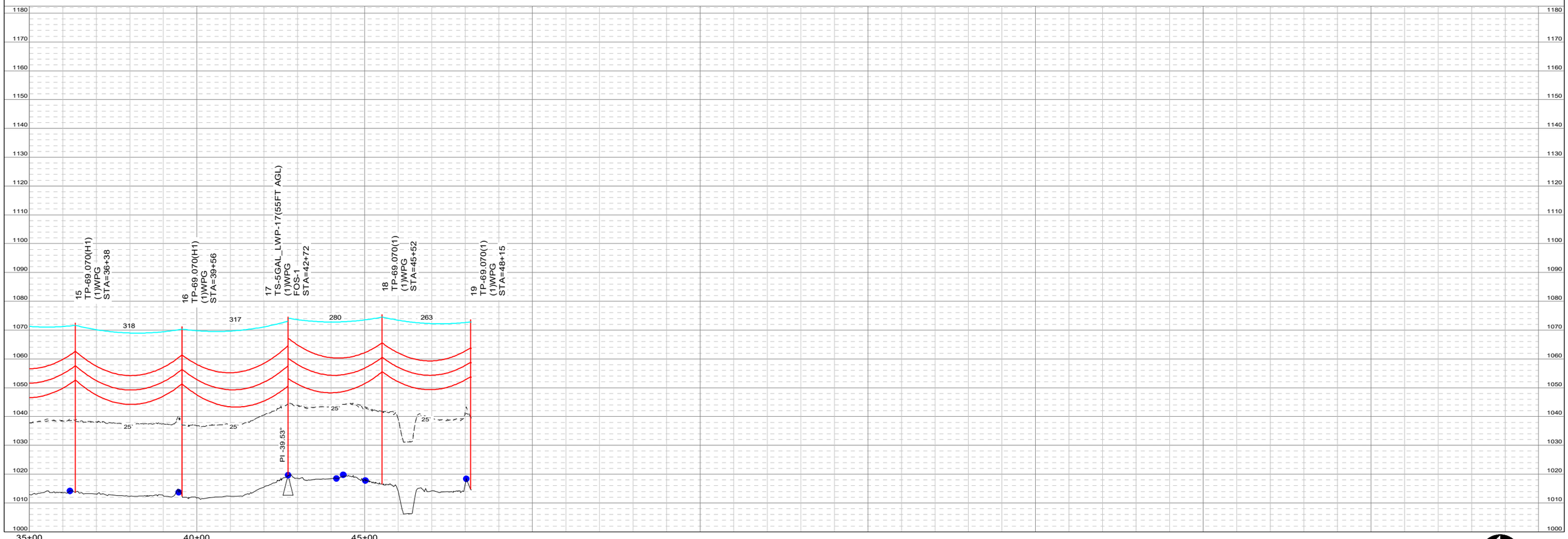
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET 1 OF 16

PLS-CADD DRAWING



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300.0 FT. HORIZ. SCALE
35.0 FT. VERT. SCALE

REV	DATE	DESCRIPTION

DGR ENGINEERING

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PROJECT NUMBER:	428404
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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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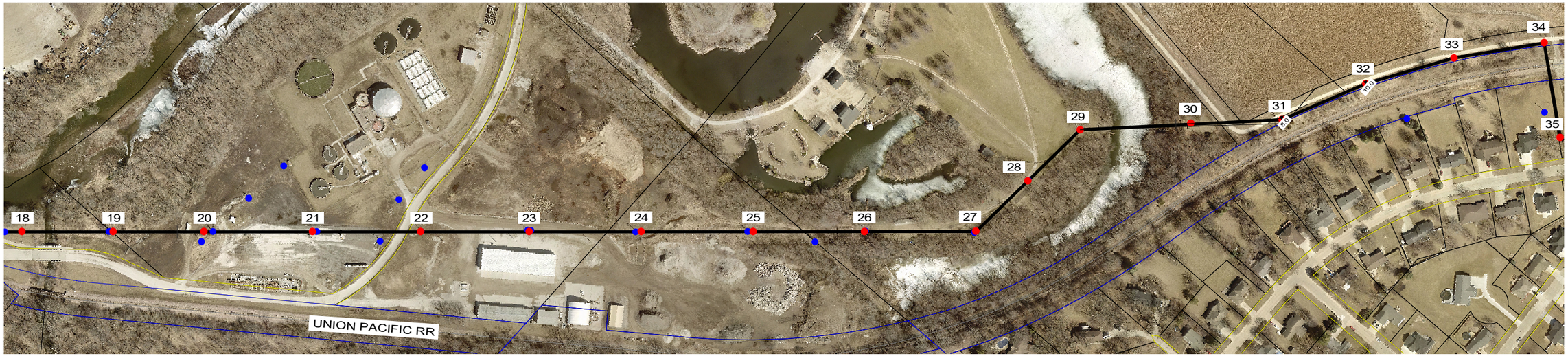
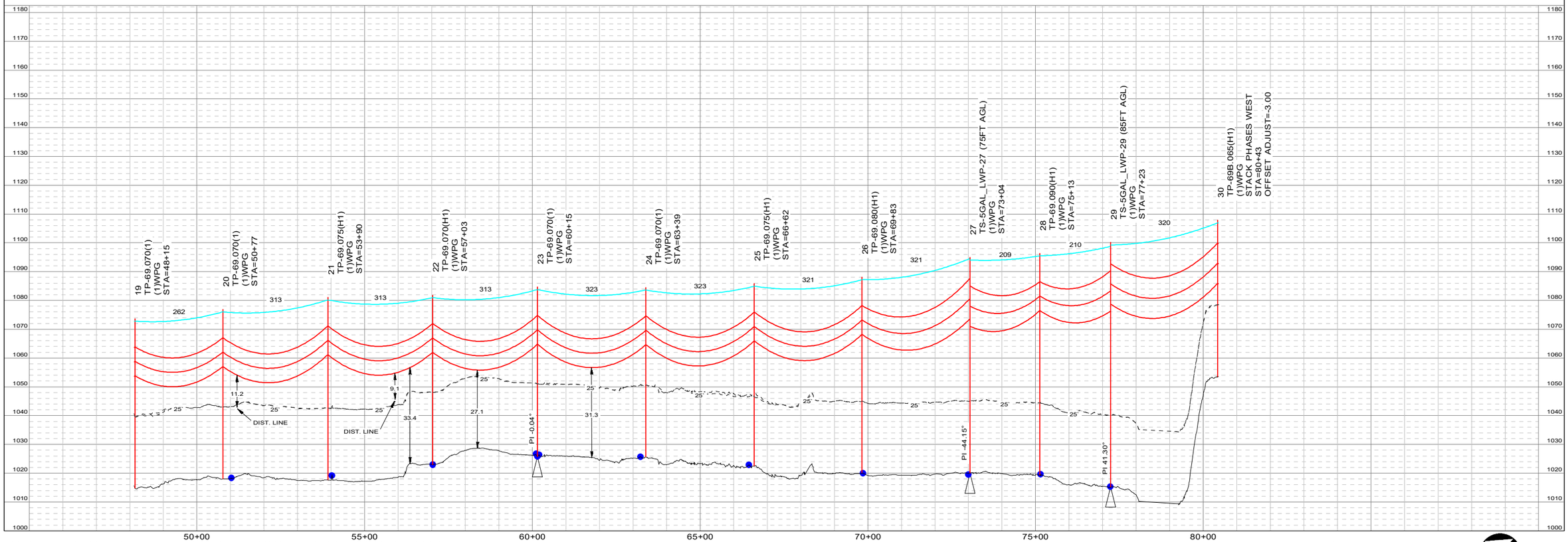
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET 2 OF 16

PLS-CADD DRAWING





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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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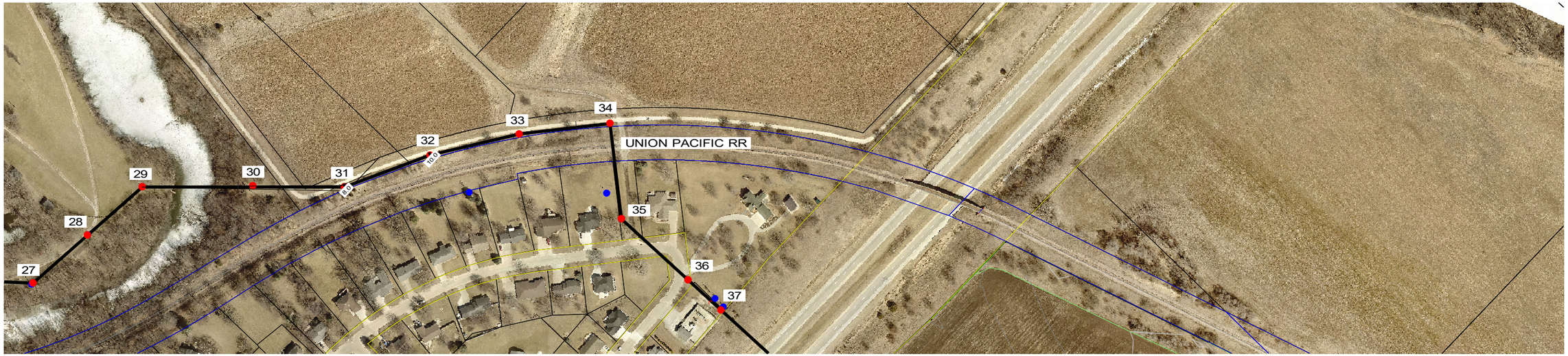
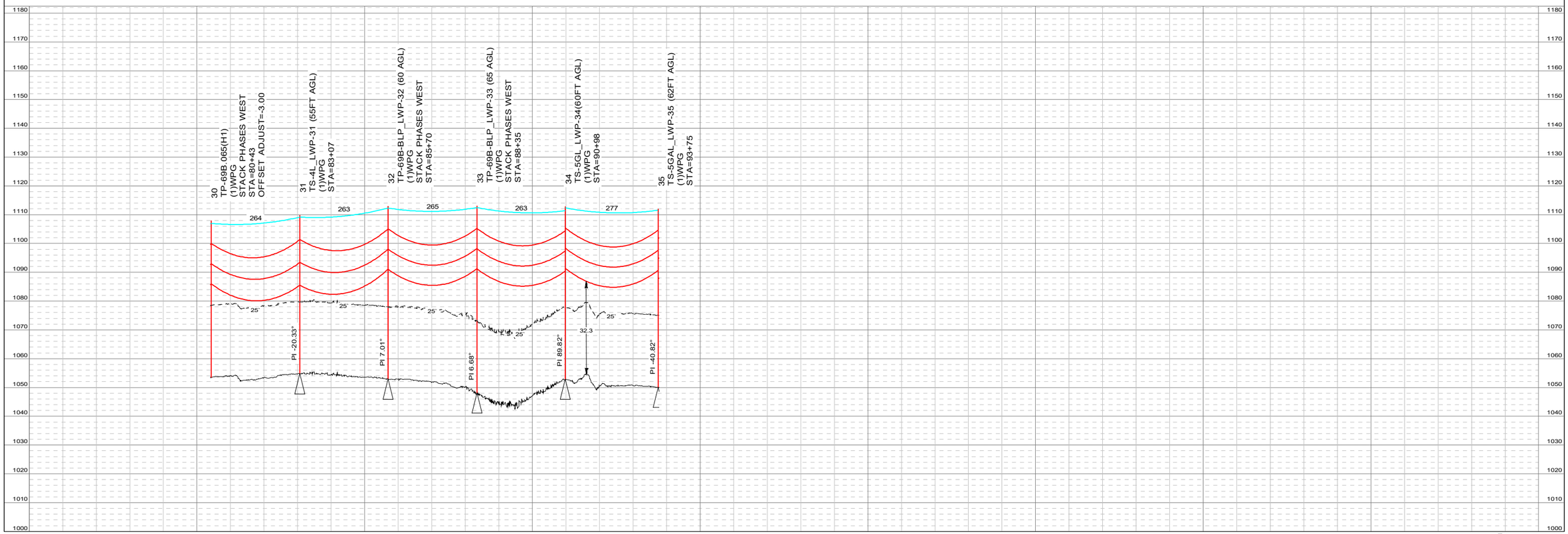
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET 3 OF 16

PLS-CADD DRAWING





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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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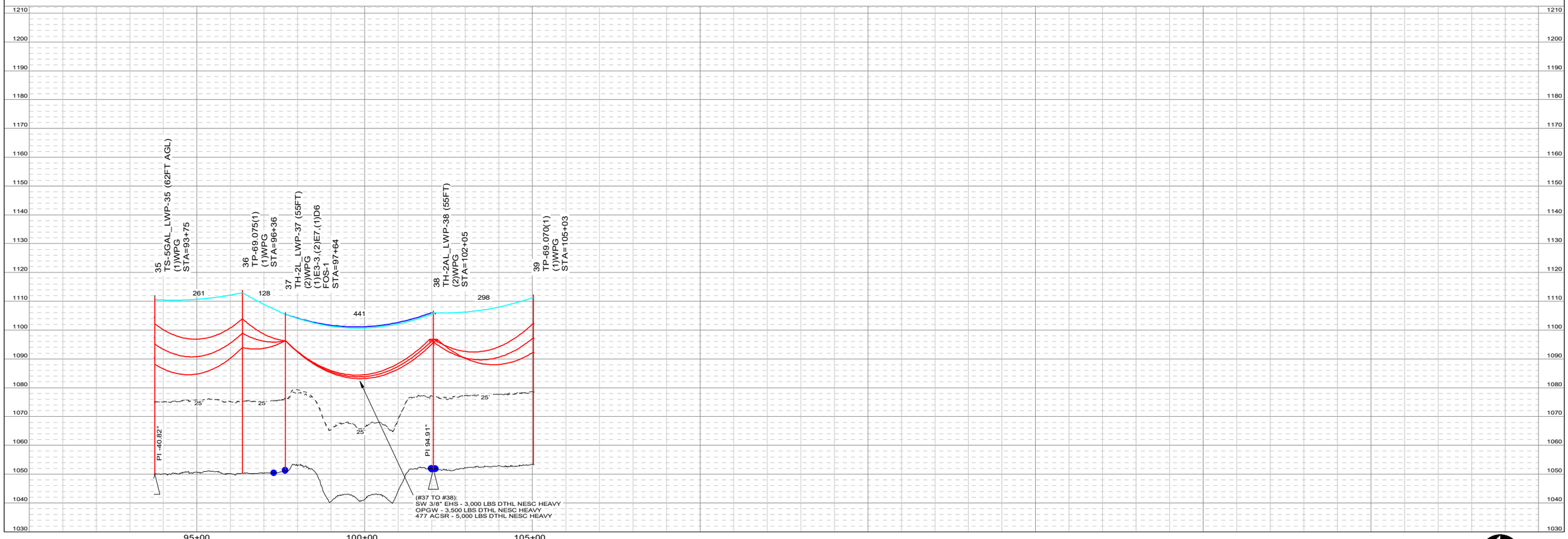
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET 4 OF 16

PLS-CADD DRAWING



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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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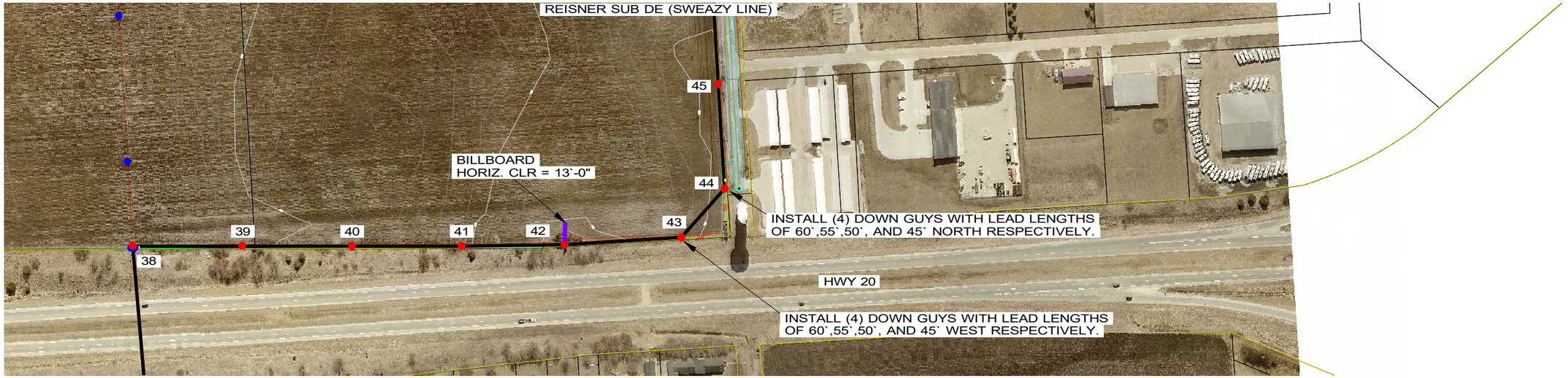
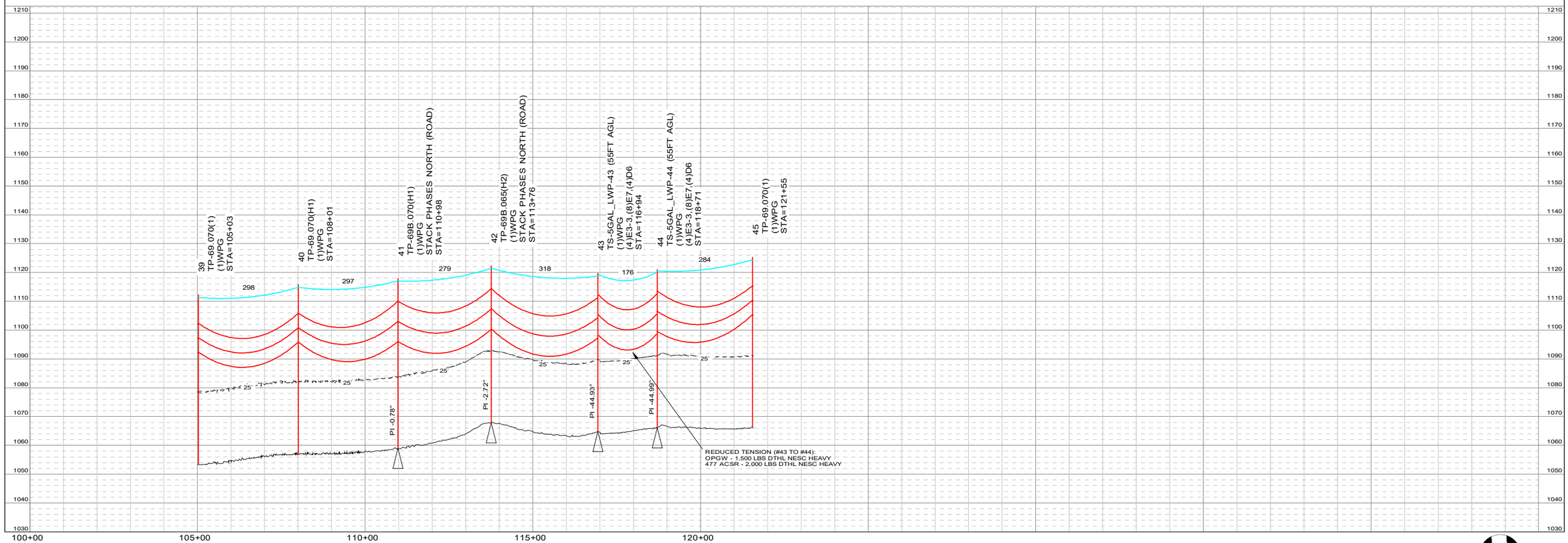
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET 5 OF 16





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DESIGNER: DYS
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PHONE: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET 6 OF 16

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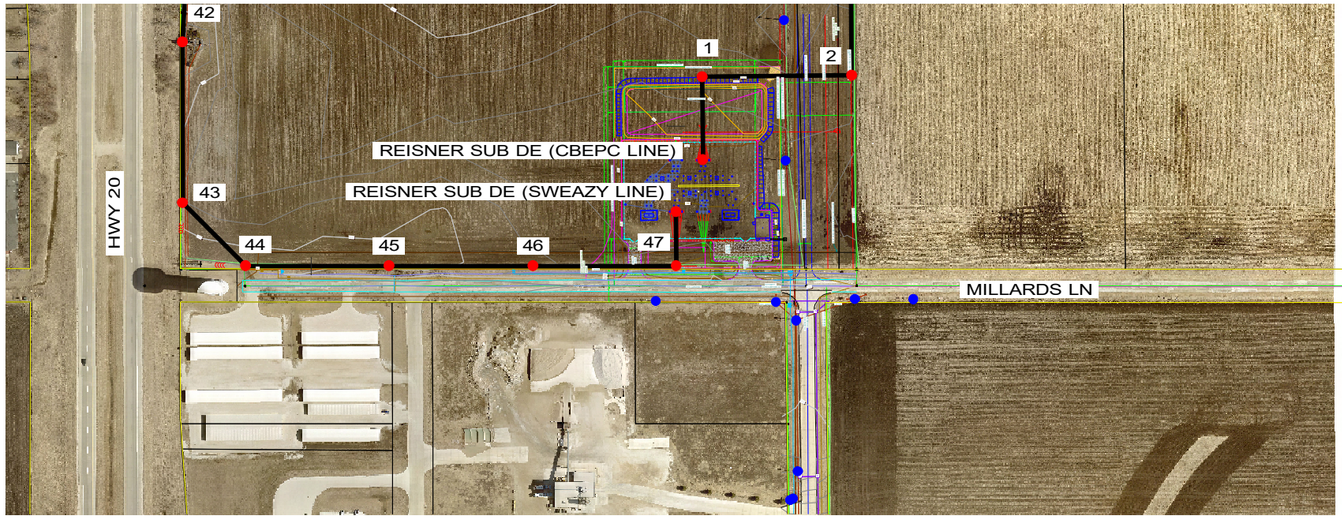

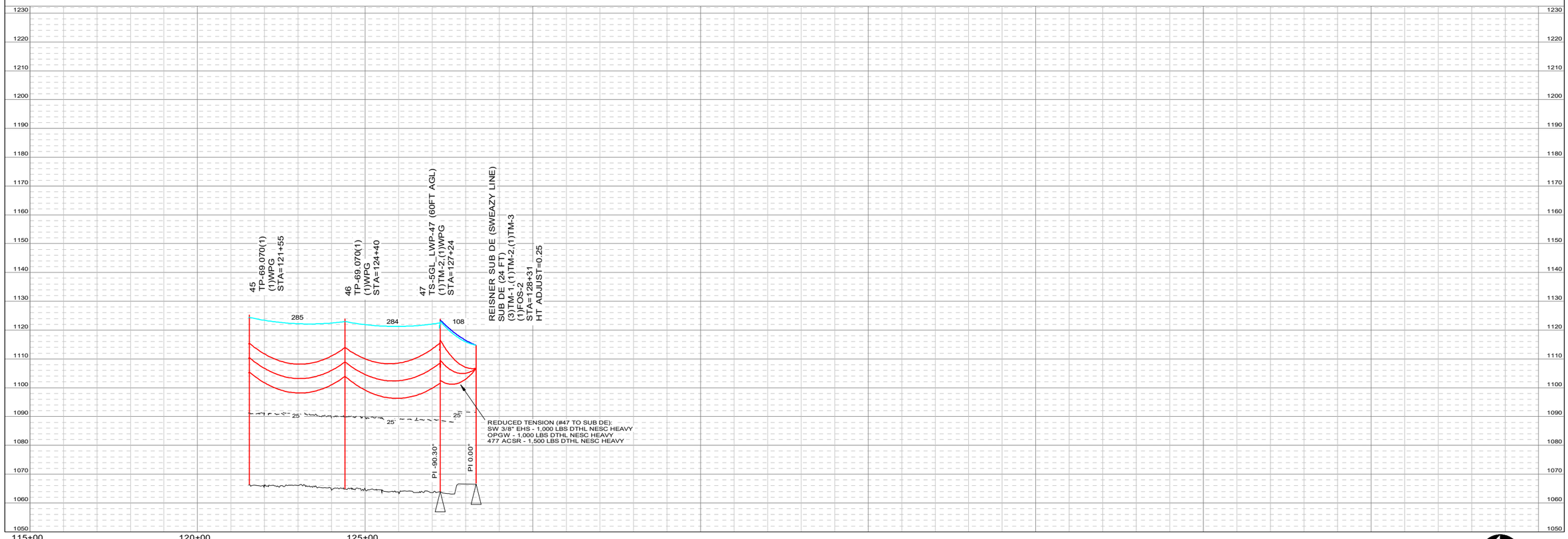

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PROJECT MANAGER:	ADK
DESIGNER:	DYS
PROJECT NUMBER:	428404
PHONE:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

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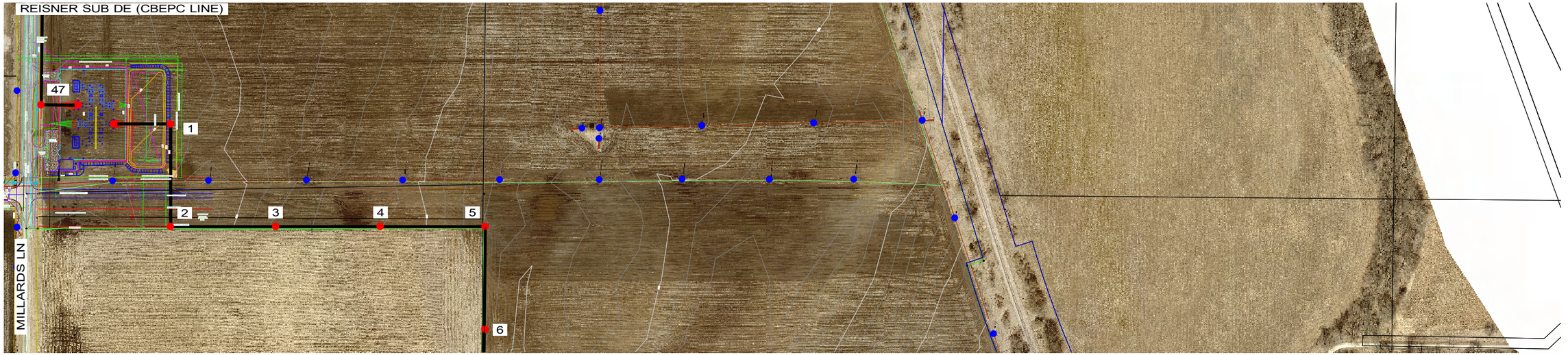

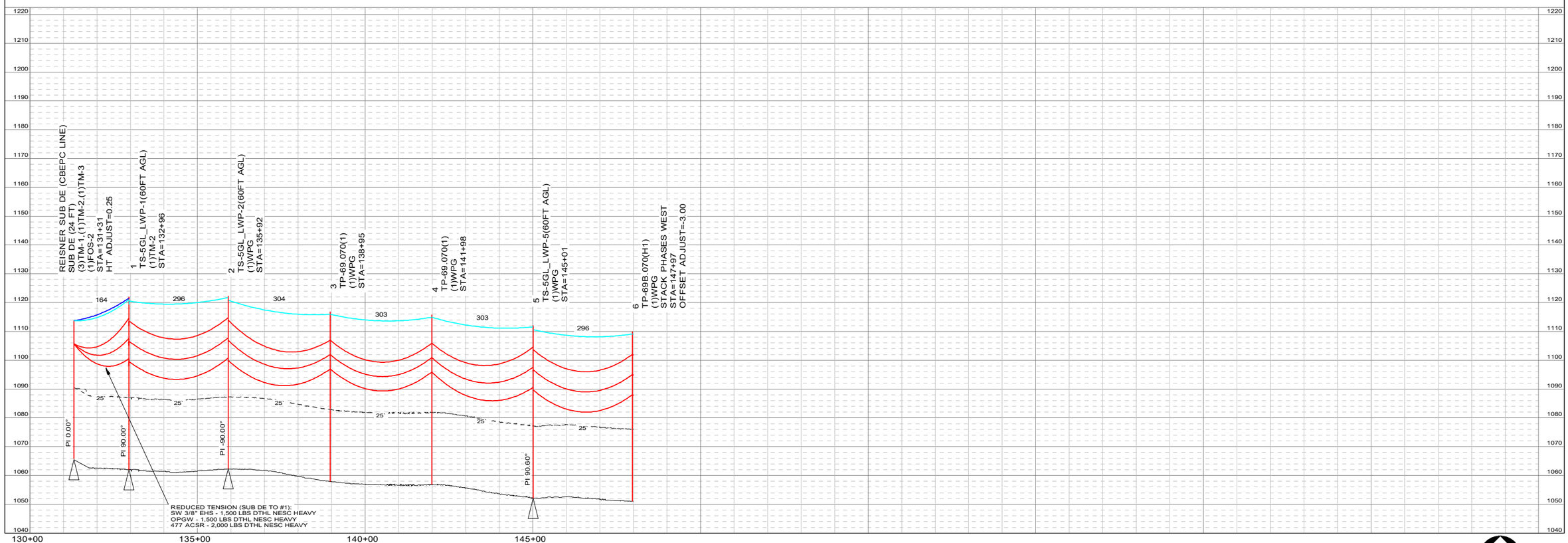

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PROJECT MANAGER:	ADK
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PROJECT NUMBER:	428404
PHONE:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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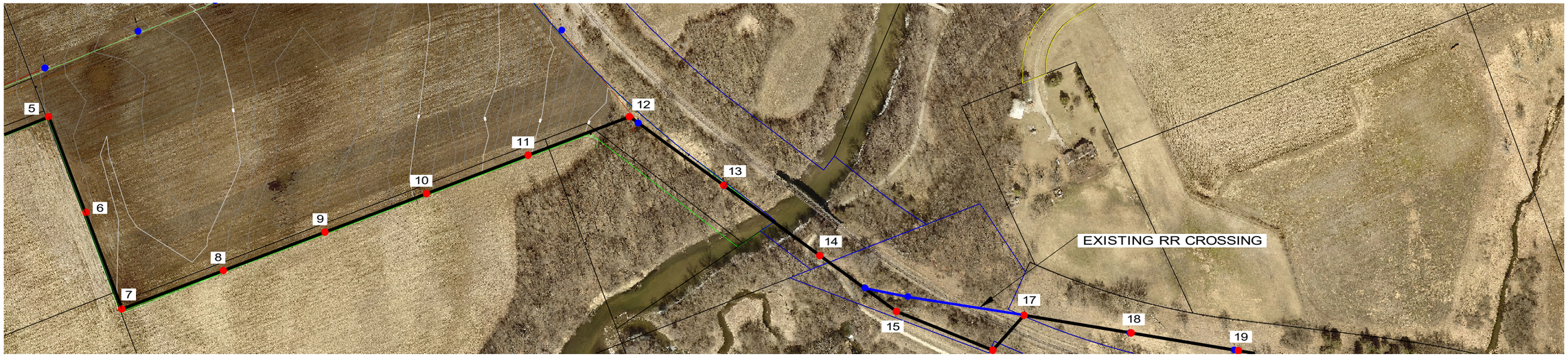
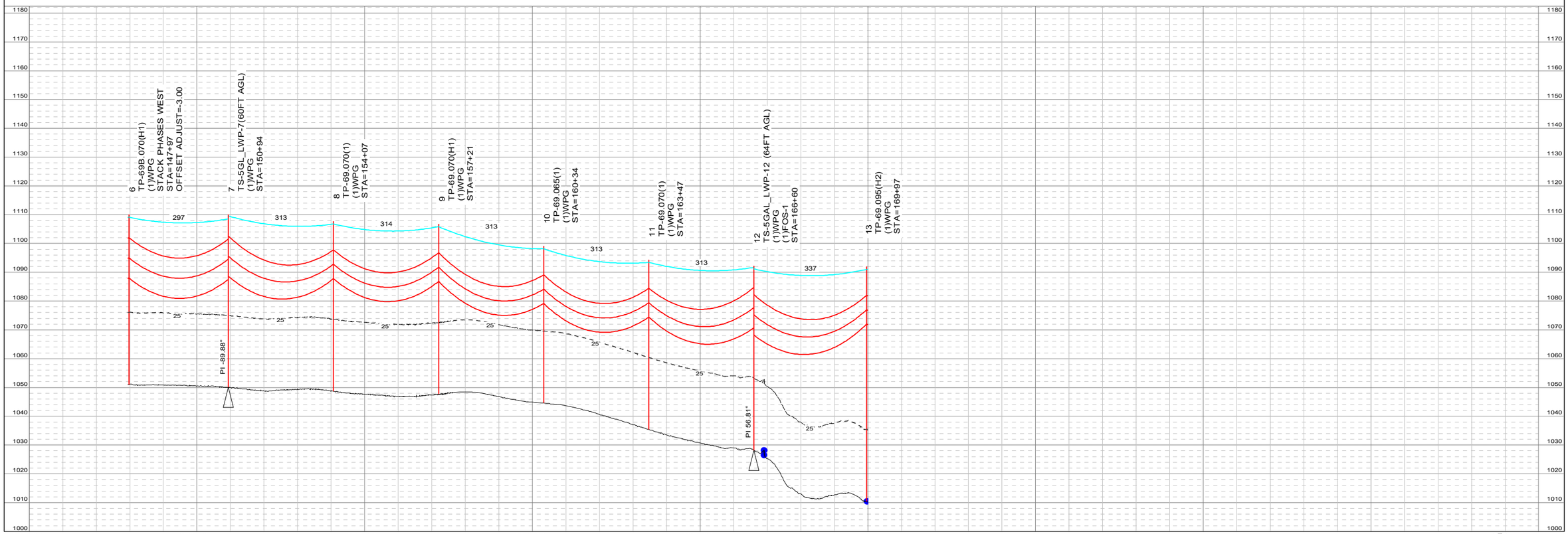
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORN BELT JUNCTION

SHEET 8 OF 16





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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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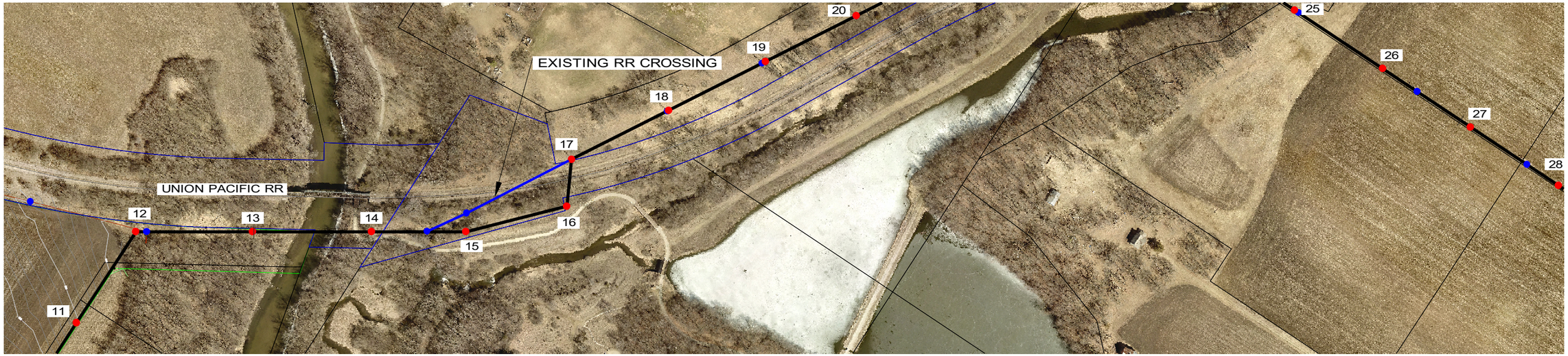
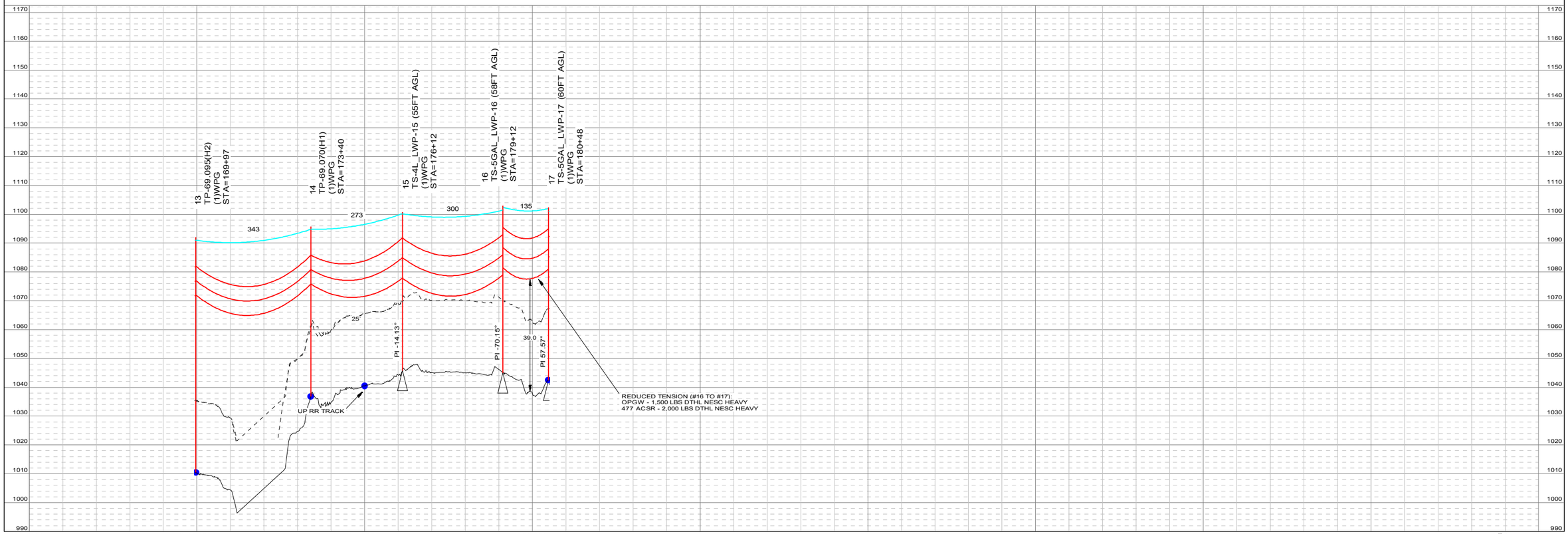
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO COR NBELT JUNCTION

SHEET 9 OF 16

PLS-CADD DRAWING





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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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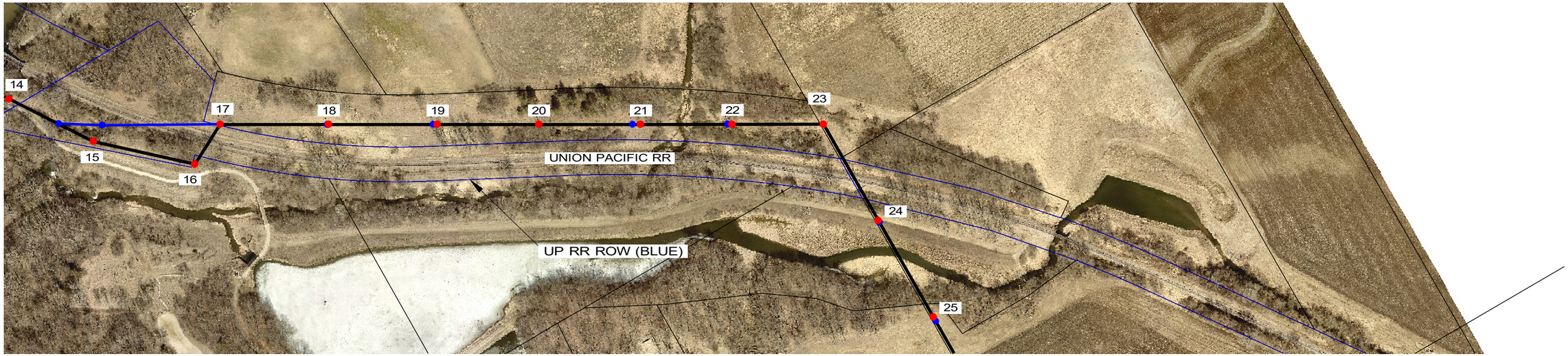
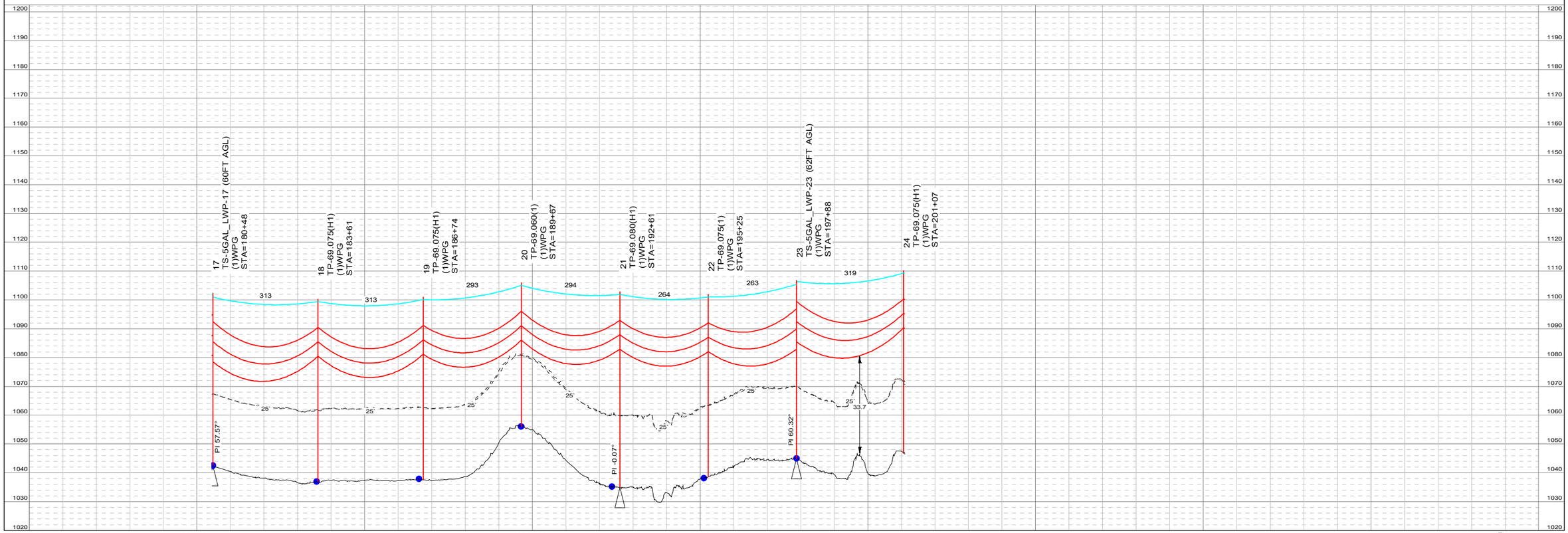
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORN BELT JUNCTION

SHEET 10 OF 16

PLS-CADD DRAWING





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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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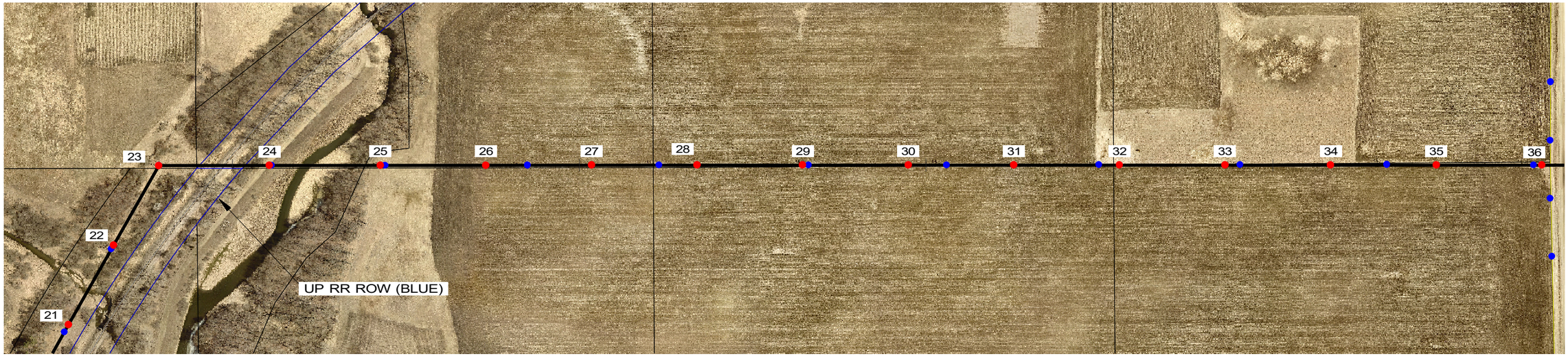
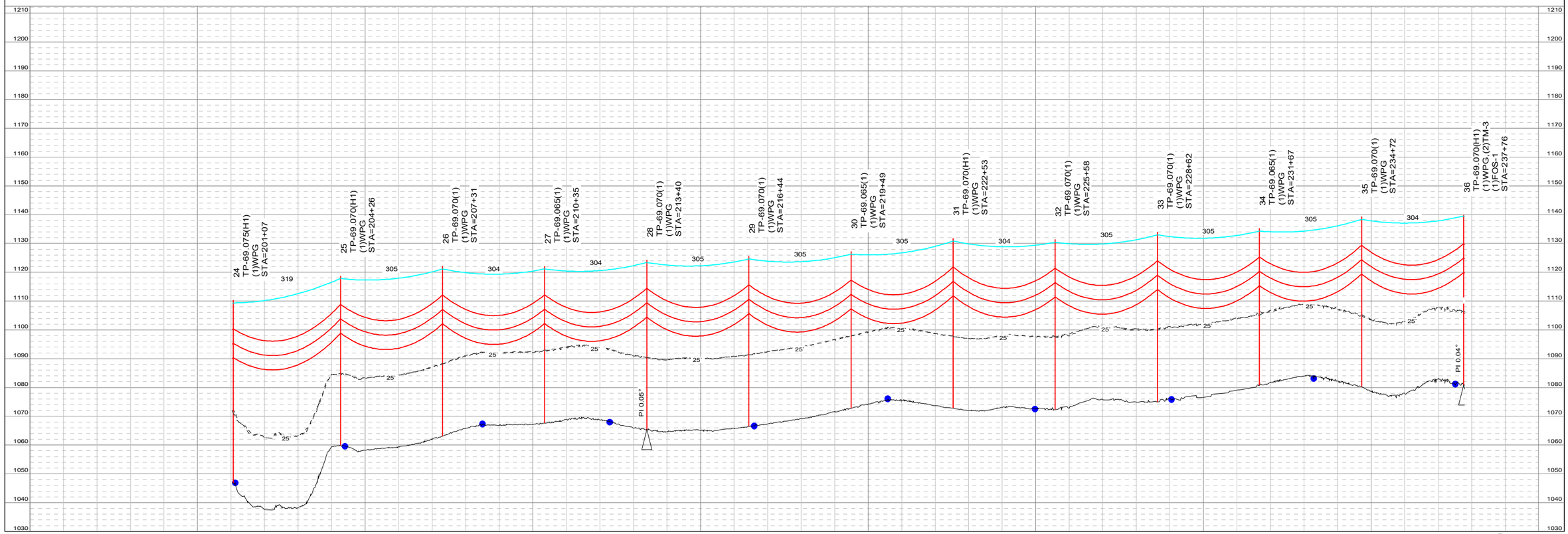
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORN BELT JUNCTION

SHEET 11 OF 16

PLS-CADD DRAWING





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WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

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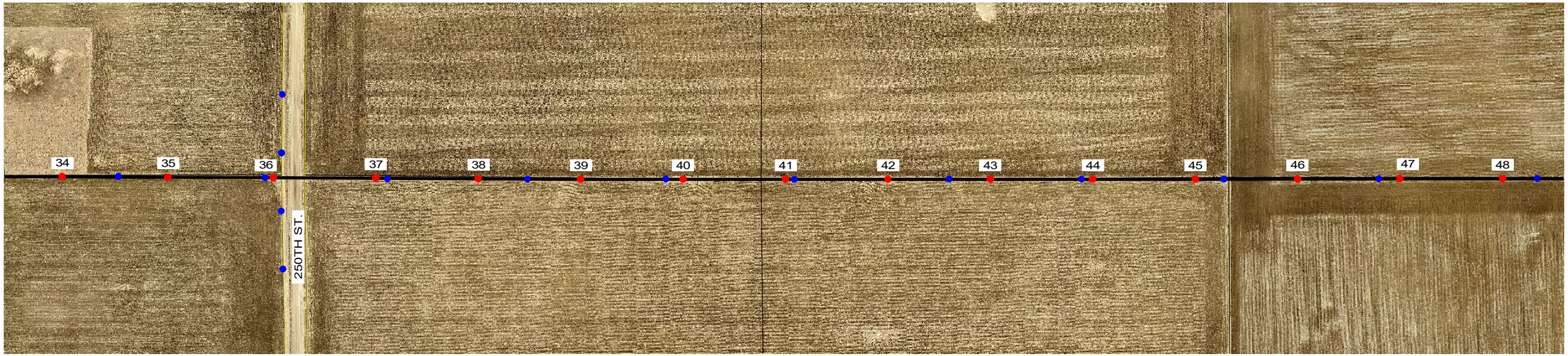
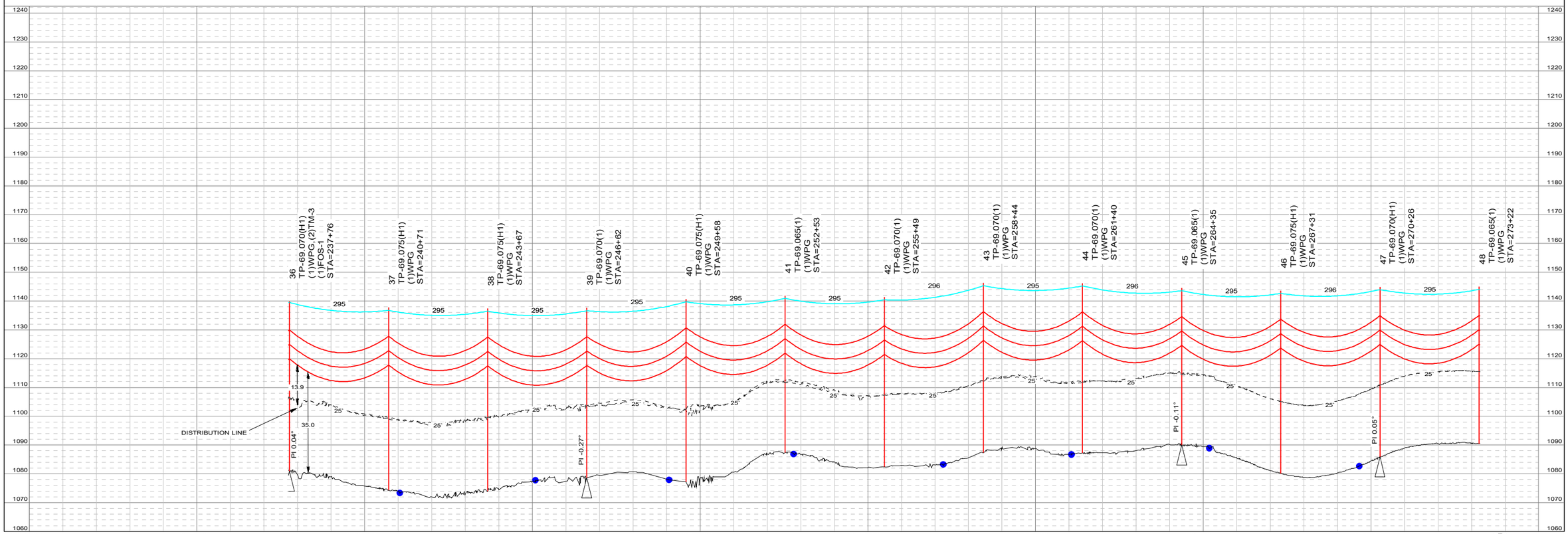
PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORN BELT JUNCTION

SHEET 12 OF 16

PLS-CADD DRAWING





GENERAL DESIGN DATA: (ALL LISTED TENSIONS ARE NESC HEAVY LOADING)
OPGW: AFL DNO 12496 (48F) - 3,250 LBS DTHL (U.N.O.) DISPLAYED @ UPLIFT INITIAL
69 KV CONDUCTOR: 477 ACSR HAWK - 5,000 LBS DTHL (U.N.O.) SHOWN AT 212°F MAX SAG
WOOD POLE EMBEDMENT DEPTH = 10% + 4`

REV	DATE	DESCRIPTION

DGR ENGINEERING

PROJECT MANAGER:	ADK
DESIGNER:	DYS
PROJECT NUMBER:	428404
PHONE:	(712) 472-2531

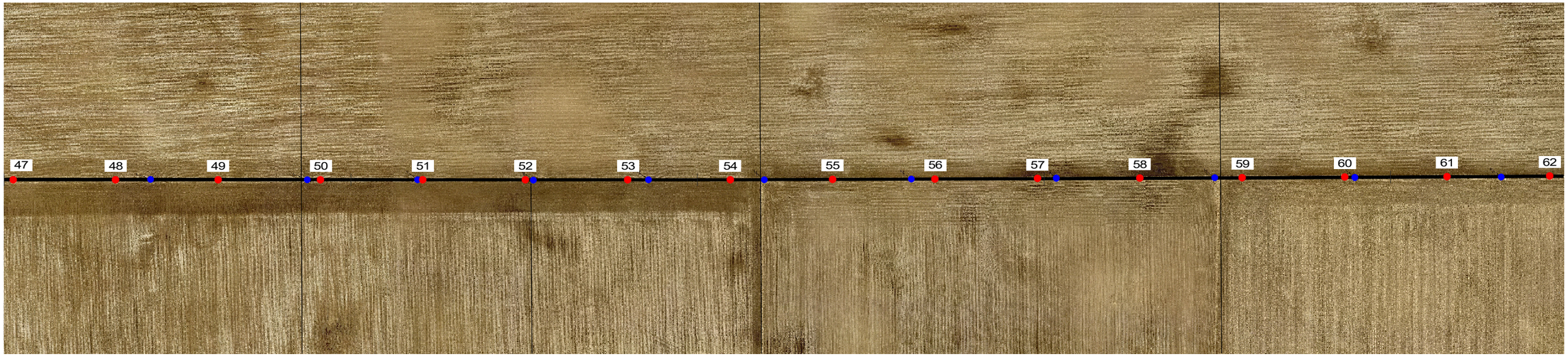
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

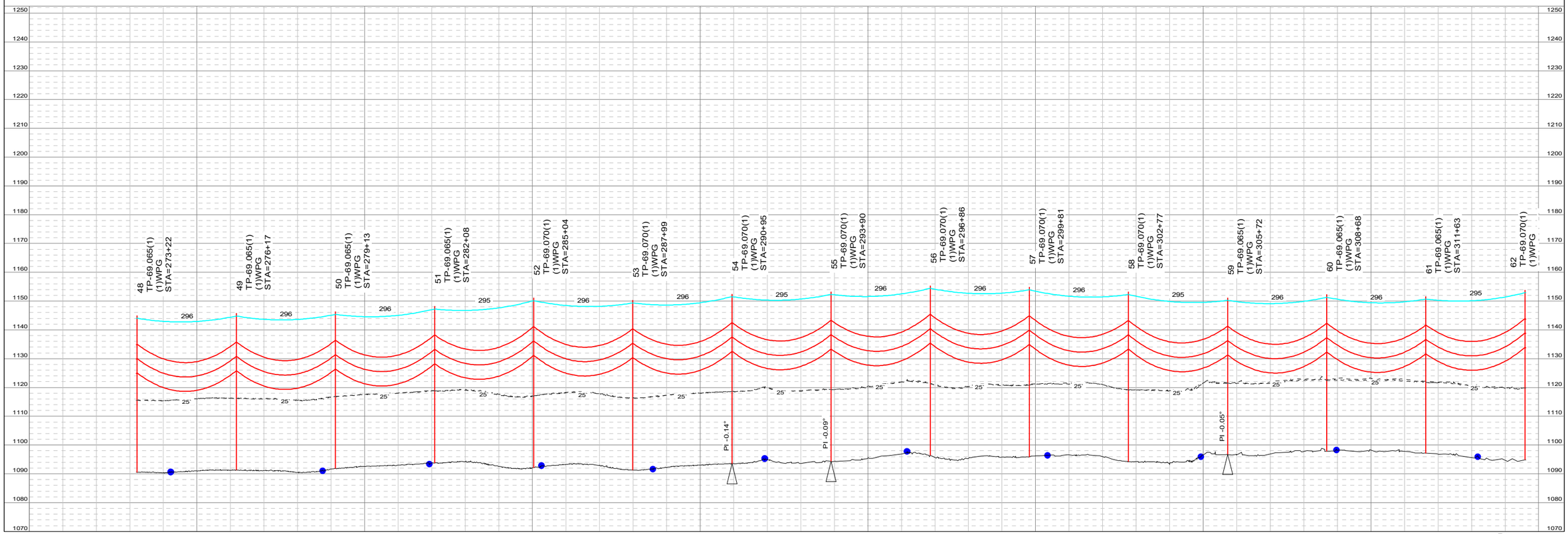
891of1149

PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORN BELT JUNCTION

SHEET 13 OF 16

PLS-CADD DRAWING





GENERAL DESIGN DATA: (ALL LISTED TENSIONS ARE NESC HEAVY LOADING)
OPGW: AFL DNO 12496 (48F) - 3,250 LBS DTHL (U.N.O.) DISPLAYED @ UPLIFT INITIAL
69 KV CONDUCTOR: 477 ACSR HAWK - 5,000 LBS DTHL (U.N.O.) SHOWN AT 212°F MAX SAG
WOOD POLE EMBEDMENT DEPTH = 10% + 4`

REV	DATE	DESCRIPTION

DGR ENGINEERING

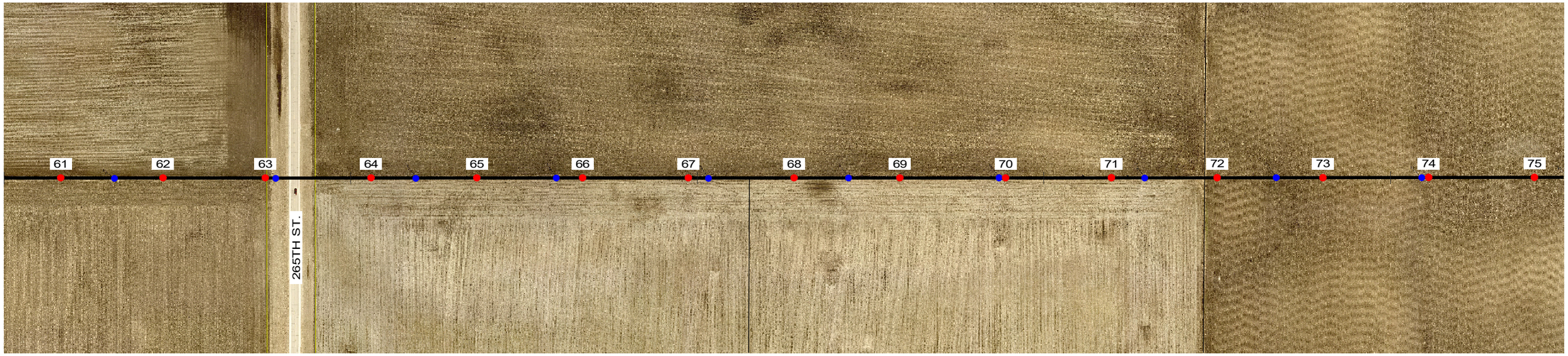
PROJECT MANAGER:	ADK
DESIGNER:	DYS
PROJECT NUMBER:	428404
PHONE:	(712) 472-2531

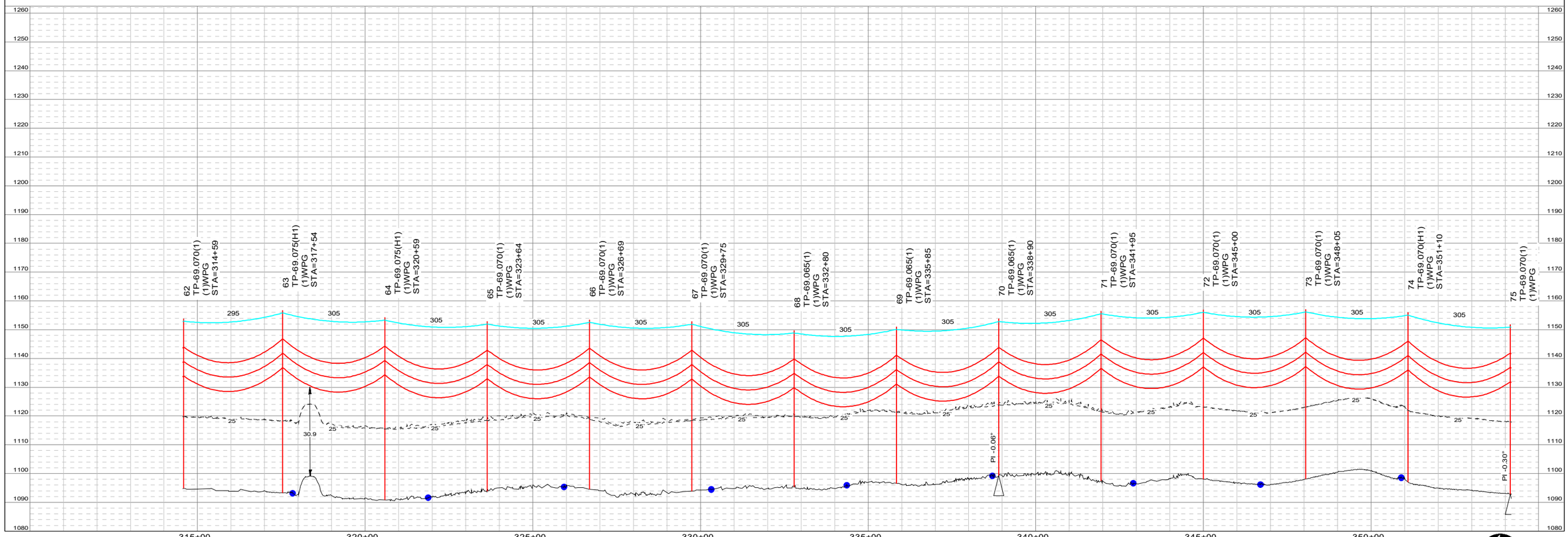
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

892of1149

PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORN BELT JUNCTION

SHEET 14 OF 16





GENERAL DESIGN DATA: (ALL LISTED TENSIONS ARE NESC HEAVY LOADING)
OPGW: AFL DNO 12496 (48F) - 3,250 LBS DTHL (U.N.O.) DISPLAYED @ UPLIFT INITIAL
69 KV CONDUCTOR: 477 ACSR HAWK - 5,000 LBS DTHL (U.N.O.) SHOWN AT 212°F MAX SAG
WOOD POLE EMBEDMENT DEPTH = 10% + 4`

REV	DATE	DESCRIPTION

DGR ENGINEERING

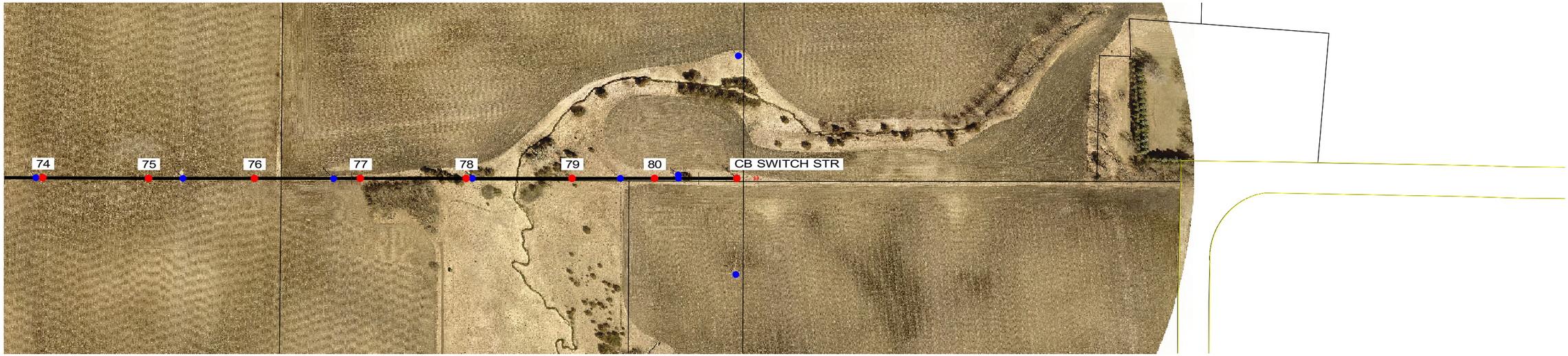
PROJECT MANAGER:	ADK
DESIGNER:	DYS
PROJECT NUMBER:	428404
PHONE:	(712) 472-2531

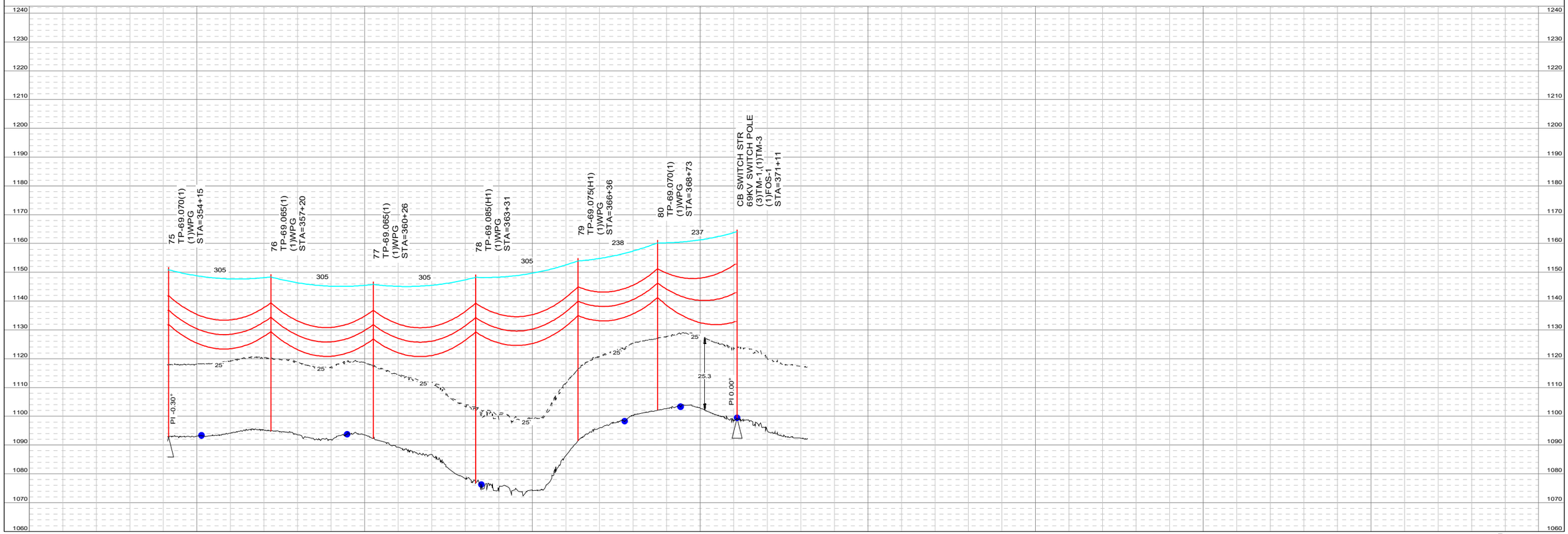
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORN BELT JUNCTION

SHEET 15 OF 16

PLS-CADD DRAWING





GENERAL DESIGN DATA: (ALL LISTED TENSIONS ARE NESC HEAVY LOADING)
OPGW: AFL DNO 12496 (48F) - 3,250 LBS DTHL (U.N.O.) DISPLAYED @ UPLIFT INITIAL
69 KV CONDUCTOR: 477 ACSR HAWK - 5,000 LBS DTHL (U.N.O.) SHOWN AT 212°F MAX SAG
WOOD POLE EMBEDMENT DEPTH = 10% + 4`

300.0 FT. HORIZ. SCALE
35.0 FT. VERT. SCALE

REV	DATE	DESCRIPTION

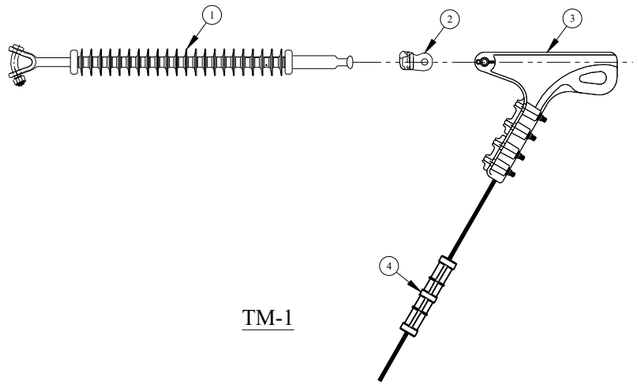
DGR ENGINEERING

PROJECT MANAGER:	ADK
DESIGNER:	DYS
PROJECT NUMBER:	428404
PHONE:	(712) 472-2531

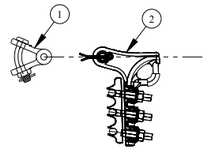
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
894of1149

PLAN & PROFILE
69 KV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

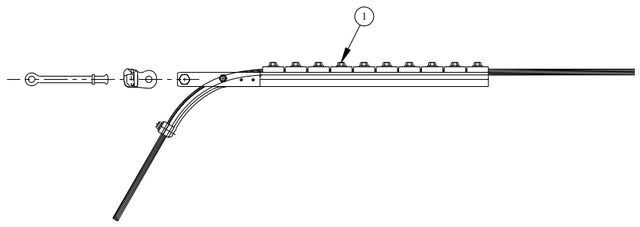
SHEET 16 OF 16



TM-1



TM-2



TM-3

MATERIAL LIST (TM-1)				
ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Deadend Insulator, Polymer, 25 Kip	Ohio Brass	5110051201	1
2	Socket Eye, 25 Kip	Hubbell	SA06**	1
3	Deadend Quadrant Clamp, Phase (3/0 To 556 ACSR)	Hubbell	SD86N**	1
4	Compression Connector, Phase (477 Hawk ACSR)	Preformed	33022	1

MATERIAL LIST (TM-2)				
ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Y-Clevis Eye, 90°, 19 Kip	Hubbell	YCS-04-90**	1
2	Deadend Quadrant Clamp, Static (3/8" EHS)	Hubbell	SWDE55N**	1

MATERIAL LIST (TM-3)				
ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	OPGW Single Deadend Assembly (includes Y-Clevis Ball Hot Link & Socket Eye)	AFL	OSPDE3-DN012496	1

* AS REQUIRED
** OR APPROVED EQUAL

CONDUCTOR ASSEMBLIES

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

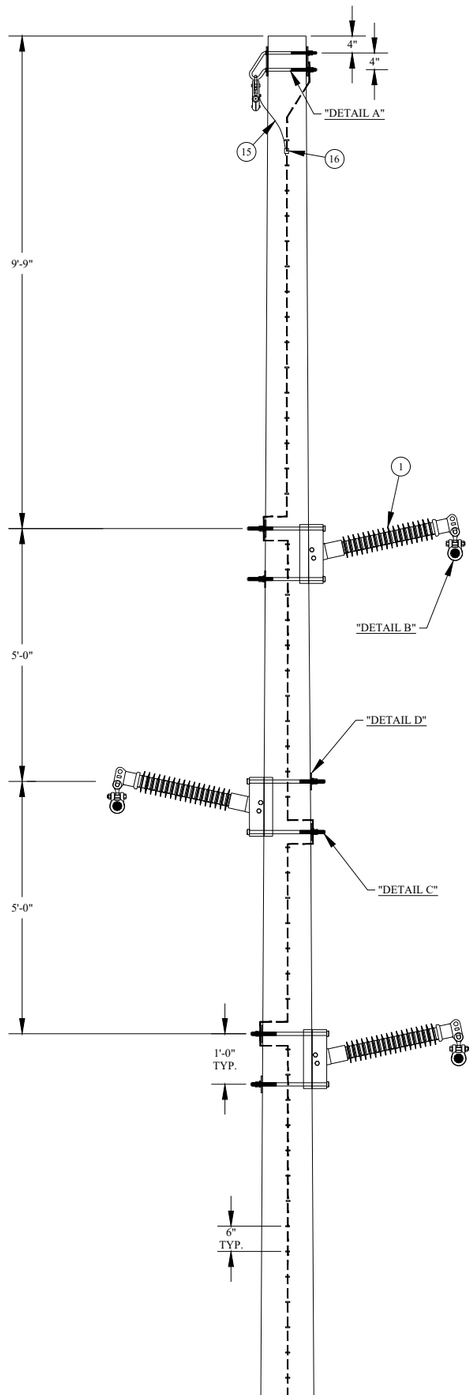
DGR ENGINEERING

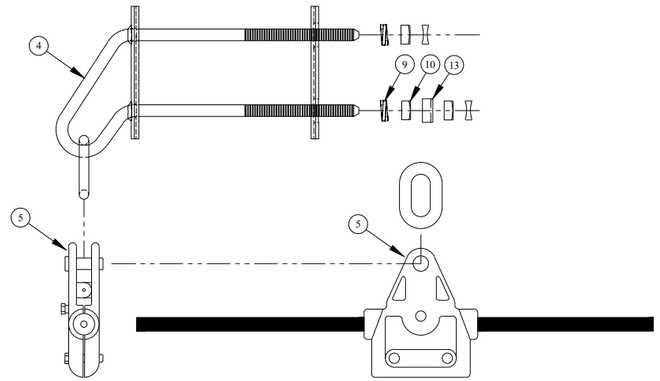
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

UNIT DRAWING
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET TM-1,2,3





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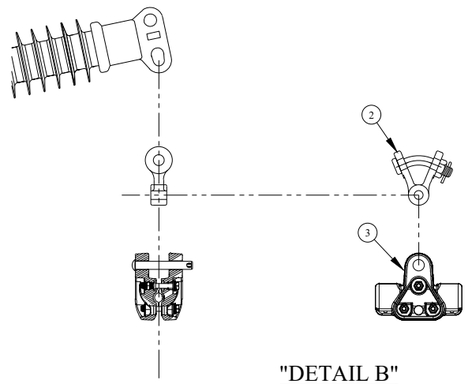

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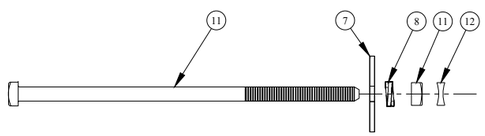

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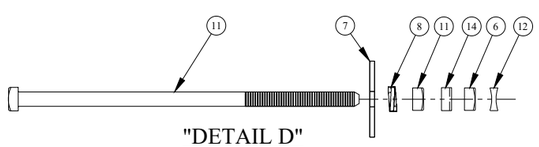


"DETAIL D"

MATERIAL LIST

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Horizontal Line Post Insulator with Gain Base, 2.5" Rod	Ohio Brass	5220061002	3
2	Y-clevis eye, 90º, 20 Kip	Hubbell	YCS-05-90**	3
3	Cushion Grip Suspension Clamp (477 Hawk ACSR)	Preformed	CGS-1096	3
4	Shield Wire Support Bracket x Required Length	Hughes	2859_**	1
5	Suspension Clamp Static (OPGW)	AFL	HOS-501/516	1
6	Square Nut, 7/8"	Hughes	N80**	3
7	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	6
8	Washer, Double Coil, 7/8"	Hughes	SLW2-80**	6
9	Washer, Double Coil, 5/8"	Hubbell	C2050186**	2
10	Square Nut, 5/8"	Hubbell	55084P**	1
11	Bolt, Machine, 7/8" x Required Length, with Nut	Hughes	B8_ _-_**	6
12	Locknut, Type MF, 7/8"	Hughes	MF80**	6
13	Bonding Clip, 5/8"	Hughes	2727.6**	1
14	Bonding Clip, 7/8"	Hughes	2727.8**	3
15	Ground Braid, 24", 1-Hole Pad On 1 End	Electric Motion Company	EM241630-24.5**	1
16	Compression connector, H-tap, Cu.-Cu.	Blackburn	CF102-1**	1

* AS REQUIRED
** OR APPROVED EQUAL

69 kV TANGENT
HORIZONTAL LINE POST
WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

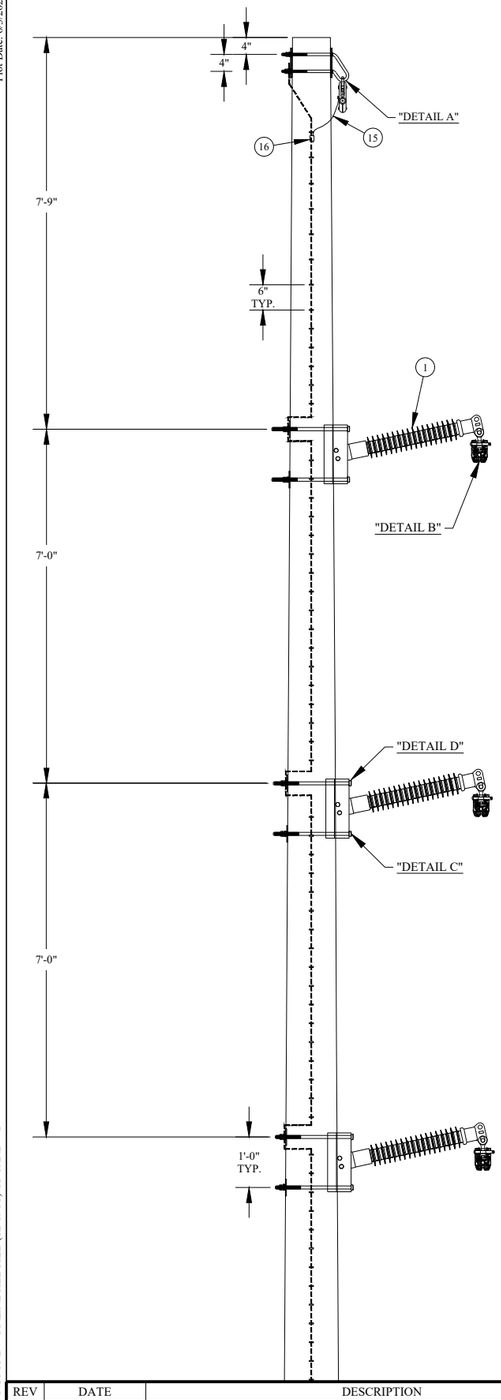
DGR ENGINEERING

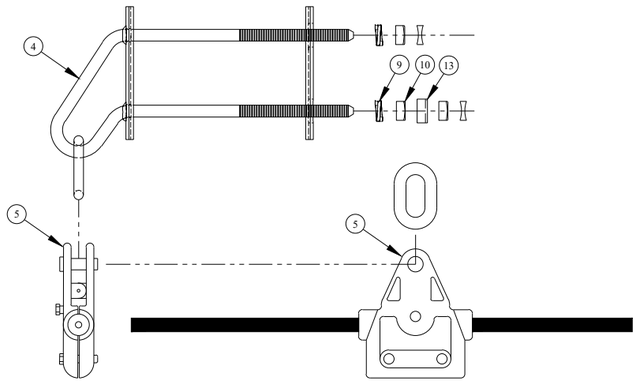
Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

UNIT DRAWING
69 kV NORTH TRANSMISSION LINE RE-CONSTRUCTION

SHEET TP-69





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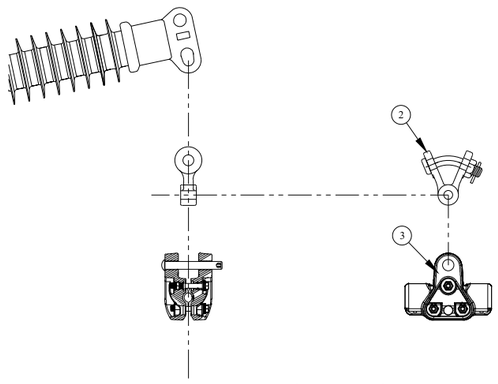

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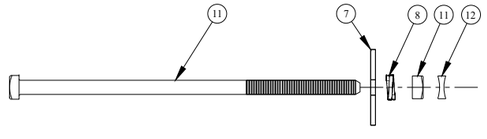

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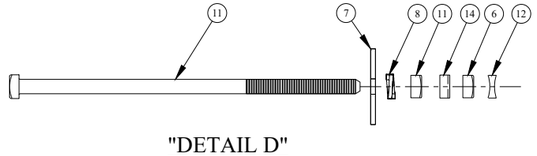


"DETAIL D"

MATERIAL LIST

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Horizontal Line Post Insulator with Gain Base, 2.5" Rod	Ohio Brass	5220061002	3
2	Y-clevis eye, 90º, 20 Kip	Hubbell	YCS-05-90**	3
3	Cushion Grip Suspension Clamp (477 ACSR Hawk)	Preformed	CGS-1096	3
4	Shield Wire Support Bracket x Required Length	Hughes	2859_**	1
5	Suspension Clamp (OPGW)	AFL	HOS-501/516	1
6	Square Nut, 7/8"	Hughes	N80**	3
7	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	6
8	Washer, Double Coil, 7/8"	Hughes	SLW2-80**	6
9	Washer, Double Coil, 5/8"	Hubbell	C2050186**	2
10	Square Nut, 5/8"	Hubbell	55084P**	1
11	Bolt, Machine, 7/8" x Required Length, with Nut	Hughes	B8 _ _-_**	6
12	Locknut, Type MF, 7/8"	Hughes	MF80**	6
13	Bonding Clip, 5/8"	Hughes	2727.6**	1
14	Bonding Clip, 7/8"	Hughes	2727.8**	3
15	Ground Braid, 24", 1-Hole Pad on 1 End	Electric Motion Company	EM241630-24.5**	1
16	Compression Connector, H-Tap, Cu.-Cu.	Blackburn	CF102-1**	1

* AS REQUIRED
** OR APPROVED EQUAL

69 kV TANGENT STACKED HORIZONTAL LINE POST WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

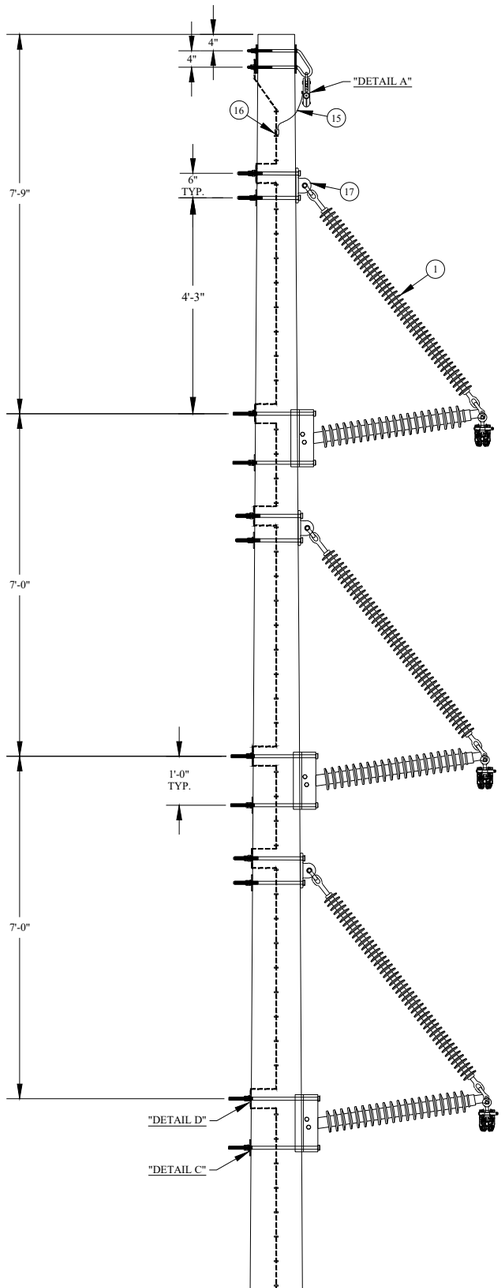
DGR ENGINEERING

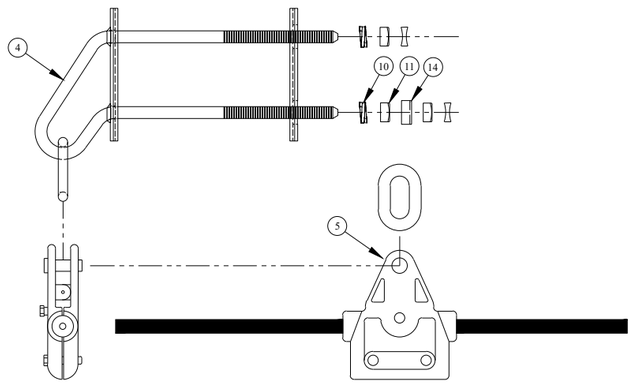
Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

UNIT DRAWING
69 kV NORTH TRANSMISSION LINE RE-CONSTRUCTION

SHEET TP-69B





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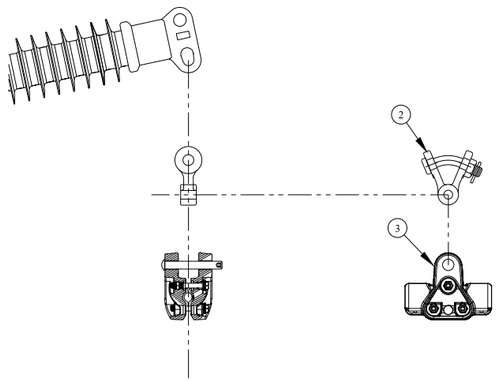

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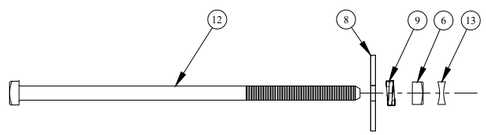

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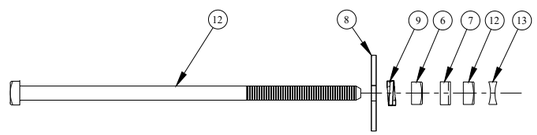


"DETAIL D"

MATERIAL LIST

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Braced Line Post Assembly	Hubbell	BLP031G12002	3
2	Y-clevis eye, 90º, 20 Kip	Hubbell	YCS-05-90**	3
3	Cushion Grip Suspension Clamp (477 Hawk ACSR)	Preformed	CGS-1096	3
4	Shield Wire Support Bracket x Required Length	Hughes	2859_†	1
5	Suspension Clamp (OPGW)	AFL	HOS-501/516	1
6	Square Nut, 7/8"	Hughes	N80**	6
7	Bonding Clip, 7/8"	Hughes	2727.8**	6
8	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	12
9	Washer, Double Coil, 7/8"	Hughes	SLW2-80**	12
10	Washer, Double Coil, 5/8"	Hubbell	C2050186 †	2
11	Square Nut, 5/8"	Hubbell	55084P**	1
12	Bolt, Machine, 7/8" x Required Length, with Nut	Hughes	B8 _ _ - _**	12
13	Locknut, Type MF, 7/8"	Hughes	MF-80**	12
14	Bonding Clip, 5/8"	Hughes	2727.6**	1
15	Ground Braid, 24", 1-Hole Pad On 1 End	Electric Motion Company	EM241630-24.5**	1
16	Compression Connector, H-Tap, Cu.-Cu.	Blackburn	CF102-1**	1
17	Deadend Tee, 6" Spacing	Hughes	2817-13†	3

* AS REQUIRED
** OR APPROVED EQUAL
† FURNISHED BY LWP SUPPLIER

69 kV TANGENT STACKED BRACED LINE POST LAMINATED WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

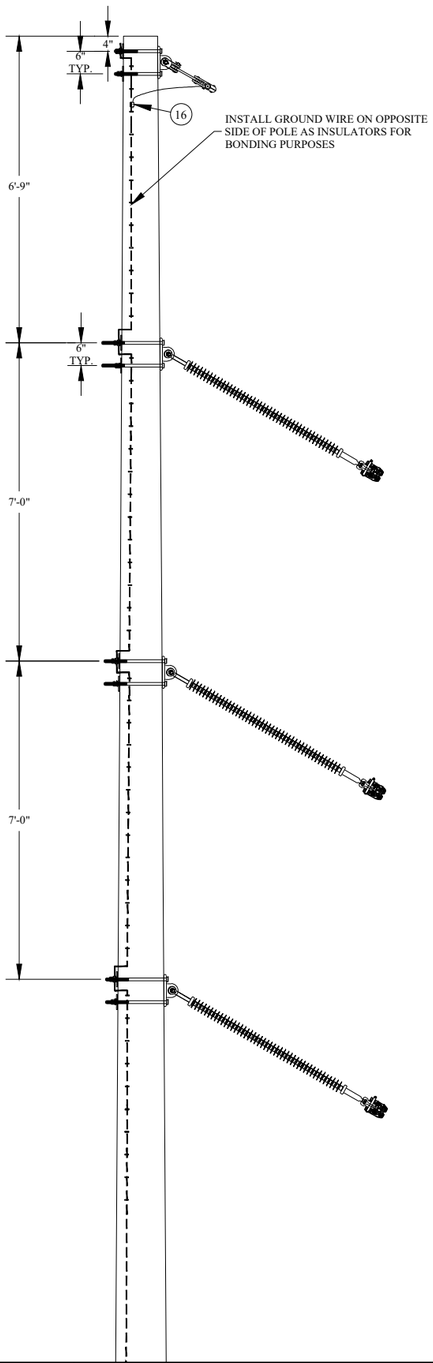
DGR ENGINEERING
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

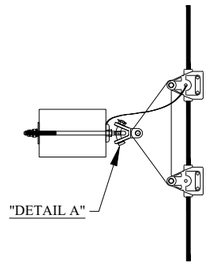
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

UNIT DRAWING
69 kV TRANSMISSION LINE RE-CONSTRUCTION

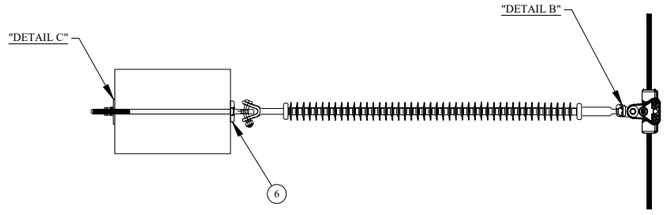
SHEET TP-69B-BLP

Plot Date: 6/3/2024 1:24:27 PM





PLAN-STATIC



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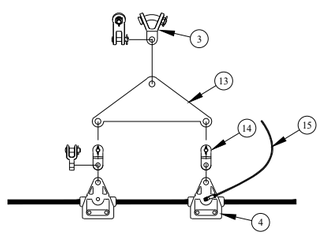

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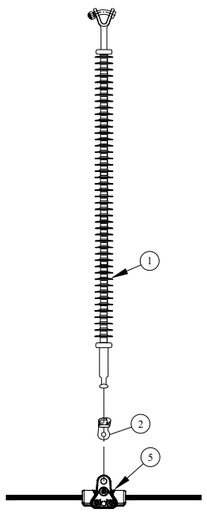

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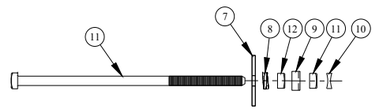

"DETAIL C"

MATERIAL LIST

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Suspension Insulator, Polymer, 25 Kip	Ohio Brass	5110051201	3
2	Socket Eye, 25 Kip	Hubbell	SA06*	3
3	Y-Clevis, Clevis, 90º, 30 KIP	Hubbell	YCC-30-90**	1
4	Suspension Clamp Static (OPGW)	AFL	HOS-501/516	2
5	Cushion Grip Suspension Clamp (477 Hawk ACSR)	Preformed	CGS-1096	3
6	Deadend Tee, 6" Spacing	Hughes	2817-15**	4
7	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	8
8	Washer, Double Coil, 7/8" Bolt Size	Hughes	SLW2-80**	8
9	Bonding Clip, 7/8" Bolt Size	Hughes	2727.8**	4
10	Locknut, Type MF, 7/8" Bolt Size	Hughes	MF80**	8
11	Bolt, Machine, 7/8" x Required Length, With Nut	Hughes	B8 _ _ - _ **	8
12	Square Nut, 7/8"	Hughes	N80**	4
13	Yoke Plate, 40 Kip	Preformed	YP-5908	1
14	Clevis Eye, 25 Kip	Hubbell	CA06	2
15	Ground Braid, 24", 1-Hole Pad on 1 End	Electric Motion Company	EM241630-24.5**	1
16	Compression Connector, H-Tap, Cu.-Cu.	Blackburn	CF102-1**	1

* OR ENGINEER APPROVED EQUAL
** LAM POLE MANUFACTURER TO SPECIFY & FURNISH
*** AS REQUIRED

69 kV MEDUIM ANGLE LAMINATED WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

899of1149

UNIT DRAWING
69 kV NORTH TRANSMISSION LINE RE-CONSTRUCTION

SHEET TS-4L

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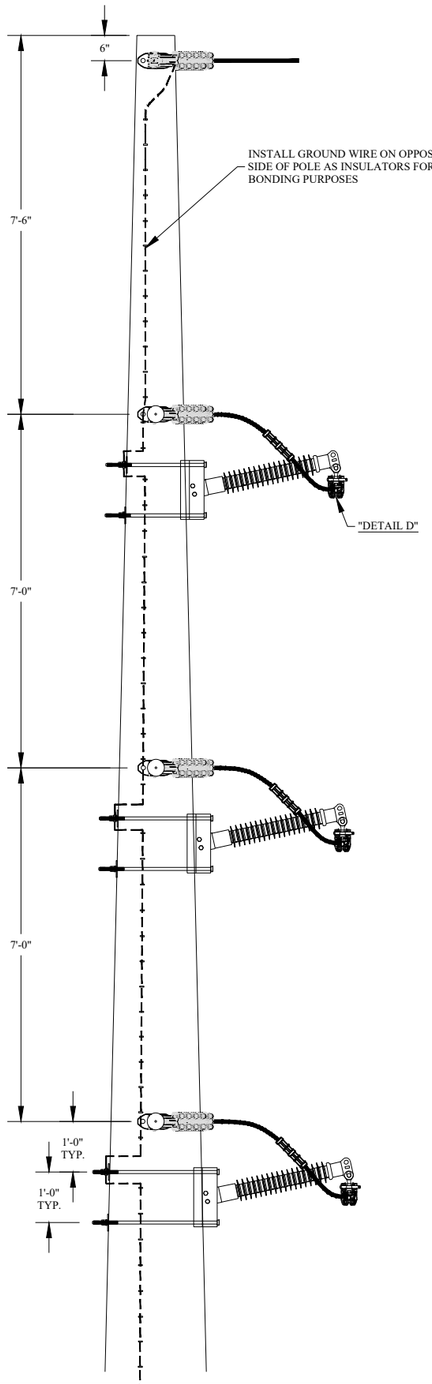
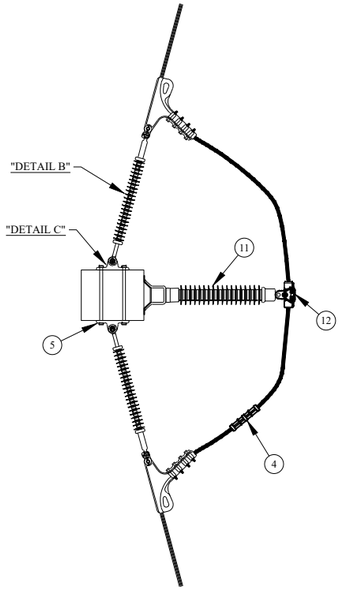
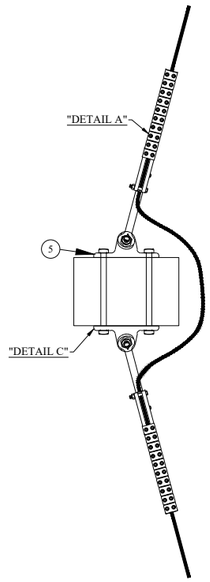
Plot Date: 6/3/2024 1:27:06 PM





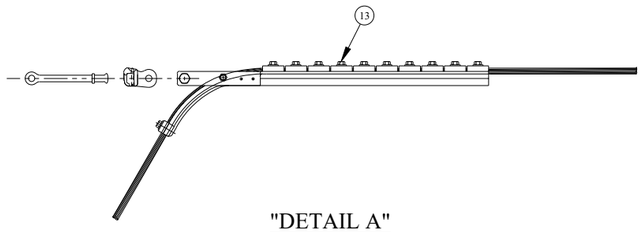
PLAN-PHASE



PLAN-STATIC- OPGW

MATERIAL LIST				
ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Deadend Insulator, Polymer, 25 Kip	Ohio Brass	5110051201	6
2	Socket Eye, 25 Kip	Hubbell	SA06**	6
3	Deadend Quadrant Clamp, Phase (3/0 TO 556 ACSR)	Hubbell	SD86N**	6
4	Compression Splice, Phase (477 ACSR Hawk)	Preformed	33022	3
5	Deadend Tee, 6" Spacing	Hughes	2817-15+	8
6	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	14
7	Washer, Double Coil, 7/8" Bolt Size	Hughes	SLW2-80**	14
8	Bonding Clip, 7/8" Bolt Size	Hughes	2727.8**	7
9	Locknut, Type MF, 7/8" Bolt Size	Hughes	MF-80**	14
10	Bolt, Machine, 7/8" x Required Length, With Nut	Hughes	B8 _ _ - _ **	14
11	Horizontal Line Post Insulator with Gain Base, 2.5" Rod	Ohio Brass	5220061002	3
12	Cushion Grip Suspension Clamp (477 ACSR Hawk)	Preformed	CGS-1096	3
13	OPGW Single Deadend Clamp Assembly (Includes Y-Clevis Ball Hotlink & Socket Eye)	AFL	OSPDE3-DN0 12496	2
14	Square Nut, 7/8"	Hughes	N80**	11
15	Y-Clevis Eye, 20 Kip, 90°	Hubbell	YCS-05-90**	3

* AS REQUIRED
** OR APPROVED EQUAL
+ FURNISHED BY POLE SUPPLIER



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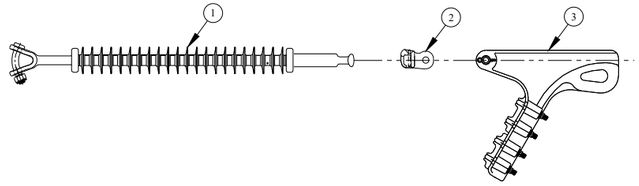

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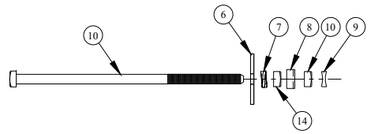

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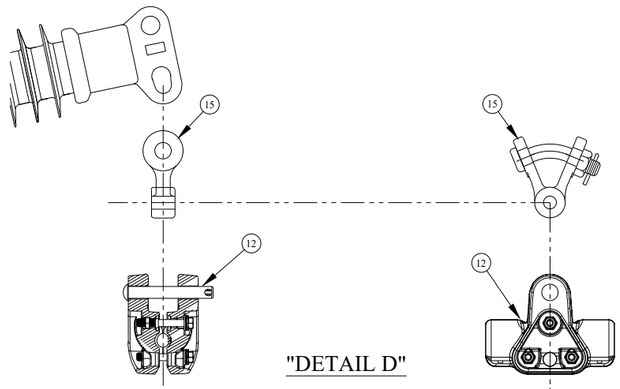

"DETAIL D"

69 kV VERTICAL
DOUBLE DEADEND
LARGE ANGLE
LAMINATED WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

UNIT DRAWING
69 kV NORTH TRANSMISSION LINE RE-CONSTRUCTION

SHEET TS-5GAL

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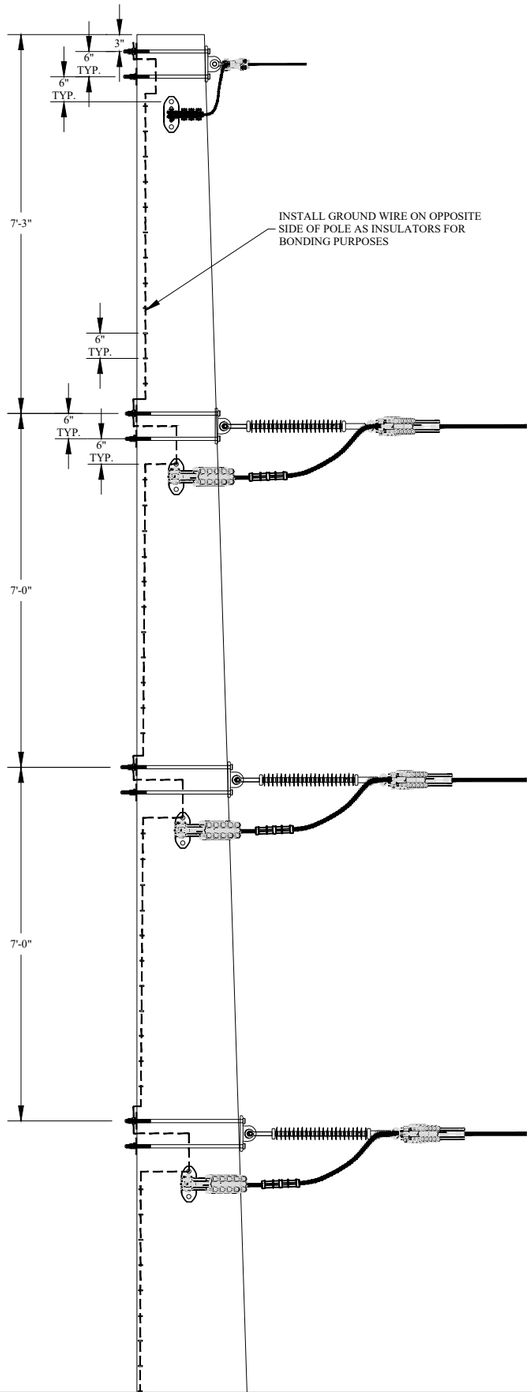
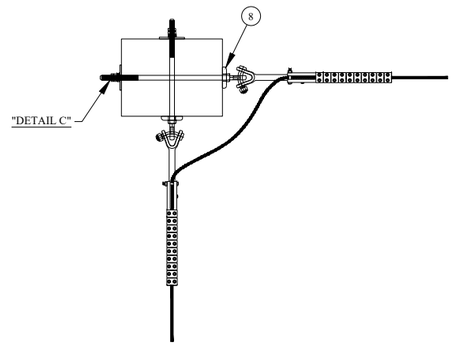
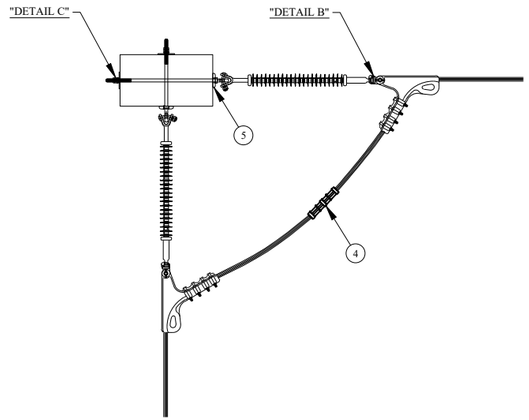
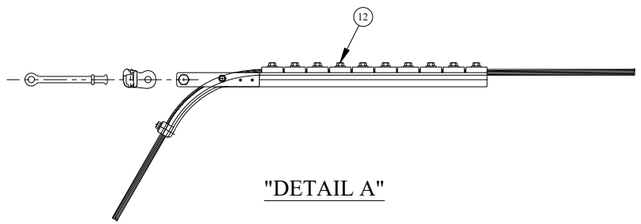




PLAN-STATIC



PLAN-PHASE



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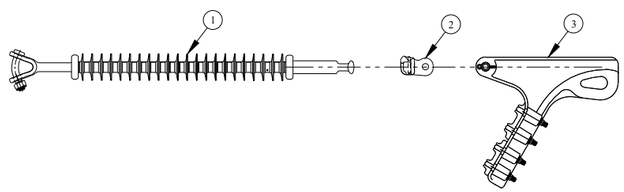

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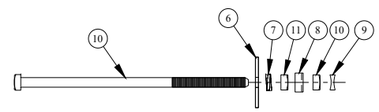


"DETAIL C"

MATERIAL LIST

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Deadend Insulator, Polymer, 25 Kip	Ohio Brass	5110051201	6
2	Socket Eye, 25 Kip	Hubbell	SA06**	6
3	Deadend Quadrant Clamp, Phase (3/0 To 556 ACSR)	Hubbell	SD86N**	6
4	Compression Splice Phase (477 Hawk ACSR)	Preformed	33022	3
5	Deadend Tee, 6" Spacing	Hughes	2817-15†	8
6	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	16
7	Washer, Double Coil, 7/8"	Hughes	SLW2-80**	16
8	Bonding Clip, 7/8"	Hughes	2727.8**	8
9	Locknut, Type MF, 7/8"	Hughes	MF-80**	16
10	Bolt, Machine, 7/8" x Required Length, With Nut	Hughes	B8 _ _ - _ **	16
11	Square Nut, 7/8"	Hughes	N80**	8
12	OPGW Single Deadend Clamp Assembly (Includes Y-Clevis Ball Hotlink & Socket Eye)	AFL	OSPDDE3-DN0 12496	2

* AS REQUIRED
** OR ENGINEER APPROVED EQUAL
† LAM POLE MANUFACTURER TO SPECIFY & FURNISH

69 kV VERTICAL DOUBLE DEADEND CORNER LAMINATED WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

DGR ENGINEERING

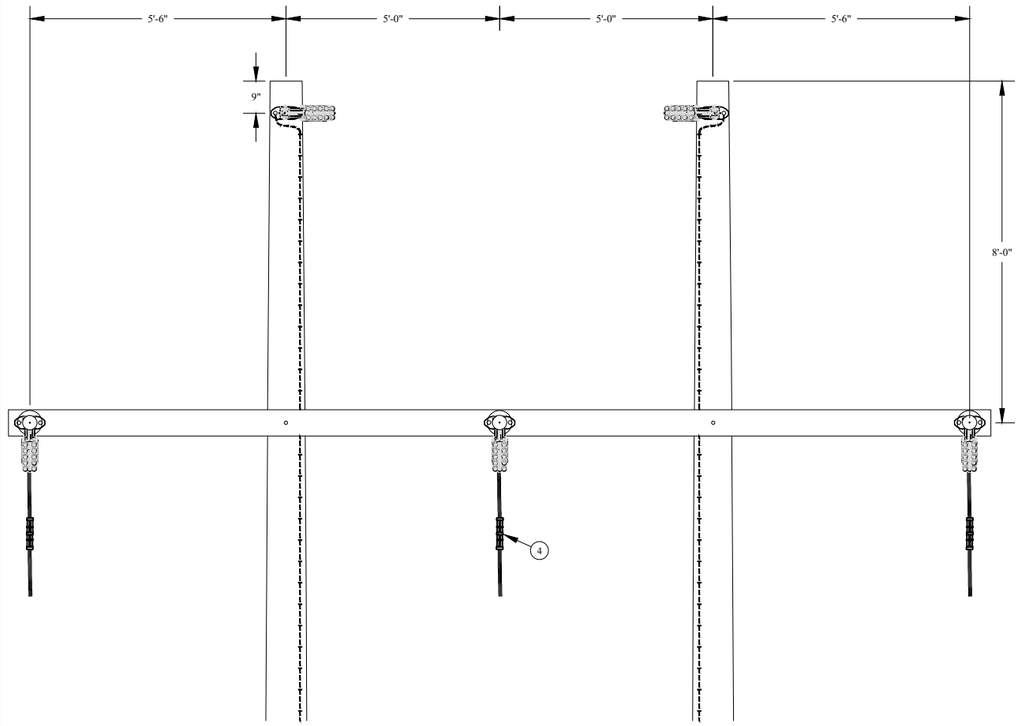
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

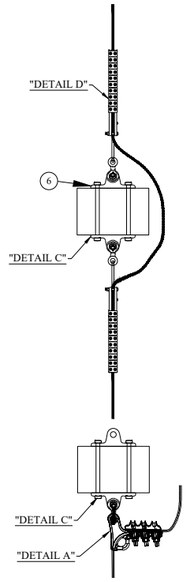
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

UNIT DRAWING
69 kV TRANSMISSION LINE RE-CONSTRUCTION

SHEET TS-5GL

Plot Date: 6/3/2024 1:30:49 PM



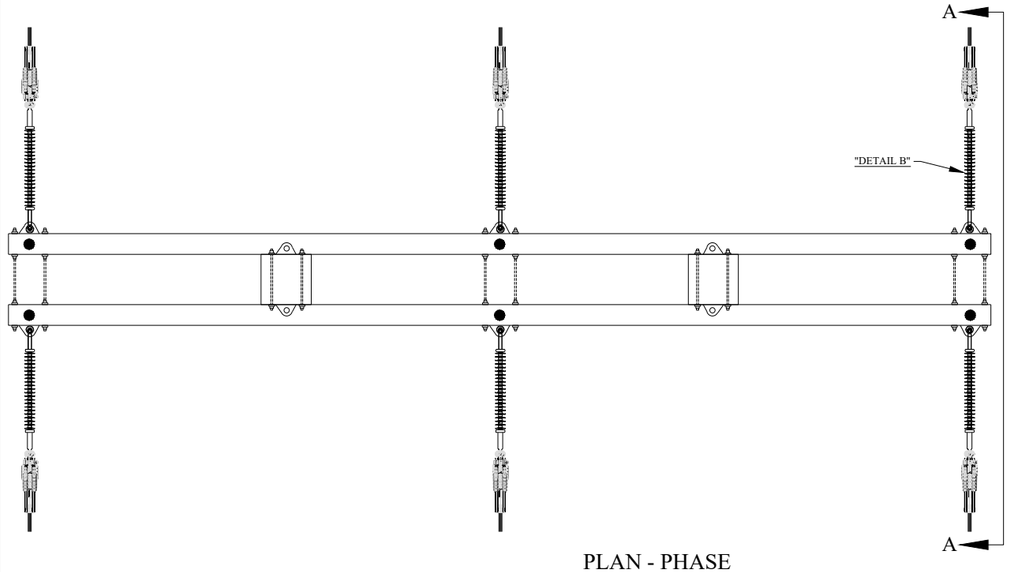


PLAN - STATIC

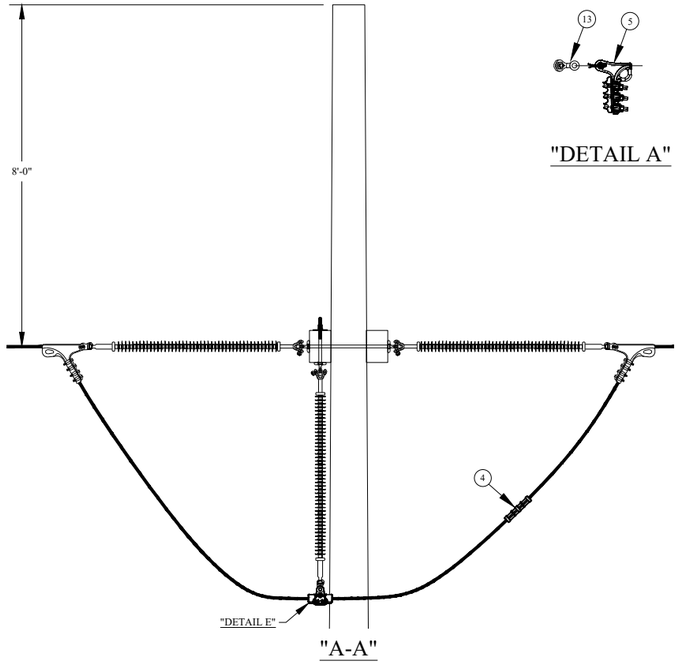
MATERIAL LIST

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Deadend Insulator, Polymer, 25 Kip	Ohio Brass	5110051201	9
2	Socket Eye, 25 Kip	Hubbell	SA06**	9
3	Deadend Quadrant Clamp, Phase (3/0-556 ACSR)	Hubbell	SD86N**	6
4	Compression Connector, Jumper, Phase (477 HAWK ACSR)	AFL	33022	3
5	Deadend Quadrant Clamp, Static (3/8" EHS)	Hubbell	SWDE55N**	1
6	Deadend Tee, 6" Spacing	Hughes	2817-15+	13
7	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	16
8	Washer, Double Coil, 7/8" Bolt Size	Hughes	SLW2-80**	16
9	Bonding Clip, 7/8" Bolt Size	Hughes	2727.8**	8
10	Locknut, Type MF, 7/8" Bolt Size	Hughes	MF-80**	16
11	Bolt, Machine, 7/8" x Required Length, With Nut	Hughes	B8 _ _ - _ **	16
12	OPGW Single Deadend Clamp Assembly (Includes Y-Clevis Ball Hot Link & Socket Eye)	AFL	OSPDE3-DN0 12496	2
13	Y-Clevis Eye, 19 Kip	Hubbell	YCS-04-90**	1
14	Square Nut, 7/8"	Hughes	N80**	13
15	Cushion Grip Suspension Clamp (477 Hawk ACSR)	Preformed	CGS-1096	3

* AS REQUIRED
** OR APPROVED EQUAL
\+ FURNISHED BY POLE SUPPLIER



PLAN - PHASE



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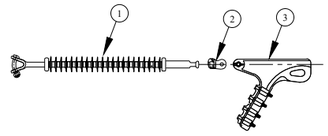
"DETAIL A"



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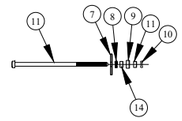

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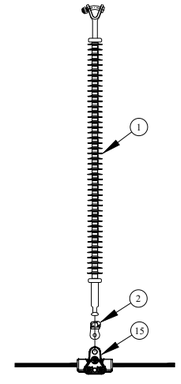

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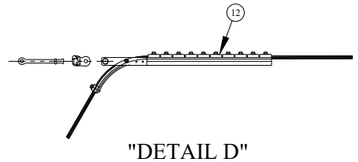

"DETAIL D"

69 kV DOUBLE DEADEND
H-FRAME DOUBLE CROSSARM
LAMINATED WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

DGR ENGINEERING

Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

UNIT DRAWING
69 kV TRANSMISSION LINE RE-CONSTRUCTION

SHEET TH-2L

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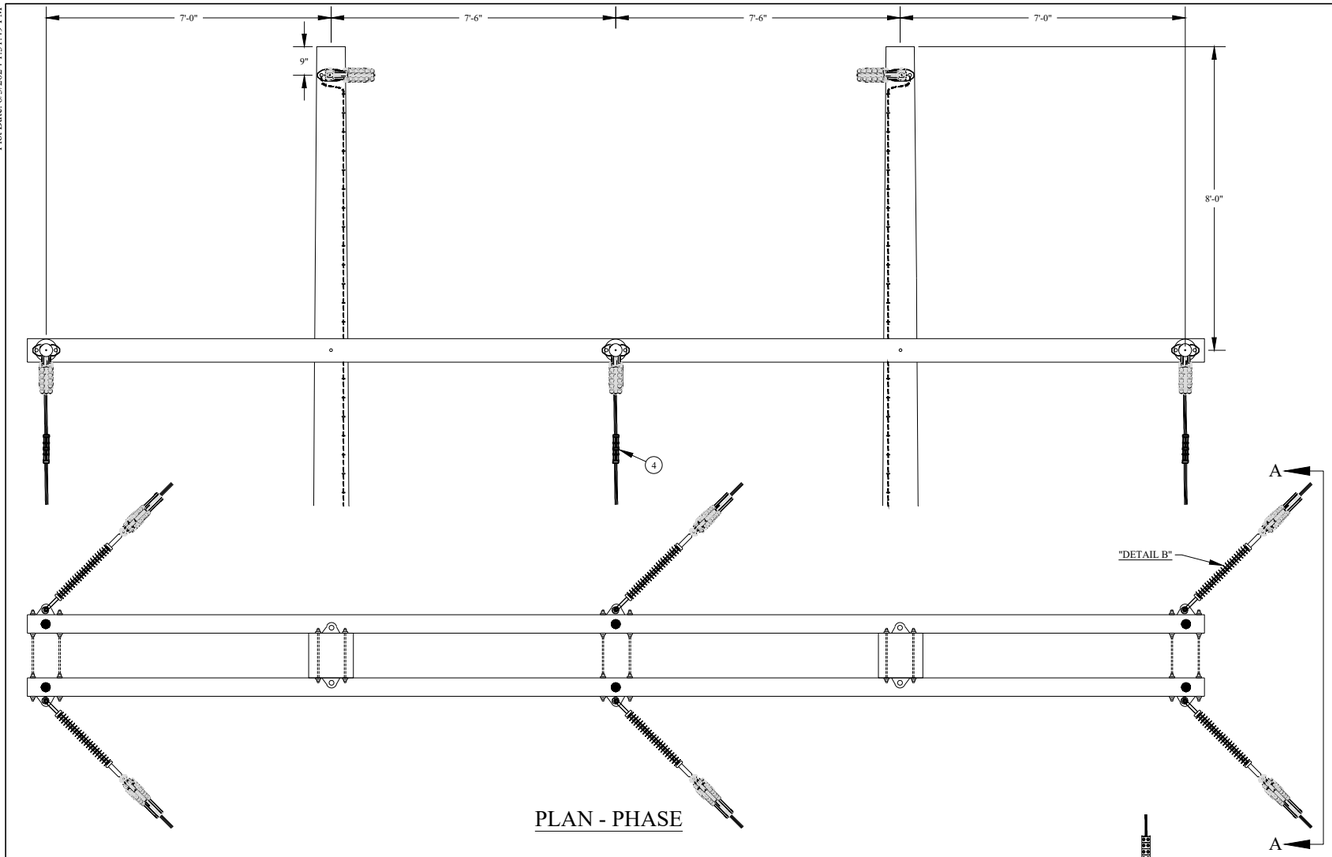
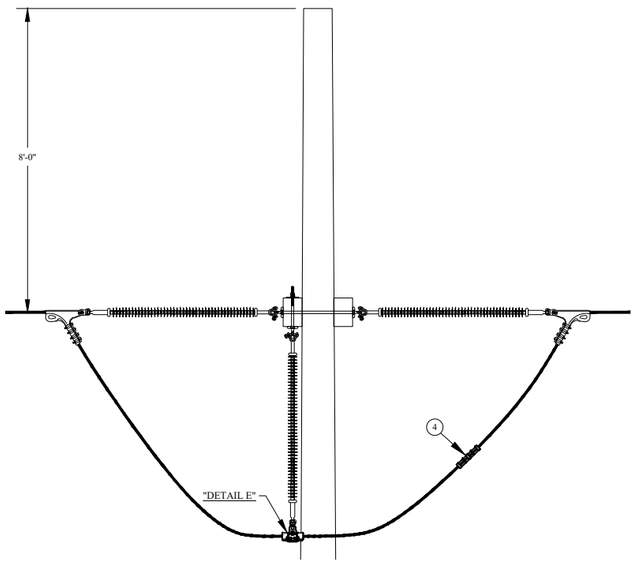


PLAN - PHASE



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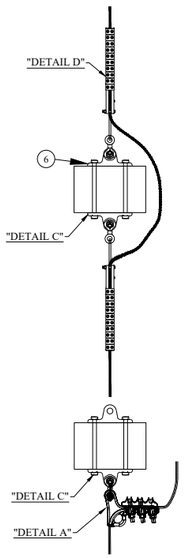
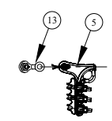


PLAN - STATIC

MATERIAL LIST

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Deadend Insulator, Polymer, 25 Kip	Ohio Brass	5110051201	9
2	Socket Eye, 25 Kip	Hubbell	SA06**	9
3	Deadend Quadrant Clamp, Phase (3/0-556 ACSR)	Hubbell	SD86N**	6
4	Compression Connector, Jumper, Phase (477 HAWK ACSR)	AFL	33022	3
5	Deadend Quadrant Clamp, Static (3/8" EHS)	Hubbell	SWDE55N**	1
6	Deadend Tee, 6" Spacing	Hughes	2817-15+	13
7	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	16
8	Washer, Double Coil, 7/8" Bolt Size	Hughes	SLW2-80**	16
9	Bonding Clip, 7/8" Bolt Size	Hughes	2727.8**	8
10	Locknut, Type MF, 7/8" Bolt Size	Hughes	MF80**	16
11	Bolt, Machine, 7/8" x Required Length, With Nut	Hughes	B8 _ _ - _**	16
12	OPGW Single Deadend Clamp Assembly (Includes Y-Clevis Ball Hot Link & Socket Eye)	AFL	OSPDE3-DN0 12496	2
13	Y-Clevis Eye, 19 Kip	Hubbell	YCS-04-90**	1
14	Square Nut, 7/8"	Hughes	N80**	13
15	Cushion Grip Suspension Clamp (477 Hawk ACSR)	Preformed	CGS-1096	3

* AS REQUIRED
** OR APPROVED EQUAL
+ FURNISHED BY POLE SUPPLIER



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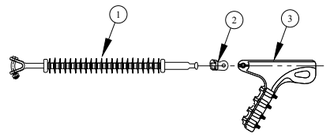

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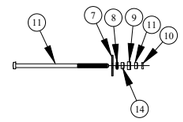

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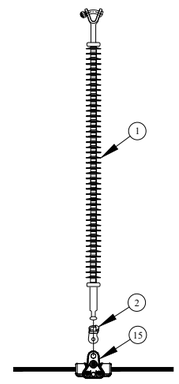

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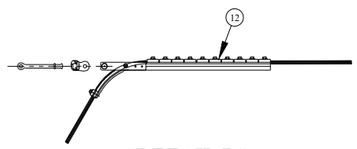

"DETAIL D"

69 kV DOUBLE DEADEND
H-FRAME DOUBLE CROSSARM
LAMINATED WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

DGR ENGINEERING

Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

903of1149

UNIT DRAWING
69 kV TRANSMISSION LINE RE-CONSTRUCTION

SHEET TH-2AL

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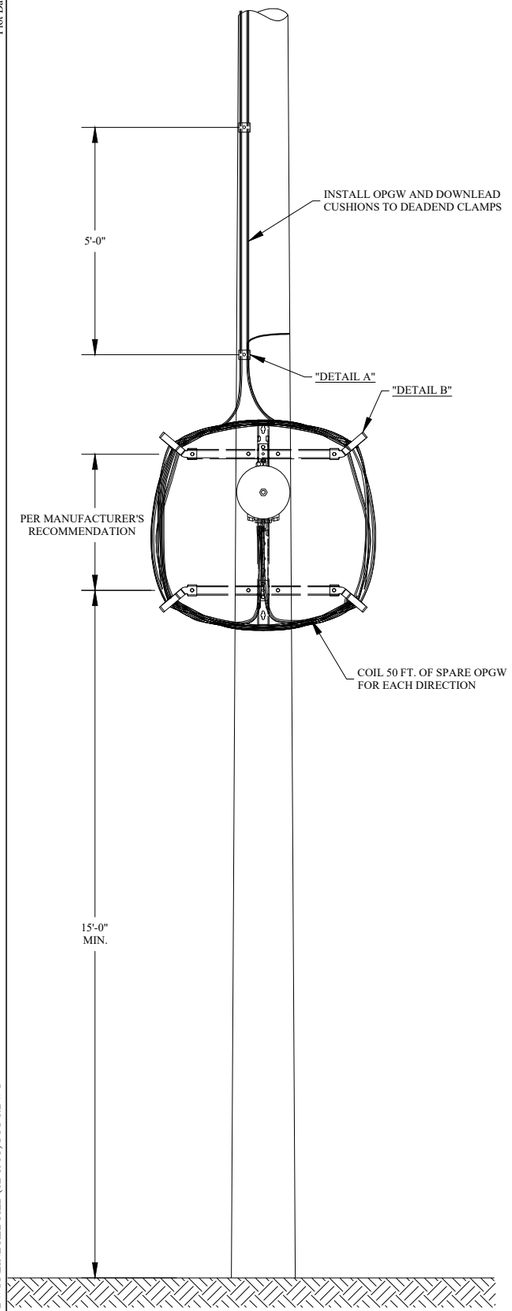
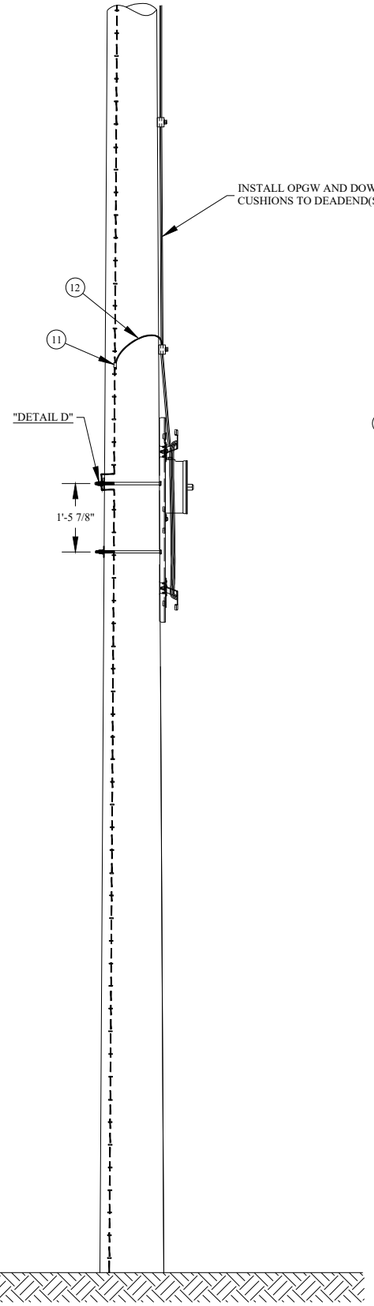
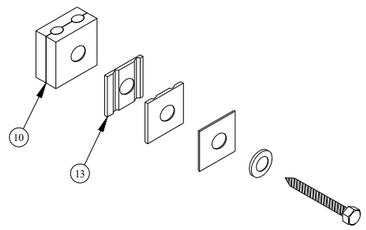


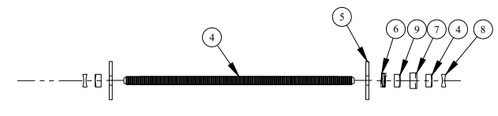




"DETAIL A"

MATERIAL LIST				
ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Fiber Storage System, Double Arm	AFL	CB-44-3AL	1
2	Fiber Case Protective Enclosure, Splice Kit with 144-Fiber Tray and Accessories	AFL	SB01-144	1
3	Not Used	-	-	-
4	Bolt, Double Arming, 5/8" x Required Length, with Nuts	Hubbell	887 _**	2
5	Washer, Square Flat, 11/16" Hole, 2-1/4" x 2-1/4" x 3/16"	Hubbell	6813**	4
6	Washer, Double Coil, 5/8" Bolt Size	Hubbell	C2050186**	2
7	Bonding Clip, 5/8" Bolt Size	Hughes	2727.6**	1
8	Locknut, Type MF, 5/8" Bolt Size	Hubbell	3512**	4
9	Square Nut, 5/8"	Hubbell	55084P**	1
10	Downlead Cushion, Wood Pole Kit	Preformed	8003042H1	*
11	Compression Connector, H-Tap, CU.-CU.	Blackburn	CF22-1**	1
12	Wire, #4 Bare Copper, Soft-Annealed, Stranded	Southwire	#4 CU.**	*
13	Bonding Clip, 5/8" Bolt Size, Two Piece	Maclean	J1163**	1

* AS REQUIRED
** OR APPROVED EQUAL



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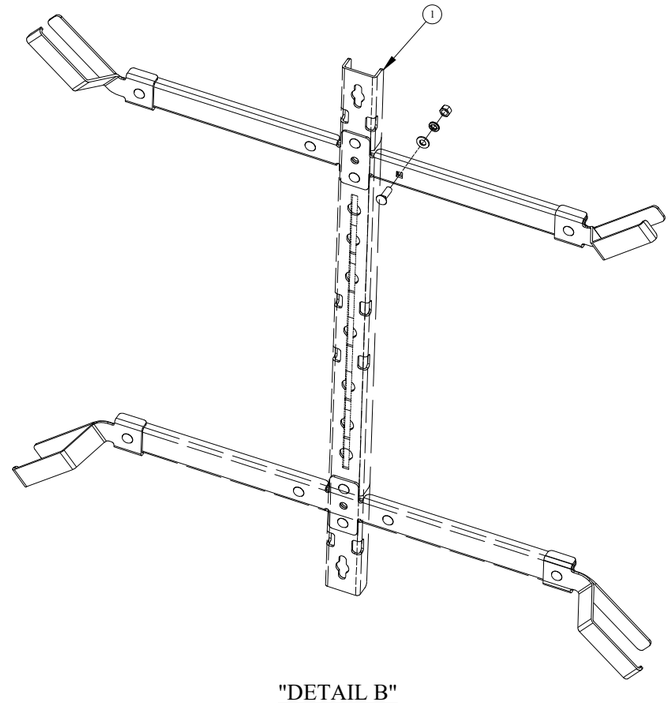


"DETAIL B"

FIBER OPTIC STORAGE
WOOD POLE

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

ENGINEERING

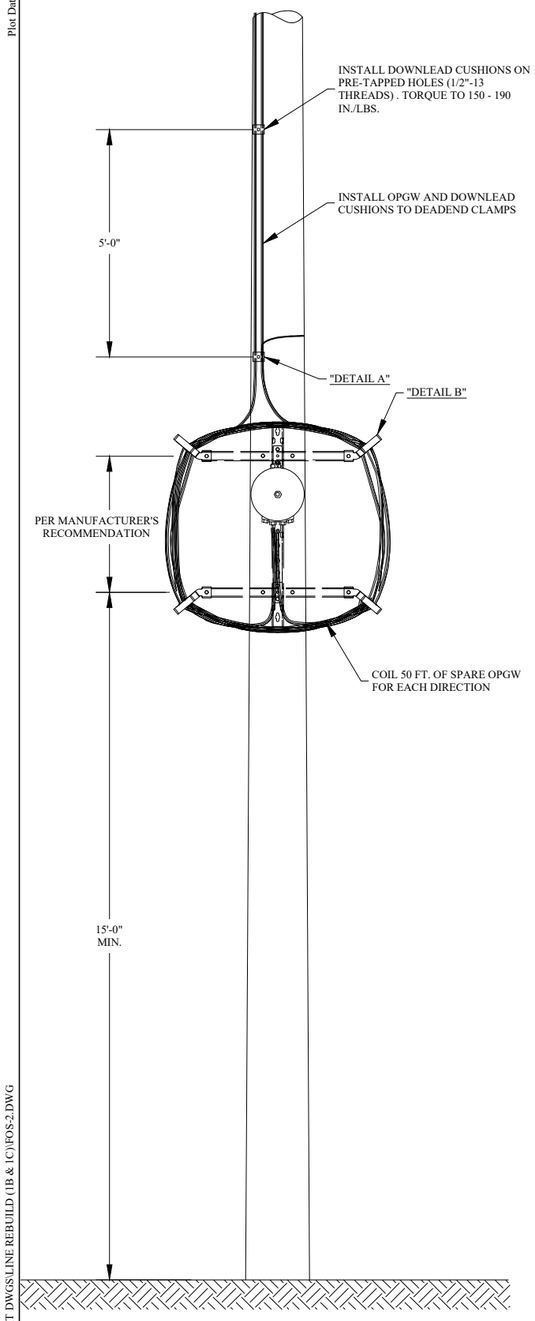
Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

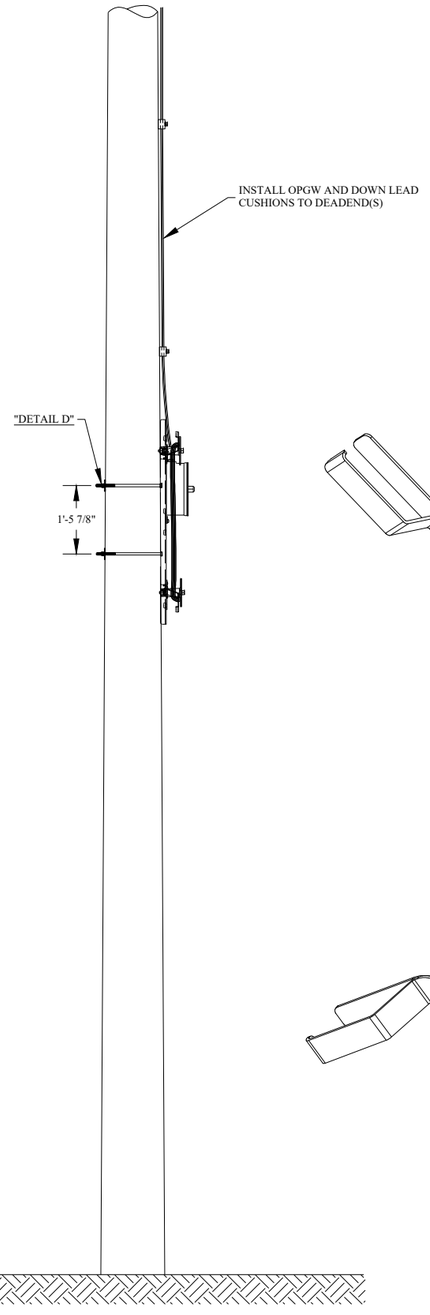
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

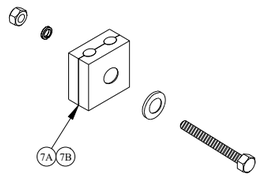
UNIT DRAWING
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET FOS-1

Plot Date: 6/6/2024 2:45:26 PM







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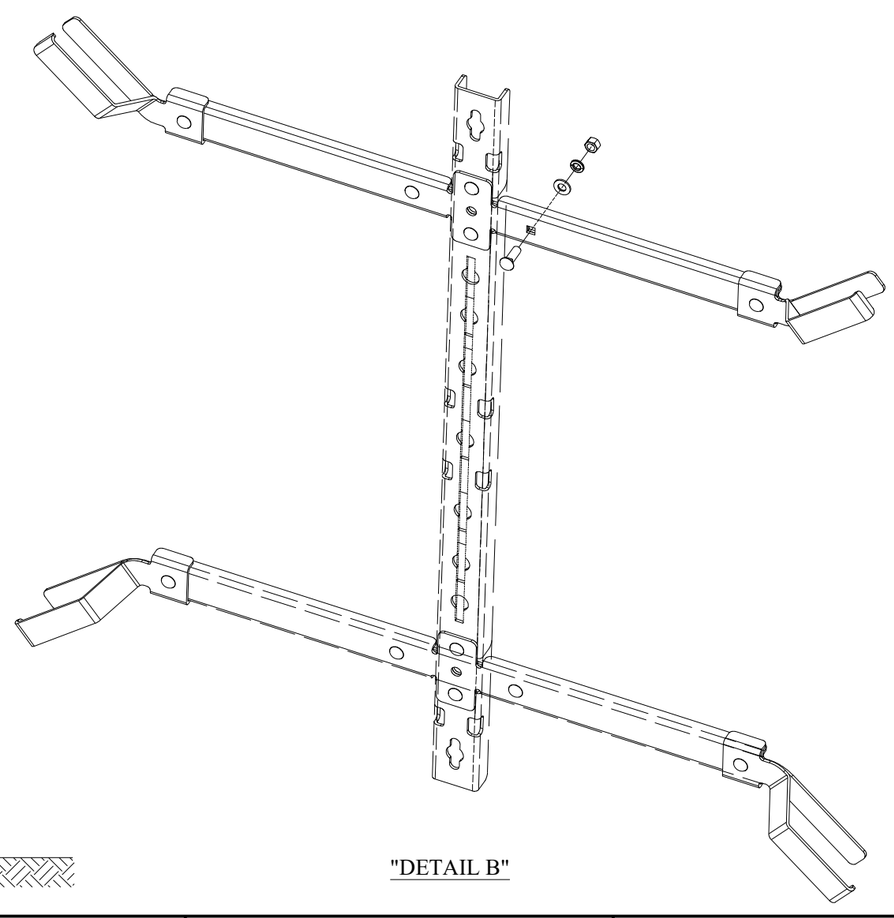

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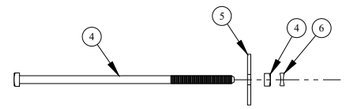


"DETAIL D"

MATERIAL LIST

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Fiber Storage System, Double Arm	AFL	CB-44-3AL	2
2	Fiber Case Protective Enclosure, Splice Kit with 144-Fiber Tray and Accessories	AFL	SB01-144	1
3	Not Used	-	-	-
4	Bolt, Machine, 5/8" x Required Length, with Nut	Hubbell	88__**	2
5	Washer, Square Flat, 11/16" Hole, 2-1/4" x 2-1/4" x 3/16"	Hubbell	6813**	2
6	Locknut, Type MF, 5/8" Bolt Size	Hubbell	3512**	2
7A	Downlead Cushion, Steel Pole Kit	Preformed	8003042H3	*
7B	Downlead Cushion, Lattice Structure Kit	Preformed	8003042LTC1	*

* AS REQUIRED
** OR APPROVED EQUAL

FIBER OPTIC STORAGE
STEEL STRUCTURE

P:\04\428404\DWG\UNIT DWGS\LINE REBUILD (1B & 1C)\FOS-2.DWG

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

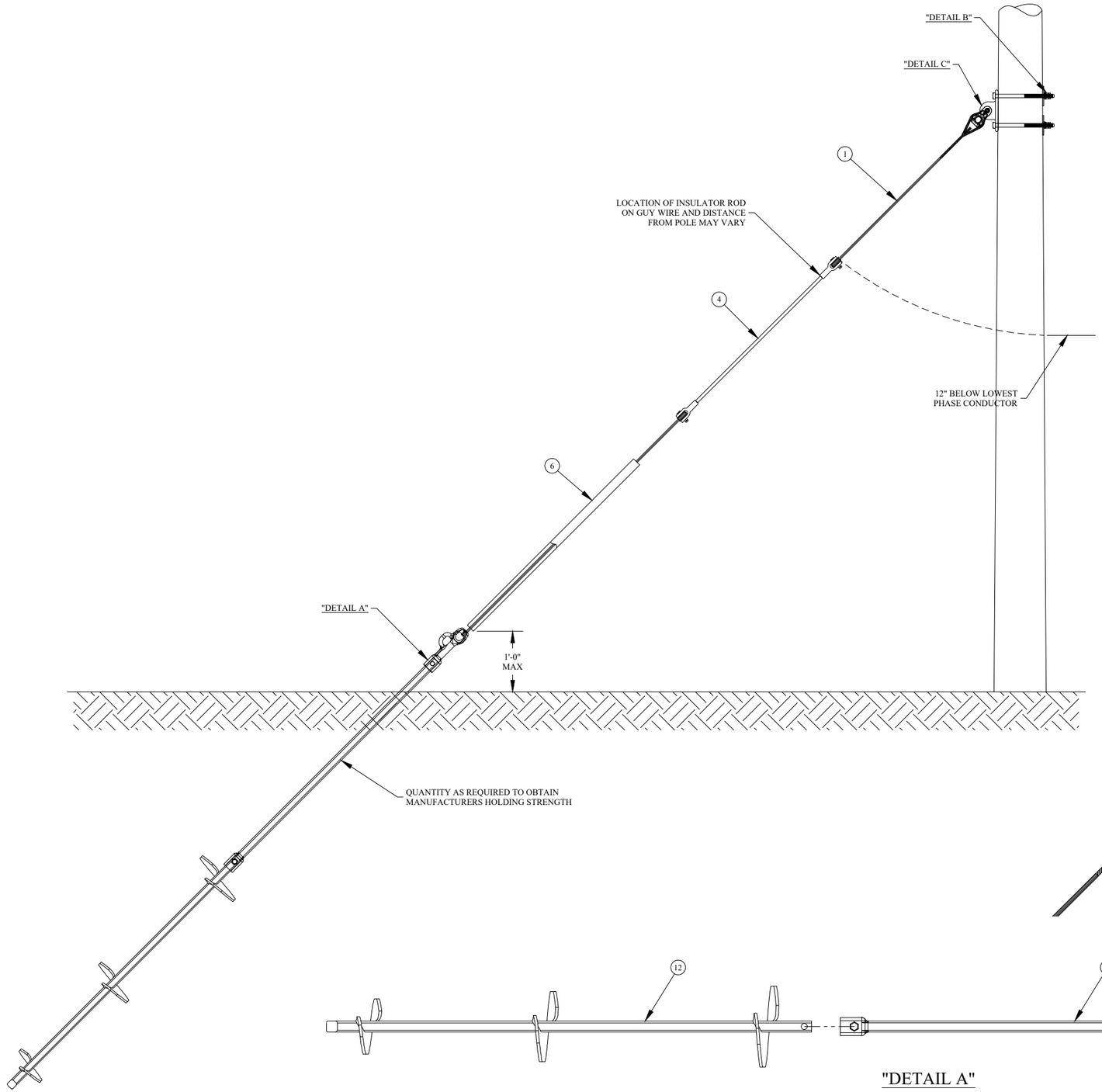
DGR ENGINEERING

Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

UNIT DRAWING
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET FOS-2



MATERIAL LIST (E3-3)

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Wire, 7/16" Extra High-strength Steel, Class B	National Strand	7/16 EHS **	*
2	Guy Grip,Wrap Type (7/16" EHS)	Preformed	GDE-1108	4
3	Thimble-Clevis, 35 Kip	Maclean	CT-88H**	1
4	Guy Strain Insulator, Clevis-Clevis with Rollers, 42", 30 Kip	Hughes	CF695-42R2**	1
5	Deadend Tee, 6" Spacing	Hughes	2817-15**	1
6	Guy Guard, 8', Plastic, Orange	Preformed	PG5738	1
7	Bolt, Machine, 7/8" x Required Length, with Nut	Hughes	B8 _ _ - _**	2
8	Washer, Square Flat, 15/16" Hole, 4" x 4" x 1/4"	Hughes	SW4-80**	2
9	Washer, Double Coil, 7/8"	Hughes	SLW2-80**	2
10	Locknut, Type MF, 7/8"	Hughes	MF-80**	2

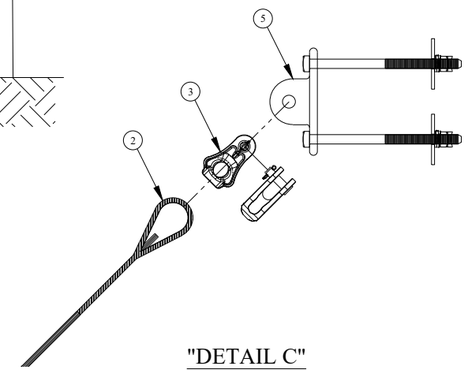
MATERIAL LIST (D6)

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
11	Triple Eye Assembly, 1-1/2" Square Shaft	Chance	C10020025	1
12	Triple Helix, 8"-10"-12", 5'-6" Long, 1-1/2" Square Shaft	Chance	012642AEJ	1

MATERIAL LIST (E7)

ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
13	Rod Extension, 7' Long, 1-1/2" Square Shaft	Chance	12657	1

* AS REQUIRED
** OR APPROVED EQUAL



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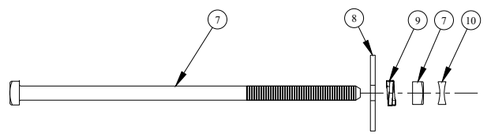

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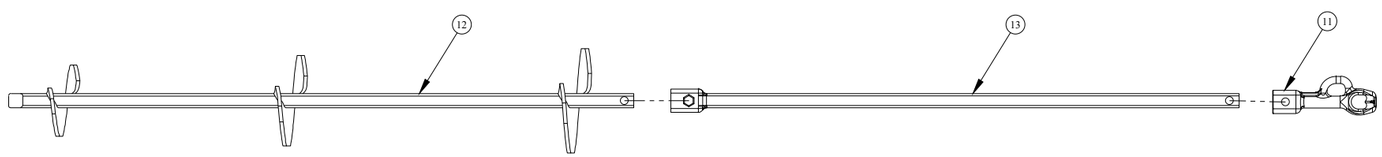


"DETAIL A"

DOWN GUY INSULATED

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

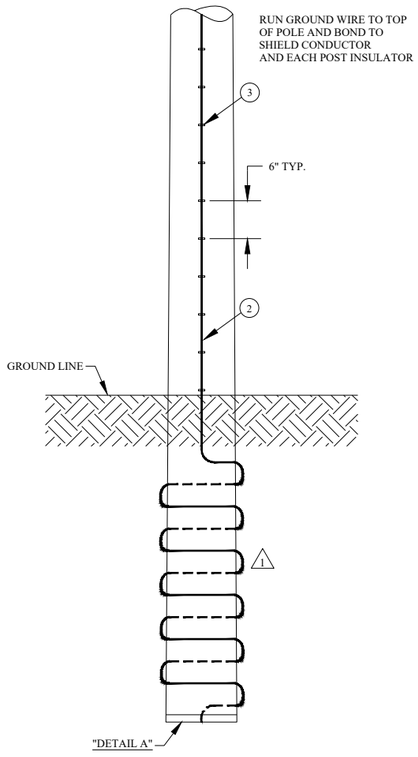
UNIT DRAWING
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET E3-3 E7 D6

Plot Date: 6/3/2024 1:35:47 PM

MATERIAL LIST (WPG)				
ITEM NO.	DESCRIPTION	MANUF.	CAT. NO.	QTY
1	Ground Plate	Blackburn	GP114	1
2	Wire, #4 Bare Copper, Soft-Annealed, Stranded	Southwire	#4 CU.**	*
3	Staple, Copper Coated, Diamond Point 2" x 1/2" (Wood Pole Only)	Hubbell	9154	*

* AS REQUIRED
** OR APPROVED EQUAL



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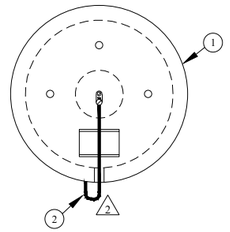

"DETAIL A"

NOTES

1. Wrap pole ground five turns around embedded portion of pole.
2. Install ground plate to bottom of pole. Insert tail of pole ground into ground plate connector and fasten.

WOOD POLE GROUND

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDDING

DGR ENGINEERING

Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

907of1149

UNIT DRAWING
69 kV TRANSMISSION LINE RECONSTRUCTION

SHEET WPG

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Category V

Technical Data

- Geotechnical Report
  (This data is presented for informational purposes only and is not part of the Contract Documents.)

GEOTECHNICAL EXPLORATION REPORT

ALLENDER BUTZKE ENGINEERS INC.
GEOTECHNICAL • ENVIRONMENTAL • CONSTRUCTION Q. C.

DECEMBER 22, 2023 **PN 231247**

GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PERFORMED FOR

DGR ENGINEERING
1302 SOUTH UNION STREET
ROCK RAPIDS, IA 51246

3660 109TH STREET • URBANDALE, IOWA 50322 • PHONE 515-252-1885 • FAX 515-252-1888

ALLENDER BUTZKE ENGINEERS INC.
GEOTECHNICAL • ENVIRONMENTAL • CONSTRUCTION Q. C.

December 22, 2023

DGR Engineering
1302 South Union Street
Rock Rapids, IA 51246
Attn: Mr. Ryan Kleinjan, P.E.

RE: Geotechnical Exploration
Reisner Substation
Millards Ln and Closz Drive
Webster City, Iowa
PN 231247

Dear Mr. Kleinjan:

As authorized by you, Allender Butzke Engineers Inc. (ABE) has completed the geotechnical exploration for the above referenced project. The geotechnical exploration was conducted to evaluate physical characteristics of subsurface conditions with respect to design and construction of this project. The enclosed report summarizes the project characteristics as we understand them, presents the findings of the borings and laboratory tests, discusses the observed subsurface conditions, and provides geotechnical engineering recommendations for this project.

We appreciate the opportunity to provide our geotechnical engineering services for this project. If you have any questions or need further assistance, please contact us at your convenience. We are also staffed and equipped to provide construction testing and inspection services on this project as well as environmental site assessments.

Respectfully submitted,
ALLENDER BUTZKE ENGINEERS INC.

Seth Hansen, P.E.
Project Engineer

Matt Drummond, P.E.
Principal Engineer

LICENSED PROFESSIONAL ENGINEER
SETH A. HANSEN
26401
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

12-22-23

Seth A. Hansen, P.E. License Number 26401 Date
My license renewal date is December 31, 2023.
Pages covered by this seal: All Pages.

1 PC and Email Above

GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PN 231247

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GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PN 231247

December 22, 2023

PROJECT INFORMATION

The City of Webster City with design assistance from DGR Engineering is planning the design of a new substation near Millards Lane and Closz Drive. The following Figure No. 1 prepared by DGR Engineering depicts the conceptual site layout.

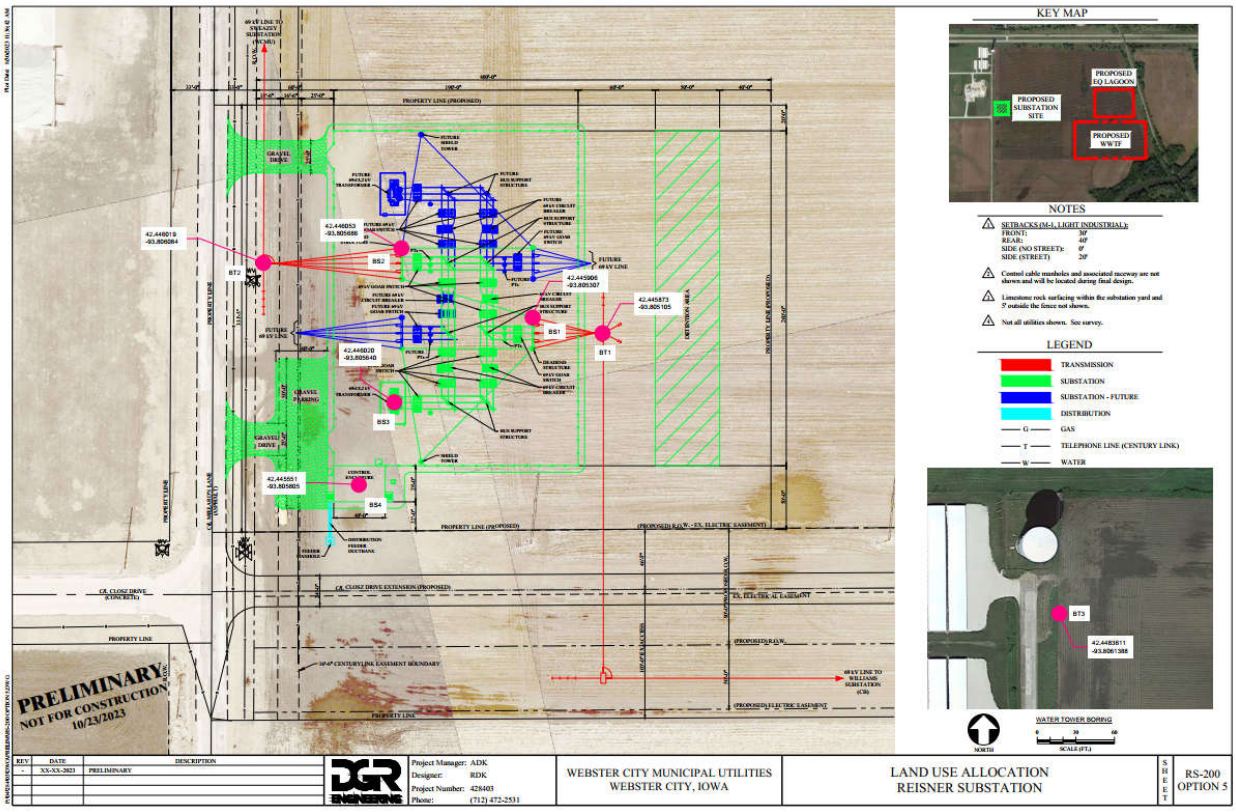


Figure No. 1 – Reisner Substation Conceptual Layout (DGR Engineering)

The following project information has been provided by DGR Engineering. The substation will include dead end structures, shield wire masts, transformers, control buildings, and switchgear enclosures. DGR Engineering has indicated that all structures at the site will be supported on

drilled shafts. Structural steel floor slabs for the Switchgear enclosures and control buildings will be also be supported on drilled shafts. Anticipated axial load on the drilled shafts at the transformer is 140 kip (including an increase for group load factor) whereas other structures will be subject to primarily lateral loads. Typical axial loads for the control buildings and switchgear enclosures will be 20 kips.

We assume final grades for the substation pad will be established 2 to 4 feet above existing grades or near elevation 1,066 feet. We assume the top of the drilled shafts will be near the final substation pad elevation. Based on the existing grades of our borings we assume fill depths of 2 to 4 feet or less will be required to achieve final grades. Deeper cut depths on the order of 10 to 15 feet may be required in the detention basin east of the substation structures. We assume soils excavated from the detention basin will be used for borrow. We request the opportunity to review the final grading plan, once available, to ensure our recommendations match plans for construction.

FIELD EXPLORATION

Seven borings were conducted at this site to depths of 30 and 43 feet below existing grades on October 27 and 30, 2023. Approximate locations of test borings are shown on the enclosed Site Plan and were located and staked at the site by Bolton & Menk prior to field exploration. The location of boring BT-3 was offset from the staked location to avoid buried utilities. The boring surface elevations, indicated on the enclosed Boring Logs, were provided by Bolton & Menk. The boring surface elevation of boring BT-3, indicated on the enclosed Boring Logs, was determined by ABE using GPS survey equipment and was Iowa Real-Time Network (RTN) derived. Methods of drilling, sampling, standard laboratory testing, and classifying of subsurface materials are discussed in the Boring Log Description/Legend pages of the Appendix.

SUBSURFACE CONDITIONS

Site Geology

This project site is located within a geomorphic region known as the "Des Moines Glacial Lobe." The Wisconsinan glacier was the last glacier to advance into north central Iowa. The brown to brown-gray Wisconsinan glacial till present near the surface and deposited as the glacier retreated, typically consists of sandy lean clay with random zones of high sand and silt content. Fine grained deposits of very dark gray locally derived alluvium are commonly encountered at the surface in isolated upland depressions. The deeper dark gray Wisconsinan glacial till, deposited as the glacier advanced, consists of a more homogeneous mixture of sand, silt and clay. It is not

uncommon to encounter relatively thick sand layers, termed glacial outwash deposits, within the glacial till formation as well as random cobbles and boulders. The overburden soils are underlain by the Mississippian bedrock system consisting of dolomite, limestone, and sandstone.

Detailed descriptions of soils encountered by this exploration are provided on the Boring Logs enclosed in the Appendix. The Profile of Borings (Plate A-1) presented in the Appendix depicts the relative deposit elevations in the borings. Following is a discussion of the subsurface materials encountered in the borings. Unless otherwise indicated, the depths of soil stratum and groundwater levels are referenced from below existing grade at the individual boring locations at the time of drilling.

In general the borings encountered natural soils consisting predominately of sandy lean clay (CL) Wisconsinan glacial till and glacial outwash (sand) soils typical to this area of Iowa. The upper 1 to 2 feet consisted of sandy lean clay (CL) or lean to fat clay (CL-CH) topsoil. Below the topsoil the upper 8 to 10 feet of the Wisconsinan glacial till is medium stiff to stiff, moist to very moist and consists of more variable deposits of sand, silts, and clay. Below depths of 8 to 10 feet the dark gray sandy lean clay (CL) Wisconsinan glacial till is less variable, moist, and stiff to very stiff. As is common in glacial deposits, sand seams and/or thicker glacial outwash sand layers were encountered in borings at various depths and thicknesses. Saturated sand soils present in the upper 10 to 15 feet tended to be very loose to loose while the deeper sand layers tended to be medium dense to dense. The overburden soils were underlain by hard limestone encountered between depths of 36 and 40.5 feet in 3 out of the 7 borings.

Groundwater Level Observations

The borings were monitored during and shortly after drilling operations to detect moisture seepage and groundwater accumulation. The results of our groundwater level observations are noted on the Boring Logs enclosed in the Appendix.

During drilling operations, moisture seepage or saturated sand was noted between depths of 5 and 11 feet in all borings. Shortly after the completion of drilling operations, groundwater accumulation was observed between depths of 5 and 13 feet in all borings. After a period of approximately 24 hours, groundwater accumulation was observed near respective depths of 4.5 and 5 feet in boring BT-2 and BS-2. The majority of Iowa has experienced a nearly 12-month period of below normal precipitation which has likely caused lower than normal water levels at this site. These short-term water levels are not necessarily a true indication of the groundwater table. Long-term observations would be necessary to accurately define the groundwater variations at this site.

Brown-gray coloring of the Wisconsinan glacial till is an indication of past fluctuations of the groundwater in this zone. Furthermore, local alluvium soils typically develop under high seasonal groundwater levels at or near the surface. Therefore, we interpret that past seasonal high groundwater tables have been near or above the surface in the isolated depressions and shallow drainageways across the site and near depths of 2 to 4 feet or deeper in the upland areas of the site. Fluctuation of groundwater levels can occur due to seasonal variations in the amount of rainfall, surface drainage, subsurface drainage, site topography, irrigation practices, and ground cover (pavement or vegetation).

ANALYSIS AND RECOMMENDATIONS

Site Preparation and Grading

Based on the existing grades of our borings we assume fill depths of 2 to 4 feet or less will be required to achieve final grades. Deeper cut depths on the order of 10 to 15 feet may be required in the detention basin east of the substation structures. Prior to the placing of concrete floors or pavements on this site, or before any fill is placed, the organic and loose materials in addition to all vegetation must be stripped. We expect that a minimum stripping depth of 6 inches will be required. The stripping depths may vary due to localized variations in vegetation cover and subgrade stability. Deeper stripping on the order of 1 to 2 feet may be required to remove accumulated sediments in low-lying areas of the site. The strippings could be used for landscaping purposes in non-critical areas where support for foundations, floor slabs, and pavements is not required. The subgrade should then be proof-rolled to delineate zones of soft soils present near the surface which may require additional removal or compaction.

We recommend that low plasticity cohesive (Liquid Limit of 45 or less and Plasticity Index of 23 or less) or cohesionless soils, free of rubble and organics, be used as compacted fill. Inorganic existing soil such as the sandy lean clay (CL) Wisconsinan glacial till and glacial outwash sands (SP, SP-SM, SC, SM) would be suitable soil types for general fill applications. Inorganic portions of the lean to fat clay (CL-CH) topsoil are moderately expansive and should not be placed within 2 feet of movement sensitive structures.

The following Table A lists recommended minimum compaction requirements for cohesive and cohesionless fill materials in specific applications. For cohesive soils, moisture contents within a range of -1 to +4 percent of the material's optimum moisture content are

necessary to achieve the desired fill qualities. Soil compacted closer to its optimum moisture content will exhibit greater stability under repeated construction traffic.

TABLE A
RECOMMENDED DEGREE OF COMPACTION GUIDELINES

Construction Application	Standard Proctor (ASTM D698) Cohesive Soil	Standard Proctor (ASTM D698) Cohesionless Soil	*Relative Density (D4253 & D4254) Cohesionless Soil
Class 1	95%	98%	70%
Class 2	90%	93%	45%
Class 3	85%	88%	20%

Class 1 - Subgrade for building foundations, slabs-on-grade, pavements and other critical backfill areas.
Class 2 - Backfill adjacent to structures not supporting other structures - Minor subsidence possible.
Class 3 - Backfill in non-critical areas - Moderate subsidence possible.

*Use Relative Density technique (ASTM D4253 & D4254) where Standard Proctor technique (ASTM D698) does not result in a definable maximum dry density and optimum moisture content.

The on-site soils can be excavated utilizing conventional excavation equipment. Granular soils can generally be suitably compacted with vibratory compaction equipment whereas cohesive soils are more suitable for compaction with sheepsfoot or pneumatic type compactors. Care should be exercised in properly backfilling and compacting all trenches, especially utility trenches under or adjacent to the pavement. Loosely compacted or sand backfilled trenches can collect surface water and inadvertently direct it to the pavement subgrade and cause softening of the soil as well as increasing frost heave potential.

At the time of this geotechnical exploration, moisture contents of the Wisconsinan glacial till deposits were generally near to slightly above the recommended moisture content range for compaction. Depending upon precipitation levels prior to and during construction, adjustment of soil moisture content may be required in order to lower or raise the moisture to within the recommended moisture content range. Controlled wetting and discing may be necessary to raise soil moisture content of dry soils. Discing and aeration is generally the most economical method to lower soil moisture content, if climatic conditions allow. Chemical modification (drying) of very moist soils with Class C fly ash, Portland cement, or quicklime can be accomplished if construction scheduling does not permit field drying. Common chemical modification methods

may not be reactive when temperatures are near or below 40° Fahrenheit if grading or fill placement at the site will be conducted during colder weather.

The contractor should be aware that very moist and soft lean clay (CL) portions of the Wisconsinan glacial till and saturated sand (SP, SP-SM, SM, and SC) soils at the site are easily disturbed by construction traffic and may not provide adequate support for heavy construction equipment, especially in deeper cuts such as in the future detention area under repeated traffic loading. Therefore, low impact excavation methods, such as top loading with excavators may be required in deeper cut areas to reduce disturbance and deterioration of these softer soils. High construction traffic areas will require periodic repair of disturbed or loosened soils.

Excavation Stability and Dewatering

Boring information indicates shallow excavations at this site will encounter both cohesive and granular soils including random wet sand seams and glacial outwash layers within the Wisconsinan glacial till. If excavations encounter only cohesive soils with no wet sand seams or layers, it is expected that the water seepage can be controlled by permitting it to drain into temporary construction sumps and be pumped outside the perimeter of the excavations. More extensive dewatering such as sand points and wells may be required for excavations which extend down into water bearing sand layers. We recommend that prior to excavating in saturated sand, water levels be maintained 2 feet or more below the bottom of excavations in saturated sand to prevent upward seepage forces which could reduce subgrade support.

The extent of bracing or sloping of open cut excavations will be dependent upon depth of cut, groundwater conditions, soils encountered, length of time the excavation will be open, area available for excavation and local governing regulations. Predominately cohesive soils may appear to stand nearly vertical in shallow excavations for short periods of time. However, soil creep, surcharge loads, precipitation, subsurface moisture seepage, construction activity vibrations and other factors may cause these soils to cave within an unpredictable period of time. Excavations encountering sand may tend to cave rapidly, especially if water is flowing through the sand. Unstable granular excavation walls may also cause surrounding cohesive soils to become unstable. Temporary shoring, flattening of the excavation slopes or use of trench boxes may be required to maintain a safe condition. Determining the appropriate OSHA classifications of the soil types encountered and implementing the required provisions for sloping, shoring, and bracing of excavations throughout the project during construction are the responsibility of the contractor per OSHA.

Shallow Foundation Design

In our opinion, newly placed engineered compacted fill and suitable natural soils can provide adequate support for the proposed structure. We recommend that continuous and isolated spread foundations bearing above approximately elevation 1054 feet be proportioned for a maximum net allowable soil bearing pressures of 2,000 pounds per square foot. Higher bearing pressures on the order of 3,000 to 4,000 pounds per square foot could be realized for footings bearing at or below elevation 1054 feet on very stiff Wisconsinan glacial till. We estimate long-term total settlement due to structural loads will be less than 1 inch and differential settlement may be on the order of ½ of the total settlement when foundations bear on newly placed engineered compacted fill and suitable natural soils.

Depending on final structure location softer cohesive soils or loose sand may be encountered near foundation level such as was encountered in the upper 8 feet of boring BS1 in and in BS4 between depths of 3 and 6 feet. Raising existing grades such that spread foundations bear on 2 feet or more of new engineered compacted fill would reduce, but not necessarily eliminate, the necessity of over-excavation during construction. Assuming frost-depth footings bear approximately 4 feet below final grade, final grades near or above approximately elevation 1,069 feet would provide 2 feet or more separation between the foundation level and soft/very loose natural soils. Another option may be to design footings for a lower net allowable bearing pressure of 1,500 pounds per square foot may also reduce, but not necessarily eliminate the need for over-excavation during construction.

Continuous foundations should be adequately reinforced to limit deflections caused by non-uniform soil support characteristics. All exterior foundations and foundations in unheated areas should be placed a minimum of 3.5 feet below final grade to provide protection against frost penetration and reduce movements associated with changes in soil moisture content. The on-site cohesive soils and newly placed cohesive fill would be suitable for trench foundations while sand soils should be expected to cave. Footing excavations should be kept free of water accumulation to prevent softening of subgrade soils.

Observations and test probing of the foundation subgrade soils should be conducted by an ABE geotechnical engineer to determine that the soils are compatible with the design criteria. If zones of soft or otherwise unsuitable soils are encountered at foundation level, we recommend that footings be extended to bear on firmer soils or an over-excavation and compacted backfill procedure be implemented. Over-excavations should extend 9 inches laterally in each direction beyond the foundation edges for each foot of over-excavation depth.

Deep Foundation Design

Drilled Shaft Deep Foundations

In our opinion, a deep foundation system consisting of diameter drilled straight shafts embedded into the very stiff glacial till would provide reliable foundation support for the proposed structures. Drilled shafts will derive support from skin friction and end bearing within the Wisconsinan glacial till (and/or glacial outwash) deposits. The following Table B provides recommendations for allowable skin friction and end bearing values for these two deep foundation systems. The values provided in Table B include consideration of variations in the soil conditions encountered at this site.

TABLE B
DEEP FOUNDATION SOIL PARAMETERS

Soil Type	Approximate Elevation (ft)	Skin Friction (psf)	End Bearing (psf)
Wisconsinan Glacial Till and Glacial Outwash	Above 1054	300	NA
Wisconsinan Glacial Till	Below 1054	800	8,000*

* Drilled shafts should not be terminated in the glacial outwash sand layers

**Assumes ACIP piles achieve auger refusal on limestone

As an example for this project, using the above parameters we calculate a 3 feet diameter drilled shaft with a length on the order of 30 feet, would have an allowable capacity on the order of 245 kips. These are example calculations, actual design of deep foundations will depend upon soil conditions, anticipated loads, and the configuration which will be most economical to construct.

Group reduction factors applied to the skin friction portions alone should be used for deep foundation members established closer than 3 times the pile diameter. Deep foundation groups with closer spacing should have the skin friction reduced (on the order of 15 to 20 percent) to account for group action. We would be available to review proposed ACIP pile spacing and provide specific group reduction recommendations if requested. End bearing is not reduced by group action. Uplift reactions due to overturning loads can be resisted by skin friction and buoyant weight of the foundation. For belled drilled shafts, the buoyant weight of the soil within a cylindrical area above the bell bottom area could be included to resist uplift. We recommend that skin friction values for uplift be limited to 75 percent of the compression skin friction values as

provided in Table B. Belled and straight drilled shafts should not be terminated in sand layers and skin friction should be ignored for a distance above the bottom of a belled shaft equal to the bell diameter.

Laterally Loaded Deep Foundations

Deep foundations will be subject to lateral loads in addition to vertical loads. There are several methods for evaluating the transfer of lateral loads to deep foundations. Depending upon the magnitude of lateral loads and the deflection tolerance of deep foundations, the widely accepted p-y method of analysis may be appropriate for this project to provide more accurate predictions of soil response to lateral loads. We understand the computer program L-Pile may be used to aid in laterally loaded pile design. Estimated properties for use in L-Pile of soil and bedrock materials encountered at this site are provided in the following Table C. The information provided in Table C may also be used if the Broms' method is used to calculate lateral resistance of soils.

TABLE C
SOIL PARAMETERS FOR LATERALLY LOADED
DRILLED SHAFT DESIGN USING L-PILE

Formation	Wisconsinan Glacial Till Above Elevation 1054 feet[1]	Wisconsinan Glacial Till Below Elevation 1054 feet[1]	Glacial Outwash Above Elevation 1054[1]	Glacial Outwash Below Elevation 1054[1]
Estimated Buoyant Unit Weight	63	73	53	63
Static Subgrade Modulus, k (pci)	500	1,000	20	60
Friction Angle, φ	N/A	N/A	29°	34°
Undrained Shear Strength, psf	1,000	3,000	N/A	N/A
Strain Factor, E_{50}	0.007	0.005	N/A	N/A

1) Boring BT3 conducted near the existing water tower north of the site encountered softer glacial till soils to near elevation 1048 feet. Therefore, the lower values provided for the Wisconsinan glacial till and glacial outwash should be applied above elevation 1048 feet and the higher values should be used below elevation 1048 feet.

General

The contractor should be aware of the soil and water conditions which will be encountered during drilled shaft installation. Caving of the on-site saturated sand should be expected. Therefore, temporary casing and/or slurry drilling methods will be required to complete drilled shaft excavations to the desired bearing levels. It is not uncommon to encounter occasional large rocks or boulders within the glacial till deposits that may require special excavation techniques, such as carbide tip core barrel, gadding, or hand excavation. Refusal encountered above the design depth could require a replacement pile. Deep foundation depths may require some adjustments in the field depending upon conditions encountered at time of construction.

Deep foundation depths may require adjustment in the field depending upon conditions at the time of construction. Hand cleaning of drilled shaft bottoms will not be required if the drilling tools are capable of removing soft or loose fragments to provide a plane bearing surface. The bottom should be sounded from ground level to verify removal of loose materials. Concrete should be placed as soon as possible after the drilled shaft excavation has been completed to the confirmed bearing level and the bearing surface has been cleared of loosened material. Concrete should not be placed in drilled shaft excavations without tremie where the depth of water exceeds several inches.

With deep foundations installed as previously described, we estimate long-term settlement due to structural loads will be less than one-half inch and differential settlement will be negligible. Installation of all deep foundations should be observed by a geotechnical representative from our firm to determine that design bearing conditions have been achieved, to note changes in the foundation materials, and observe construction procedures. We recommend that one or two axial load tests be performed at the site to confirm pile capacity. Piles should be load tested to a minimum of 200 percent of pile design capacity, preferably higher.

Floor Slab Support

Interior floor slabs can be adequately supported on a minimum of one foot of reworked inorganic low plasticity (LL $\leq$ 45 and PI $\leq$ 23) natural soils or new engineered compacted fill required to provide the desired final grades. Moderately expansive lean to fat clay (CL-CH) soils should not be present naturally or as fill within 2 feet of movement sensitive floor slabs. The floor slabs can be designed for a modulus of subgrade reaction value of 100 pounds per cubic inch when bearing on a minimum of one foot of prepared subgrade. Testing, observations and probing should be conducted during construction to delineate zones of soft soils which may require repair prior to concrete placement.

Floor Slab Moisture Considerations

American Concrete Institute Guide to Concrete Floor and Slab Construction (ACI 302.1R-15) indicates the use of a moisture vapor barrier or retarder should be considered below concrete slabs on grade with moisture sensitive floor coverings, when the slab-on-grade will support moisture-sensitive equipment, humidity-controlled environment, or climate controlled cooled environment.

The selection of moisture vapor retarders or vapor barriers and granular base materials and their location relative to the bottom of the floor slab oftentimes are a compromise between reducing water vapor movement through the slab, construction techniques, and providing the desired short-term and long-term concrete properties. Items to be considered are use of vapor-sensitive floor coverings/adhesive; humidity-controlled areas; and building and weather environment conditions prior to, during, and after the concrete floor placement.

A granular base should be compactable, trimmable, free-draining in some cases, and remain stable during concrete placement. Compacted crushed aggregate is preferable for this purpose as it usually remains stable under foot or equipment traffic, whereas alluvial derived fill sand does not remain stable and is not recommended. True vapor retarders and vapor barriers must be durable, puncture-resistant, sealable, and have respective water vapor transmission rates (WVTR) of 1.0 US Perm or less (retarder) and 0.01 US Perm or less (barrier). The concrete mix is an important factor since the placement, finish, and cure procedures can influence slab performance with respect to moisture vapor transmission rates. All of these considerations should be addressed in more detail with the owner, designer, engineer, and contractor to arrive at the appropriate design and construction solution for the specific floor application. The American Concrete Institute ACI Manual of Concrete Practice should be consulted for more detailed information on these items.

Lateral Earth Pressures

Walls constructed to retain soil should be designed to accommodate unbalanced lateral earth pressures. Estimated lateral earth pressures for cohesive and cohesionless (granular) backfill are presented in the following Table D. Active earth pressure design assumes that the wall can rotate and deflect at the top. If the wall is rigidly fixed, higher lateral earth pressures will develop against the wall and at-rest pressure parameters should be used for design. Increased earth pressures can also develop from restricted soil drainage, surcharge loads adjacent to the wall, and compaction of the adjacent backfill. Expansive materials (CH), either natural or backfill, should not be within 3 feet of below grade walls.

TABLE D
LATERAL EARTH PRESSURE PARAMETERS

Condition	Cohesive Soil (non-expansive clay)	Cohesionless Soil (Sand)	Cohesionless Soil (Crushed Rock)
Assumed Backfill Characteristics			
Approximate Total Density	130 pcf	120 pcf	130 pcf
Approximate Friction Angle	15° - 20°	30° - 35°	40° - 45°
Active Pressure Coefficient, K_a	0.5	0.3	0.2
At-Rest Pressure Coefficient, K_o	0.7	0.5	0.3
Passive Pressure Coefficient, K_p	2	3.3	5.2
Estimated Lateral Earth Pressure[1] (Equivalent Fluid Pressures)			
Active – Drained	65 pcf	35 pcf	25 pcf
Active - Undrained[2]	95 pcf	80 pcf	75 pcf
At-Rest – Drained	90 pcf	60 pcf	40 pcf
At-Rest - Undrained[2]	110 pcf	90 pcf	85 pcf
Passive – Drained	260 pcf	400 pcf	670 pcf
Passive - Undrained[3]	135 pcf	190 pcf	350 pcf

1) Assumes no safety factor, negligible wall friction, vertical wall, level backfill, zero surcharge loads and ignores cohesion shear strength.
2) Combined buoyant backfill unit weight and hydrostatic (water @ 62.4 pcf) loading.
3) Excludes hydrostatic loading.

A coefficient of sliding friction value of 0.3 may be used for Portland cement concrete on a cohesive subgrade. This ultimate value assumes no safety factor and design with this ultimate value should include a minimum factor of safety of 1.5.

Cohesionless (granular) backfill lateral earth pressure parameters may be used where granular backfill is installed behind the subsurface wall in accordance with the following Figure No. 2. The granular backfill should have a minimum width of 2 feet and be wide enough to accommodate the back slope limit line of 2:1 (vertical to horizontal) or flatter. The area between the required minimum zone of granular material and the actual limits of excavation may be backfilled with either cohesive or granular soils.

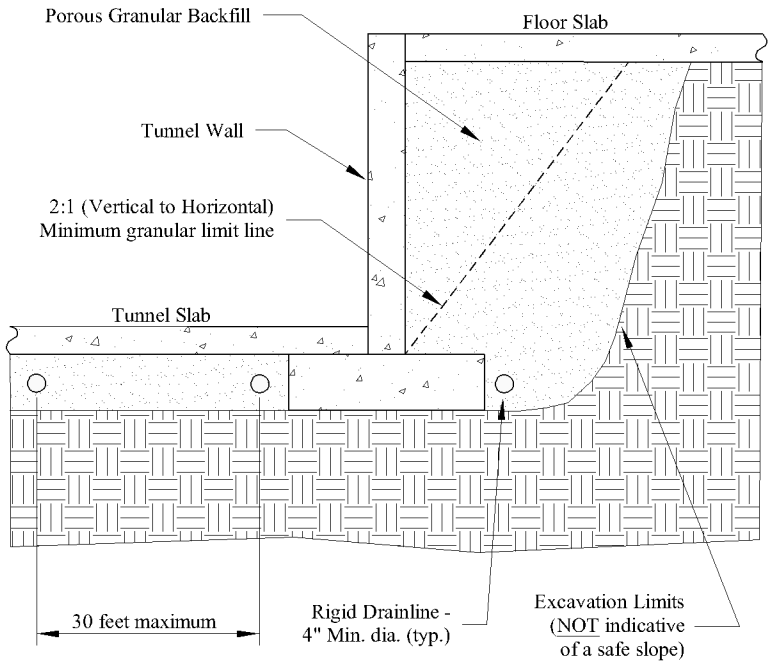


Figure No. 2 – Typical Lateral Earth Pressure Section for Below Grade Tunnels

All Weather Surface

Due to the overall size of this project, constructing a relatively level building pad will tend to collect surface water that will not sheet drain and will cause deterioration due to construction traffic. If it is desired to have an all-weather surface during construction, it may be necessary to place 6 inches or more of crushed rock or recycled concrete aggregate on the subgrade to provide a suitable working surface. The working surface may have to be repaired periodically in areas of higher traffic. The working surface should be kept low enough to accommodate placement of the floor granular subbase.

Water accumulation in the rock could soften the underlying cohesive subgrade. Water standing in the rock may seep into footing excavations and will need to be pumped out prior to footing construction. Subfloor drain lines could be installed below the granular working surface to drain and release trapped water and reduce possible softening of the underlying cohesive subgrade.

Frost Heave and Unheated Floor Slabs

Buildings unheated in the winter can subject the floor slab to frost heave. There are two common methods to reduce the potential for frost heave problems. One is to insulate the floor and foundations walls with horizontal and vertical rigid foam insulation board. The second option is to

place free draining granular fill under the floor for a minimum depth of 2 feet, or more, for greater protection. The granular zone should be drained to prevent pooling of water beneath floor slabs. If on-site expansive soils are encountered within 2 feet under the floor slab, the drained granular separation layer would also provide protection from slab movement.

Key elements contributing to frost heave including freezing temperatures, available water, and fine-grained frost susceptible soils are generally present at sites in Iowa. As a result, frost heave problems are generally common (and most noticeable) in pavements or sidewalks adjacent to non-frost susceptible elements such as manholes, light poles, and exterior doors or frost protected stoops. Frost heave can cause pavement cracks to develop parallel to and several feet from curbs. This generally occurs where cleared paved areas exposed to freezing temperatures heave more than adjoining paved areas insulated by piled snow. Sometimes it is not readily apparent why frost heave problems occur at one location and not at another seemingly similar location.

While it is appropriate to implement measures to reduce frost heave such as insulation, replacing frost susceptible soils with less frost susceptible soils, void forms, sealing cracks/joints to reduce surface water infiltration, or drainage improvements (surface and subsurface), these measures may simply move the frost heave problem to a different location where preventative measures have not been implemented. Having a smooth transition between heaved and non-heaved areas is desirable but may be difficult and/or costly to accomplish. We are available to meet with you to discuss options for your consideration to reduce frost heave potential on this project.

GENERAL

The analyses and recommendations in this report are based in part upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations which may occur between borings or across the site. The nature and extent of such variations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

It is recommended that the geotechnical engineer be provided the opportunity to review the plans and specifications so that comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications. It is further recommended that the geotechnical engineer be retained for testing and observation during earthwork and foundation construction phases to help determine that the design requirements are fulfilled.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranty, expressed or implied, is made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the conclusions of this report modified or verified in writing by the geotechnical engineer.

The scope of our service was not intended to include any environmental assessment or exploration for the presence of hazardous or toxic materials in the soil, surface water, groundwater, or air on, below or adjacent to this site.

APPENDIX

BORING LOG DESCRIPTION/LEGEND

The material types encountered during the drilling operations were recorded on field logs. The profile represented on the Boring Log is based on final classification performed by a geotechnical engineer using the field logs, laboratory observation and testing. The material stratigraphy demarcation lines shown on the Boring Logs indicate changes in soil characteristics, however, actual soil changes or variations may occur as a gradual transition. Soil profile discussion, Log Boring information, water levels and recommendations presented in this report are based upon measured depths below ground levels existing at time of the field exploration, unless otherwise specified.

DRILLING AND SAMPLING

The borings were conducted with either a truck or all-terrain rotary drill rig using the drilling methods indicated on each Boring Log. Soil sampling and/or in-situ testing such as Shelby Tube (ST), split-spoon (SS), drive cone (DC), or core (C) was conducted at depth intervals which were selected in consideration of the characteristics of the proposed construction. Generally undisturbed soil samples are taken at 5 foot depth intervals or change in soil types. Disturbed soil samples from the auger, either jar size or bulk size samples, may be taken at intermediate intervals for the purpose of soil classification or laboratory testing. Borings conducted for soil classification only, will show no designation of sampling although disturbed sampling is performed. Soil samples obtained in the field were identified and sealed for transportation to the laboratory for performance of pertinent physical testing and engineering classification.

Drilling Methods

CFA - Continuous Flight Auger: 4, 6, or 8-inch diameter (ASTM D1452).
RD - Rotary Drilling: Using drilling fluid in cased or uncased boring (ASTM D2113).
HSA - Hollow Stem Auger: 6 or 8-inch diameter, continuous flight auger remains in boring with soil removed from the hollow stem through which undisturbed sampling is conducted.
HA - Hand Auger: 4-inch or less diameter.

Sample Types

ST - Shelby Tube: Thin-walled tube samples of cohesive soils (ASTM D1587).
SS - Split Spoon with 140 lb. manual hammer: Standard penetration test and split-barrel samples (ASTM D1586).
SSA - Split Spoon with 140 lb. automatic hammer: Standard penetration test and split-barrel samples (ASTM D1586).
DC - Drive Cone: Dynamic in-place testing of soil using a 2-inch diameter cone with a 60 degree point driven into the soil for continuous 1-foot intervals in the same manner as Split Spoon, no sample is obtained.
C - Core: Sampling hard soil or bedrock with a diamond core barrel in a rotary drill boring (ASTM D2113).
SPT - Standard Penetration Test: Number of blows required to drive sampler (split spoon or drive cone) into the soil with a 140-pound weight dropping a distance of 30-inches (ASTM D1586), number of blows recorded for each 6-inch interval in an 18-inch (or more) penetration depth, values shown are for each 6-inch interval (if series of number sets are shown) or a total of the last two 6-inch intervals (if only one number is shown) which is commonly referred to as "N" in blows per foot. High resistance is indicated by a high number of blows for a lesser penetration depth listed in inches.
BS - Bulk Sample: Disturbed.
CPT - Cone Penetration Test: Quasi-static in-place testing of soils using a 60 degree cone and friction sleeve which are steadily pushed into the soil and measure skin friction and end bearing (ASTM D3441).

STANDARD LABORATORY TESTING

Representative undisturbed soil samples obtained by the Shelby Tube sampler were tested for moisture content (ASTM D2216), density (dry) and unconfined compressive strength (ASTM D2166) in the laboratory. Results of these tests appear on the respective Boring Logs. Additional soil testing including particle size analysis (ASTM D422) and Atterberg Limits (ASTM D4318) may be conducted, if necessary, to define in more detail pertinent soil characteristics for classification in accordance with the Unified Soil Classification System. Specialized laboratory tests (if conducted) to determine pertinent soil characteristics are discussed in the "Laboratory Testing" section of the report.

WATER LEVEL MEASUREMENT

Water levels indicated on the Boring Logs are the levels measured in the borings at the times indicated. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels is not possible with short term observations.

BORING LOG DESCRIPTION/LEGEND

(page 2 of 3)

DESCRIPTIVE SOIL CLASSIFICATION

Soil description is based on the Unified Classification System as outlined in ASTM Designations D-2487 and D-2488. This classification is primarily based upon visual and apparent physical soil characteristics, comparison with other soil samples, and our experience with the soil. Additional laboratory testing may be conducted, if necessary to define in more detail pertinent soil characteristics. The Unified Soil Classification group symbol shown on the boring logs corresponds with the group names listed below. The description includes soil constituents, moisture conditions, color and any other appropriate descriptive terms.

Group Symbol	Group Name	Group Symbol	Group Name	Group Symbol	Group Name	Group Symbol	Group Name
GW	Well-Graded Gravel	SW	Well-Graded Sand	CL	Lean Clay	CH	Fat Clay
GP	Poorly-Graded Gravel	SP	Poorly-Graded Sand	ML	Silt	MH	Elastic Silt
GM	Silty Gravel	SM	Silty Sand	OL	Organic Clay Organic Silt	OH	Organic Clay Organic Silt
GC	Clayey Gravel	SC	Clayey Sand			PT	Peat

RELATIVE PROPORTIONS			GRAIN SIZE TERMINOLOGY	
Descriptive Term(s) (Of components also present in sample)	Sand and Gravel % of Dry Weight	Fines % of Dry Weight	Major Component of Sample	Size Range
Trace	<15	<5	Cobbles	12 in. to 3 in. (300mm to 75mm)
With	15-30	5-12	Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Modifier	>30	>12	Sand	#4 to #200 sieve (4.75mm to 0.074mm)
			Silt or Clay	Passing #200 sieve (.074 mm)

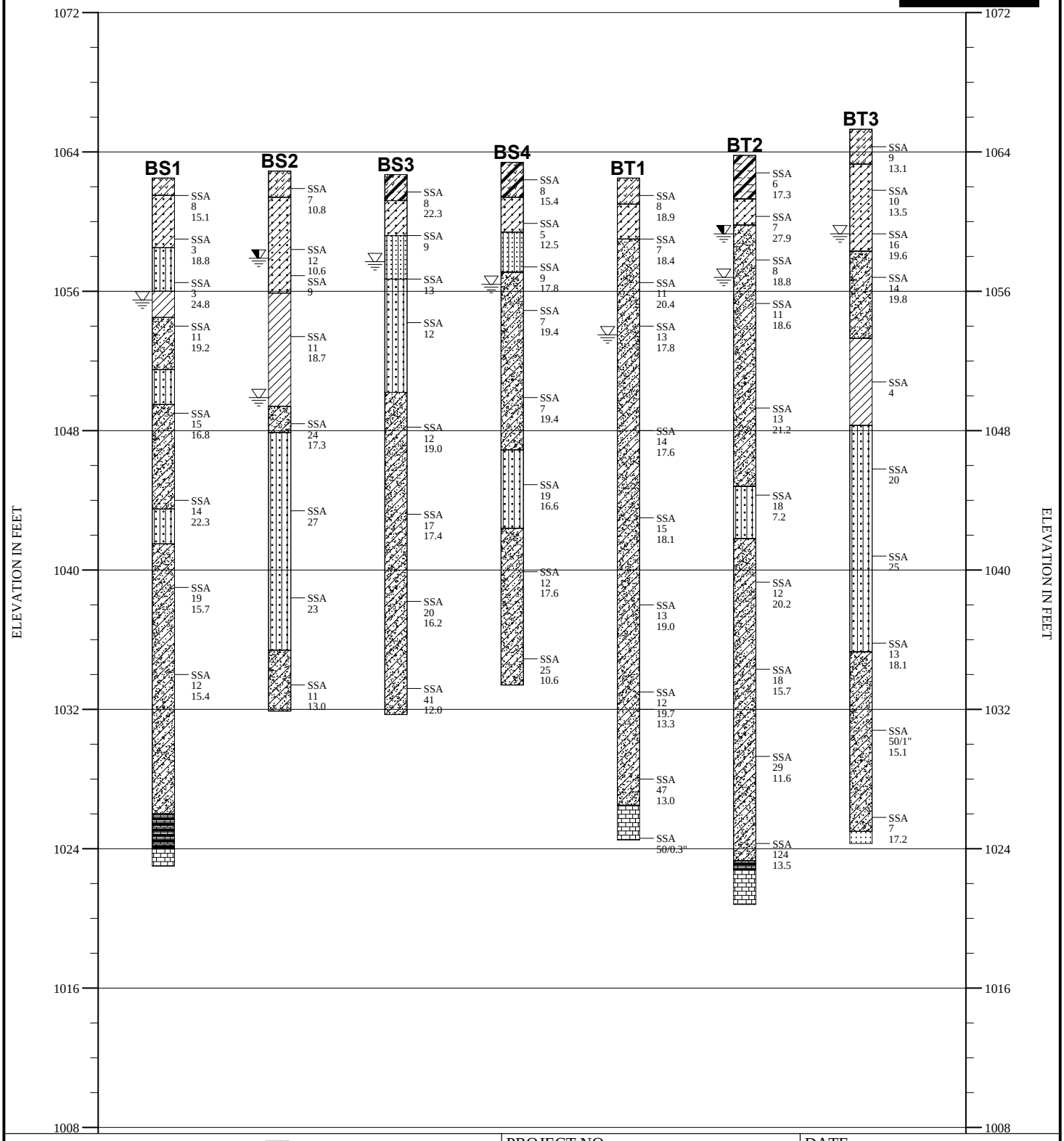
CONSISTENCY OF FINE-GRAINED SOILS			RELATIVE DENSITY OF COARSE-GRAINED SOILS	
Unconfined Compressive Strength, Qu, psf	Consistency	SPT, bpf	SPT, bpf	Relative Density
< 500	Very Soft	0-2	0-4	Very Loose
500-1,000	Soft	2-4	4-10	Loose
1,000-2,000	Medium Stiff	4-8	10-30	Medium Dense
2,000-4,000	Stiff	8-15	30-50	Dense
4,000-8,000	Very Stiff	15-30	50-80	Very Dense
8,000-16,000	Hard	30-100	80+	Extremely Dense
> 16,000	Very Hard	>100		

BORING LOG DESCRIPTION/LEGEND

ABBREVIATIONS

COMMONLY USED ABBREVIATIONS	
ft. or ' - feet	elev. - Elevation
in. or " - inches	% - Percent
psf - pounds per square foot	No. - Number
plf - pound per lineal foot	TB - Test Boring
pcf - pounds per cubic feet	N - blow count (SPT, bpf)
kip - 1000 pounds	USCS - Unified Soil Classification System
ksf - 1000 pounds per square foot	LL - Liquid Limit
klf - 1000 pounds per lineal foot	PL - Plastic Limit
tsf - tons per square foot	PI - Plasticity Index
bpf - blows per foot (SPT, N)	

PROFILE OF BORINGS



Strata symbols

- Lean Clay Topsoil
- Clayey Sand
- Silty Sand
- Lean Clay
- Sandy Lean Clay
- Weathered Limestone
- Limestone
- Lean to Fat Clay Topsoil
- Poorly Graded Sand With Silt

PROJECT NO.: 231247	DATE: 12/14/2023
PROJECT: Reisner Substation Millards Ln and Closz Dr Webster City, Iowa	
PLATE: A-1	SCALE: 8 feet/in.

ALLENDER BUTZKE ENGINEERS, INC.

BORING LOG NO. BS1

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.5'**
Datum: **Site Survey**

Date Drilled: **10/27/2023**
Drilling Depth, ft.: **39.5**

Drilling Method: **4" CFA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
								Very dark brown sandy lean clay, moist		CL		1
								TOPSOIL		SC		1061.5
								Brown-gray clayey fine to medium sand, moist				
								GLACIAL OUTWASH		SM		
								Dark gray silty fine to medium sand, very moist after 4'				6.5
1060		1	SSA	8	15.1			Moisture seepage near 6'		CL	▽	1056
								Brown-gray lean clay, trace sand, very moist				
		2	SSA	3	18.8			Dark gray sandy lean clay, trace gravel, moist after 8'				
1056		3	SSA	3	24.8			With interbedded silty sand seams throughout 8' to 22.5'				
	8											
		4	SSA	11	19.2							
1052												
1048		5	SSA	15	16.8			Dark gray silty fine sand seam from 11' to 13'				
	16											
1044		6	SSA	14	22.3			Dark gray silty fine sand seam from 19' to 21'				
								WISCONSINAN GLACIAL TILL				
1040												
	24	7	SSA	19	15.7							
1036												
		8	SSA	12	15.4							
1032												
	32											
1028												36.5
								Light brown weathered limestone, damp				1026
1024								**BEDROCK**				39.5
	40							Dense after 38.5'				1023
1020								End of Boring				
1016												
	48											
1012												
1008												
	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation

Time: at completion _____ hrs. _____ days

Depth to water: 7 ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.

Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BS2

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.9'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **31**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean clay, moist		CL		1.5
		7	SSA	7	10.8			**TOPSOIL**		SC		1061.4
1060								Brown-gray clayey fine to coarse sand, trace gravel, moist				
		1	SSA	12	10.6			**GLACIAL OUTWASH**			▽	
1056		8	SSA	9				Moisture seepage near 5'				7
	8							Dark gray lean clay, trace sand, moist		CL		1055.9
		2	SSA	11	18.7			**WISCONSINAN GLACIAL TILL**				
1052											▽	
								Dark gray sandy lean clay, trace gravel after 13.5'				15
1048		3	SSA	24	17.3			Dark gray silty fine sand, saturated		SM		1047.9
	16											
1044												
		4	SSA	27				**GLACIAL OUTWASH**				
1040												
	24											
		5	SSA	23								
1036												27.5
								Dark gray sandy lean clay, trace gravel, moist		CL		1035.4
1032		6	SSA	11	13.0			**WISCONSINAN GLACIAL TILL**				31
	32							End of Boring				1031.9
1028												
1024												
	40											
1020												
1016												
	48											
1012												
1008												
	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation

Time: at completion **24** hrs. _____ days

Depth to water: **13** ft. ▽ **5** ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.

Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BS3

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.7'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **31**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean to fat clay, damp		CL-CH		1.5
								TOPSOIL				1061.2
1060		1	SSA	8	22.3			Brown-gray clayey fine to medium sand, moist		SC		
		2	SSA	9				Brown-gray fine to medium sand with silt after 3.5'		SP-SM	▽	
1056		3	SSA	13				Moisture seepage near and saturated after 5'		SM		
	8							Brown-gray silty fine sand after 6'		SM		
		4	SSA	12				**GLACIAL OUTWASH**				
1052								Gray and very moist after 8'				12.5
								Dark gray sandy lean clay, trace gravel, moist		CL		1050.2
1048		5	SSA	12	19.0							
	16							With interbedded sand seams throughout after 16'				
1044		6	SSA	17	17.4							
								WISCONSINAN GLACIAL TILL				
1040	24											
		7	SSA	20	16.2							
1036												
		8	SSA	41	12.0							31
1032	32							End of Boring				1031.7
1028												
1024	40											
1020												
1016	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: **5** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BS4

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1063.4'**
Datum: **Site Survey**

Date Drilled: **10/27/2023**
Drilling Depth, ft.: **30**

Drilling Method: **4" CFA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean to fat clay, moist		CL-CH		2
		1	SSA	8	15.4			**TOPSOIL**				
1060								Brown-gray clayey fine to medium sand, damp		SC		1061.4
		2	SSA	5	12.5			Brown-gray fine to medium sand with silt after 4'		SP-SM		
								GLACIAL OUTWASH				6.3
		3	SSA	9	17.8			Saturated after 5'		CL	▽	1057.1
1056	8							Dark gray sandy lean clay with interbedded silty				
		4	SSA	7	19.4			fine sand seams throughout, trace gravel, moist				
1052								**WISCONSINAN GLACIAL TILL**				
		5	SSA	7	19.4							
1048	16											16.5
								Dark gray silty fine sand, very moist		SM		1046.9
1044		6	SSA	19	16.6			**GLACIAL OUTWASH**				21
								Dark gray sandy lean clay, moist		CL		1042.4
1040	24	7	SSA	12	17.6							
1036								**WISCONSINAN GLACIAL TILL**				
		8	SSA	25	10.6							30
1032	32							End of Boring				1033.4
1028												
1024	40											
1020												
1016	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: 7 ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT1

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.5'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **38**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean clay, trace gravel, moist		CL		1.5
		1	SSA	8	18.9			**TOPSOIL**		SC		1061
1060								Brown-gray clayey fine to coarse sand, moist		CL		
		2	SSA	7	18.4			Brown-gray sandy lean clay after 3.5'				
								With interbedded silty sand seams throughout 3.5' to 18'				
1056		3	SSA	11	20.4							
	8							Dark gray after 6.5'			▽	
		4	SSA	13	17.8							
1052								Saturated sand seam near 11.5'				
1048		5	SSA	14	17.6							
	16											
1044								**WISCONSINAN GLACIAL TILL**				
		6	SSA	15	18.1							
1040								With interbedded sand seams throughout after 22'				
	24											
		7	SSA	13	19.0							
1036												
		8	SSA	12	19.7							
1032					13.3							
	32											
1028		9	SSA	47	13.0							36
								Light gray limestone, damp				1026.5
		10	SSA	50/0.3"				**BEDROCK**				38
1024								End of Boring				1024.5
	40							***Auger Refusal at 38'				
1020												
1016												
	48											
1012												
1008												
	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: **9** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT2

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1063.8'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **43**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean to fat clay, trace organics, moist		CL-CH		2.5
		1	SSA	6	17.3			**LOCAL ALLUVIUM**		SC		1061.3
1060		2	SSA	7	27.9			Brown-gray clayey fine to medium sand, trace gravel, moist		CL	▽	
		3	SSA	8	18.8			Brown-gray sandy lean clay, very moist to moist after 4'			▽	
1056	8											
		4	SSA	11	18.6			Dark gray, moist after 6.5' Moisture seepage near 8.5' With interbedded sand silty sand seams throughout 9' to 19'				
1052												
		5	SSA	13	21.2							
1048	16											
		6	SSA	18	7.2			Dark gray silty fine sand from 19' to 22'		SM		
1044								**WISCONSINAN GLACIAL TILL**				
1040	24	7	SSA	12	20.2							
1036												
		8	SSA	18	15.7							
1032	32											
		9	SSA	29	11.6							
1028												
1024	40	10	SSA	124	13.5			With limestone fragments after 39'				40.5
								Light brown weathered limestone, damp Dense after 41'				1023.3 43
1020								**BEDROCK**				1020.8
								End of Boring				
1016	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation

Time: at completion **2.3** hrs. _____ days

Depth to water: **7** ft. ▽ **4.5** ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.

Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT3

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1065.3'**
Datum: **Site Survey**

Date Drilled: **11/6/2023**
Drilling Depth, ft.: **41**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
1064	0							Very dark brown sandy lean clay, moist		CL		2
		1	SSA	9	13.1			**TOPSOIL**				
								Brown-gray clayey fine to medium sand, moist		SC		1063.3
		2	SSA	10	13.5			**GLACIAL OUTWASH**				
1060												
		3	SSA	16	19.6			Moisture seepage near 6'			▽	7
	8							Brown-gray sandy lean clay, trace gravel, moist		CL		1058.3
1056		4	SSA	14	19.8			Dark gray after 8.5'				
								WISCONSINAN GLACIAL TILL				
1052								Dark gray lean clay, trace sand and gravel with interbedded silty sand seams throughout, very moist after 12'		CL		
		5	SSA	4								
	16											17
1048								Dark gray silty fine sand, moist to very moist		SM		1048.3
		6	SSA	20								
1044												
	24							**GLACIAL OUTWASH**				
1040		7	SSA	25								
1036												30
		8	SSA	13	18.1			Dark gray sandy lean clay, trace gravel, moist		CL		1035.3
	32											
1032												
		9	SSA	50/1"	15.1			Boulder near 35'				
1028								**WISCONSINAN GLACIAL TILL**				
	40	10	SSA	7	17.2							41
1024								Dark gray medium to coarse sand, saturated after 40.3'		SP		1024.3
								End of Boring				
1020												
	48											
1016												
1012												
	56											
1008												

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation

Time: at completion _____ hrs. _____ days

Depth to water: **6** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.

Geotechnical | Environmental | Construction Q.C.

ALLENDER BUTZKE ENGINEERS INC. 3660 109th Street Urbandale, IA 50322	Reisner Substation Millards Ln and Closz Drive Webster City, Iowa	PN 231247 Site Plan

NOTES

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Adam Dickinson, Line Department Superintendent
John Harrenstein, Interim City Manager

DATE: June 17, 2024

RE: Bidding Package: Furnishing Transmission Line Materials

SUMMARY: Requesting permission to seek bids and schedule a Public Hearing for Transmission Line Materials as defined in the attached bidding documents to furnish said materials for the 69 kV Transmission Line Reconstruction project.

PREVIOUS COUNCIL ACTION: The City Council has previously authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.) for the 69 kV Transmission Line Reconstruction project.

BACKGROUND/DISCUSSION: The equipment to be supplied is described in general as follows:

- Engineered Laminated Wood Poles
- 69 kV Insulators
- Overhead High Voltage Conductor
- Optical Ground Wire

The attached bidding documents reference in more detailed and complete description of the material specifications. At the proposed Public Hearing on August 5th, 2024 at 6:05 P.M., the City Council will also receive and consider any objection to said plans, specifications and form of contract or cost of the materials made by any interested party.

FINANCIAL IMPLICATIONS: The cost of construction is the responsibility of Corn Belt Power Cooperative.

The estimated cost of this portion of the project, along with the breakdown of the responsibility for those costs, is as follows:

Portion of Project	Total Project Cost Estimate	Estimated City of Webster City Portion	Estimated Corn Belt Power Co-op Portion
Transmission Line Materials	$1,736,000 (excluding taxes)	$0	$1,736,000*

***** These funds will initially be provided by the City but will be fully reimbursed by Corn Belt.

The costs shown above are estimates; the agreement with Corn Belt and NIMECA includes a provision that actual reimbursement will be made on the basis of actual final project costs.

PROJECT TIMELINE:

The current timeline for the Transmission Line Materials is as follows:

- Bid Opening: Tuesday, July 23, 2024 @ 2:30 PM at City Hall
- Desired Delivery Dates:
    - Engineered Laminated Wood Poles: March 15, 2025
    - 69 kV Insulators: March 15, 2025
    - Overhead High Voltage Conductor: March 15, 2025
    - Optical Ground Wire: March 15, 2025

RECOMMENDATION: Approve the request to set public hearing for August 5th, 2024 at 6:05 P.M. at which the City Council will consider the plans and specifications, proposed form of contract and the estimate of cost to furnish materials for the 69 kV Transmission Line Reconstruction project as defined.

RESOLUTION NO. 2024 - xxx

RESOLUTION APPROVING THE REQUEST TO SEEK BIDS AND SCHEDULE A PUBLIC HEARING FOR THE FURNISHING OF TRANSMISSION LINE MATERIALS

WHEREAS, the City Council of Webster City has previously authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.) for the 69 kV Transmission Line Reconstruction project; and

WHEREAS, the attached bidding documents provide a more detailed and complete description of the material specifications; and

WHEREAS, the proposed Public Hearing on August 5th, 2024, at 6:05 P.M. will allow the City Council to receive and consider any objections to said plans, specifications, form of contract, or cost of the materials made by any interested party; and

WHEREAS, the cost of construction will initially be provided by the City but will be fully reimbursed by Corn Belt; and

WHEREAS, the desired delivery date of materials is March 15, 2025.

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa, as follows:

Section 1. Approval to Seek Bids: The City Council hereby approves the request to seek bids for the furnishing of Transmission Line Materials.

Section 2. Public Hearing Scheduled: The City Council hereby schedules a Public Hearing for August 5th, 2024, at 6:05 P.M. at which time the Council will consider the plans and specifications, proposed form of contract, and the estimate of cost to furnish materials for the 69 kV Transmission Line Reconstruction project as defined.

Section 3. Authorization: Authorize the City Manager to take all necessary actions to proceed with the bidding process for the furnishing of Transmission Line Materials and to Authorize the City Clerk to ensure proper notice of the Public Hearing as required.

Passed and adopted this 17th day of June, 2024.

_____
John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PROPOSED PLANS AND SPECIFICATIONS, PROPOSED FORM OF CONTRACT, AND ESTIMATE OF COST FOR FURNISHING TRANSMISSION LINE MATERIALS FOR THE CITY OF WEBSTER CITY, IOWA.

Notice is hereby given that the City Council of Webster City, Iowa will meet in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595 on August 5, 2024 at 6:05 PM, at which time and place the said City Council will consider adoption of the plans and specifications, and proposed form of contract for the above referenced materials, which are now on file in the City Offices. At said meeting the City Council will receive and consider any objections to said plans, specifications, form of contract and estimate of cost made by any interested party.

The materials to be supplied are described in general as follows:

- Engineered Laminated Wood Poles
- 69 kV Insulators
- Overhead High Voltage Conductor
- Optical Ground Wire

Publication upon order of the City Council of Webster City, Iowa.

Dated this 19th day of July 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

NOTICE TO BIDDERS

Notice is hereby given that sealed bids will be received by the City Clerk of the City of Webster City, Iowa, at City Hall, 400 Second Street, Webster City, Iowa 50595, until **2:30 PM**, on **July 23, 2024**, for Furnishing Transmission Line Materials for the City of Webster City, Iowa. At said time, the bids will be publicly opened and read aloud in the Council Chambers, 400 Second Street, Webster City, Iowa 50595. Bids will be considered by the City Council at its meeting at 6:05 PM on August 5, 2024 in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595. The City Council may award the contract at said meeting or at such other time and place as shall then be announced.

The materials to be supplied are described in general as follows:

- Engineered Laminated Wood Poles
- 69 kV Insulators
- Overhead High Voltage Conductor
- Optical Ground Wire

The above work shall be in accordance with the specifications and proposed form of contract now on file in the offices of, the City of Webster City, Webster City, Iowa, by this reference made a part hereof, as though fully set out and incorporated herein.

Complete digital project bidding documents are available at www.questcdn.com. You may download the digital plan documents at no charge by inputting the **Quest project # 9167363** on the website's Project Search page. Please contact QuestCDN.com at 952-233-1632 of info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information. An optional paper set of the proposal forms and specifications for individual use may be obtained from the office of the Engineer, DGR Engineering, 1302 South Union Street, PO Box 511, Rock Rapids, IA 51246, telephone: 712-472-2531, fax: 712-472-2710, email: dgr@dgr.com, no deposit required.

Each bid shall be made out on a blank form furnished by the Utility and must contain bid security as required by Iowa Code Section 26.8. The bidder's security shall be in the form of either (1) a cashier's check of certified check drawn on a state chartered or federally chartered bank, in an amount equal to ten (10) percent of the amount of the Bid; or (2) a certified share draft drawn on a state-chartered or federally chartered credit union, in an amount equal to ten (10) percent of the amount of the Bid; or (3) a Bid Bond executed by a corporation authorized to contract as a surety in the State of Iowa, in an amount equal to ten (10) percent of the amount of the Bid. The bid security shall be made payable to the City of Webster City. The bid security must not contain any conditions either in the body of as an endorsement thereon. Such bid security shall be forfeited to the City of Webster City, Iowa as liquidated damages in the event the successful bidder fails or refuses to enter into a contract within fifteen (15) days after the award of the contract and post satisfactory Performance and Payment Bonds.

The sealed envelope containing the bid shall be clearly marked "BID ENCLOSED – FURNISHING TRANSMISSION LINE MATERIALS on the outside of the envelope.

Payment to the Supplier will be made as described in the Material Agreement.

Delivery of the materials may start after the execution of the Contract Documents, All materials shall be delivered by the dates as set in the General Requirements.

Award of the Contract(s), if an award is made, will be made to the lowest responsible and responsive bidder for each Bid Form. It is the intent of the Owner to award one (1) Contract for each Bid Form based on the total base bid price and guaranteed delivery date.

By virtue of statutory authority, a preference will be given to products and provisions grown, and coal produced within the State of Iowa, and preference shall be given to Iowa domestic labor in the construction of said improvements. The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

The City Council reserves the right to defer acceptance of any bid for a period not to exceed thirty (30) days after the date bids are received and no bid may be withdrawn during this period. The City Council also reserves the right to waive irregularities, reject any or all bids, and enter into such contract as it shall be deemed to be in the best interest of the Utility.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

Bidding Documents

Furnishing Transmission Line Materials

WEBSTER CITY

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

DGR Project No. 428404
City Project No. 9-24-003

DGR ENGINEERING

Bidding Documents

Furnishing Transmission Line Materials

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by:

Dennis Haselhoff, P.E. on June 11, 2024

The official copy of this engineering document is on file at the office of the Owner.

Pages of sheets covered by this seal: All pages except Geotechnical Exploration Report.

DGR Project No. 428404

DGR Engineering
1302 South Union Street
Rock Rapids, IA
(712) 472-2531
dgr@dgr.com

Bidding Documents

Furnishing Transmission Line Materials

City of Webster City/Municipal Utilities
Webster City, Iowa

Contact persons for this project are as follows:

Owner's Representative:

City of Webster City/Municipal Utilities
400 Second Street
Webster City, IA 50595
Phone: 515-832-9151

Adam Dickinson
Electric Utility Supervisor
Phone: 515-832-9159
Cell: 515-297-1307
Email: adam@webstercity.com

Ryan Orton
Utility Technician
Phone: 515-832-9159
Cell: 515-297-0820
Email: rorton@webstercity.com

Engineer:

DGR Engineering
1302 S Union Street
Rock Rapids, Iowa 51246
Phone: 712-472-2531

Dennis Haselhoff, P.E.
Project Manager
Email: dennis.haselhoff@dgr.com

Dylan Schueler, P.E.
Project Engineer
Email: dylan.schueler@dgr.com

Bidding Documents

Furnishing Transmission Line Materials

City of Webster City/Municipal Utilities
Webster City, Iowa

Table of Contents

NOTICE TO BIDDERS

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The materials to be supplied are described in general as follows:

- Engineered Laminated Wood Poles
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Award of the Contract(s), if an award is made, will be made to the lowest responsible and responsive bidder for each Bid Form. It is the intent of the Owner to award one (1) Contract for each Bid Form based on the total base bid price and guaranteed delivery date.

By virtue of statutory authority, a preference will be given to products and provisions grown, and coal produced within the State of Iowa, and preference shall be given to Iowa domestic labor in the construction of said improvements. The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

The City Council reserves the right to defer acceptance of any bid for a period not to exceed thirty (30) days after the date bids are received and no bid may be withdrawn during this period. The City Council also reserves the right to waive irregularities, reject any or all bids, and enter into such contract as it shall be deemed to be in the best interest of the Utility.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PROPOSED PLANS AND SPECIFICATIONS, PROPOSED FORM OF CONTRACT, AND ESTIMATE OF COST FOR FURNISHING TRANSMISSION LINE MATERIALS FOR THE CITY OF WEBSTER CITY, IOWA.

Notice is hereby given that the City Council of Webster City, Iowa will meet in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595 on August 5, 2024 at 6:05 PM, at which time and place the said City Council will consider adoption of the plans and specifications, and proposed form of contract for the above referenced materials, which are now on file in the City Offices. At said meeting the City Council will receive and consider any objections to said plans, specifications, form of contract and estimate of cost made by any interested party.

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Publication upon order of the City Council of Webster City, Iowa.

Dated this 19th day of July 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

INSTRUCTIONS TO BIDDERS

1.01 FAMILIARITY OF CONDITIONS:

A. Bidders are required to examine to their satisfaction, the plans and specifications and to make sure that the requirements are fully understood. The failure or omission of any Bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation regarding their bid.

1.02 BIDDERS QUALIFICATIONS:

A. Bidder must be capable of performing the work bid upon. The lowest responsive Bidders will be required to satisfy the Owner as to their integrity, experience, number of employees, equipment, personal, and financial ability to perform and ability to finance the cost of the work.

B. If the information and data requested by the Owner is not furnished, the Owner may consider the Bidder non-responsive or non-responsible. The Owner reserves the right, in its sole and absolute discretion, to accept the bid of a Bidder despite the fact that said Bidder has not submitted any information, list, data or statement requested.

C. The Owner reserves the right to reject any bid if the Owner determines, in its sole and absolute discretion, that the Bidder is not properly qualified to carry out the obligations of the Contract and/or to complete the work contemplated by the Contract. Conditional bids will not be accepted.

1.03 METHOD OF BIDDING:

A. Bids shall be submitted on a unit price or lump sum basis as stated on the Bid form. In preparing a bid, the Bidder shall specify the price, written legibly in ink or typewritten, at which the Bidder proposes to do each item of work. The price shall be stated with respect to each and every alternate item, whether an add alternate, or a deduct alternate. Failure to state a price for any alternate bid item shall constitute a non-responsive bid that will not be considered. The prices shall be stated in figures. In items where unit price is required, the total amount for each item shall be computed at the unit prices bid for the quantities given in the estimate. In the event of discrepancies in the unit price extensions listed in the bid, unit prices shall govern.

B. For all work let on a unit price basis, the Engineer's estimate of quantities shown on the bid is understood to be approximate only and will be used only for the purpose of comparing bids. For work let on a lump sum basis, any estimate of quantities provided is furnished for the convenience of Bidders and is not guaranteed.

1.04 **BID SECURITY:**

A. Each bid shall be accompanied by bid security as specified in the Notice to Bidders and made payable to the Owner. Should the bidder receiving the award fail to execute a satisfactory contract and file acceptable bonds within fifteen (15) days after the award of contract, the Owner may consider Bidder to be in default, annul the Notice of Award, and the bid security of that Bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if Bidder defaults.

B. The bid security of unsuccessful Bidders will be returned promptly after the award has been made. In no case will the bid security be held longer than thirty (30) days without written permission of the Bidder, except that the bid security of the Bidder to whom the contract is awarded will be retained until he or she has entered into contract and filed an acceptable bond.

1.05 **TAXES:**

A. The prices for material items in all bids shall not include provisions for the payment of any taxes to the State of Iowa.

1.06 **ALTERNATE MATERIALS:**

A. Requests for approval of 'or-equal' materials and equipment shall be submitted to the Engineer in writing at least fifteen (15) days prior to receipt of bids. Each request shall conform to the terms and conditions of the bidding documents and to the type, function, and quality standards of approved materials and equipment. The burden of proof of the merit of proposed 'or-equal' materials and equipment is upon the Bidder. The engineer's decision of approval or disapproval of a proposed 'or-equal' item will be final. No substitution shall be approved except by a written addendum issued to all prospective Bidders.

B. Bidders may submit bids for alternate materials which do not meet all of the detailed requirements of the specifications. Such submissions shall be in addition to the basic bid which shall comply with all requirements of the specifications. Bid evaluation and contract award will be made on the basis of the base bid. Alternate materials will then be considered, and the final contract amount adjusted accordingly if the Owner decides to accept bids for alternate materials. In submitting bids for alternate materials, Bidders shall submit manufacturer's data and note the exceptions to the requirements of the plans and specifications.

C. Additionally, as part of evaluating 'or-equal' requests, engineer will consider the following:

1. Manufacturer's ability to conform with the project specifications.

2. Manufacturer's relevant experience.

3. Manufacturer's support capabilities.

4. The Owner's and Engineer's experience with the proposed equipment.

1.07 **TERMS AND CONDITIONS:**

A. The Bidder is invited to attach their standard patent protection and liability limitation conditions, but shall not include any other terms and conditions to this bid. Attachment of additional terms and conditions shall be grounds for disqualification of the submitted bid.

1.08 **CHANGES IN QUANTITIES:**

A. Not Applicable.

1.09 **SUBMISSION OF BIDS:**

A. Bidders will be furnished with bid form(s) giving the estimate of quantities needed to complete the work. Two (2) copies of the completed bid form(s) and all supporting documentation shall be included with the bid.

B. If the bid is made by an individual, his or her name and post office address must be shown. If made by a firm or partnership, the name and post office address of the firm or partnership must be shown. If made by a corporation, the person signing the bid must name the state under the laws of which the corporation is chartered, and the name, title, and business address of the executive head of the corporation. Anyone signing a bid as agent may be required to submit satisfactory evidence of his or her authority to do so.

C. Any changes or alterations made in the official bid form, or any additions thereto, may result in the rejection of the bid. No bid will be considered which contains a clause in which the Bidder reserves the right to accept or reject a contract awarded by the Owner. Bids in which the unit prices are obviously unbalanced may be rejected.

D. Should the Bidder find discrepancies, ambiguities or omissions from these documents, they should immediately notify the Engineer and an addendum will be sent to all known entities holding copies of the Bidding Documents.

E. Two (2) copies of each bid form and all supporting documentation shall be provided. Bids shall be placed in an opaque envelope and the envelope sealed and marked "Bid Enclosed – Furnishing Transmission Line Materials" to indicate its contents. If forwarded by mail, the envelope shall be mailed to the following address:

City of Webster City
Attn: Dedra Nerland, Public Works Management Assistant
400 Second Street
Webster City, IA 50595

F. Receipt of any Addenda must be acknowledged on the bid form or a copy of any addenda relating to the bid shall be signed and attached to the bid.

G. No oral, facsimile, e-mail, telegraphic or telephonic bids or modifications will be considered.

1.10 MODIFICATION OR WITHDRAWAL OF BIDS:

A. A bid may be withdrawn by an appropriate document duly executed in the same manner that a bid must be executed and delivered to the place where bids are to be submitted prior to the date and time for the opening of bids. Upon receipt of such notice, the unopened bid will be returned to the Bidder.

B. If a Bidder wishes to modify its bid prior to bid opening, Bidder must withdraw its initial bid and submit a new bid prior to the date and time for the opening of bids.

C. No bid may be withdrawn for a period of thirty (30) days after the scheduled date and time for the receipt of bids.

1.11 CONTRACT AWARD:

A. Award of the Contract, if an award is made, will be on the basis of the base bid and/or any alternate bid(s) chosen by the Owner, as is in the best interest of the Owner. It is the intent of the Owner to award one (1) Contract for the Circuit Breakers as is deemed to be in the best interest of the Owner. The effect of the guaranteed delivery date, dimensions and the experience record of the Bidder on units of similar size and rating will also be considered in evaluating the bids. This may also include location of manufacturing and assembly, and preference may be given to units manufactured and assembled in the USA. The Owner reserves the right to reject any or all bids, waive technicalities, and make award(s) as deemed to be in the best interest of the Owner. In addition to cost, other items that will impact the award decision include the following:

1. Relevant experience with installations of similar size and type.

2. Support capabilities.

3. Ability to meet specified delivery schedule.

4. Conformance to project specifications.

5. Life cycle and maintenance costs.

6. The Owner’s and Engineer’s experience with the units manufactured by the Bidder.

1.12 PERFORMANCE BOND:

A. Should the total value of the awarded work to any Bidder be equal to or greater than $25,000, the Bidder to whom the contract is awarded shall furnish a Performance Bond in an amount equal to the total amount of the bid guaranteeing the faithful performance of the work in accordance with the terms of the contract. Such bond shall be with a surety company authorized to do business in the State of Iowa and in form acceptable to the Owner. Any costs associated with procuring the necessary bond shall be included in the bid prices. Bidder may furnish a Supply Bond in lieu of a Performance Bond.

1.13 EXECUTION OF CONTRACT:

A. The Bidder to whom the contract has been awarded shall enter into contract with the Owner within fifteen (15) days after the award has been made.

B. No bid shall be considered binding upon the Owner until the contract is properly executed by both parties and all required bonds are filed.

C. The contract, when executed, shall be combined with all the Contract Documents identified in the Material Agreement representing the entire agreement between parties. The Bidder shall not claim any modification resulting from representation or promise made by representative of the Owner or other persons.

1.14 DELIVERY/INSTALLATION DATE:

A. The desired delivery date for the materials is desired to be no later than the dates listed below:

1.	Engineered Laminated Wood Poles	March 15, 2025
2.	69 kV Insulators	March 15, 2025
3.	Overhead High Voltage Conductor	March 15, 2025
4.	Optical Ground Wire	March 15, 2025

Based on current material availability, both later and earlier delivery dates will be considered by the Owner and should be listed on the bid form.

B. The Owner agrees to indemnify the Supplier for circumstances beyond his control, including acts of God, acts of government, and related circumstances. Actions that cause delivery delays that are under the control of the Supplier are failure to allow sufficient time for manufacturing, failure to inform the Engineer of changes in the manufacturing schedule, or lack of cooperation in establishing effective measures by which delays could be minimized.

C. The Supplier shall provide monthly progress reports to the Engineer during the manufacturing of the equipment.

* * * END OF SECTION * * *

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name, and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name— Include Location)*:

BOND

Bond Number:

Date:

Penal sum _____ $ _____

(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
Title	Title

Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

_____

2. Does your company's home state or foreign country offer preferences to resident bidders, resident labor force preferences or any other type of preference to bidders or laborers? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156. This form has been approved by the Iowa Labor Commissioner.

309-6001 (09-15)

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

BID FORM No. 1
ENGINEERED LAMINATED WOOD POLES

TO: City Council
Webster City, Iowa

FROM: Bidder's Name: _____

Address: _____

_____

Pursuant to and in compliance with the Advertisement for Bids and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the Supplier on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the materials. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the Owner.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa as detailed in the Specifications.

4. Title to the material shall pass to the Owner upon completion of the contract and acceptance by the Owner.

5. This bid is void unless a materials contract based on this bid is entered into by the Owner and the Supplier within 30 days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the City of Webster City, in strict conformance with the Specifications and Bidding Documents, to-wit:

Item No.	Qty	Description	Unit Price	Extended Price
PART 1: SWEAZEY TO REISNER LINE				
A	1	Engineered Laminated Wood Pole #1 (ea.)	$ _____	$ _____
B	1	Engineered Laminated Wood Pole #2 (ea.)	$ _____	$ _____
C	1	Engineered Laminated Wood Pole #3 (ea.)	$ _____	$ _____
D	1	Engineered Laminated Wood Pole #5 (ea.)	$ _____	$ _____
E	1	Engineered Laminated Wood Pole #6 (ea.)	$ _____	$ _____
F	1	Engineered Laminated Wood Pole #7 (ea.)	$ _____	$ _____
G	1	Engineered Laminated Wood Pole #8 (ea.)	$ _____	$ _____
H	1	Engineered Laminated Wood Pole #17 (ea.)	$ _____	$ _____
I	1	Engineered Laminated Wood Pole #27 (ea.)	$ _____	$ _____
J	1	Engineered Laminated Wood Pole #29 (ea.)	$ _____	$ _____
K	1	Engineered Laminated Wood Pole #31 (ea.)	$ _____	$ _____
L	1	Engineered Laminated Wood Pole #32 (ea.)	$ _____	$ _____
M	1	Engineered Laminated Wood Pole #33 (ea.)	$ _____	$ _____
N	1	Engineered Laminated Wood Pole #34 (ea.)	$ _____	$ _____
O	1	Engineered Laminated Wood Pole #35 (ea.)	$ _____	$ _____
P	1	Engineered Laminated Wood Pole #37 (ea.)	$ _____	$ _____
Q	1	Engineered Laminated Wood Pole #38 (ea.)	$ _____	$ _____
R	1	Engineered Laminated Wood Pole #43 (ea.)	$ _____	$ _____
S	1	Engineered Laminated Wood Pole #44 (ea.)	$ _____	$ _____
T	1	Engineered Laminated Wood Pole #47 (ea.)	$ _____	$ _____
			TOTAL PART 1:	**$** _____

Item No.	Qty	Description	Unit Price	Extended Price
PART 2: REISNER TO CORN BELT LINE				
A	1	Engineered Laminated Wood Pole #1 (ea.)	$ _____	$ _____
B	1	Engineered Laminated Wood Pole #2 (ea.)	$ _____	$ _____
C	1	Engineered Laminated Wood Pole #5 (ea.)	$ _____	$ _____
D	1	Engineered Laminated Wood Pole #7 (ea.)	$ _____	$ _____
E	1	Engineered Laminated Wood Pole #12 (ea.)	$ _____	$ _____
F	1	Engineered Laminated Wood Pole #15 (ea.)	$ _____	$ _____
G	1	Engineered Laminated Wood Pole #16 (ea.)	$ _____	$ _____
H	1	Engineered Laminated Wood Pole #17 (ea.)	$ _____	$ _____
I	1	Engineered Laminated Wood Pole #23 (ea.)	$ _____	$ _____
			TOTAL PART 2:	**$** _____
			TOTAL BASE BID (PART 1 & 2):	**$** _____

Manufacturer _____

Manufacturing Location _____

Dimensions _____
(Attach a drawing of the proposed equipment with all dimensions)

Guaranteed Delivery Date _____

*All materials shall be F.O.B., Webster City, Iowa

Dated this ____ day of _____, 2024.

Bid Security Enclosed _____

Bidder Status Form Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Bidder_____

Address_____

Authorized Officer _____

Signature_____

Title_____

Telephone No._____

E-mail _____

BID FORM No. 2
69 kV INSULATORS

TO: City Council
Webster City, Iowa

FROM: Bidder's Name: _____

Address: _____

_____

Pursuant to and in compliance with the Advertisement for Bids and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the Supplier on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the materials. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the Owner.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa as detailed in the Specifications.

4. Title to the material shall pass to the Owner upon completion of the contract and acceptance by the Owner.

5. This bid is void unless a materials contract based on this bid is entered into by the Owner and the Supplier within 30 days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the City of Webster City, in strict conformance with the Specifications and Bidding Documents, to-wit:

Item No.	Qty	Description	Unit Price	Extended Price
A	171	69 kV Suspension Insulators (ea.)	$ _____	$ _____
B	345	69 kV Line Post Insulators (ea.)	$ _____	$ _____
C	12	69 kV Braced Line Post Assembly (ea.)	$ _____	$ _____
			TOTAL BID:	**$** _____

Manufacturer _____

Manufacturing Location _____

Dimensions _____
(Attach a drawing of the proposed equipment with all dimensions)

Guaranteed Delivery Date _____

*All materials shall be F.O.B., Webster City, Iowa

Dated this ____ day of _____, 2024.

Bid Security Enclosed _____

Bidder Status Form Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Bidder_____

Address_____

Authorized Officer _____

Signature_____

Title_____

Telephone No._____

E-mail _____

BID FORM No. 3
OVERHEAD HIGH VOLTAGE CONDUCTOR

TO: City Council
Webster City, Iowa

FROM: Bidder's Name: _____

Address: _____

_____

Pursuant to and in compliance with the Advertisement for Bids and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the Supplier on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the materials. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the Owner.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa as detailed in the Specifications.

4. Title to the material shall pass to the Owner upon completion of the contract and acceptance by the Owner.

5. This bid is void unless a materials contract based on this bid is entered into by the Owner and the Supplier within 30 days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the City of Webster City, in strict conformance with the Specifications and Bidding Documents, to-wit:

Item No.	Qty	Description	Unit Price	Extended Price
A	129.6	477 ACSR Hawk (Mft.)	$ _____	$ _____
B	2	3/8" EHS (Mft.) (1) Reel of 2,000'	$ _____	$ _____
			TOTAL BID:	**$** _____

Manufacturer _____

Manufacturing Location _____

Dimensions _____
(Attach a drawing of the proposed equipment with all dimensions)

Guaranteed Delivery Date _____

*All materials shall be F.O.B., Webster City, Iowa

Dated this ____ day of _____, 2024.

Bid Security Enclosed _____

Bidder Status Form Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Bidder_____

Address_____

Authorized Officer _____

Signature_____

Title_____

Telephone No._____

E-mail _____

BID FORM No. 4
OPTICAL GROUND WIRE

TO: City Council
Webster City, Iowa

FROM: Bidder's Name: _____

Address: _____

_____

Pursuant to and in compliance with the Advertisement for Bids and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the Supplier on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the materials. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the Owner.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa as detailed in the Specifications.

4. Title to the material shall pass to the Owner upon completion of the contract and acceptance by the Owner.

5. This bid is void unless a materials contract based on this bid is entered into by the Owner and the Supplier within 30 days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the City of Webster City, in strict conformance with the Specifications and Bidding Documents, to-wit:

Item No.	Qty	Description	Unit Price	Extended Price
A	43.2	Optical Ground Wire, 48 Fiber (Mft.)	$ _____	$ _____

TOTAL BID: $ _____

Manufacturer _____

Manufacturing Location _____

Guaranteed Delivery Date _____

*All materials shall be F.O.B., Webster City, Iowa

Dated this ____ day of _____, 2024.

Bid Security Enclosed _____

Bidder Status Form Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Bidder_____

Address_____

Authorized Officer _____

Signature_____

Title_____

Telephone No._____

E-mail _____

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL	**SURETY**
_____ *(seal)*	_____ *(seal)*
Contractor's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	**By:** _____
Signature	Signature *(attach power of attorney)*
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	**Attest:** _____
Signature	Signature
_____	_____
Title	Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:
   3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
   3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
   3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
   5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
   5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
   5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
   5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
      5.4.1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
      5.4.2. Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
   7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
   7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
   7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Definitions
   14.1. Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
   14.2. Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
   14.3. Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
   14.4. Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
   14.5. Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
16. Modifications to this Bond are as follows:

GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY:

A. Materials shall be supplied as specified herein, and shall be in accordance with the applicable NEMA, ANSI, IEEE, IPCEA, ASTM Standards, NEC, and the Standards of the Underwriter's Laboratory.

1.02 CONTRACT SCHEDULE:

A. The Owner will award one (1) contract for each of the following: Engineered Laminated Wood Poles, 69 kV Insulators, Overhead High Voltage Conductor and Optical Ground Wire as deemed in the best interest of the Owner. The following dates represent the proposed schedule for these Contracts. The material shall be delivered on or before the required delivery date.

July 23, 2024	Bid Opening
August 5, 2024	City Council Awards Contract(s)
August 6, 2024	Notice of Award(s) Issued
August 20, 2024	Supplier(s) furnishes bond(s) and signs contract(s)
March 15, 2025	Material Delivery

1.03 SUBMITTALS:

A. In addition to any drawings and data submitted with the bid, the Supplier, after award of the contract and before proceeding with the manufacture of the material, shall furnish the Engineer electronic copies of all design calculations, data sheets and drawings covering the design and installation of the material for approval.

B. The Supplier shall submit outline, layout, detailed, and wiring drawings of the material as applicable for approval. All drawings shall be approved prior to fabrication.

C. The Supplier shall supply to the Engineer an electronic copy in .pdf and an AutoCAD compatible format of each of the above-mentioned drawings for all submittals.

D. Drawings submitted shall be in 11 x 17 format.

E. Drawings shall be transmitted with a cover letter and such letter shall indicate the number of copies forwarded to the Engineer.

F. Approval of final Supplier's drawings or data by the Engineer shall not relieve the Supplier of any part of his responsibility to meet all the requirements of this specification or as to the correctness of his drawings and data. Further, approval of the Engineer does not relieve the Supplier of responsibility for the adequacy of the design.

G. Shop drawings for all material shall be submitted within 6 weeks of award.

H. Allow 2-3 weeks for the Engineer's review of the shop drawings.

I. See the Technical Specifications for additional submittal requirements.

1.04 SHIPPING AND DELIVERY PROCEDURES:

A. The Bid(s) shall include FOB storage facility or construction site in Webster City, IA. Delivery instructions will be given to the manufacturer at the time of shipment.

B. Supplier shall notify the Owner and Engineer when equipment is ready for shipment **at least 7 days prior to delivery**. In addition, seller shall advise the Engineer of method of shipment, projected routing and estimated time in shipment.

C. Supplier shall notify the Electric Utility Supervisor or Utility Technician by telephone when equipment is ready for shipment, **AT LEAST 48 HOURS PRIOR TO DELIVERY**. Contact information is provided at the beginning of this document.

D. Title to the equipment shall pass to the Owner upon acceptance testing and checkout of the equipment and receipt of all required documentation.

E. Deliveries Accepted: Monday-Friday, 8:00 AM – 4:00 PM, working days only.

F. The supplier shall investigate all limitations in regard to shipping the equipment. The equipment shall be shipped as completely assembled as transportation limits allow.

G. Supplier shall also coordinate delivery in advance with the substation construction Contractor to ensure the Contractor can schedule to be on-site during delivery of the equipment.

H. The Supplier shall coordinate delivery locations with the Owner and Engineer.

1.05 WARRANTY:

A. Bidder shall furnish a standard warranty package with the material.

B. Coverage length: Minimum 18 months from date of delivery.

C. The warranty shall be comprehensive, without deductibles, and shall cover all equipment supplied by Bidder, whether or not it was manufactured by the Bidder.

D. All repair parts, labor, and travel expenses necessary for repairs at the job site shall be included.

E. The Supplier shall repair or replace any materials found to be defective at no cost to the Owner.

F. Any costs incurred by the Owner due to defective materials supplied by the Supplier shall be reimbursed to the Owner by the Supplier.

1.06 TERMS AND CONDITIONS:

A. The Bidder is invited to attach their standard patent protection and liability limitation conditions, but shall not include any other terms and conditions to this bid. **Any terms or conditions submitted with the Bid other than the terms or conditions herein listed shall be grounds for disqualification of bid. All additional costs required to meet this specification shall be deemed to be included in the base price.**

* * * END OF SECTION * * *

SECTION 33 7116.30

TECHNICAL SPECIFICATIONS
LAMINATED WOOD POLES

PART 1 - GENERAL

1.01 SCOPE:

A. The Advertisement of Bids, Instruction to Bidders, Bid Form and General Requirements of the Contract are hereby made part of this section.

B. Work under this Section includes furnishing the laminated wood poles as herein specified and shown on the Drawings. This includes designing, shop detailing, furnishing, fabrication, and delivery of complete self-supporting laminated wood poles to the Owner's storage facility by truck under its own power.

1.02 SUBMITTALS:

A. See General Requirements for submittal procedures.

B. Shop Drawings:

1. Bidder shall include the following with Bid:

a. Preliminary design calculations and loading trees.

b. Calculated shipping weight of each structure.

c. Description of pole, including thickness, length, class or groundline moment capacity, species of timber, type of preservative, and cross-sectional geometry.

d. Data showing the design of the arm, arm connections, arm attachment plates, and brackets.

e. Preliminary drawings of structure and structure attachments, including drilling details.

2. For Approval Prior to Manufacturing:

a. Items in section 1.02.B.1.

b. Computation of stresses in connections and attachments.

c. Deflection calculations for all structure types and heights.

3. All design calculations and drawings shall be certified by a civil/structural engineer registered in the state where the pole is to be erected.

4. Structure components required by this specification shall be shop detailed by the Supplier. Detailing shall conform to the best modern practice for transmission structures. Supplier shall be responsible for the correctness of dimensions and details on the shop detail drawings. Approval of shop detail drawings by the Engineer shall not relieve the Supplier of this responsibility.

5. Drawing titles shall clearly indicate the name of the Owner soliciting the Bid, name of the project shown on the Bid drawings and documents, the structure number/type identification and such other notations as shall be necessary to properly identify drawings with this specification and contract.

6. Erection drawings shall be provided for each structure. The weight of all structure components shall be accurately and completely shown on both the shop detail and erection drawings. The erection drawings shall indicate the lifting points for one or two point erection pick up of each component.

1.03 PAYMENT:

A. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See General Requirements, for warranty requirements.

1.05 REFERENCES:

A. Structures shall comply with the following documents:

1. Attached dimensional sketches and conceptual design drawings for the structures to be supplied.

2. American Wood Preservers' Association (AWPA), current edition and revision.

3. American Institute of Timber Construction (AITC), current edition and revision.

4. American National Standards Institute (ANSI), current edition and revision.

5. American Society for Testing and Materials (ASTM), various standards, current edition, and revision.

6. National Electric Safety Code (NESC), current edition and revision.

1.06 DELIVERY, STORAGE, AND HANDLING:

A. Packing and Shipping:

1. Poles shall be properly blocked and restrained on trucks to prevent damage or distortion of components during shipment.

2. Supplier shall exercise every precaution to protect all shipments against damage in transit.

3. Bundling straps or bands and related items such as containers and crating shall be of sufficient strength to contain and protect the contents under shipping, handling, and storage yard conditions to which they will be subjected.

4. Containers shall be constructed in a manner that shall prevent pilferage of contents from the unopened container.

5. Trucks in which structures are shipped shall be reasonably clean and free from foreign matter which could in any way injure the material.

6. Any expense incurred by the Owner due to careless loading or shipment of material shall be considered as a legitimate back charge against the Supplier.

7. Methods of packing, loading, and shipping are subject to inspection by the Owner and/or Engineer.

8. Supplier shall coordinate the exact time of pole delivery to the storage location with the Owner in order that the unloading of the pole occurs in a timely manner.

1.07 SYSTEM DESCRIPTION

A. Proposals are requested for the laminated wood pole structures as depicted on the structure outlines, dimensions, and loads as shown on the Drawings attached to this specification. The Supplier shall make up the loading tree from these dimensional drawings according to the prescribed loading conditions as shown on the Drawings. Any questions or ambiguities concerning the loading drawings should be addressed to the Engineer.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Laminated Wood Systems.

B. Or Engineer approved equal.

2.02 MISCELLANEOUS MATERIALS:

A. The Supplier shall furnish miscellaneous hardware materials with the pole material kits as shown on the drawings, including but not limited to the following:

1. Machine bolts, nuts, locknuts, and washers of appropriate size.

2. Deadend tees, angle brackets, insulator plates, pole shims, structural steel arms, and other steel hardware materials required for the mounting of pole line hardware and insulators.

2.03 LAMINATE WOOD POLE CONSTRUCTION:

A. General:

1. Supplier shall be fully responsible for structure designs.

2. Structures designed by Supplier shall be designed in accordance with the requirements of this specification and the dimensional loading drawings.

3. Lumber shall be west coast region Douglas Fir or Southern Pine as defined in section 4.1 ANSI 05.2, current edition and revision.

4. Completed structures shall present as pleasing and aesthetic appearance as possible consistent with the design requirements of this specification.

5. All lumber for laminated poles shall be free of timber breaks.

6. Decay in any form is not permitted, including decay in knots in any form.

7. Moisture content shall be per ANSI requirements.

8. All laminated poles shall have been glued with a wet use adhesive as specified in ANSI/AITC Standard A190.1

9. Arms shall be designed according to dimensions shown on the drawing, with appropriate length and cross-sectional size, so the end of the arm is at the specified height.

B. Manufacturing:

1. The selection, preparation, assembly, and bonding of the laminations shall be in accordance with ANSI/AITC A190.1 and as specified herein.

a. Edge Joints – Unglued edge joints shall be permitted for multiple width lamination lay-ups as permitted by ANSI/AITC A190.1. The

non-cut edge joint gaps shall be limited to 1/4" and occasionally to a maximum of 3/8". The cut edge joint gap shall be limited to 3/8" nominal width, for 10" and less, 1/2" for 12" and less, 3/4" for 14 and less, 7/8" for 16" and less, and 1" for over 16".

b. End Joints – End joints of laminations shall be pre-glued and cured before assembly of face joint into structural members. Spacing of the end joints shall be as specified in ANSI A190.1.

c. Repairs – Structural repairs as defined in ANSI/AITC A190.1 are allowed. End blocks as defined in ANSI A190.1 are prohibited.

d. Second Stage Gluing – When two or more laminated members that are over 2" in net thickness are glued together, a gap-filling adhesive shall be used in accordance with ANSI/AITC A190.1.

2. Adhesives for structural laminating shall conform to all applicable requirements of ANSI/AITC A190.1 to comply with wet conditions of use and be compatible with the selected preservative solution to be used. Adhesives containing urea shall not be used.

3. The relative humidity of the manufacturing area shall be maintained at such a level that the moisture content will not change substantially during the manufacturing process. All bonding shall be performed as soon as practical after checking moisture content.

4. Drilling locations shall be as specified as shown on the Drawings. Drilling on specified poles and square cut roofing on all poles shall be completed before the treatment process.

5. The dimensions and tolerances shall be as follows:

a. Sizes and tolerances for poles shall be in accordance with the following:

(1) Depth +/- 1/2"

(2) Width +/- 1/4"

(3) Squareness +/- 3/8" per foot of depth

(4) Length of poles under fifty feet, +6", -3", poles over fifty feet, +12", -6"

b. Holes shall be a minimum of 1/16" and a maximum of 1/8" larger than the bolt diameter.

c. The tolerance on dimensions for hole location shall be +/- 1/8".

6. Laminated poles constructed of Douglas Fir shall be incised prior to treatment. This incising shall be for the full pole length and on all four sides with a minimum depth of 5/8". The pattern shall minimize any damage to the surface of the pole by splintering and shall be a sufficiently dense pattern to assure uniform treatment.

7. All laminated poles constructed of Douglas Fir shall be through bored prior to treatment. This drilling is in the zone extending 2' above and 3' below the standard ground line (as defined in ANSI 05.1), or as otherwise designated. For drilling, the boring shall be 3/16" diameter and shall be spaced in a diamond pattern so that holes within a given diamond are approximately 6" apart. Drilled holes on the edge faces shall be omitted for the first 2 laminations on each side. Care shall be taken on the edge faces to ensure that drill holes do not penetrate along glue lines.

C. Appearance:

1. Laminated structural members shall be manufactured in accordance with the industrial appearance grade as defined in AITA 110 and as required as follows:

   a. Pole corners shall be eased full length to a minimum of 3/4 inch and a maximum of 1 inch. The radius may be reduced to ½" inch for wireless telecommunication tower applications.

   b. After gluing, all members shall be surfaced, at least on the two sides where glue lines are exposed.

   c. Splintering around the holes caused by drilling shall be kept to a minimum. Holes shall be drilled perpendicular to the starting and finishing faces of members with a uniform cross section unless otherwise specified, or as specified on the plans and drawings of members with a variable cross section.

   d. Occasional laminations may contain wane, may be scant of the specified width, or both. These conditions in a lamination shall not be more than 1/2" in width.

   e. Medium splits in the outside laminations of vertical mounted members and short splits in the top laminations of horizontal and diagonally mounted members, developing at the laminating plant after gluing, are permitted.

   f. All voids in the roof of poles shall be filled (after treating) with a void-filling compound unless otherwise specified. The compound shall be sanded or scraped smooth after patching. Wood dowels may be used to repair improperly drilled holes, as long as the defect does not affect the structural integrity of the member.

D. Structure Deflection and Cambering:

1. The camber or straightness tolerance for poles is +/- 1/2 inch for members up to 20 feet. For members over 20 feet, the tolerance is increased by +/- 1/2" per each additional 20', or fraction thereof, but should not exceed +/- 2". These tolerances are at the time of manufacture without allowance for dead load deflection and should be used for straight or slightly cambered members and not more sharply curved members.

2. Poles for switch structure application shall have a deflection limit of 2% for the unfactored NESC Heavy loading condition. All other structures shall have a defection limit of 1.5% for the unfactored 60º F, initial loading condition.

E. Marking and Identification:

1. The supplier's code or trademark, plant location and the year of treatment, code letters denoting the pole's species and preservative used, size designation, equivalent class and the length of the pole shall be included on a metal tag affixed to the pole.

2. Metal tag shall be on one face a distance of 4'-6" up from groundline of the pole. Component marking shall be the same as shown on the shop drawings.

3. The approximate treated weight of the pole shall be marked at the balance point of the pole.

4. For poles, which are cambered, the direction of camber shall be clearly marked on the top of the pole.

F. Treatment:

1. All laminate wood poles shall be pressure preservative treated in accordance with AWPA specifications.

G. Inspection and Acceptance:

1. All material shall be subject to inspection.

2. No material shall be shipped until factory inspection has been made or manufacturer's guarantee has been submitted and approved unless authority to ship without inspection has been received in writing from the Owner.

3. Preliminary acceptance will be at destination following receipt of the material complete and in good order. Where inspection has been made at the factory, preliminary acceptance at destination will be dependent primarily upon inspection for completeness of items and damage in shipment. Preliminary acceptance will be assumed if, within 30 calendar

days after receipt of materials, the Owner does not notify the Supplier either of earlier preliminary acceptance or of damages, shortages, or defects.

2.04 FOUNDATION REQUIREMENTS:

A. Supplier shall determine the setting depth, hole size and reinforcements as required for the complete foundation system design of each laminated wood structure.

B. The Supplier shall design the foundation system based on the geotechnical reports, soil boring logs, or other subsurface information as provided by the Owner. When subsurface information is not furnished by the Owner, the Supplier shall design the foundation based on Soil Classification 6 as defined in the Chance Encyclopedia of Anchoring.

C. Poles shall be direct buried with a minimum of 10% +4 feet of pole height, unless shown otherwise on the loading tree drawings.

D. Foundation reinforcements and miscellaneous hardware materials necessary for foundation installation shall be included in the material kit furnished with the pole.

* * * END OF SECTION * * *

TECHNICAL SPECIFICATIONS
SUSPENSION INSULATORS

PART 1 - GENERAL

1.01 SCOPE:

A. The Advertisement of Bids, Instruction to Bidders, Bid Form and General Requirements of the Contract are hereby made part of this section.

B. Work under this Section includes furnishing the suspension insulators as herein specified.

1.02 SUBMITTALS:

A. See General Requirements for submittal procedures.

B. Shop Drawings:

1. Dimensions.

2. Electrical and mechanical descriptive data.

3. Performance data.

1.03 PAYMENT:

A. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Hubbell/Ohio Brass

B. LAPP

C. Maclean Power Systems

D. NGK Locke

E. Vanguard Electric

2.02 INSULATOR CONSTRUCTION

A. Insulator shall consist of a single-piece polymer body and fiberglass rod core.

B. Fiberglass core shall consist of boron free electrical grade epoxy fiberglass rod.

C. Glass fibers shall be boron free electrical grade type “E-CR”.

D. The insulator core shall be mechanically and electrically sound free from dry fibers, cracks, fractures, inclusions, and manufacturing defects.

E. Polymer housing shall be made of high temperature silicone rubber with a minimum thickness of 3 mm.

F. Color: ANSI No. 70 light gray.

G. Metal end fittings shall be ferrous and hot dipped galvanized.

H. End fittings shall be directly compressed onto the rod.

I. Minimum Ratings:

Nominal voltage	69 kV
Rod Diameter (in)	5/8
Section Length (in)	42
Dry Arc Distance (in)	32
Leakage distance (in)	94
60 Hz flashover, dry (kV)	325
60 Hz flashover, wet (kV)	295
Critical Flashover, positive (kV)	565
Critical Flashover, negative (kV)	600
SML Rating (lbs)	25K
RTL Rating (lbs)	12.5K
Ground End Fitting	Y Clevis
Line End Fitting	ANSI Ball

* * * END OF SECTION * * *

SECTION 33 7123.16

TECHNICAL SPECIFICATIONS
LINE POST INSULATORS

PART 1 - GENERAL

1.01 SCOPE:

A. The Advertisement of Bids, Instruction to Bidders, Bid Form and General Requirements of the Contract are hereby made part of this section.

B. Work under this Section includes furnishing the line post insulators as herein specified.

1.02 SUBMITTALS:

A. See General Requirements, for submittal procedures.

B. Shop Drawings:

1. Dimensions.

2. Electrical and mechanical descriptive data.

3. Performance data.

1.03 PAYMENT:

A. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Hubbell/Ohio Brass

B. LAPP

C. Maclean Power Systems

D. NGK Locke

E. Vanguard Electric

2.02 INSULATOR CONSTRUCTION:

A. Insulator shall consist of a single-piece polymer body and fiberglass rod core.

B. Fiberglass core shall consist of electrical grade epoxy fiberglass rod.

C. Glass fibers shall be boron free electrical grade type “E”.

D. The insulator core shall be mechanically and electrically sound free from dry fibers, cracks, fractures, inclusions, and manufacturing defects.

E. Polymer housing shall be made of high temperature silicone rubber with a minimum thickness of 3 mm.

F. Color: ANSI No. 70 light gray.

G. Metal end fittings shall be ferrous and hot dipped galvanized.

H. End fittings shall be directly compressed onto the rod.

I. Minimum Ratings:

Nominal voltage	69 kV
Rod Diameter (in)	2.5
Section Length (in)	43.5
Dry Arc Distance (in)	35
Leakage distance (in)	90
60 Hz flashover, dry (kV)	343
60 Hz flashover, wet (kV)	317
Critical Flashover, positive (kV)	589
Critical Flashover, negative (kV)	678
Max Design Tension (lbs)	7,500 lbs
SCL Rating (lbs)	4,340 lbs
End Fitting	Two Hole Blade
Base	Al. Bendable Gain
Pitch	12º

* * * END OF SECTION * * *

TECHNICAL SPECIFICATIONS
BRACED LINE POST INSULATOR ASSEMBLY

PART 1 - GENERAL

1.01 SCOPE:

A. The Advertisement of Bids, Instruction to Bidders, Bid Form and General Requirements of the Contract are hereby made part of this section.

B. Work under this Section includes furnishing the braced line post assembly insulators as herein specified.

1.02 SUBMITTALS:

A. General Requirements for submittal procedures.

1.03 PAYMENT:

A. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Hubbell/Ohio Brass

B. LAPP

C. Maclean Power Systems

D. NGK Locke

E. Vanguard Electric

2.02 INSULATOR CONSTRUCTION:

A. Polymer insulators shall consist of a single-piece polymer body and fiberglass rod core.

B. The fiberglass core shall consist of electrical grade epoxy fiberglass rod.

C. Strands shall be axially aligned for maximum tensile strength.

D. Glass fibers shall be electrical grade type “E”.

E. Rod shall be filled to a minimum of 50% by volume with glass fibers.

F. The insulator core shall be mechanically and electrically sound free from dry fibers, cracks, fractures, inclusions, and manufacturing defects.

G. Polymer housing shall be made of high temperature silicone rubber with a minimum thickness of 3 mm.

H. Color: ANSI No. 70 light gray.

I. Metal end fittings shall be ferrous and hot dipped galvanized.

J. End fittings shall be directly compressed onto the rod.

K. Minimum Ratings: Horizontal Line Post

Nominal voltage	69 kV
Rod Diameter (in)	2.5
Section Length (in)	43.5
Dry Arc Distance (in)	35
Leakage distance (in)	90
60 Hz flashover, wet (kV)	317
Critical Flashover, positive (kV)	589
Max Design Tension (lbs)	7,500 lbs
SCL Rating (lbs)	4,340 lbs
End Fitting	Two Hole Blade
Base	Al. Bendable Gain

L. Minimum Ratings: Suspension type

Nominal voltage	69 kV
Rod Diameter (in)	5/8
Section Length (in)	42
Dry Arc Distance (in)	32
Leakage distance (in)	94
60 Hz flashover, wet (kV)	295
Critical Flashover, positive (kV)	565
SML Rating (lbs)	25K
RTL Rating (lbs)	12.5K
Ground End Fitting	Y Clevis
Line End Fitting	ANSI Ball

2.03 HARDWARE:

A. The braced line post assembly shall include an anchor shackle (AS-50-BNK), socket Y-clevis (SYC-30) and turnbuckle (TB-3/4-JJ-6-BNK).

1. Acceptable manufacturers:

a. Anderson.

b. Or equal.

* * * END OF SECTION * * *

TECHNICAL SPECIFICATIONS
OVERHEAD HIGH VOLTAGE CONDUCTOR

PART 1 - GENERAL

1.01 SCOPE:

A. The Advertisement of Bids, Instruction to Bidders, Bid Form and General Requirements of the Contract are hereby made part of this section.

B. Work under this Section includes furnishing the overhead high voltage conductor as herein specified.

1.02 SUBMITTALS:

A. See General Requirements for submittal procedures.

B. Shop Drawings:

1. Dimensions.

2. Electrical and mechanical descriptive data.

3. Performance data.

1.03 PAYMENT:

A. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 WARRANTY:

A. See General Requirements, for warranty requirements.

PART 2 - PRODUCTS

2.01 PHASE CONDUCTORS - ACSR:

A. Specific transmission line phase conductors are 477 kcmil Hawk.

B. Conductors to be in accordance with the requirements of the National Electric Safety Code for Grades B and C construction.

C. Conductors to conform to the latest ASTM specifications.

D. Material or combinations of materials should not corrode excessively under the prevailing conditions.

E. The design and shape shall assume an effective means of controlling and limiting galloping conditions.

F. Acceptable Manufacturers:

1. Southwire.

2. Alcoa.

3. General Cable.

4. Nexans.

5. Or approved equal.

2.02 OVERHEAD SHIELD WIRE:

A. Specific conductor size to be furnished shall be 3/8 inch Extra High Strength Steel (EHS).

B. Consist of seven strands of steel.

C. Each strand shall be hot-dripped galvanized with class B coating.

D. Conductor shall have a minimum strength rating of 15,400 lbs.

E. Acceptable manufacturers:

1. National Strand.

2. Or equal.

2.03 PACKAGING REQUIREMENTS:

A. The conductor shall be furnished on non-returnable reels.

B. Reels used for shipment shall be in good condition and free of sharp projections that would damage the conductor.

C. Reels shall be shipped upright on flange edges (not on flange sides) to facilitate unloading.

D. All cables delivered shall be capable of being unloaded from three (3) sides of the truck bed with a forklift and from above with an overhead crane.

E. The conductor shall be protected with wood lagging or composite foil/hardened heavy corrugated cardboard or equivalent to limit solar heating of the cable and to prevent damage during shipping, handling, and storage.

F. Both ends of the cable shall be available for testing without removal of the protective cover.

G. Both ends of the cable shall be sealed with a moisture resistant end cap.

H. Reel sizes and approximate weights shall be submitted with the bid.

I. Conductor shall be shipped on reels.

J. Conductor shall be shipped on reels in the lengths as specified. The length tolerance shall be plus two (2) percent, minus zero (0) percent.

1. Conductor:

Reel # 1, 2, 3	5,500 ft.
Reel # 4, 5, 6	6,700 ft.
Reel # 7, 8, 9	8,800 ft.
Reel # 10, 11, 12	4,000 ft.
Reel # 13, 14, 15, 16, 17, 18	9,100 ft.

K. Reel tag information shall include:

1. Destination
2. Manufacturer's name and serial number
3. Date of manufacture
4. The gross and tare weights
5. Reel Number
6. The size, type, stranding, length, and net weight of the cable
7. Description of the cable

* * * END OF SECTION * * *

TECHNICAL SPECIFICATIONS
OPTICAL GROUND WIRE

PART 1 - GENERAL

1.01 SCOPE:

A. The Advertisement of Bids, Instruction to Bidders, Bid Form and General Requirements of the Contract are hereby made part of this section.

B. Work under this Section includes furnishing the optical ground wire (OPGW) as herein specified.

1.02 SUBMITTALS:

A. See General Requirements for submittal procedures.

B. Information to be submitted:

1. Dimensions.

2. Electrical and mechanical descriptive data.

3. Test reports.

4. Attenuation specifications.

5. Quality control inspection results.

6. Available reel sizes and the maximum length of cable of the specified configuration that could be shipped on each standard reel size. The final reel configuration (including number of reels and length per reel) will be specified by the Owner on the Purchase Order.

7. Installation instructions, including:

a. Maximum stringing tensions
b. Recommended operating tensions.
c. Detailed instructions and precautions to be observed during installation.
d. Other information necessary for the installation or operation may be deemed necessary.

1.03 PAYMENT:

A. Payment shall be at the Contract unit prices as shown on the Bid Form.

1.04 REFERENCES:

A. The OPGW must meet the requirements set forth herein and in the latest edition of IEEE Standard 1138 “IEEE Standard Construction of Composite Fiber Optic Overhead Ground Wire (OPGW) for Use on Electric Utility Power Lines.”

B. American Society of Testing Materials (ASTM) applicable version, current edition.

PART 2 - PRODUCTS

2.01 FIBER CRITERIA:

A. The optical fibers shall be Corning SMF-28TM, Allwave ZWP, Alcatel or approved equivalent.

B. All optical fibers shall be sufficiently free of surface imperfections and inclusions to meet the optical, mechanical, and environmental requirements of this specification.

C. Optical fibers shall not be spliced.

D. Optical fibers from different manufacturers shall not be included in the same cable or mixed in any order.

E. Individual fiber attenuation limits shall be not greater than 0.35dB/km @ 1310 nm and not greater than 0.22 dB/km @ 1550 nm.

F. The maximum point discontinuity shall be no greater than 0.1 dB.

G. The optical fibers should be proof-tested in order to guarantee long-term reliability under service conditions. The minimum acceptable tensile proof stress test shall be 100 kpsi.

H. Each cable’s fiber shall have traceability back to the original fiber manufacturer's database.

2.02 FIBER HOUSING:

A. The fiber tubes shall be made of stainless steel or aluminum and meet the following guidelines:

1. Aluminum Clad Steel Wires according to ASTM B415 or equivalent.

2. Aluminum Alloy Wires according to ASTM B398 or equivalent.

B. The protection tube shall be filled with waterproof gel and guaranteed to be leak-proof.

C. The filling gel shall act as a lubricant to permit the fibers to "float" freely within the buffer tubes. It shall be non-hygroscopic, non-toxic, non-nutrient to fungus, and electrically non-conductive.

D. The fiber coating and buffer shall be easily strippable for splicing and termination by means of a mechanical stripping tool, without damaging the fiber and without the use of materials or methods considered being hazardous or dangerous.

E. The inside diameter of the buffer tube shall be of appropriate size to allow free movement of the fibers during cable contraction or elongation resulting from thermal, tensile or vibration loads.

F. The outer lay direction shall be left hand.

2.03 CABLE CONSTRUCTION:

A. The fibers shall be bundled in four (4) groups of 12 fibers, for a total of 48 fibers.

B. Each fiber in a tube shall be distinguishable from the other fibers by means of color-coding.

C. In order to protect against lightning strikes, the minimum wire diameter for the outermost layer shall be approximately 3.00 mm.

2.04 OPGW ELECTRICAL PROPERTIES:

A. The cable shall have a minimum fault current rating of 64 kA^2•sec.

B. The fault current rating shall be calculated using an ambient temperature of 40°C and a maximum cable temperature limit of 85°C. Cable specifications that clearly detail the fault current rating of the cable and both temperature limits shall be provided with the bid.

2.05 OPGW MECHANICAL PROPERTIES:

A. The cable outside diameter shall have a maximum diameter of 0.504".

B. The cable weight shall be specified in the bid, with a maximum allowable of 0.341 lbs/foot.

C. The cable shall have a minimum calculated breaking strength of 17,264 lbs.

D. The rated breaking strength must be computed without the optical units being considered as load bearing elements.

E. Installation and operating temperatures for the cable shall be between -40°C to +85°C.

F. Each end of the cable shall have end caps in order to prevent moisture ingress into the cable during shipping, storage, or installation.

G. The OPGW cable shall meet the following sag and tension criteria:

1. The maximum sag and tension at everyday condition of 60°F temperature, 0 inch ice and 0 psf wind shall be 3.5 feet and 1,800 lbs respectively for a 300’ span.

2. The maximum sag and tension at NESC heavy condition of 0°F temperature, ½ inch ice and 4 psf wind shall be 4.7 feet and 4,000 lbs respectively for a 300’ span.

3. The Supplier shall supply cable coefficients for use in the PLS-CADD® software program.

2.06 ACCEPTABLE CABLE MANUFACTURERS:

A. AFL DNO-12496 CC-19/58/504, no equal.

2.07 PACKAGING REQUIREMENTS:

A. The conductor shall be furnished on non-returnable reels.

B. Reels used for shipment shall be in good condition and free of sharp projections that would damage the conductor.

C. Reels shall be shipped upright on flange edges (not on flange sides) to facilitate unloading.

D. All cables delivered shall be capable of being unloaded from three (3) sides of the truck bed with a forklift and from above with an overhead crane.

E. The conductor shall be protected with wood lagging or composite foil/hardened heavy corrugated cardboard or equivalent to limit solar heating of the cable and to prevent damage during shipping, handling, and storage.

F. Both ends of the cable shall be available for testing without removal of the protective cover.

G. Both ends of the cable shall be sealed with a moisture resistant end cap.

H. Reel sizes and approximate weights shall be submitted with the bid.

I. Conductor shall be shipped on reels in the lengths as specified. The length tolerance shall be plus two (2) percent, minus zero (0) percent.

1. Optical Ground wire:

Reel # 1	5,500 ft.
Reel # 2	6,700 ft.
Reel # 3	8,800 ft.
Reel # 4	8,200 ft.
Reel # 5	14,000 ft.

J. Reel tag information shall include:

1. Destination
2. Manufacturer's name and serial number
3. Date of manufacture
4. The gross and tare weights
5. Reel Number
6. The size, type, stranding, length, and net weight of the cable
7. Description of the cable

2.08 FACTORY TESTING:

A. The Manufacturer shall conduct tests according to industry-standard requirements for OPGW cable as called for by IEEE 1138. These tests shall be performed routinely on sample sizes sufficient to verify quality and continuity or as specified.

B. The continuity and attenuation of each fiber on each reel of cable supplied shall be tested prior to shipment. Testing shall be done with an optical time domain reflectometer (OTDR). All fibers shall be tested at both 1310 and 1550 nm wavelengths. Test data shall include total fiber length, total attenuation, and attenuation per unit length. The results shall be recorded and provided with the cable when shipped. Three (3) copies of these test reports shall be submitted to the Engineer.

C. Tests shall be routinely performed on OPGW cables of like construction to those being supplied. These tests shall be performed by the Manufacturer or by an independent testing laboratory. Copies of test reports shall be submitted which demonstrate compliance with the testing requirements set forth in IEEE 1138.

D. The supplier shall submit with the bid evidence that Suppliers' cables of similar construction (i.e. OPGW design) have undergone type-testing to verify that no axial strain will be imposed on the optical fibers at maximum installation tensions. Provide a complete description of test results, test equipment used and the date of the test.

E. The Owner reserves the right to inspect the Manufacturer's facilities and witness all tests performed on the cable per this Specification. The Manufacturer shall notify the Engineer of the cable testing no less than three (3) weeks prior to testing.

*** END OF SECTION***

MATERIAL AGREEMENT

THIS AGREEMENT made as of _____, 2024 between _____(hereinafter called the "Supplier"), and **City of Webster City** (hereinafter called the "Owner"),

WITNESSETH, that the Supplier and the Owner for the considerations hereinafter named agree as follows:

1.01 SCOPE OF WORK.

A. The Supplier agrees to sell and deliver to the Owner and the Owner agrees to purchase and receive from the Supplier the equipment in the Bid, __ in strict accordance with the documents entitled "**Furnishing Transmission Line Materials - 2024**" for the City of Webster City/Municipal Utilities.

1.02 **THE CONTRACT DOCUMENTS.**

A. The Contract Documents shall consist of this written Agreement, Bid Form, Notice of Public Hearing and Letting, Instructions to Bidders, Addendums issued numbers _, Insurance Policies and Certificates, General Requirements, Performance Bond, drawings and specifications, tests and engineering data, approved change orders, Supplier's Requests for Payment, and all addenda issued by the Owner prior to the awarding of the Contract (collectively, the "Contract Documents"). All of the Contract Documents listed in this Material Agreement are hereby incorporated by this reference as fully as if they were set out in this Agreement in full, all of which documents and instruments are incorporated by the signature of the parties hereto. The Unit(s) will be designed, manufactured, tested, shipped, sold and invoiced in accordance with_____(Supplier) bidding document, revision - _____ , dated _____ .

1.03 **TIME OF COMPLETION.**

A. The work to be performed under this contract shall be commenced upon execution of this Agreement. Material shall be fully delivered by _____*[To be updated with Supplier's guaranteed delivery date].*

1.04 **THE CONTRACT SUM.**

A. The Owner shall pay the Supplier for the equipment, in current funds: The Owner shall pay to the Supplier for performance of the work encompassed by this Agreement, and the Supplier will accept as full compensation therefore the lump sum of $_____, subject to adjustment as provided by the Contract Documents, to be paid by progress payments in cash or its equivalent in the manner provided for in the Contract Documents.

1.05 **PAYMENT.**

A. Upon shipment of the complete equipment, the Supplier shall submit to the Owner a detailed statement of the equipment shipped and installed. The Owner shall, within thirty (30) days after delivery receipt of the material and associated invoice, pay the Supplier ninety-five percent (95%) of the contract price of the material.

B. The Owner shall within thirty (30) days after final completion, field testing, required test reports, record drawings, final documentation, and certification by Engineer, pay the Supplier the remaining five percent (5%) of the contract price.

1.06 **LIQUIDATED DAMAGES.**

A. Not applicable.

1.07 **TERMINATION.**

A. This Agreement may be terminated by either party upon seven (7) days written notice should the other party breach the terms of this Agreement and, that party fails to initiate and diligently pursue a cure to such breach within the seven (7) day period after receiving such written notice. Further, any delay, suspension or termination of an order for convenience will be subject to Supplier's Cancellation and Delay Policy, as attached to Supplier's bid.

1.08 **ASSIGNMENT.**

A. The Supplier shall not assign all of his rights or obligations under this Agreement without the express written consent of the Owner. Upon any assignment even though consented to by the Owner, the Supplier shall remain liable for the performance of the work under this Agreement.

1.09 **PARTIAL INVALIDITY.**

A. If any provisions of this Agreement are in violation of any statute or rule of law of the State of Iowa, then such provisions shall be deemed null and void to the extent that they may be violative of law, but without invalidating the remaining provisions hereof.

1.10 **WAIVER.**

A. No waiver of any breach of any one of the agreements, terms, conditions or covenants of this Agreement by the Owner shall be deemed or imply or constitute a waiver of any other agreement, term, condition or covenant of this Agreement. The failure of the Owner to insist on strict performance of any agreement, term, condition or covenant, herein set forth, shall not constitute or be construed as a waiver of the Owner's rights thereafter to enforce any other default; neither shall such failure to insist upon strict performance be deemed sufficient grounds to enable the Supplier to

forego or subvert or otherwise disregard any other agreement, term, condition or covenant of this Agreement.

1.11 **ENTIRE AGREEMENT.**

A. The within Agreement, together with the Contract Documents, constitute the entire agreement of the parties hereto. No modification, change, or alteration of the within Agreement shall be of any legal force or effect unless in writing, signed by all the parties.

1.12 **COUNTERPARTS, COPIES SAME AS ORIGINALS, ELECTRONIC AND SCANNED SIGNATURES PERMITTED**:

A. This Agreement may be executed in several counterparts and each such counterpart shall be deemed an original. Any photocopies, electronic copies, or scanned copies of this Agreement shall be given full force and effect as the original(s). Given the distance between the parties and the time-sensitive nature of this Agreement, the parties stipulate that each party and/or their individual representatives may execute this Agreement using an electronic or scanned signature. Such electronic or scanned signatures shall be given full effect by the parties.

1.13 **GOVERNING LAW.**

A. Venue for any and all legal actions regarding or arising out of the transaction covered herein shall be solely in the District Court in and for Hamilton County, State of Iowa or the United States District Court for the State of Iowa. This transaction shall be governed by the laws of the State of Iowa.

1.14 **BOND:**

A. If the total value of this contract exceeds $25,000, Supplier shall provide a performance bond or supply bond as required by Iowa law valued at 100% of the contract amount.

1.15 **INDEMNIFICATION**:

A. To the fullest extent permitted by law, the Supplier shall defend, indemnify, and hold harmless Owner, its agents, representatives, and employees (Indemnitees) from and against all claims, damages, losses and expenses, including, but not limited to, attorney's fees, arising out of or resulting from or in connection with performance of the work, but only to the extent caused by the negligent acts or omissions of the Supplier, a Sub-supplier, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity or contribution which would otherwise exist, as to any party or person described in Contract Documents.

1.16 **INSURANCE REQUIREMENTS**

A. The Supplier shall secure and maintain such insurance policies as specified in the General Requirements of this Contract.

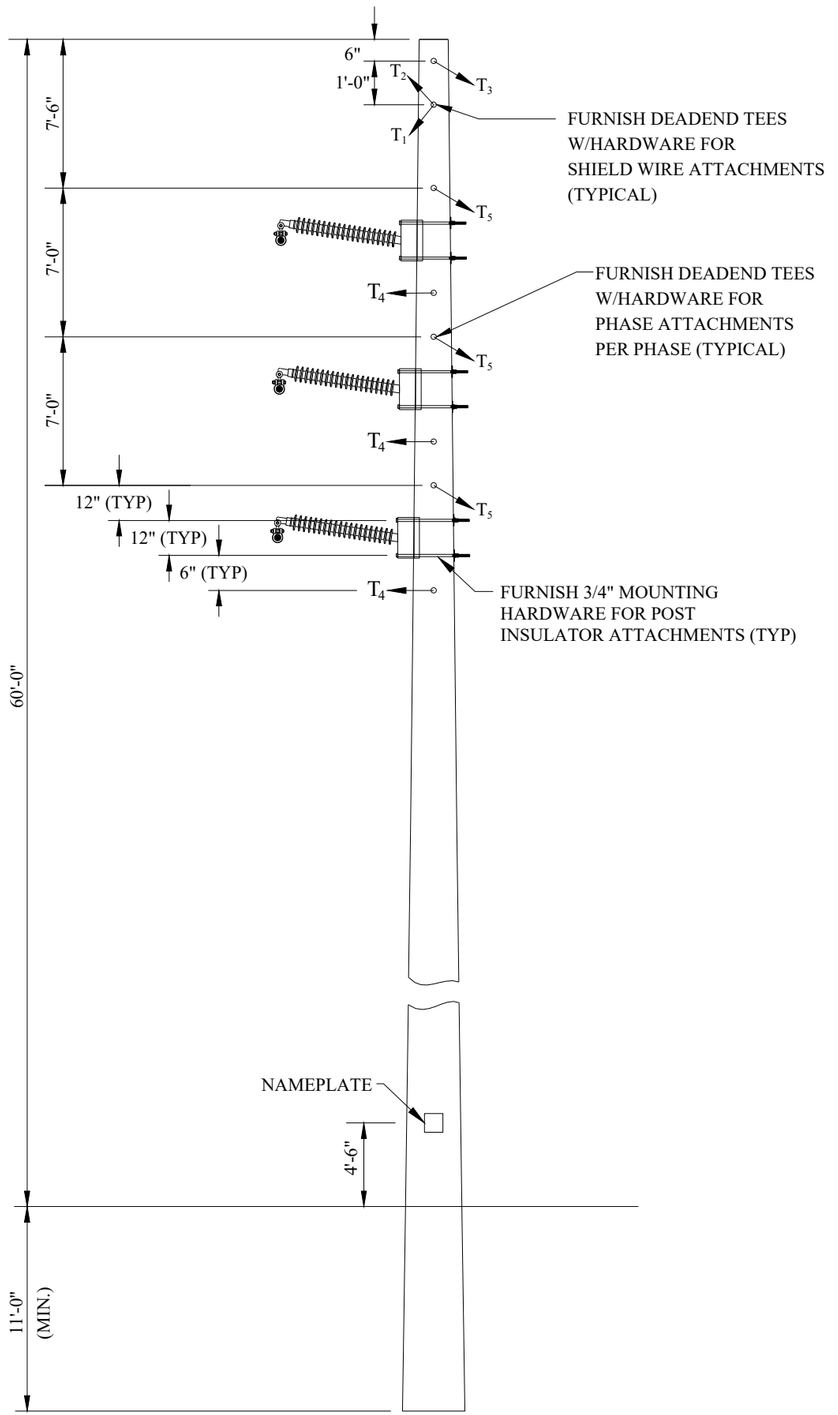
1.17 **NOTICES.**

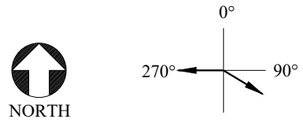
A. All notices, requests, demands and other communications given or to be given under this Agreement shall be in writing and shall be deemed to have been duly given when served if served personally, or on the second day after mailing if mailed by first class mail, registered or certified, postage prepaid, and properly addressed to the party to whom notice is to be given as set forth below.

If to Owner:	If to Supplier:
City of Webster City	
400 Second Street	
Webster City, IA 50595	

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives all as of the day and year first above written.

City of Webster City, Iowa	
Owner	Supplier
Sign:	Sign:
Print:	Print:
Title:	Title:
ATTEST:	ATTEST:
Sign:	Sign:
Print:	Print:
Title:	Title:





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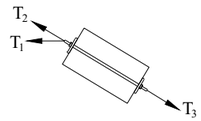
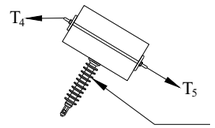


STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 9,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 70				WIND SPAN = 70					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	245°	550	240	1200	100	0	0
2	3/8" EHS	1	120°	550	200	1130	100	0	0
3	OPGW	1	295°	1650	840	3020	390	1650	3020
4	477 ACSR HAWK	1	254/270/286°	550	300	1170	130	0	0
5	477 ACSR HAWK	1	120°	1650	1000	3360	460	1650	3360

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #1 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

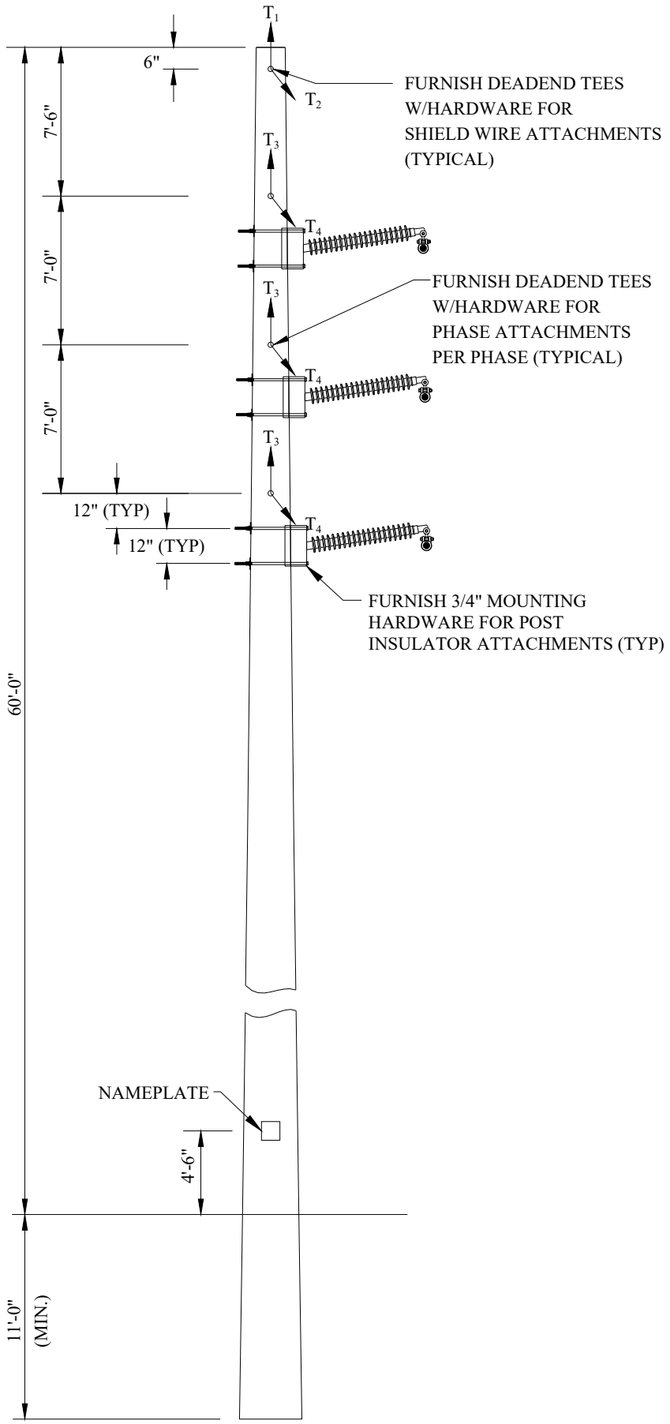
DGR ENGINEERING

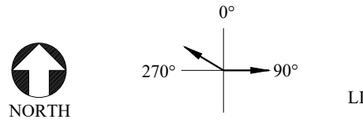
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1007of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-1





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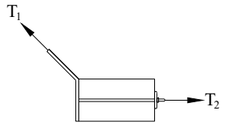
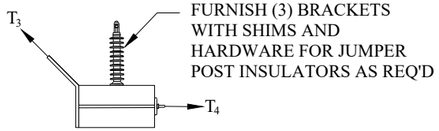


STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 14,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 300				WIND SPAN = 170					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	301°	1650	840	3020	390	0	0
2	OPGW	1	90°	3575	2270	5720	1660	3575	5720
3	477 ACSR HAWK	1	301°	1650	1000	3360	460	0	0
4	477 ACSR HAWK	1	90°	5500	3570	7810	2620	5500	7810

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #2 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

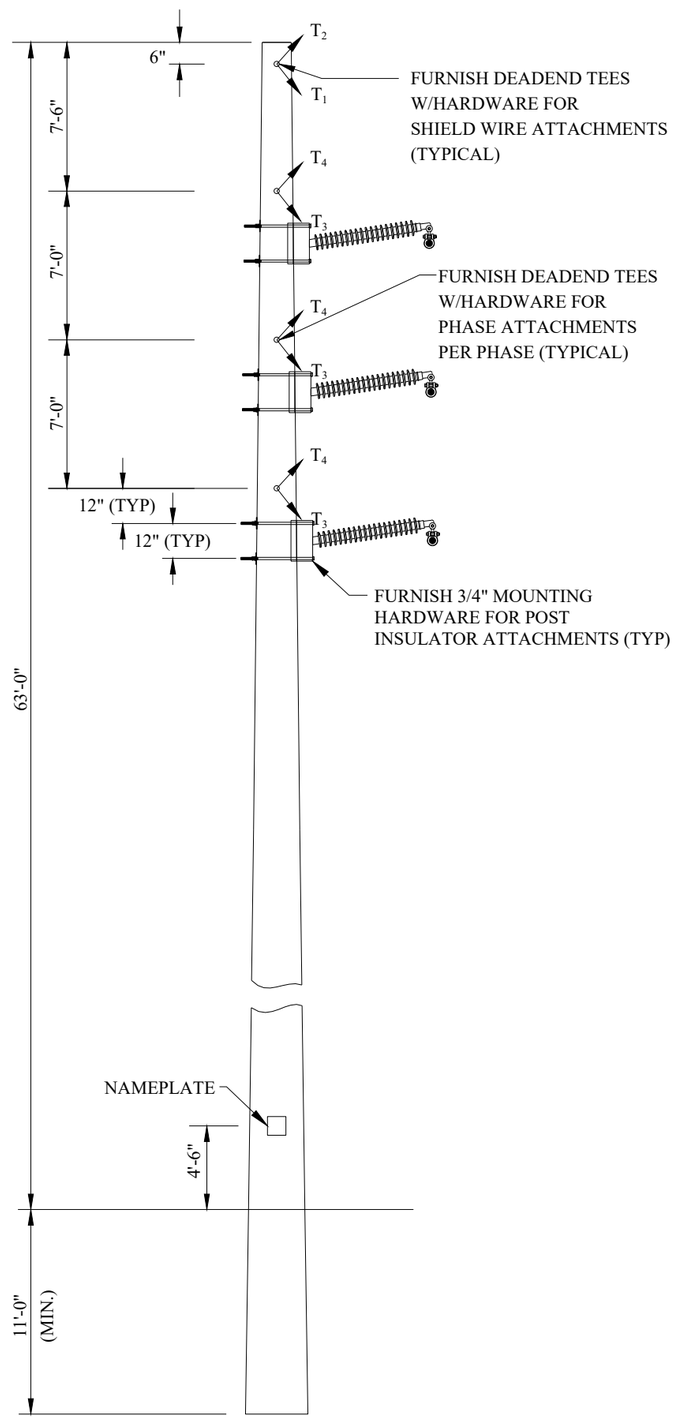
DGR ENGINEERING

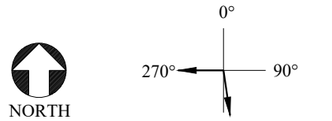
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1008of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-2





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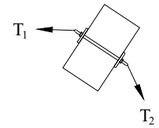
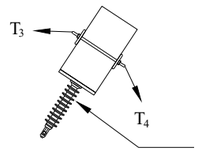


STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 13,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 160				WIND SPAN = 190					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	270°	3575	2260	5720	1660	3575	5720
2	OPGW	1	170°	3575	2270	5650	1690	0	0
3	477 ACSR HAWK	1	270°	5500	3550	7810	2590	5500	7810
4	477 ACSR HAWK	1	170°	5500	3570	7730	2620	0	0

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #3 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

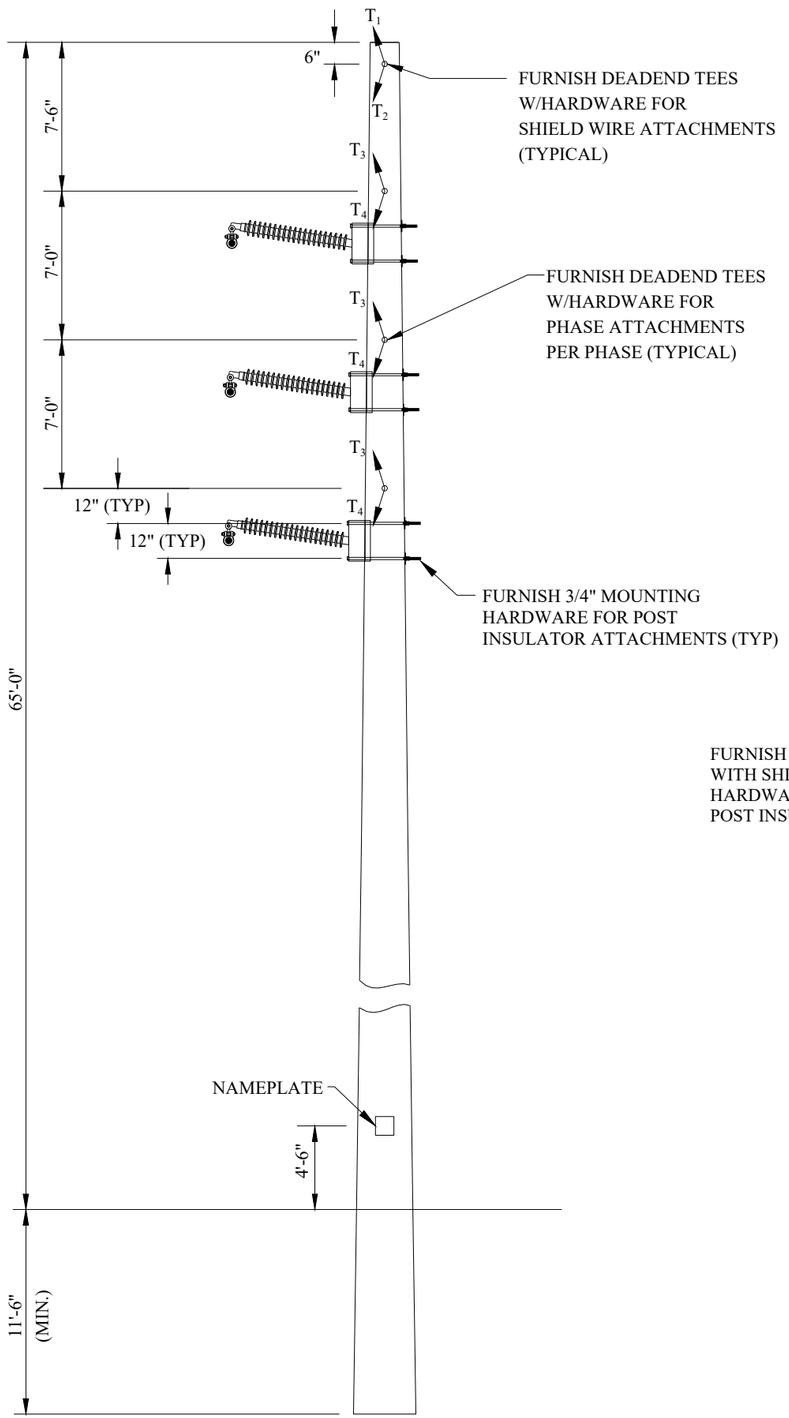
DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1009of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

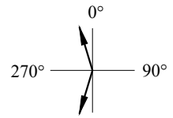
SHEET LWP-3



FURNISH DEADEND TEES W/HARDWARE FOR SHIELD WIRE ATTACHMENTS (TYPICAL)

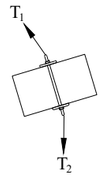
FURNISH DEADEND TEES W/HARDWARE FOR PHASE ATTACHMENTS PER PHASE (TYPICAL)

FURNISH 3/4" MOUNTING HARDWARE FOR POST INSULATOR ATTACHMENTS (TYP)



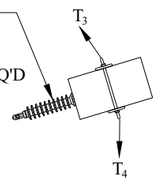
LINE ANGLE 17°

REF. ANGLE DIAGRAM



STATIC PLAN VIEW

FURNISH (3) BRACKETS WITH SHIMS AND HARDWARE FOR JUMPER POST INSULATORS AS REQ'D



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 9,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 290				WIND SPAN = 270					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	347°	3575	2270	5650	1700	0	0
2	OPGW	1	184°	3575	2230	6670	2070	3575	6670
3	477 ACSR HAWK	1	347°	5500	3570	7730	2620	0	0
4	477 ACSR HAWK	1	184°	5500	3710	9000	2300	5500	9000

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #5 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

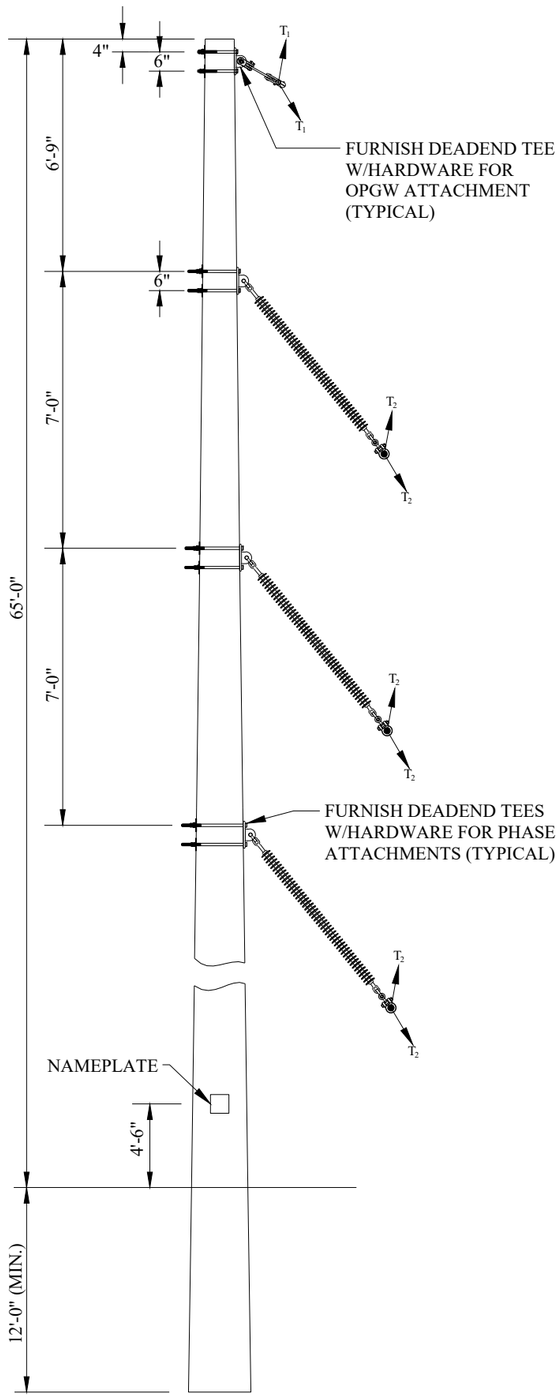
DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

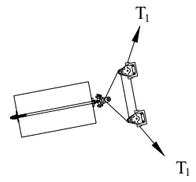
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1010of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

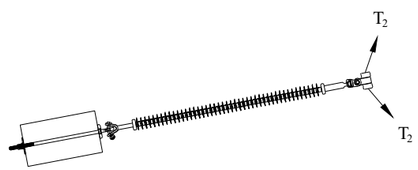
SHEET LWP-5



LINE ANGLE: 30°



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Poles may be single piece or spliced.
4. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
5. Pole Supplier shall furnish shims and 7/8" mounting hardware for all insulator attachments.
6. Pole Supplier shall coordinate with Engineer and verify spacing of mounting hardware for suspension insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 9,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00

SPANS AND TENSIONS						
WEIGHT SPAN = 210			WIND SPAN = 300			
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)
1	OPGW	1	3575	2230	6670	1280
2	477 ACSR HAWK	1	5500	3710	8990	2290

STRUCTURE #	_____
LENGTH	_____
GRND LINE MOMENT	_____
MANUFACTURER	_____
DATE OF MFG	_____

NAMEPLATE DETAIL

LAMINATED WOOD
POLE #6
MEDIUM ANGLE
TS-4L

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

DGR ENGINEERING

Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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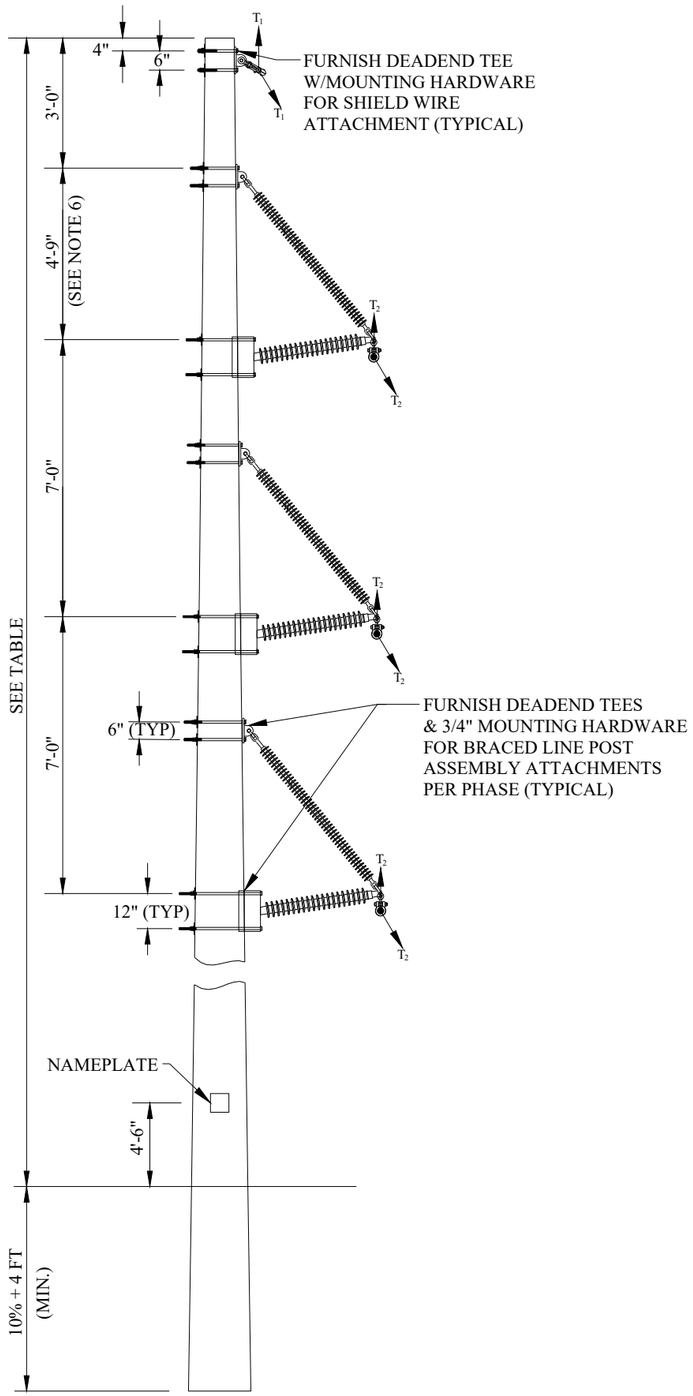
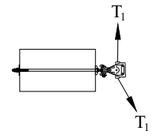
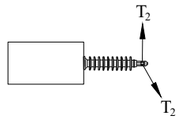
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-6





STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Poles may be single piece or spliced.
4. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
5. Pole Supplier shall furnish shims and 7/8" mounting hardware for all insulator attachments.
6. Pole Supplier shall coordinate with Engineer and verify spacing of mounting hardware for braced line post insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00

SPANS AND TENSIONS						
WEIGHT SPAN = 570			WIND SPAN = 250			
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)
1	OPGW	1	3575	2230	6670	1280
2	477 ACSR HAWK	1	5500	3710	8990	2290

STRUCTURE NUMBER	LINE ANGLE (DEG.)	ABOVE GROUND LENGTH (ft.)	ESTIMATED STRUCTURE WEIGHT (lbs.)
7	12°	70'-0"	6,500
32	9°	60'-0"	4,500
33	9°	65'-0"	5,000

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #7, 32, 33 BRACED LINE POST TP-69B-BLP

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

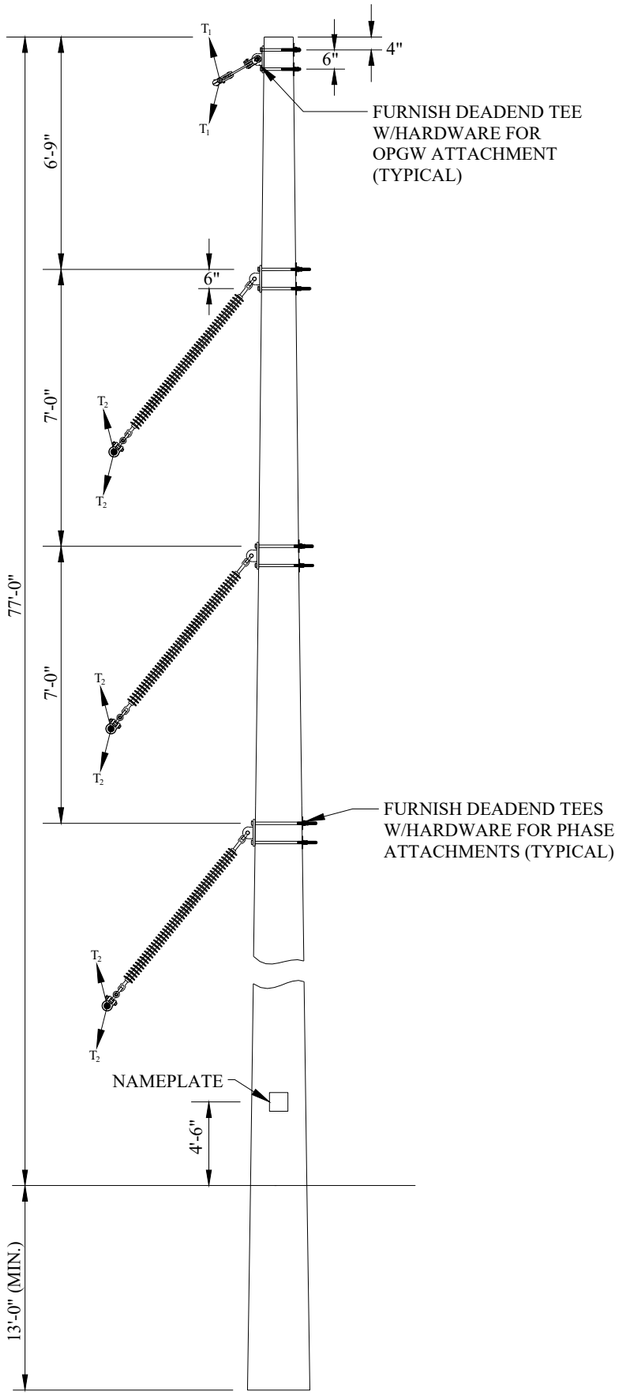
DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

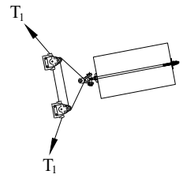
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1012of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-7, 32, 33



LINE ANGLE: 15°



STATIC PLAN VIEW

PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Poles may be single piece or spliced.
4. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
5. Pole Supplier shall furnish shims and 7/8" mounting hardware for all insulator attachments.
6. Pole Supplier shall coordinate with Engineer and verify spacing of mounting hardware for suspension insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 8,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00

SPANS AND TENSIONS						
WEIGHT SPAN = 150			WIND SPAN = 260			
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)
1	OPGW	1	3575	2230	6670	1280
2	477 ACSR HAWK	1	5500	3710	8990	2290

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD
POLE #8
MEDIUM ANGLE
TS-4L

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

DGR ENGINEERING

Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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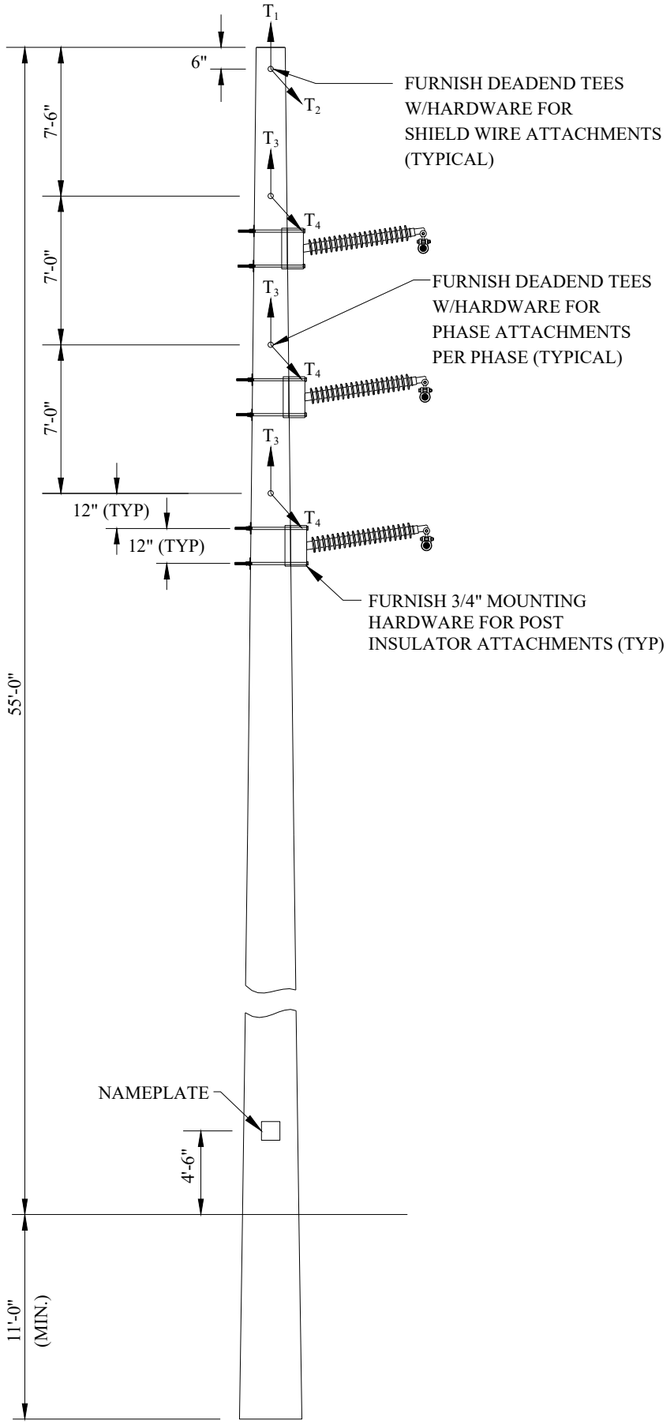
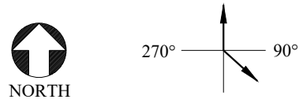
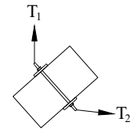
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-8

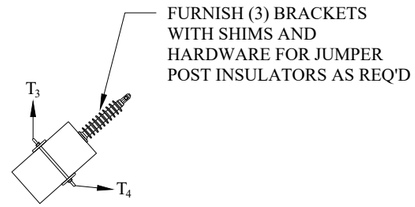




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 13,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 350				WIND SPAN = 330					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	0°	3575	2230	6670	2070	3575	6670
2	OPGW	1	138°	3575	2220	6660	1290	0	0
3	477 ACSR HAWK	1	0°	5500	3710	9000	2300	5500	9000
4	477 ACSR HAWK	1	138°	5500	3680	8980	2300	0	0

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #17 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

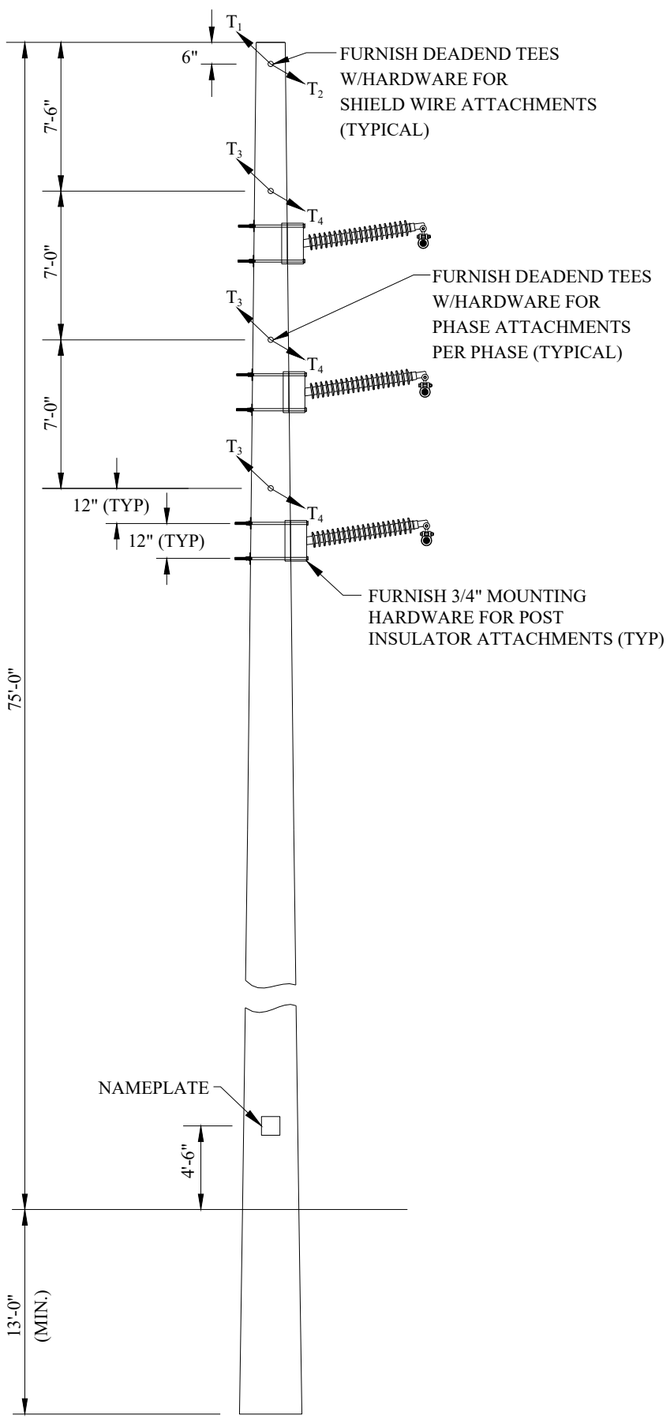
DGR ENGINEERING

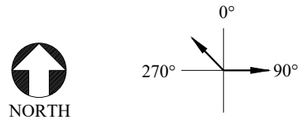
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1014of1149

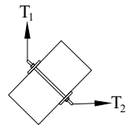
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-17

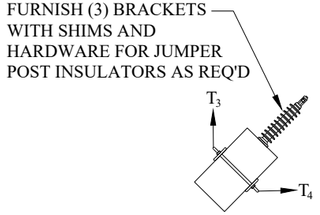




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 16,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 300				WIND SPAN = 280					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	321°	3575	2220	6660	1290	3575	6660
2	OPGW	1	95°	3575	2300	5750	1660	0	0
3	477 ACSR HAWK	1	321°	5500	3710	8980	2300	5500	8980
4	477 ACSR HAWK	1	95°	5500	3630	7850	2590	0	0

STRUCTURE #	_____
LENGTH	_____
GRND LINE MOMENT	_____
MANUFACTURER	_____
DATE OF MFG	_____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #27 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

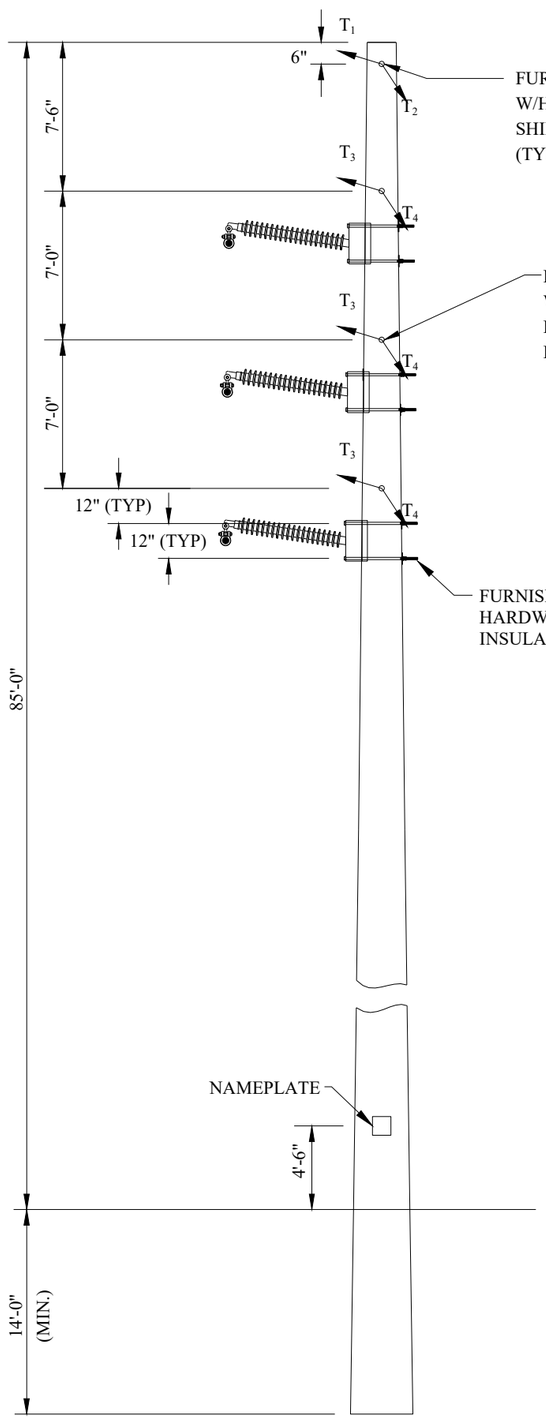
DGR ENGINEERING

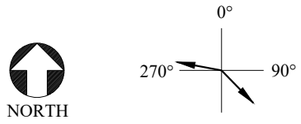
Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1015of1149

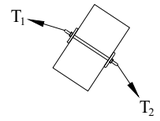
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-27

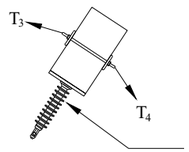




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 17,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 250				WIND SPAN = 280					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	275°	3575	2300	5750	1660	0	0
2	OPGW	1	139°	3575	2230	6410	1380	3575	6410
3	477 ACSR HAWK	1	275°	5500	3630	7850	2590	0	0
4	477 ACSR HAWK	1	139°	5500	3660	8670	2370	5500	8670

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #29 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

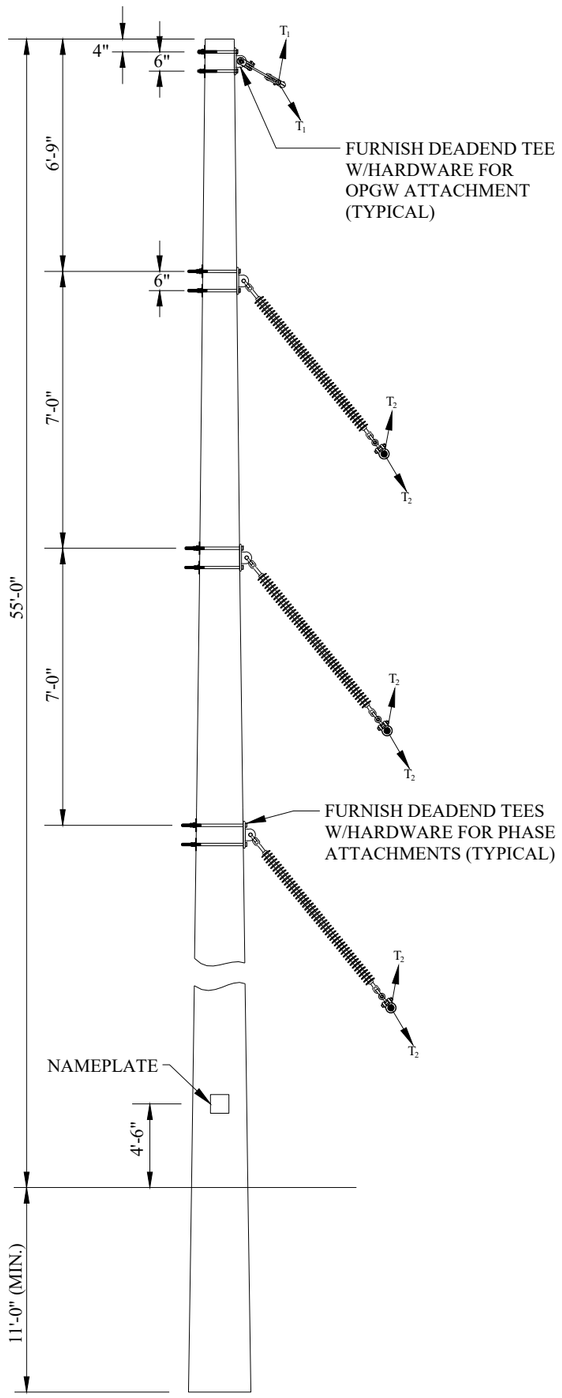
DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

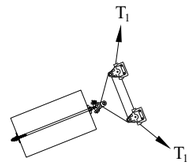
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1016of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

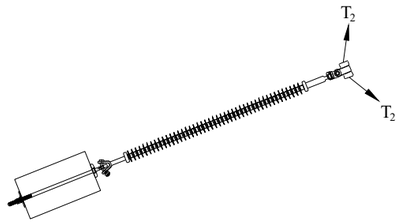
SHEET LWP-29



LINE ANGLE: 22°



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Poles may be single piece or spliced.
4. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
5. Pole Supplier shall furnish shims and 7/8" mounting hardware for all insulator attachments.
6. Pole Supplier shall coordinate with Engineer and verify spacing of mounting hardware for suspension insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 5,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00

SPANS AND TENSIONS						
WEIGHT SPAN = 220			WIND SPAN = 290			
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)
1	OPGW	1	3575	2230	6410	1370
2	477 ACSR HAWK	1	5500	3660	8670	2360

STRUCTURE #	_____
LENGTH	_____
GRND LINE MOMENT	_____
MANUFACTURER	_____
DATE OF MFG	_____

NAMEPLATE DETAIL

LAMINATED WOOD
POLE #31
MEDIUM ANGLE
TS-4L

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

DGR ENGINEERING

Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
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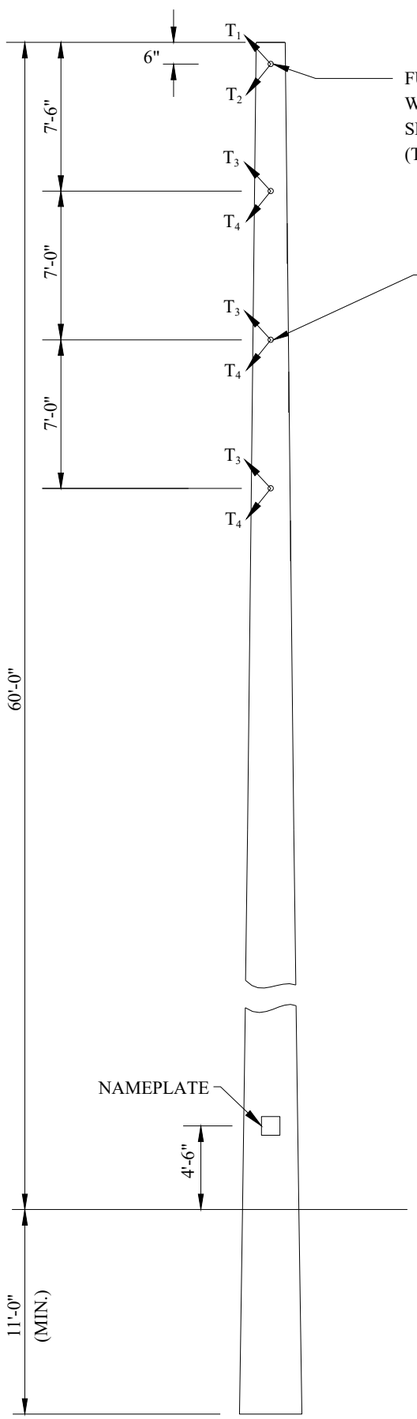
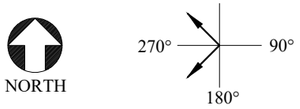
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-31



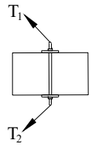
FURNISH DEADEND TEES W/HARDWARE FOR SHIELD WIRE ATTACHMENTS (TYPICAL)

FURNISH DEADEND TEES W/HARDWARE FOR PHASE ATTACHMENTS PER PHASE (TYPICAL)

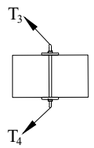


REF. ANGLE DIAGRAM

LINE ANGLE 92°



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 19,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 290				WIND SPAN = 290					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	315°	3575	2230	6410	1380	3575	6410
2	OPGW	1	227°	3575	2230	6370	1380	0	0
3	477 ACSR HAWK	1	315°	5500	3660	8670	2370	5500	8670
4	477 ACSR HAWK	1	227°	5500	3650	8630	2380	0	0

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #34 VERTICAL DEADEND TS-5GL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

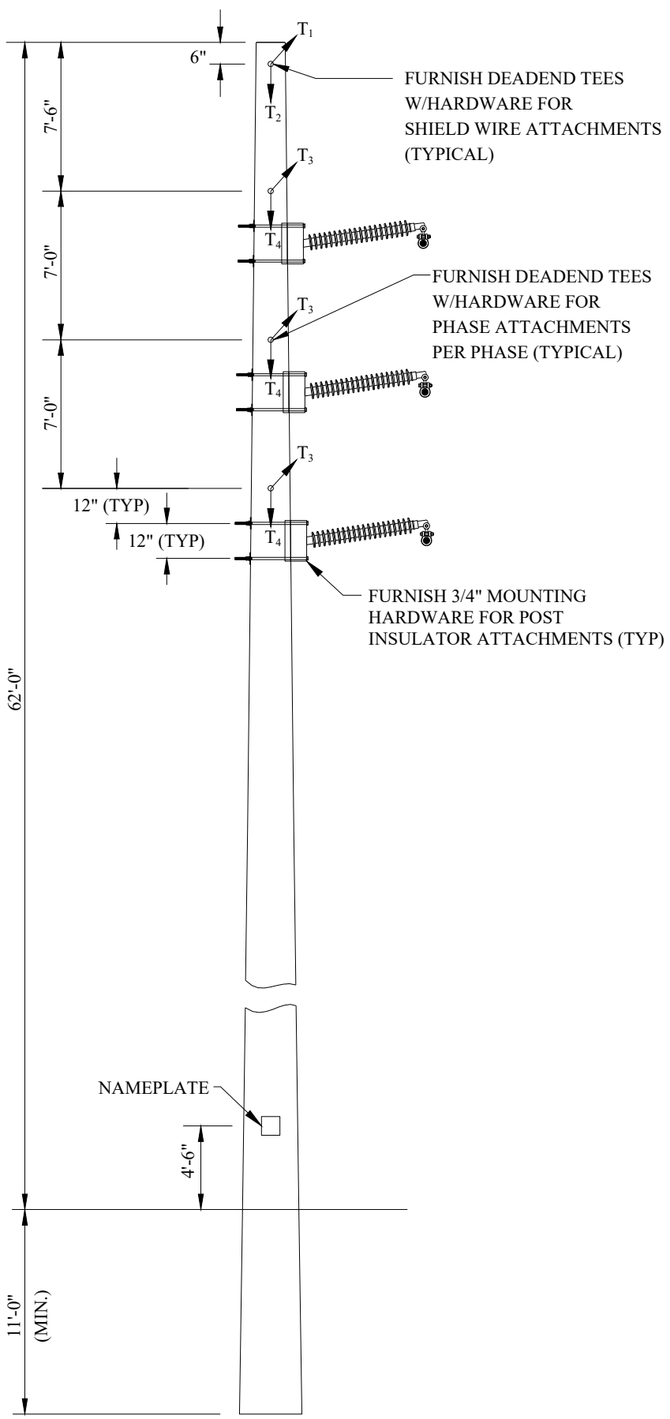
DGR ENGINEERING

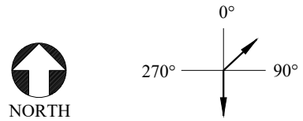
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1018of1149

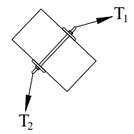
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-34

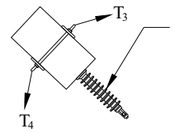




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 13,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 250				WIND SPAN = 290					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	43°	3575	2230	6370	1380	3575	6370
2	OPGW	1	180°	3575	2250	5890	1580	0	0
3	477 ACSR HAWK	1	43°	5500	3650	8630	2380	5500	8630
4	477 ACSR HAWK	1	180°	5500	3590	8050	2530	0	0

STRUCTURE #	_____
LENGTH	_____
GRND LINE MOMENT	_____
MANUFACTURER	_____
DATE OF MFG	_____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #35 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

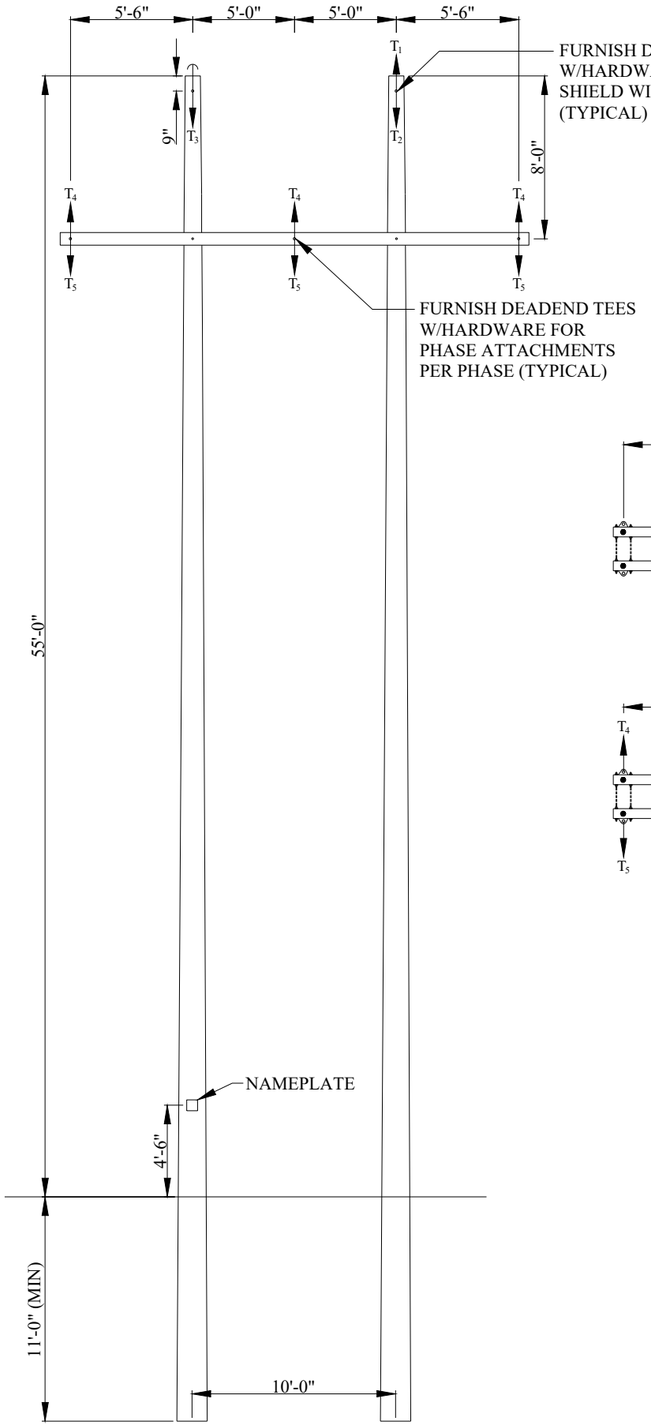
DGR ENGINEERING

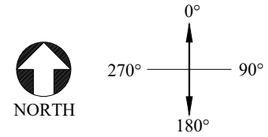
Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1019of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

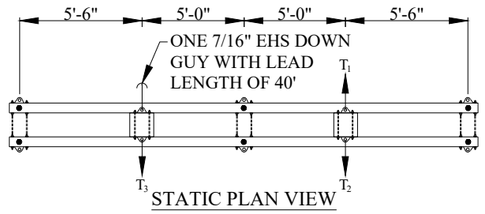
SHEET LWP-35



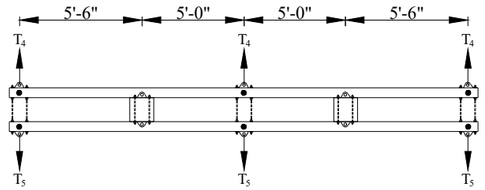


LINE ANGLE 0°

REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 25,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 250				WIND SPAN = 300					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	0°	3575	2250	5890	1580	0	0
2	OPGW	1	180°	3575	2320	7890	1220	3575	7890
3	3/8" EHS	1	180°	3300	1840	6960	1100	3300	6960
4	477 ACSR HAWK	1	0°	5500	3590	8050	2530	0	0
5	477 ACSR HAWK	1	180°	5500	3720	10190	2100	5500	10190

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #37 H-FRAME DOUBLE DEADEND TH-2L

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

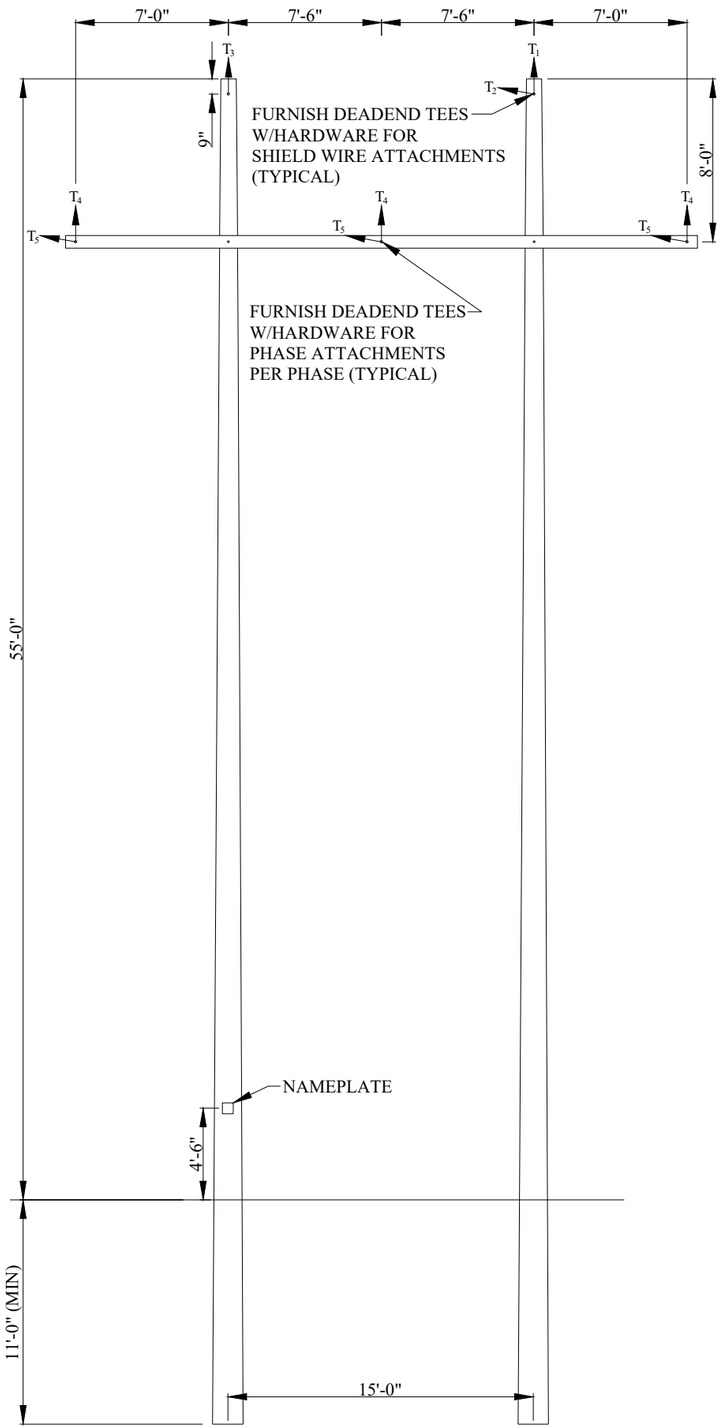
DGR ENGINEERING

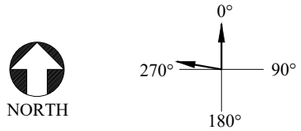
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1020of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

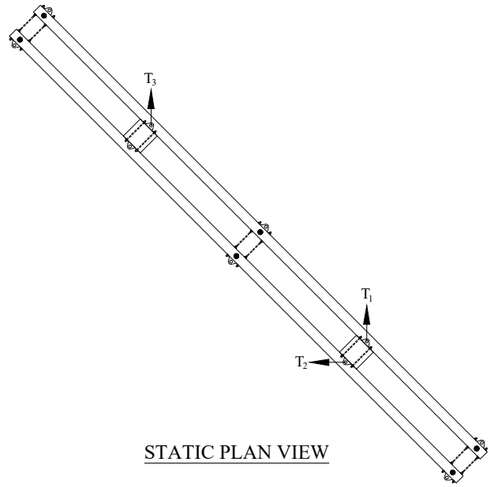
SHEET LWP-37



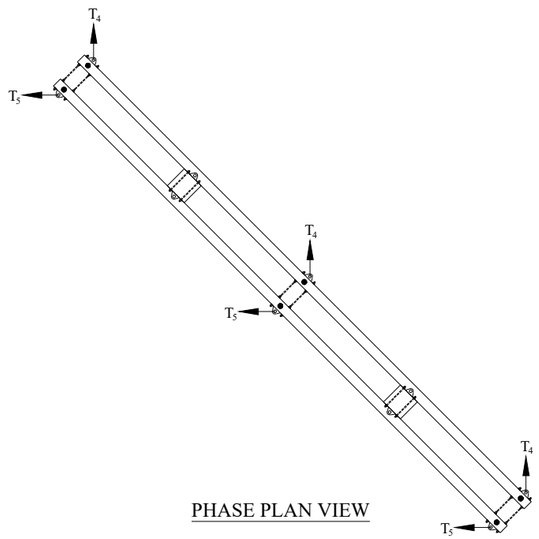


LINE ANGLE 97°

REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 30,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 390				WIND SPAN = 390					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	0°	3575	2320	7890	1220	3575	7890
2	OPGW	1	277°	3575	2200	6580	1300	0	0
3	3/8" EHS	1	0°	3300	1840	6960	1100	3300	6960
4	477 ACSR HAWK	1	0°	5500	3720	10190	2100	5500	10190
5	477 ACSR HAWK	1	277°	5500	3650	8880	2320	0	0

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #38 H-FRAME DOUBLE DEADEND TH-2AL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

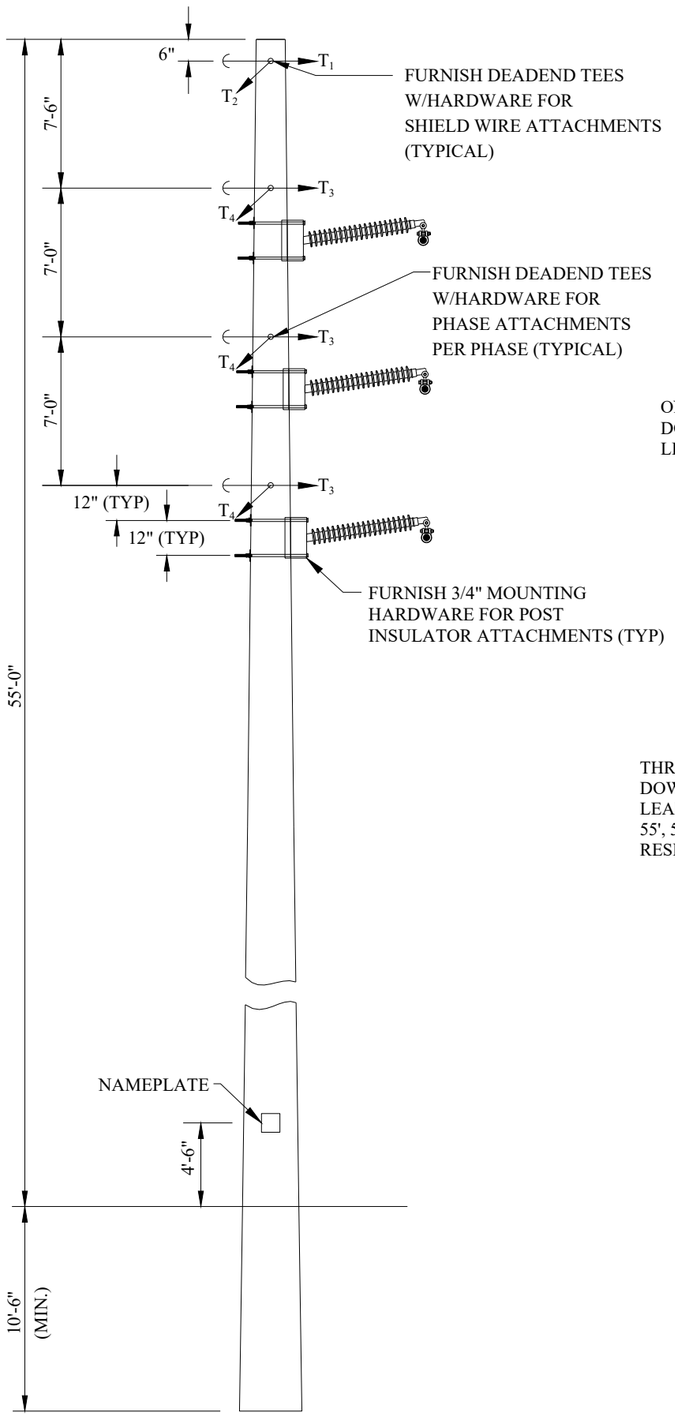
DGR ENGINEERING

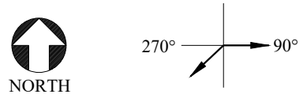
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1021of1149

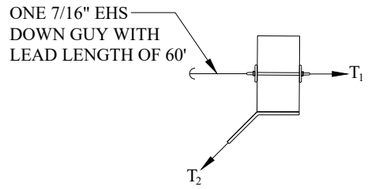
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-38

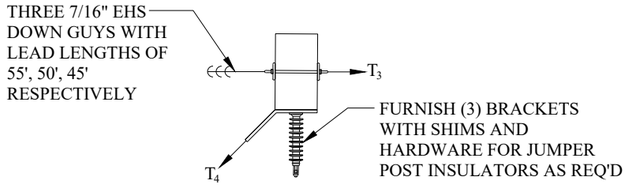




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 8,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 250				WIND SPAN = 270					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	90°	3575	2200	6580	1300	3575	6580
2	OPGW	1	133°	1650	940	3840	400	0	0
3	477 ACSR HAWK	1	90°	5500	3650	8880	2320	5500	8880
4	477 ACSR HAWK	1	133°	2200	1430	4780	690	0	0

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #43 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

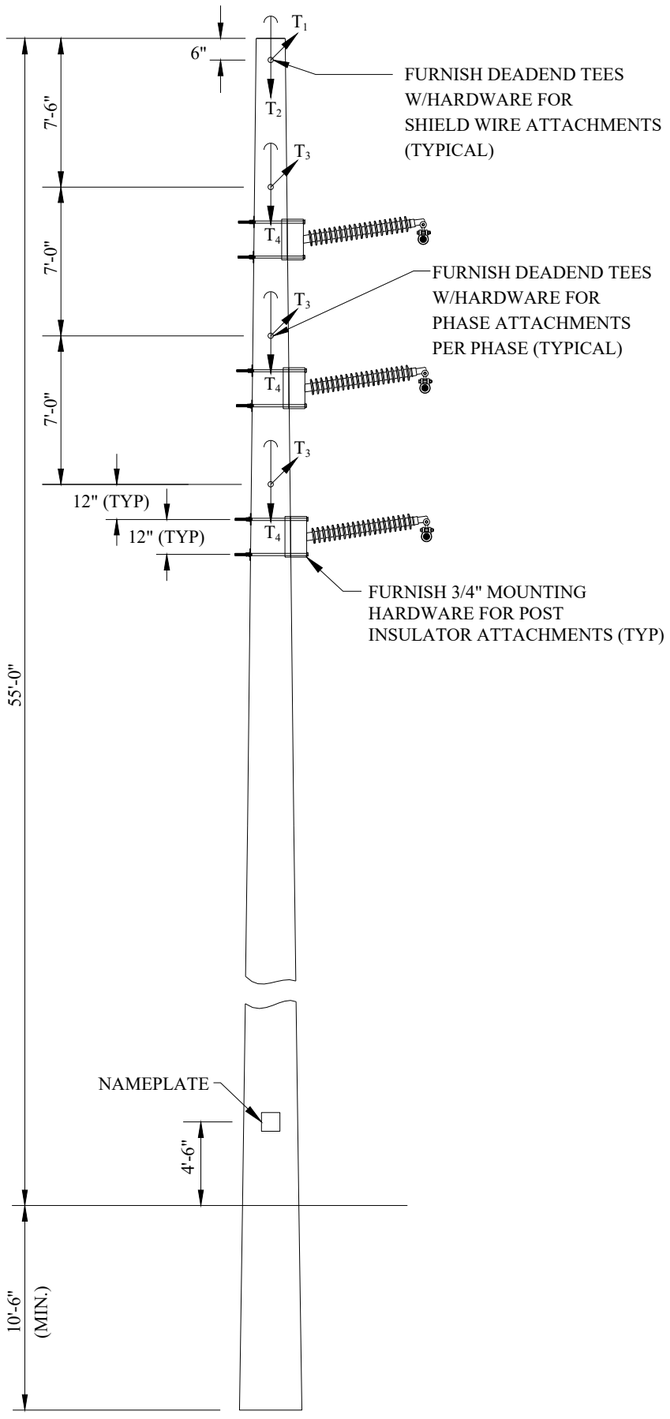
DGR ENGINEERING

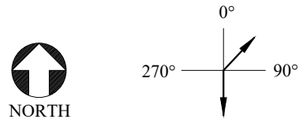
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1022of1149

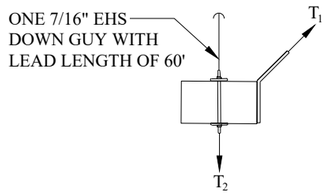
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-43

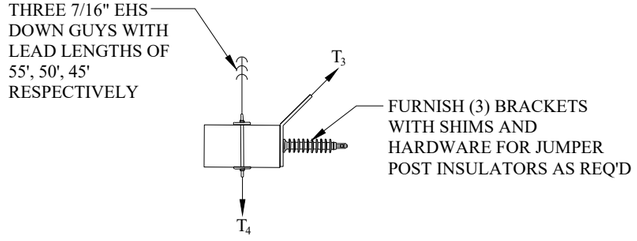




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 8,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 200				WIND SPAN = 250					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	47°	1650	940	3840	400	0	0
2	OPGW	1	180°	3575	2220	6450	1360	3575	6450
3	477 ACSR HAWK	1	47°	2200	1430	4780	690	0	0
4	477 ACSR HAWK	1	180°	5500	3640	8730	2350	5500	8730

STRUCTURE #	_____
LENGTH	_____
GRND LINE MOMENT	_____
MANUFACTURER	_____
DATE OF MFG	_____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #44 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

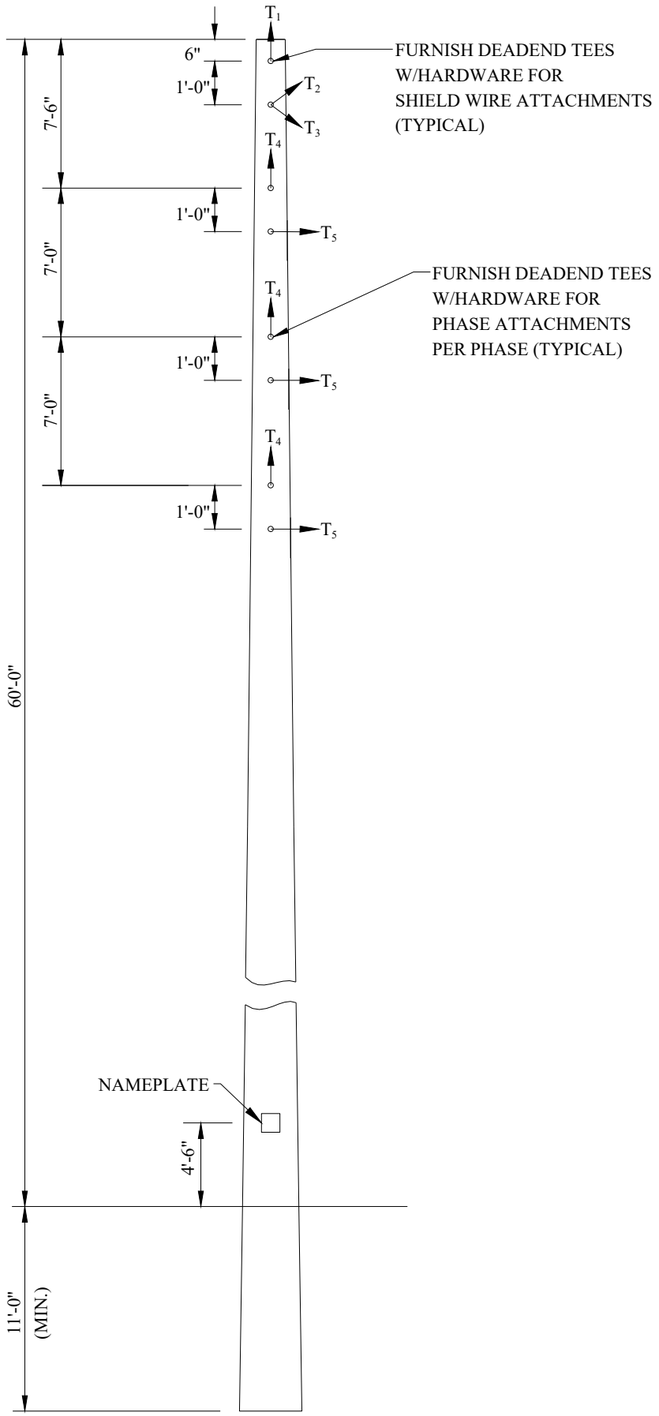
DGR ENGINEERING

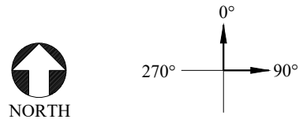
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1023of1149

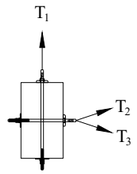
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

SHEET LWP-44

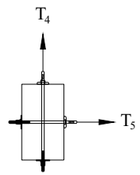




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 18,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 230				WIND SPAN = 210					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	2°	3575	2220	6450	1350	3575	6450
2	OPGW	1	85°	1100	610	2660	250	0	0
3	3/8" EHS	1	95°	1100	550	2540	270	0	0
4	477 ACSR HAWK	1	2°	5500	3640	8720	2350	5500	8720
5	477 ACSR HAWK	1	88/90/92°	1650	1030	3520	480	0	0

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #47 VERTICAL DEADEND TS-5GL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

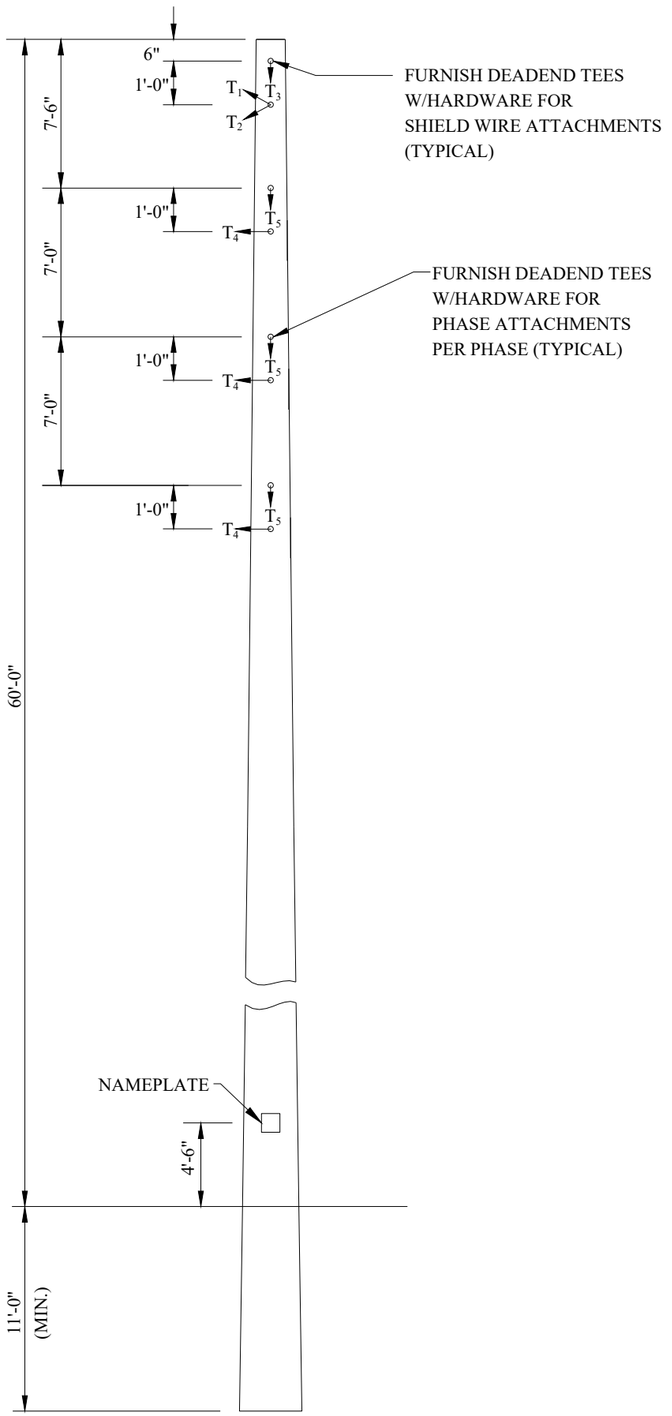
DGR ENGINEERING

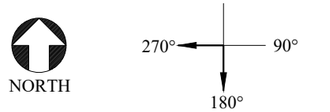
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1024of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
SWEAZEY SUB TO REISNER SUB

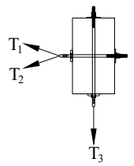
SHEET LWP-47



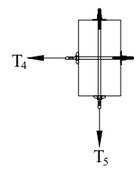


LINE ANGLE 92°

REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8"mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 18,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 250				WIND SPAN = 250					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	3/8" EHS	1	275°	1650	880	3580	460	0	0
2	OPGW	1	265°	1650	930	3760	400	0	0
3	OPGW	1	182°	3580	2220	6540	1320	3580	6540
4	477 ACSR HAWK	1	268/270/272°	2200	1420	4700	680	0	0
5	477 ACSR HAWK	1	182°	5500	3660	8840	2330	5500	8840

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #1 VERTICAL DEADEND TS-5GL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

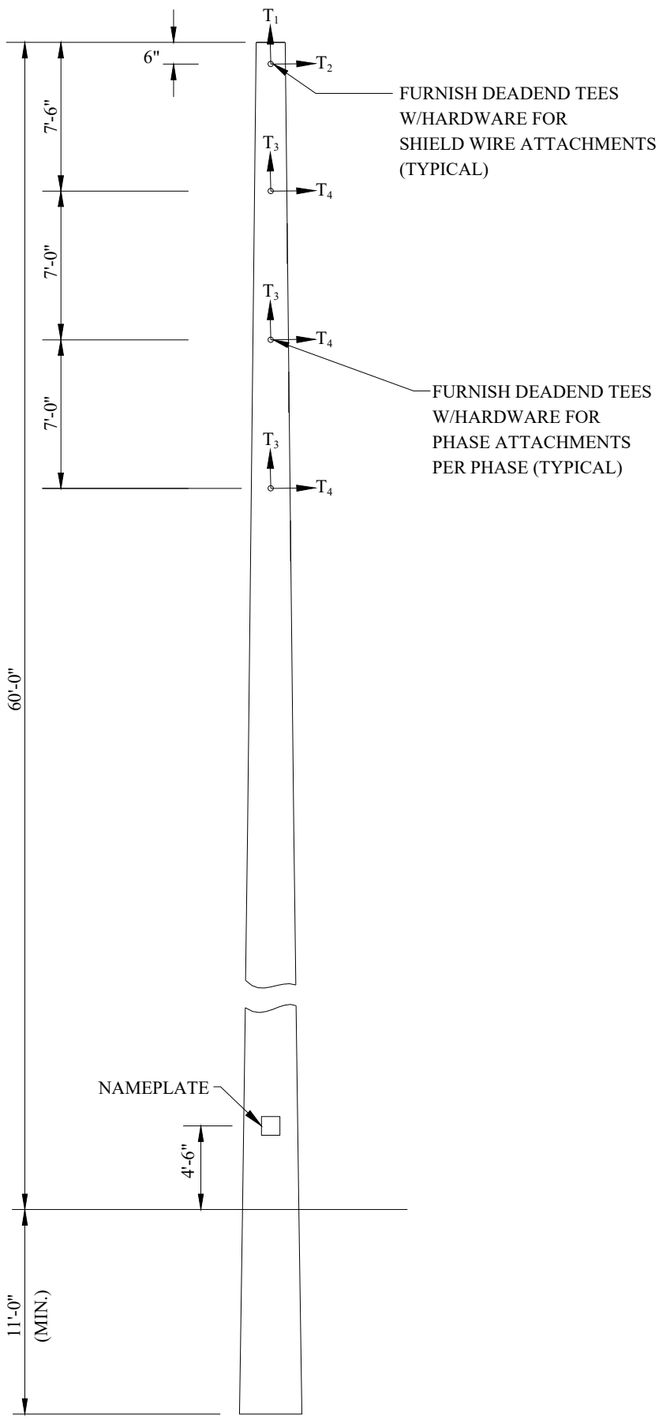
DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

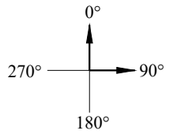
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1025of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

SHEET LWP-1

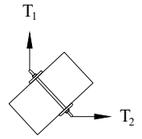


NORTH

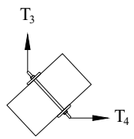


LINE ANGLE 92°

REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 20,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 470				WIND SPAN = 320					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	0°	3575	2220	6550	1320	0	0
2	OPGW	1	88°	3575	2210	6620	1290	3575	6620
3	477 ACSR HAWK	1	0°	5500	3660	8840	2330	0	0
4	477 ACSR HAWK	1	88°	5500	3660	8930	2310	5500	8930

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #2 VERTICAL DEADEND TS-5GL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

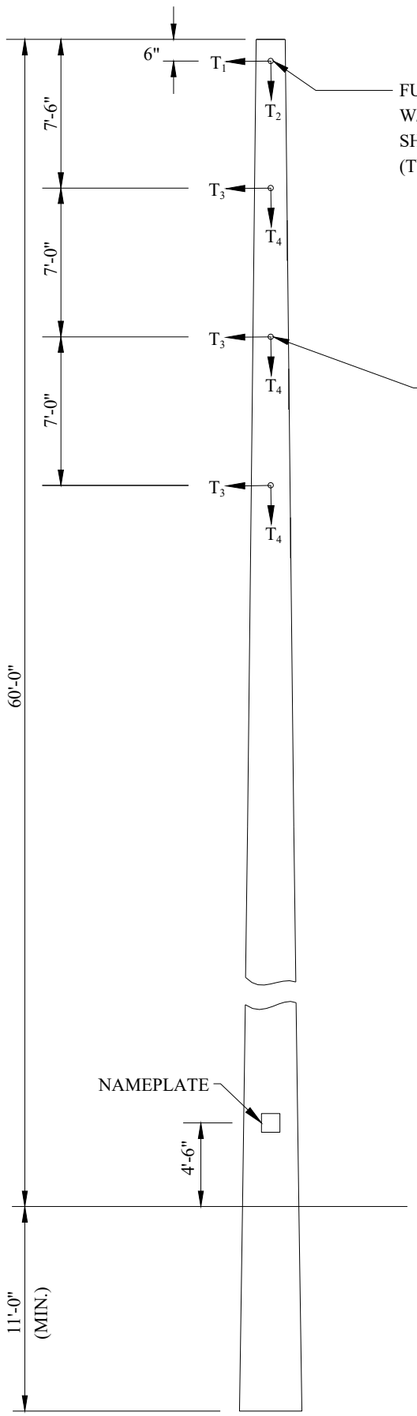
DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

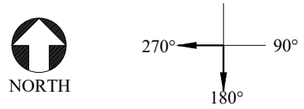
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

SHEET LWP-2



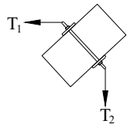
FURNISH DEADEND TEES W/HARDWARE FOR SHIELD WIRE ATTACHMENTS (TYPICAL)

FURNISH DEADEND TEES W/HARDWARE FOR PHASE ATTACHMENTS PER PHASE (TYPICAL)

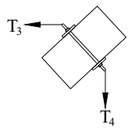


LINE ANGLE 92°

REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 20,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 310				WIND SPAN = 320					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	270°	3575	2220	6550	1320	3575	6550
2	OPGW	1	182°	3575	2220	6550	1310	0	0
3	477 ACSR HAWK	1	270°	5500	3660	8930	2310	5500	8930
4	477 ACSR HAWK	1	182°	5500	3660	8850	2330	0	0

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #5 VERTICAL DEADEND TS-5GL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

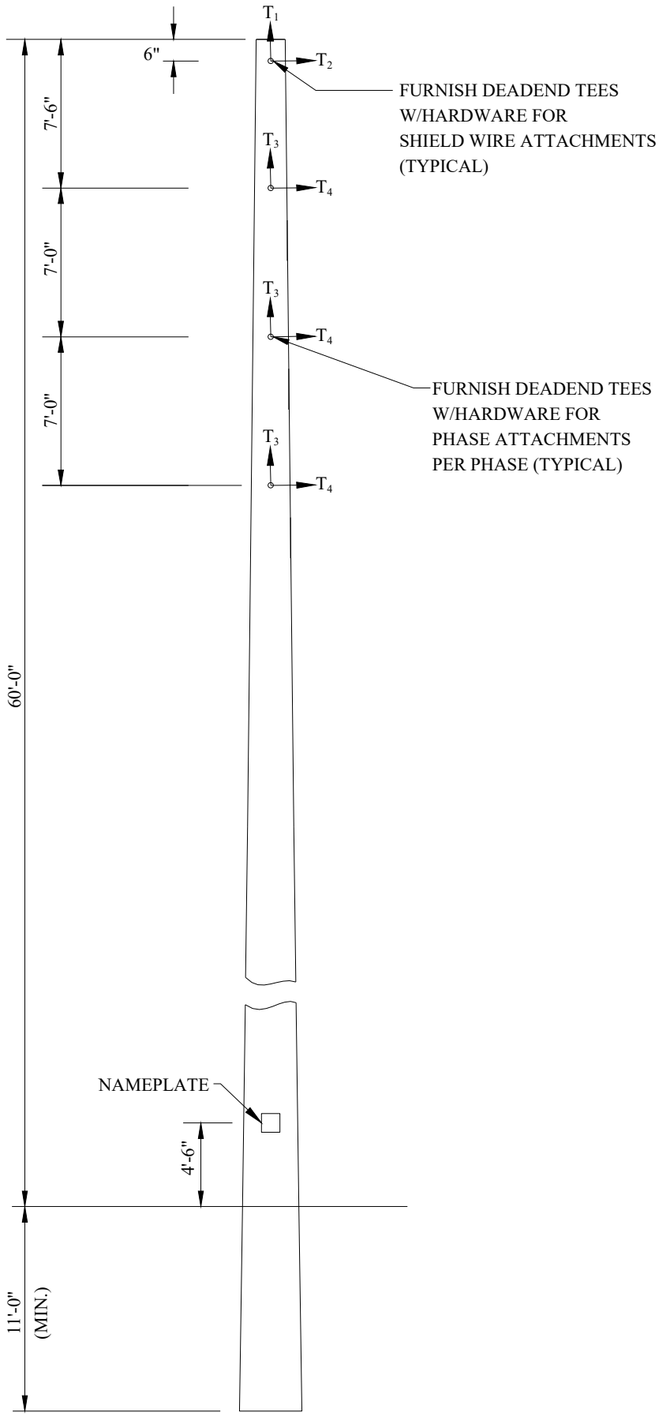
DGR ENGINEERING

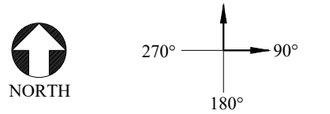
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1027of1149

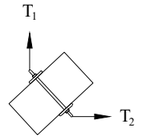
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

SHEET LWP-5

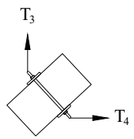




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 20,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 370				WIND SPAN = 320					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	0°	3575	2220	6550	1310	0	0
2	OPGW	1	88°	3575	2200	6700	1260	3575	6700
3	477 ACSR HAWK	1	0°	5500	3660	8850	2330	0	0
4	477 ACSR HAWK	1	88°	5500	3670	9050	2290	5500	9050

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #7 VERTICAL DEADEND TS-5GL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

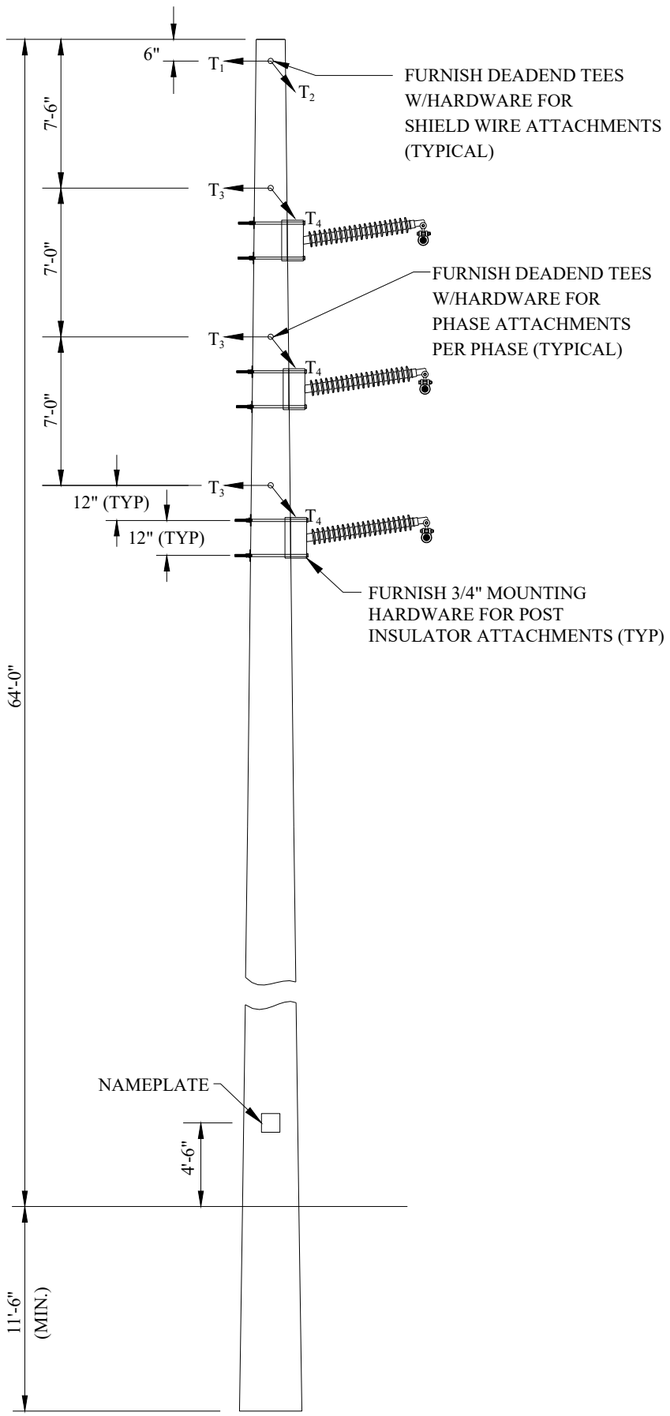
DGR ENGINEERING

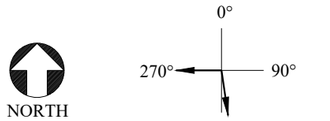
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1028of1149

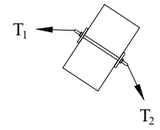
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

SHEET LWP-7

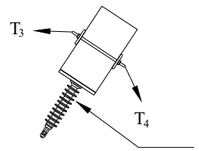




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 19,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 320				WIND SPAN = 340					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	270°	3575	2200	6700	1260	3575	6700
2	OPGW	1	149°	3575	2220	6710	1270	0	0
3	477 ACSR HAWK	1	270°	5500	3670	9050	2290	5500	9050
4	477 ACSR HAWK	1	149°	5500	3700	9050	2280	0	0

STRUCTURE #	_____
LENGTH	_____
GRND LINE MOMENT	_____
MANUFACTURER	_____
DATE OF MFG	_____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #12 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

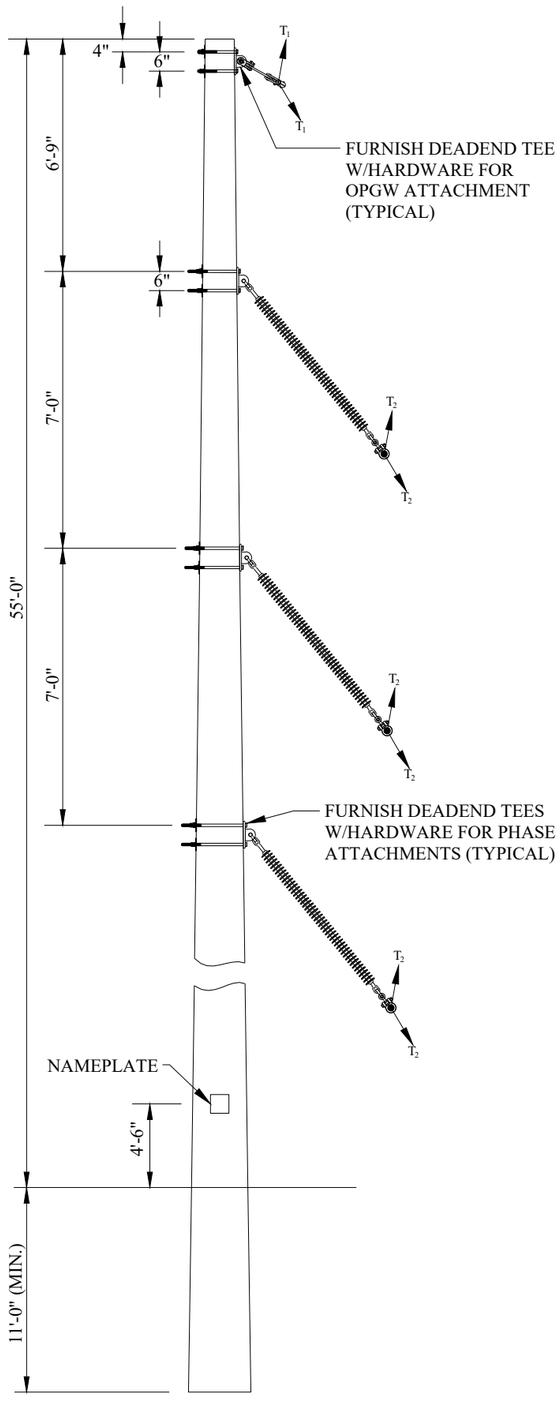
DGR ENGINEERING

Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

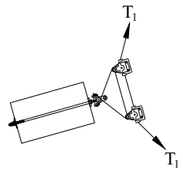
WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1029of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

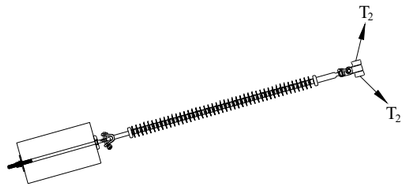
SHEET LWP-12



LINE ANGLE: 16°



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Poles may be single piece or spliced.
4. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
5. Pole Supplier shall furnish shims and 7/8" mounting hardware for all insulator attachments.
6. Pole Supplier shall coordinate with Engineer and verify spacing of mounting hardware for suspension insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 4,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00

SPANS AND TENSIONS						
WEIGHT SPAN = 380			WIND SPAN = 330			
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)
1	OPGW	1	3575	2230	6710	1280
2	477 ACSR HAWK	1	5500	3710	9050	2300

STRUCTURE #	_____
LENGTH	_____
GRND LINE MOMENT	_____
MANUFACTURER	_____
DATE OF MFG	_____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #15 MEDIUM ANGLE TS-4L

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

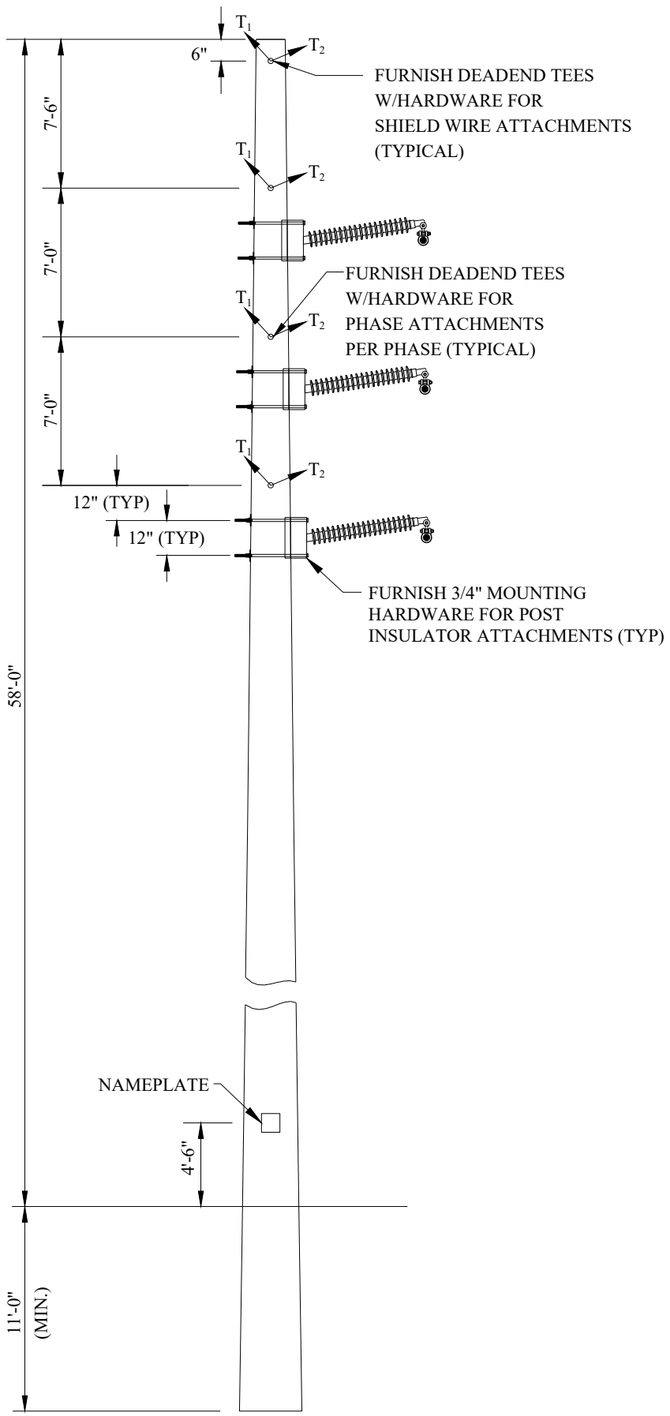
DGR ENGINEERING

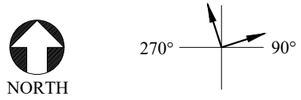
Project Manager:	ADK
Designer:	DYS
Project Number:	428404
Phone:	(712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

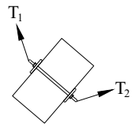
SHEET LWP-15



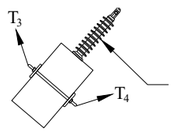


LINE ANGLE 72°

REF. ANGLE DIAGRAM



STATIC PLAN VIEW



FURNISH (3) BRACKETS WITH SHIMS AND HARDWARE FOR JUMPER POST INSULATORS AS REQ'D

PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 16,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 290				WIND SPAN = 240					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	314°	3575	2220	6700	1270	3575	6700
2	OPGW	1	62°	1650	910	3500	400	0	0
3	477 ACSR HAWK	1	314°	5500	3700	9050	2280	5500	9050
4	477 ACSR HAWK	1	62°	2200	1370	4410	650	0	0

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #16 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

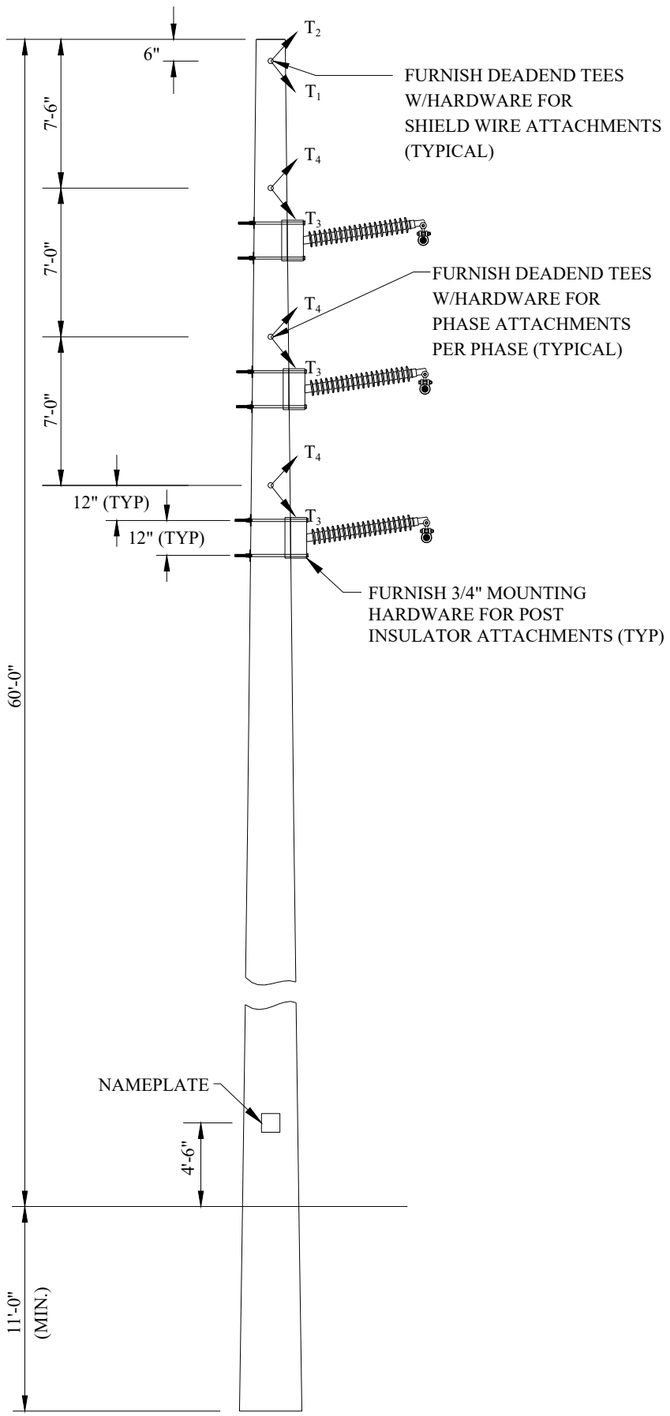
DGR ENGINEERING

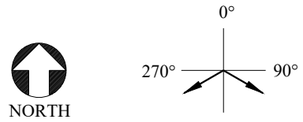
Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1031of1149

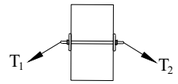
LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

SHEET LWP-16

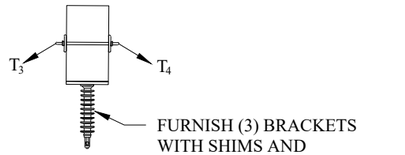




REF. ANGLE DIAGRAM



STATIC PLAN VIEW



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 16,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 240				WIND SPAN = 250					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	240°	1650	910	3500	400	0	0
2	OPGW	1	120°	3575	2230	6520	1330	3575	6520
3	477 ACSR HAWK	1	240°	2200	1370	4410	650	0	0
4	477 ACSR HAWK	1	120°	5500	3660	8820	2420	5500	8820

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #17 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

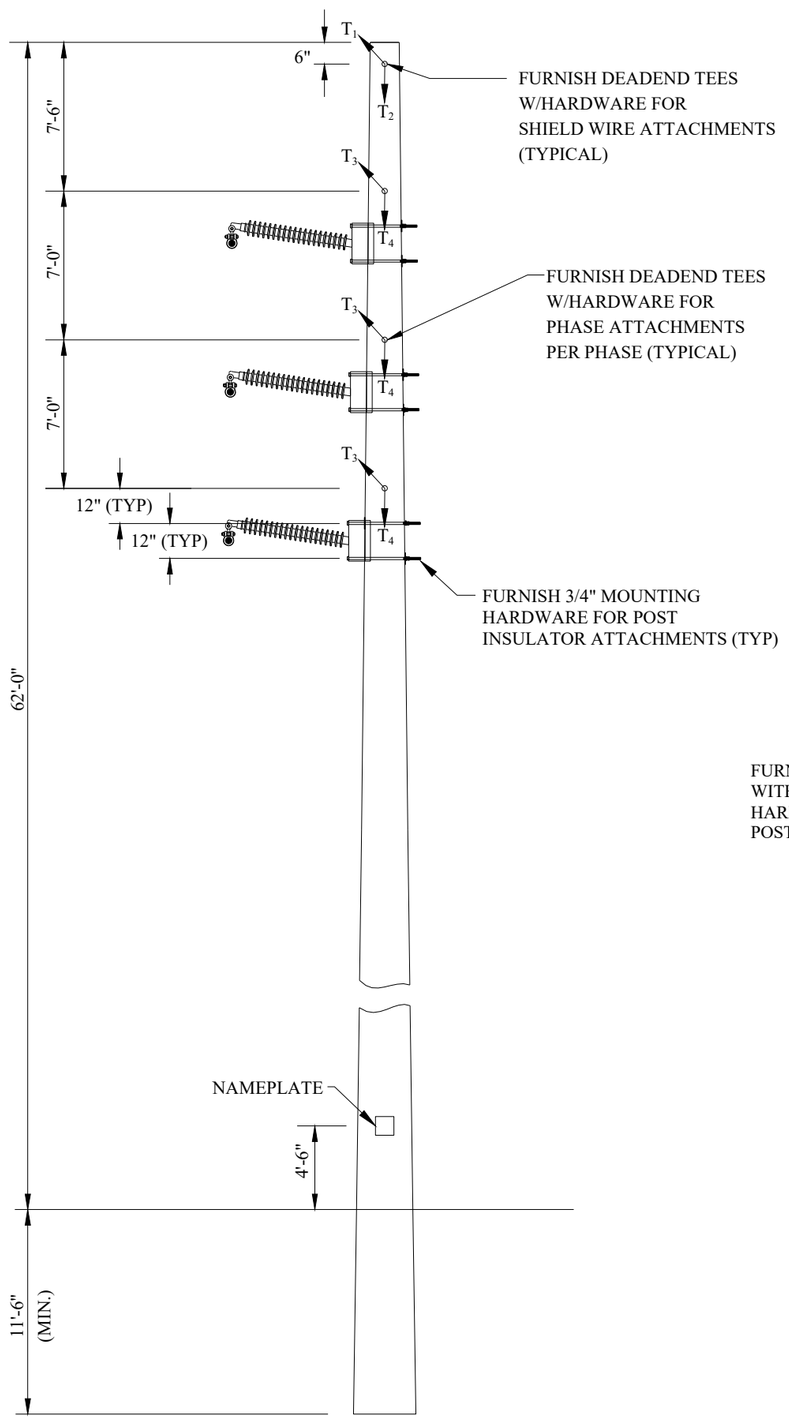
DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1032of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

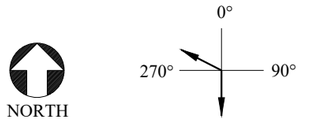
SHEET LWP-17



FURNISH DEADEND TEES W/HARDWARE FOR SHIELD WIRE ATTACHMENTS (TYPICAL)

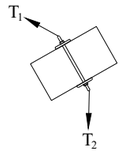
FURNISH DEADEND TEES W/HARDWARE FOR PHASE ATTACHMENTS PER PHASE (TYPICAL)

FURNISH 3/4" MOUNTING HARDWARE FOR POST INSULATOR ATTACHMENTS (TYP)



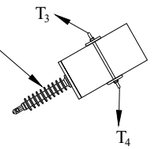
LINE ANGLE 63°

REF. ANGLE DIAGRAM



STATIC PLAN VIEW

FURNISH (3) BRACKETS WITH SHIMS AND HARDWARE FOR JUMPER POST INSULATORS AS REQ'D



PHASE PLAN VIEW

NOTES:

1. Loads do not include wind on pole.
2. Loads do not include overload factors.
3. Structure shall be designed as a terminal deadend. See Load Cases 5 & 6.
4. Poles may be single piece or spliced.
5. Pole Supplier shall specify appropriate foundation reinforcement system and embedment depth.
6. Pole Supplier shall furnish deadend tees and 7/8" mounting hardware for all insulator attachments.
7. OPGW Data: AFL DNO-12496 CC-19/58/504, O.D. = 0.504"; Weight = 0.341 lbs/ft.
8. Estimated structure weight: 19,000 lbs.

LOADING CONDITIONS							
LOAD CASE	DESCRIPTION	WIND (MPH)	ICE (IN.)	TEMP. (° F)	WIND LOAD FACTOR	WIRE TENSION OLF	VERTICAL LOAD FACTOR
1	NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
2	EXTREME WIND	90.00	0.00	60	1.00	1.10	1.00
3	CONCURRENT ICE & WIND	50.00	1.50	15	1.00	1.00	1.00
4	60°F INITIAL	0.00	0.00	60	1.00	1.00	1.00
5	TERMINAL LOAD - WIRES CUT NESC HEAVY	40.00	0.50	0	2.50	1.65	1.50
6	TERMINAL LOAD - WIRES CUT CONCURRENT ICE & WIND	60.00	1.50	15	1.00	1.00	1.00

SPANS AND TENSIONS									
WEIGHT SPAN = 330				WIND SPAN = 320					
LOAD PT Tn	WIRE SIZE/ TYPE	NO. WIRES	REF. ANGLE (DEGREES)	CASE 1 TENSION (LBS)	CASE 2 TENSION (LBS)	CASE 3 TENSION (LBS)	CASE 4 TENSION (LBS)	CASE 5 TENSION (LBS)	CASE 6 TENSION (LBS)
1	OPGW	1	297°	3575	2230	6520	1330	0	0
2	OPGW	1	180°	3575	2200	6610	1290	3575	6610
3	477 ACSR HAWK	1	297°	5500	3660	8820	2420	0	0
4	477 ACSR HAWK	1	180°	5500	3650	8930	2310	5500	8930

STRUCTURE # _____
LENGTH _____
GRND LINE MOMENT _____
MANUFACTURER _____
DATE OF MFG _____

NAMEPLATE DETAIL

LAMINATED WOOD POLE #23 VERTICAL DEADEND TS-5GAL

REV	DATE	DESCRIPTION
A	06-11-2024	ISSUED FOR BIDS

DGR ENGINEERING

Project Manager: ADK
Designer: DYS
Project Number: 428404
Phone: (712) 472-2531

WEBSTER CITY MUNICIPAL UTILITIES
WEBSTER CITY, IOWA
1033of1149

LAMINATED WOOD POLE LOADING TREE
69 kV TRANSMISSION LINE RECONSTRUCTION
REISNER SUB TO CORNBELT JUNCTION

SHEET LWP-23

GEOTECHNICAL EXPLORATION REPORT

ALLENDER BUTZKE ENGINEERS INC.
GEOTECHNICAL • ENVIRONMENTAL • CONSTRUCTION Q. C.

DECEMBER 22, 2023 **PN 231247**

GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PERFORMED FOR

DGR ENGINEERING
1302 SOUTH UNION STREET
ROCK RAPIDS, IA 51246

3660 109TH STREET • URBANDALE, IOWA 50322 • PHONE 515-252-1885 • FAX 515-252-1888

ALLENDER BUTZKE ENGINEERS INC.
GEOTECHNICAL • ENVIRONMENTAL • CONSTRUCTION Q. C.

December 22, 2023

DGR Engineering
1302 South Union Street
Rock Rapids, IA 51246
Attn: Mr. Ryan Kleinjan, P.E.

RE: Geotechnical Exploration
Reisner Substation
Millards Ln and Closz Drive
Webster City, Iowa
PN 231247

Dear Mr. Kleinjan:

As authorized by you, Allender Butzke Engineers Inc. (ABE) has completed the geotechnical exploration for the above referenced project. The geotechnical exploration was conducted to evaluate physical characteristics of subsurface conditions with respect to design and construction of this project. The enclosed report summarizes the project characteristics as we understand them, presents the findings of the borings and laboratory tests, discusses the observed subsurface conditions, and provides geotechnical engineering recommendations for this project.

We appreciate the opportunity to provide our geotechnical engineering services for this project. If you have any questions or need further assistance, please contact us at your convenience. We are also staffed and equipped to provide construction testing and inspection services on this project as well as environmental site assessments.

Respectfully submitted,
ALLENDER BUTZKE ENGINEERS INC.

Seth Hansen, P.E.
Project Engineer

Matt Drummond, P.E.
Principal Engineer

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

12-22-23

Seth A. Hansen, P.E. License Number 26401 Date

My license renewal date is December 31, 2023.

Pages covered by this seal: All Pages.

1 PC and Email Above

GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PN 231247

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GEOTECHNICAL EXPLORATION

REISNER SUBSTATION
MILLARDS LN AND CLOSZ DRIVE
WEBSTER CITY, IOWA

PN 231247

December 22, 2023

PROJECT INFORMATION

The City of Webster City with design assistance from DGR Engineering is planning the design of a new substation near Millards Lane and Closz Drive. The following Figure No. 1 prepared by DGR Engineering depicts the conceptual site layout.

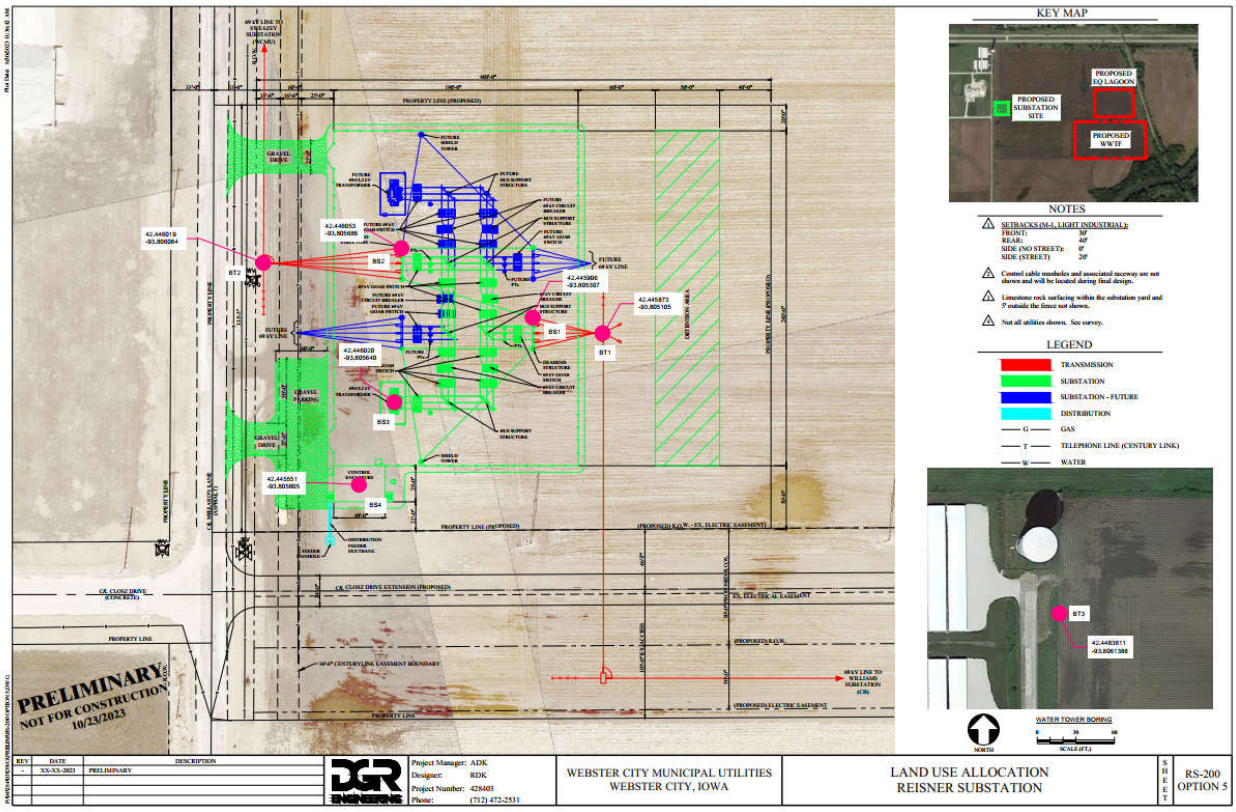


Figure No. 1 – Reisner Substation Conceptual Layout (DGR Engineering)

The following project information has been provided by DGR Engineering. The substation will include dead end structures, shield wire masts, transformers, control buildings, and switchgear enclosures. DGR Engineering has indicated that all structures at the site will be supported on

drilled shafts. Structural steel floor slabs for the Switchgear enclosures and control buildings will be also be supported on drilled shafts. Anticipated axial load on the drilled shafts at the transformer is 140 kip (including an increase for group load factor) whereas other structures will be subject to primarily lateral loads. Typical axial loads for the control buildings and switchgear enclosures will be 20 kips.

We assume final grades for the substation pad will be established 2 to 4 feet above existing grades or near elevation 1,066 feet. We assume the top of the drilled shafts will be near the final substation pad elevation. Based on the existing grades of our borings we assume fill depths of 2 to 4 feet or less will be required to achieve final grades. Deeper cut depths on the order of 10 to 15 feet may be required in the detention basin east of the substation structures. We assume soils excavated from the detention basin will be used for borrow. We request the opportunity to review the final grading plan, once available, to ensure our recommendations match plans for construction.

FIELD EXPLORATION

Seven borings were conducted at this site to depths of 30 and 43 feet below existing grades on October 27 and 30, 2023. Approximate locations of test borings are shown on the enclosed Site Plan and were located and staked at the site by Bolton & Menk prior to field exploration. The location of boring BT-3 was offset from the staked location to avoid buried utilities. The boring surface elevations, indicated on the enclosed Boring Logs, were provided by Bolton & Menk. The boring surface elevation of boring BT-3, indicated on the enclosed Boring Logs, was determined by ABE using GPS survey equipment and was Iowa Real-Time Network (RTN) derived. Methods of drilling, sampling, standard laboratory testing, and classifying of subsurface materials are discussed in the Boring Log Description/Legend pages of the Appendix.

SUBSURFACE CONDITIONS

Site Geology

This project site is located within a geomorphic region known as the "Des Moines Glacial Lobe." The Wisconsinan glacier was the last glacier to advance into north central Iowa. The brown to brown-gray Wisconsinan glacial till present near the surface and deposited as the glacier retreated, typically consists of sandy lean clay with random zones of high sand and silt content. Fine grained deposits of very dark gray locally derived alluvium are commonly encountered at the surface in isolated upland depressions. The deeper dark gray Wisconsinan glacial till, deposited as the glacier advanced, consists of a more homogeneous mixture of sand, silt and clay. It is not

uncommon to encounter relatively thick sand layers, termed glacial outwash deposits, within the glacial till formation as well as random cobbles and boulders. The overburden soils are underlain by the Mississippian bedrock system consisting of dolomite, limestone, and sandstone.

Detailed descriptions of soils encountered by this exploration are provided on the Boring Logs enclosed in the Appendix. The Profile of Borings (Plate A-1) presented in the Appendix depicts the relative deposit elevations in the borings. Following is a discussion of the subsurface materials encountered in the borings. Unless otherwise indicated, the depths of soil stratum and groundwater levels are referenced from below existing grade at the individual boring locations at the time of drilling.

In general the borings encountered natural soils consisting predominately of sandy lean clay (CL) Wisconsinan glacial till and glacial outwash (sand) soils typical to this area of Iowa. The upper 1 to 2 feet consisted of sandy lean clay (CL) or lean to fat clay (CL-CH) topsoil. Below the topsoil the upper 8 to 10 feet of the Wisconsinan glacial till is medium stiff to stiff, moist to very moist and consists of more variable deposits of sand, silts, and clay. Below depths of 8 to 10 feet the dark gray sandy lean clay (CL) Wisconsinan glacial till is less variable, moist, and stiff to very stiff. As is common in glacial deposits, sand seams and/or thicker glacial outwash sand layers were encountered in borings at various depths and thicknesses. Saturated sand soils present in the upper 10 to 15 feet tended to be very loose to loose while the deeper sand layers tended to be medium dense to dense. The overburden soils were underlain by hard limestone encountered between depths of 36 and 40.5 feet in 3 out of the 7 borings.

Groundwater Level Observations

The borings were monitored during and shortly after drilling operations to detect moisture seepage and groundwater accumulation. The results of our groundwater level observations are noted on the Boring Logs enclosed in the Appendix.

During drilling operations, moisture seepage or saturated sand was noted between depths of 5 and 11 feet in all borings. Shortly after the completion of drilling operations, groundwater accumulation was observed between depths of 5 and 13 feet in all borings. After a period of approximately 24 hours, groundwater accumulation was observed near respective depths of 4.5 and 5 feet in boring BT-2 and BS-2. The majority of Iowa has experienced a nearly 12-month period of below normal precipitation which has likely caused lower than normal water levels at this site. These short-term water levels are not necessarily a true indication of the groundwater table. Long-term observations would be necessary to accurately define the groundwater variations at this site.

Brown-gray coloring of the Wisconsinan glacial till is an indication of past fluctuations of the groundwater in this zone. Furthermore, local alluvium soils typically develop under high seasonal groundwater levels at or near the surface. Therefore, we interpret that past seasonal high groundwater tables have been near or above the surface in the isolated depressions and shallow drainageways across the site and near depths of 2 to 4 feet or deeper in the upland areas of the site. Fluctuation of groundwater levels can occur due to seasonal variations in the amount of rainfall, surface drainage, subsurface drainage, site topography, irrigation practices, and ground cover (pavement or vegetation).

ANALYSIS AND RECOMMENDATIONS

Site Preparation and Grading

Based on the existing grades of our borings we assume fill depths of 2 to 4 feet or less will be required to achieve final grades. Deeper cut depths on the order of 10 to 15 feet may be required in the detention basin east of the substation structures. Prior to the placing of concrete floors or pavements on this site, or before any fill is placed, the organic and loose materials in addition to all vegetation must be stripped. We expect that a minimum stripping depth of 6 inches will be required. The stripping depths may vary due to localized variations in vegetation cover and subgrade stability. Deeper stripping on the order of 1 to 2 feet may be required to remove accumulated sediments in low-lying areas of the site. The strippings could be used for landscaping purposes in non-critical areas where support for foundations, floor slabs, and pavements is not required. The subgrade should then be proof-rolled to delineate zones of soft soils present near the surface which may require additional removal or compaction.

We recommend that low plasticity cohesive (Liquid Limit of 45 or less and Plasticity Index of 23 or less) or cohesionless soils, free of rubble and organics, be used as compacted fill. Inorganic existing soil such as the sandy lean clay (CL) Wisconsinan glacial till and glacial outwash sands (SP, SP-SM, SC, SM) would be suitable soil types for general fill applications. Inorganic portions of the lean to fat clay (CL-CH) topsoil are moderately expansive and should not be placed within 2 feet of movement sensitive structures.

The following Table A lists recommended minimum compaction requirements for cohesive and cohesionless fill materials in specific applications. For cohesive soils, moisture contents within a range of -1 to +4 percent of the material's optimum moisture content are

necessary to achieve the desired fill qualities. Soil compacted closer to its optimum moisture content will exhibit greater stability under repeated construction traffic.

TABLE A
RECOMMENDED DEGREE OF COMPACTION GUIDELINES

Construction Application	Standard Proctor (ASTM D698) Cohesive Soil	Standard Proctor (ASTM D698) Cohesionless Soil	*Relative Density (D4253 & D4254) Cohesionless Soil
Class 1	95%	98%	70%
Class 2	90%	93%	45%
Class 3	85%	88%	20%

Class 1 - Subgrade for building foundations, slabs-on-grade, pavements and other critical backfill areas.
Class 2 - Backfill adjacent to structures not supporting other structures - Minor subsidence possible.
Class 3 - Backfill in non-critical areas - Moderate subsidence possible.

*Use Relative Density technique (ASTM D4253 & D4254) where Standard Proctor technique (ASTM D698) does not result in a definable maximum dry density and optimum moisture content.

The on-site soils can be excavated utilizing conventional excavation equipment. Granular soils can generally be suitably compacted with vibratory compaction equipment whereas cohesive soils are more suitable for compaction with sheepsfoot or pneumatic type compactors. Care should be exercised in properly backfilling and compacting all trenches, especially utility trenches under or adjacent to the pavement. Loosely compacted or sand backfilled trenches can collect surface water and inadvertently direct it to the pavement subgrade and cause softening of the soil as well as increasing frost heave potential.

At the time of this geotechnical exploration, moisture contents of the Wisconsinan glacial till deposits were generally near to slightly above the recommended moisture content range for compaction. Depending upon precipitation levels prior to and during construction, adjustment of soil moisture content may be required in order to lower or raise the moisture to within the recommended moisture content range. Controlled wetting and discing may be necessary to raise soil moisture content of dry soils. Discing and aeration is generally the most economical method to lower soil moisture content, if climatic conditions allow. Chemical modification (drying) of very moist soils with Class C fly ash, Portland cement, or quicklime can be accomplished if construction scheduling does not permit field drying. Common chemical modification methods

may not be reactive when temperatures are near or below 40° Fahrenheit if grading or fill placement at the site will be conducted during colder weather.

The contractor should be aware that very moist and soft lean clay (CL) portions of the Wisconsinan glacial till and saturated sand (SP, SP-SM, SM, and SC) soils at the site are easily disturbed by construction traffic and may not provide adequate support for heavy construction equipment, especially in deeper cuts such as in the future detention area under repeated traffic loading. Therefore, low impact excavation methods, such as top loading with excavators may be required in deeper cut areas to reduce disturbance and deterioration of these softer soils. High construction traffic areas will require periodic repair of disturbed or loosened soils.

Excavation Stability and Dewatering

Boring information indicates shallow excavations at this site will encounter both cohesive and granular soils including random wet sand seams and glacial outwash layers within the Wisconsinan glacial till. If excavations encounter only cohesive soils with no wet sand seams or layers, it is expected that the water seepage can be controlled by permitting it to drain into temporary construction sumps and be pumped outside the perimeter of the excavations. More extensive dewatering such as sand points and wells may be required for excavations which extend down into water bearing sand layers. We recommend that prior to excavating in saturated sand, water levels be maintained 2 feet or more below the bottom of excavations in saturated sand to prevent upward seepage forces which could reduce subgrade support.

The extent of bracing or sloping of open cut excavations will be dependent upon depth of cut, groundwater conditions, soils encountered, length of time the excavation will be open, area available for excavation and local governing regulations. Predominately cohesive soils may appear to stand nearly vertical in shallow excavations for short periods of time. However, soil creep, surcharge loads, precipitation, subsurface moisture seepage, construction activity vibrations and other factors may cause these soils to cave within an unpredictable period of time. Excavations encountering sand may tend to cave rapidly, especially if water is flowing through the sand. Unstable granular excavation walls may also cause surrounding cohesive soils to become unstable. Temporary shoring, flattening of the excavation slopes or use of trench boxes may be required to maintain a safe condition. Determining the appropriate OSHA classifications of the soil types encountered and implementing the required provisions for sloping, shoring, and bracing of excavations throughout the project during construction are the responsibility of the contractor per OSHA.

Shallow Foundation Design

In our opinion, newly placed engineered compacted fill and suitable natural soils can provide adequate support for the proposed structure. We recommend that continuous and isolated spread foundations bearing above approximately elevation 1054 feet be proportioned for a maximum net allowable soil bearing pressures of 2,000 pounds per square foot. Higher bearing pressures on the order of 3,000 to 4,000 pounds per square foot could be realized for footings bearing at or below elevation 1054 feet on very stiff Wisconsinan glacial till. We estimate long-term total settlement due to structural loads will be less than 1 inch and differential settlement may be on the order of ½ of the total settlement when foundations bear on newly placed engineered compacted fill and suitable natural soils.

Depending on final structure location softer cohesive soils or loose sand may be encountered near foundation level such as was encountered in the upper 8 feet of boring BS1 in and in BS4 between depths of 3 and 6 feet. Raising existing grades such that spread foundations bear on 2 feet or more of new engineered compacted fill would reduce, but not necessarily eliminate, the necessity of over-excavation during construction. Assuming frost-depth footings bear approximately 4 feet below final grade, final grades near or above approximately elevation 1,069 feet would provide 2 feet or more separation between the foundation level and soft/very loose natural soils. Another option may be to design footings for a lower net allowable bearing pressure of 1,500 pounds per square foot may also reduce, but not necessarily eliminate the need for over-excavation during construction.

Continuous foundations should be adequately reinforced to limit deflections caused by non-uniform soil support characteristics. All exterior foundations and foundations in unheated areas should be placed a minimum of 3.5 feet below final grade to provide protection against frost penetration and reduce movements associated with changes in soil moisture content. The on-site cohesive soils and newly placed cohesive fill would be suitable for trench foundations while sand soils should be expected to cave. Footing excavations should be kept free of water accumulation to prevent softening of subgrade soils.

Observations and test probing of the foundation subgrade soils should be conducted by an ABE geotechnical engineer to determine that the soils are compatible with the design criteria. If zones of soft or otherwise unsuitable soils are encountered at foundation level, we recommend that footings be extended to bear on firmer soils or an over-excavation and compacted backfill procedure be implemented. Over-excavations should extend 9 inches laterally in each direction beyond the foundation edges for each foot of over-excavation depth.

Deep Foundation Design

Drilled Shaft Deep Foundations

In our opinion, a deep foundation system consisting of diameter drilled straight shafts embedded into the very stiff glacial till would provide reliable foundation support for the proposed structures. Drilled shafts will derive support from skin friction and end bearing within the Wisconsinan glacial till (and/or glacial outwash) deposits. The following Table B provides recommendations for allowable skin friction and end bearing values for these two deep foundation systems. The values provided in Table B include consideration of variations in the soil conditions encountered at this site.

TABLE B
DEEP FOUNDATION SOIL PARAMETERS

Soil Type	Approximate Elevation (ft)	Skin Friction (psf)	End Bearing (psf)
Wisconsinan Glacial Till and Glacial Outwash	Above 1054	300	NA
Wisconsinan Glacial Till	Below 1054	800	8,000*

* Drilled shafts should not be terminated in the glacial outwash sand layers

**Assumes ACIP piles achieve auger refusal on limestone

As an example for this project, using the above parameters we calculate a 3 feet diameter drilled shaft with a length on the order of 30 feet, would have an allowable capacity on the order of 245 kips. These are example calculations, actual design of deep foundations will depend upon soil conditions, anticipated loads, and the configuration which will be most economical to construct.

Group reduction factors applied to the skin friction portions alone should be used for deep foundation members established closer than 3 times the pile diameter. Deep foundation groups with closer spacing should have the skin friction reduced (on the order of 15 to 20 percent) to account for group action. We would be available to review proposed ACIP pile spacing and provide specific group reduction recommendations if requested. End bearing is not reduced by group action. Uplift reactions due to overturning loads can be resisted by skin friction and buoyant weight of the foundation. For belled drilled shafts, the buoyant weight of the soil within a cylindrical area above the bell bottom area could be included to resist uplift. We recommend that skin friction values for uplift be limited to 75 percent of the compression skin friction values as

provided in Table B. Belled and straight drilled shafts should not be terminated in sand layers and skin friction should be ignored for a distance above the bottom of a belled shaft equal to the bell diameter.

Laterally Loaded Deep Foundations

Deep foundations will be subject to lateral loads in addition to vertical loads. There are several methods for evaluating the transfer of lateral loads to deep foundations. Depending upon the magnitude of lateral loads and the deflection tolerance of deep foundations, the widely accepted p-y method of analysis may be appropriate for this project to provide more accurate predictions of soil response to lateral loads. We understand the computer program L-Pile may be used to aid in laterally loaded pile design. Estimated properties for use in L-Pile of soil and bedrock materials encountered at this site are provided in the following Table C. The information provided in Table C may also be used if the Broms' method is used to calculate lateral resistance of soils.

TABLE C
SOIL PARAMETERS FOR LATERALLY LOADED
DRILLED SHAFT DESIGN USING L-PILE

Formation	Wisconsinan Glacial Till Above Elevation 1054 feet[1]	Wisconsinan Glacial Till Below Elevation 1054 feet[1]	Glacial Outwash Above Elevation 1054[1]	Glacial Outwash Below Elevation 1054[1]
Estimated Buoyant Unit Weight	63	73	53	63
Static Subgrade Modulus, k (pci)	500	1,000	20	60
Friction Angle, φ	N/A	N/A	29°	34°
Undrained Shear Strength, psf	1,000	3,000	N/A	N/A
Strain Factor, E_{50}	0.007	0.005	N/A	N/A

1) Boring BT3 conducted near the existing water tower north of the site encountered softer glacial till soils to near elevation 1048 feet. Therefore, the lower values provided for the Wisconsinan glacial till and glacial outwash should be applied above elevation 1048 feet and the higher values should be used below elevation 1048 feet.

General

The contractor should be aware of the soil and water conditions which will be encountered during drilled shaft installation. Caving of the on-site saturated sand should be expected. Therefore, temporary casing and/or slurry drilling methods will be required to complete drilled shaft excavations to the desired bearing levels. It is not uncommon to encounter occasional large rocks or boulders within the glacial till deposits that may require special excavation techniques, such as carbide tip core barrel, gadding, or hand excavation. Refusal encountered above the design depth could require a replacement pile. Deep foundation depths may require some adjustments in the field depending upon conditions encountered at time of construction.

Deep foundation depths may require adjustment in the field depending upon conditions at the time of construction. Hand cleaning of drilled shaft bottoms will not be required if the drilling tools are capable of removing soft or loose fragments to provide a plane bearing surface. The bottom should be sounded from ground level to verify removal of loose materials. Concrete should be placed as soon as possible after the drilled shaft excavation has been completed to the confirmed bearing level and the bearing surface has been cleared of loosened material. Concrete should not be placed in drilled shaft excavations without tremie where the depth of water exceeds several inches.

With deep foundations installed as previously described, we estimate long-term settlement due to structural loads will be less than one-half inch and differential settlement will be negligible. Installation of all deep foundations should be observed by a geotechnical representative from our firm to determine that design bearing conditions have been achieved, to note changes in the foundation materials, and observe construction procedures. We recommend that one or two axial load tests be performed at the site to confirm pile capacity. Piles should be load tested to a minimum of 200 percent of pile design capacity, preferably higher.

Floor Slab Support

Interior floor slabs can be adequately supported on a minimum of one foot of reworked inorganic low plasticity (LL $\leq$ 45 and PI $\leq$ 23) natural soils or new engineered compacted fill required to provide the desired final grades. Moderately expansive lean to fat clay (CL-CH) soils should not be present naturally or as fill within 2 feet of movement sensitive floor slabs. The floor slabs can be designed for a modulus of subgrade reaction value of 100 pounds per cubic inch when bearing on a minimum of one foot of prepared subgrade. Testing, observations and probing should be conducted during construction to delineate zones of soft soils which may require repair prior to concrete placement.

Floor Slab Moisture Considerations

American Concrete Institute Guide to Concrete Floor and Slab Construction (ACI 302.1R-15) indicates the use of a moisture vapor barrier or retarder should be considered below concrete slabs on grade with moisture sensitive floor coverings, when the slab-on-grade will support moisture-sensitive equipment, humidity-controlled environment, or climate controlled cooled environment.

The selection of moisture vapor retarders or vapor barriers and granular base materials and their location relative to the bottom of the floor slab oftentimes are a compromise between reducing water vapor movement through the slab, construction techniques, and providing the desired short-term and long-term concrete properties. Items to be considered are use of vapor-sensitive floor coverings/adhesive; humidity-controlled areas; and building and weather environment conditions prior to, during, and after the concrete floor placement.

A granular base should be compactable, trimmable, free-draining in some cases, and remain stable during concrete placement. Compacted crushed aggregate is preferable for this purpose as it usually remains stable under foot or equipment traffic, whereas alluvial derived fill sand does not remain stable and is not recommended. True vapor retarders and vapor barriers must be durable, puncture-resistant, sealable, and have respective water vapor transmission rates (WVTR) of 1.0 US Perm or less (retarder) and 0.01 US Perm or less (barrier). The concrete mix is an important factor since the placement, finish, and cure procedures can influence slab performance with respect to moisture vapor transmission rates. All of these considerations should be addressed in more detail with the owner, designer, engineer, and contractor to arrive at the appropriate design and construction solution for the specific floor application. The American Concrete Institute ACI Manual of Concrete Practice should be consulted for more detailed information on these items.

Lateral Earth Pressures

Walls constructed to retain soil should be designed to accommodate unbalanced lateral earth pressures. Estimated lateral earth pressures for cohesive and cohesionless (granular) backfill are presented in the following Table D. Active earth pressure design assumes that the wall can rotate and deflect at the top. If the wall is rigidly fixed, higher lateral earth pressures will develop against the wall and at-rest pressure parameters should be used for design. Increased earth pressures can also develop from restricted soil drainage, surcharge loads adjacent to the wall, and compaction of the adjacent backfill. Expansive materials (CH), either natural or backfill, should not be within 3 feet of below grade walls.

TABLE D
LATERAL EARTH PRESSURE PARAMETERS

Condition	Cohesive Soil (non-expansive clay)	Cohesionless Soil (Sand)	Cohesionless Soil (Crushed Rock)
Assumed Backfill Characteristics			
Approximate Total Density	130 pcf	120 pcf	130 pcf
Approximate Friction Angle	15° - 20°	30° - 35°	40° - 45°
Active Pressure Coefficient, K_a	0.5	0.3	0.2
At-Rest Pressure Coefficient, K_o	0.7	0.5	0.3
Passive Pressure Coefficient, K_p	2	3.3	5.2
Estimated Lateral Earth Pressure[1] (Equivalent Fluid Pressures)			
Active – Drained	65 pcf	35 pcf	25 pcf
Active - Undrained[2]	95 pcf	80 pcf	75 pcf
At-Rest – Drained	90 pcf	60 pcf	40 pcf
At-Rest - Undrained[2]	110 pcf	90 pcf	85 pcf
Passive – Drained	260 pcf	400 pcf	670 pcf
Passive - Undrained[3]	135 pcf	190 pcf	350 pcf

1) Assumes no safety factor, negligible wall friction, vertical wall, level backfill, zero surcharge loads and ignores cohesion shear strength.
2) Combined buoyant backfill unit weight and hydrostatic (water @ 62.4 pcf) loading.
3) Excludes hydrostatic loading.

A coefficient of sliding friction value of 0.3 may be used for Portland cement concrete on a cohesive subgrade. This ultimate value assumes no safety factor and design with this ultimate value should include a minimum factor of safety of 1.5.

Cohesionless (granular) backfill lateral earth pressure parameters may be used where granular backfill is installed behind the subsurface wall in accordance with the following Figure No. 2. The granular backfill should have a minimum width of 2 feet and be wide enough to accommodate the back slope limit line of 2:1 (vertical to horizontal) or flatter. The area between the required minimum zone of granular material and the actual limits of excavation may be backfilled with either cohesive or granular soils.

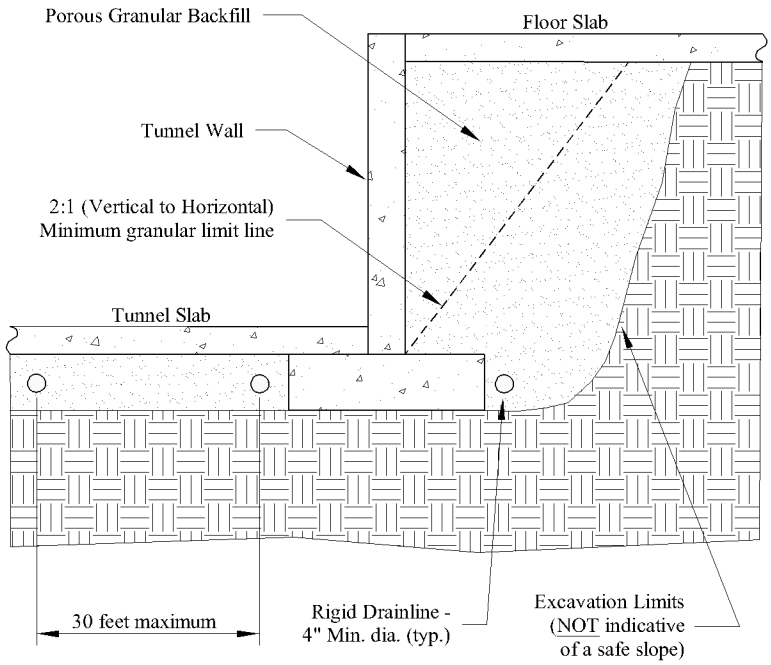


Figure No. 2 – Typical Lateral Earth Pressure Section for Below Grade Tunnels

All Weather Surface

Due to the overall size of this project, constructing a relatively level building pad will tend to collect surface water that will not sheet drain and will cause deterioration due to construction traffic. If it is desired to have an all-weather surface during construction, it may be necessary to place 6 inches or more of crushed rock or recycled concrete aggregate on the subgrade to provide a suitable working surface. The working surface may have to be repaired periodically in areas of higher traffic. The working surface should be kept low enough to accommodate placement of the floor granular subbase.

Water accumulation in the rock could soften the underlying cohesive subgrade. Water standing in the rock may seep into footing excavations and will need to be pumped out prior to footing construction. Subfloor drain lines could be installed below the granular working surface to drain and release trapped water and reduce possible softening of the underlying cohesive subgrade.

Frost Heave and Unheated Floor Slabs

Buildings unheated in the winter can subject the floor slab to frost heave. There are two common methods to reduce the potential for frost heave problems. One is to insulate the floor and foundations walls with horizontal and vertical rigid foam insulation board. The second option is to

place free draining granular fill under the floor for a minimum depth of 2 feet, or more, for greater protection. The granular zone should be drained to prevent pooling of water beneath floor slabs. If on-site expansive soils are encountered within 2 feet under the floor slab, the drained granular separation layer would also provide protection from slab movement.

Key elements contributing to frost heave including freezing temperatures, available water, and fine-grained frost susceptible soils are generally present at sites in Iowa. As a result, frost heave problems are generally common (and most noticeable) in pavements or sidewalks adjacent to non-frost susceptible elements such as manholes, light poles, and exterior doors or frost protected stoops. Frost heave can cause pavement cracks to develop parallel to and several feet from curbs. This generally occurs where cleared paved areas exposed to freezing temperatures heave more than adjoining paved areas insulated by piled snow. Sometimes it is not readily apparent why frost heave problems occur at one location and not at another seemingly similar location.

While it is appropriate to implement measures to reduce frost heave such as insulation, replacing frost susceptible soils with less frost susceptible soils, void forms, sealing cracks/joints to reduce surface water infiltration, or drainage improvements (surface and subsurface), these measures may simply move the frost heave problem to a different location where preventative measures have not been implemented. Having a smooth transition between heaved and non-heaved areas is desirable but may be difficult and/or costly to accomplish. We are available to meet with you to discuss options for your consideration to reduce frost heave potential on this project.

GENERAL

The analyses and recommendations in this report are based in part upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations which may occur between borings or across the site. The nature and extent of such variations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

It is recommended that the geotechnical engineer be provided the opportunity to review the plans and specifications so that comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications. It is further recommended that the geotechnical engineer be retained for testing and observation during earthwork and foundation construction phases to help determine that the design requirements are fulfilled.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranty, expressed or implied, is made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the conclusions of this report modified or verified in writing by the geotechnical engineer.

The scope of our service was not intended to include any environmental assessment or exploration for the presence of hazardous or toxic materials in the soil, surface water, groundwater, or air on, below or adjacent to this site.

APPENDIX

BORING LOG DESCRIPTION/LEGEND

The material types encountered during the drilling operations were recorded on field logs. The profile represented on the Boring Log is based on final classification performed by a geotechnical engineer using the field logs, laboratory observation and testing. The material stratigraphy demarcation lines shown on the Boring Logs indicate changes in soil characteristics, however, actual soil changes or variations may occur as a gradual transition. Soil profile discussion, Log Boring information, water levels and recommendations presented in this report are based upon measured depths below ground levels existing at time of the field exploration, unless otherwise specified.

DRILLING AND SAMPLING

The borings were conducted with either a truck or all-terrain rotary drill rig using the drilling methods indicated on each Boring Log. Soil sampling and/or in-situ testing such as Shelby Tube (ST), split-spoon (SS), drive cone (DC), or core (C) was conducted at depth intervals which were selected in consideration of the characteristics of the proposed construction. Generally undisturbed soil samples are taken at 5 foot depth intervals or change in soil types. Disturbed soil samples from the auger, either jar size or bulk size samples, may be taken at intermediate intervals for the purpose of soil classification or laboratory testing. Borings conducted for soil classification only, will show no designation of sampling although disturbed sampling is performed. Soil samples obtained in the field were identified and sealed for transportation to the laboratory for performance of pertinent physical testing and engineering classification.

Drilling Methods

CFA - Continuous Flight Auger: 4, 6, or 8-inch diameter (ASTM D1452).
RD - Rotary Drilling: Using drilling fluid in cased or uncased boring (ASTM D2113).
HSA - Hollow Stem Auger: 6 or 8-inch diameter, continuous flight auger remains in boring with soil removed from the hollow stem through which undisturbed sampling is conducted.
HA - Hand Auger: 4-inch or less diameter.

Sample Types

ST - Shelby Tube: Thin-walled tube samples of cohesive soils (ASTM D1587).
SS - Split Spoon with 140 lb. manual hammer: Standard penetration test and split-barrel samples (ASTM D1586).
SSA - Split Spoon with 140 lb. automatic hammer: Standard penetration test and split-barrel samples (ASTM D1586).
DC - Drive Cone: Dynamic in-place testing of soil using a 2-inch diameter cone with a 60 degree point driven into the soil for continuous 1-foot intervals in the same manner as Split Spoon, no sample is obtained.
C - Core: Sampling hard soil or bedrock with a diamond core barrel in a rotary drill boring (ASTM D2113).
SPT - Standard Penetration Test: Number of blows required to drive sampler (split spoon or drive cone) into the soil with a 140-pound weight dropping a distance of 30-inches (ASTM D1586), number of blows recorded for each 6-inch interval in an 18-inch (or more) penetration depth, values shown are for each 6-inch interval (if series of number sets are shown) or a total of the last two 6-inch intervals (if only one number is shown) which is commonly referred to as "N" in blows per foot. High resistance is indicated by a high number of blows for a lesser penetration depth listed in inches.
BS - Bulk Sample: Disturbed.
CPT - Cone Penetration Test: Quasi-static in-place testing of soils using a 60 degree cone and friction sleeve which are steadily pushed into the soil and measure skin friction and end bearing (ASTM D3441).

STANDARD LABORATORY TESTING

Representative undisturbed soil samples obtained by the Shelby Tube sampler were tested for moisture content (ASTM D2216), density (dry) and unconfined compressive strength (ASTM D2166) in the laboratory. Results of these tests appear on the respective Boring Logs. Additional soil testing including particle size analysis (ASTM D422) and Atterberg Limits (ASTM D4318) may be conducted, if necessary, to define in more detail pertinent soil characteristics for classification in accordance with the Unified Soil Classification System. Specialized laboratory tests (if conducted) to determine pertinent soil characteristics are discussed in the "Laboratory Testing" section of the report.

WATER LEVEL MEASUREMENT

Water levels indicated on the Boring Logs are the levels measured in the borings at the times indicated. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels is not possible with short term observations.

BORING LOG DESCRIPTION/LEGEND

(page 2 of 3)

DESCRIPTIVE SOIL CLASSIFICATION

Soil description is based on the Unified Classification System as outlined in ASTM Designations D-2487 and D-2488. This classification is primarily based upon visual and apparent physical soil characteristics, comparison with other soil samples, and our experience with the soil. Additional laboratory testing may be conducted, if necessary to define in more detail pertinent soil characteristics. The Unified Soil Classification group symbol shown on the boring logs corresponds with the group names listed below. The description includes soil constituents, moisture conditions, color and any other appropriate descriptive terms.

Group Symbol	Group Name	Group Symbol	Group Name	Group Symbol	Group Name	Group Symbol	Group Name
GW	Well-Graded Gravel	SW	Well-Graded Sand	CL	Lean Clay	CH	Fat Clay
GP	Poorly-Graded Gravel	SP	Poorly-Graded Sand	ML	Silt	MH	Elastic Silt
GM	Silty Gravel	SM	Silty Sand	OL	Organic Clay Organic Silt	OH	Organic Clay Organic Silt
GC	Clayey Gravel	SC	Clayey Sand			PT	Peat

RELATIVE PROPORTIONS			GRAIN SIZE TERMINOLOGY	
Descriptive Term(s) (Of components also present in sample)	Sand and Gravel % of Dry Weight	Fines % of Dry Weight	Major Component of Sample	Size Range
Trace	<15	<5	Cobbles	12 in. to 3 in. (300mm to 75mm)
With	15-30	5-12	Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Modifier	>30	>12	Sand	#4 to #200 sieve (4.75mm to 0.074mm)
			Silt or Clay	Passing #200 sieve (.074 mm)

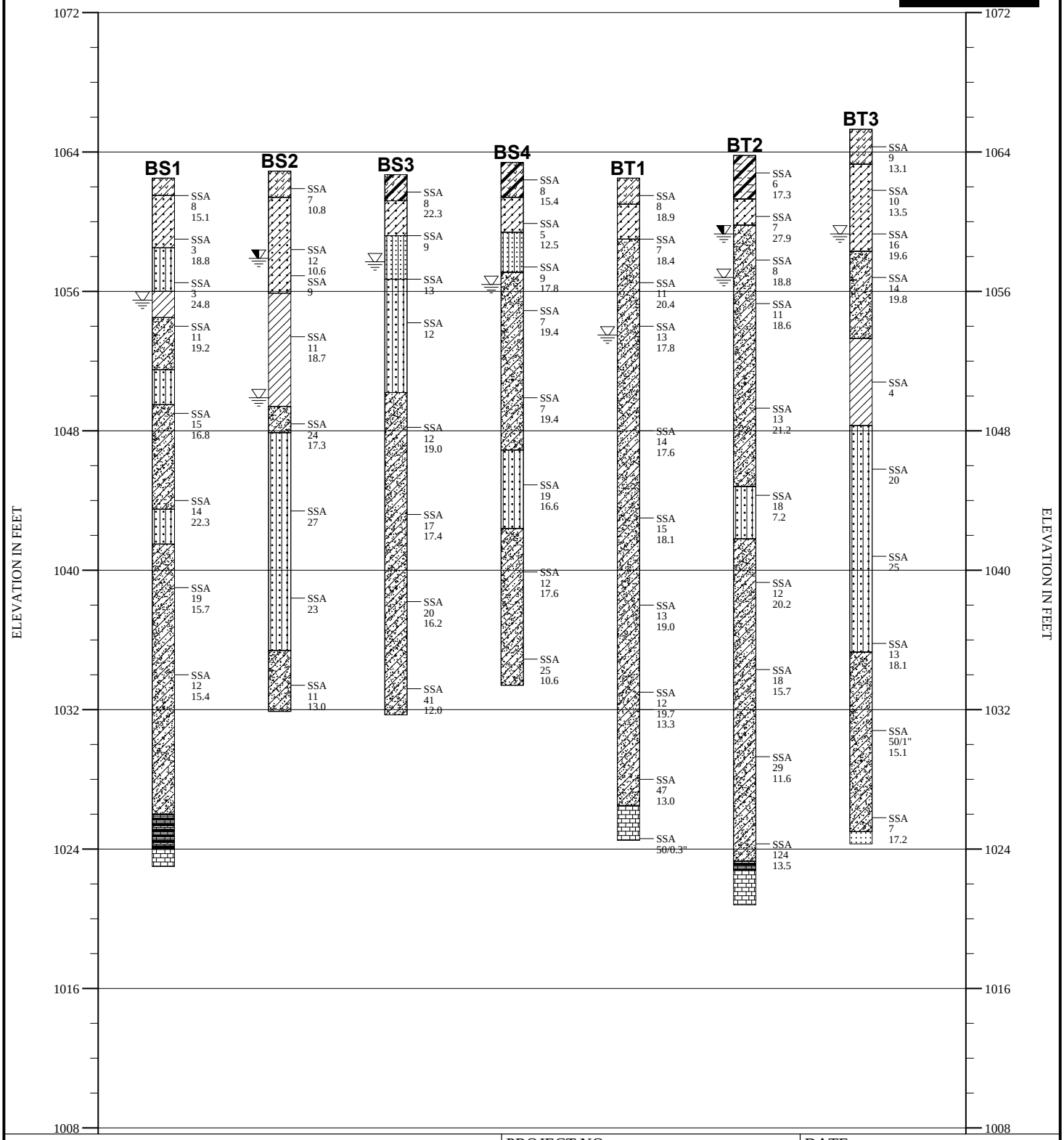
CONSISTENCY OF FINE-GRAINED SOILS			RELATIVE DENSITY OF COARSE-GRAINED SOILS	
Unconfined Compressive Strength, Qu, psf	Consistency	SPT, bpf	SPT, bpf	Relative Density
< 500	Very Soft	0-2	0-4	Very Loose
500-1,000	Soft	2-4	4-10	Loose
1,000-2,000	Medium Stiff	4-8	10-30	Medium Dense
2,000-4,000	Stiff	8-15	30-50	Dense
4,000-8,000	Very Stiff	15-30	50-80	Very Dense
8,000-16,000	Hard	30-100	80+	Extremely Dense
> 16,000	Very Hard	>100		

BORING LOG DESCRIPTION/LEGEND

ABBREVIATIONS

COMMONLY USED ABBREVIATIONS	
ft. or ' - feet	elev. - Elevation
in. or " - inches	% - Percent
psf - pounds per square foot	No. - Number
plf - pound per lineal foot	TB - Test Boring
pcf - pounds per cubic feet	N - blow count (SPT, bpf)
kip - 1000 pounds	USCS - Unified Soil Classification System
ksf - 1000 pounds per square foot	LL - Liquid Limit
klf - 1000 pounds per lineal foot	PL - Plastic Limit
tsf - tons per square foot	PI - Plasticity Index
bpf - blows per foot (SPT, N)	

PROFILE OF BORINGS



Strata symbols

- Lean Clay Topsoil
- Clayey Sand
- Silty Sand
- Lean Clay
- Sandy Lean Clay
- Weathered Limestone
- Limestone
- Lean to Fat Clay Topsoil
- Poorly Graded Sand With Silt

PROJECT NO.: 231247	DATE: 12/14/2023
PROJECT: Reisner Substation Millards Ln and Closz Dr Webster City, Iowa	
PLATE: A-1	SCALE: 8 feet/in.

ALLENDER BUTZKE ENGINEERS, INC.

BORING LOG NO. BS1

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.5'**
Datum: **Site Survey**

Date Drilled: **10/27/2023**
Drilling Depth, ft.: **39.5**

Drilling Method: **4" CFA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
1062	0							Very dark brown sandy lean clay, moist		CL		1
		1	SSA	8	15.1			**TOPSOIL**		SC		1061.5
1060								Brown-gray clayey fine to medium sand, moist				
		2	SSA	3	18.8			**GLACIAL OUTWASH**		SM		
								Dark gray silty fine to medium sand, very moist after 4'				6.5
1056		3	SSA	3	24.8			Moisture seepage near 6'		CL	▽	1056
	8											
		4	SSA	11	19.2			Brown-gray lean clay, trace sand, very moist				
1052								Dark gray sandy lean clay, trace gravel, moist after 8'				
								With interbedded silty sand seams throughout 8' to 22.5'				
1048		5	SSA	15	16.8			Dark gray silty fine sand seam from 11' to 13'				
	16											
1044		6	SSA	14	22.3			Dark gray silty fine sand seam from 19' to 21'				
								WISCONSINAN GLACIAL TILL				
1040												
	24	7	SSA	19	15.7							
1036												
		8	SSA	12	15.4							
1032												
	32											
1028												36.5
								Light brown weathered limestone, damp				1026
1024								**BEDROCK**				39.5
	40							Dense after 38.5'				1023
1020								End of Boring				
1016												
	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: 7 ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BS2

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.9'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **31**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean clay, moist		CL		1.5
		7	SSA	7	10.8			**TOPSOIL**		SC		1061.4
1060								Brown-gray clayey fine to coarse sand, trace gravel, moist				
		1	SSA	12	10.6			**GLACIAL OUTWASH**			▼	
1056		8	SSA	9				Moisture seepage near 5'				7
	8							Dark gray lean clay, trace sand, moist		CL		1055.9
		2	SSA	11	18.7			**WISCONSINAN GLACIAL TILL**				
1052											▽	
								Dark gray sandy lean clay, trace gravel after 13.5'				15
1048		3	SSA	24	17.3			Dark gray silty fine sand, saturated		SM		1047.9
	16											
1044												
		4	SSA	27				**GLACIAL OUTWASH**				
1040												
	24											
		5	SSA	23								
1036												27.5
								Dark gray sandy lean clay, trace gravel, moist		CL		1035.4
1032		6	SSA	11	13.0			**WISCONSINAN GLACIAL TILL**				31
	32							End of Boring				1031.9
1028												
1024												
	40											
1020												
1016												
	48											
1012												
1008												
	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion **24** hrs. _____ days
Depth to water: **13** ft. ▽ **5** ft. ▼ _____ ft. ▼

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BS3

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.7'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **31**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
1062.7	0							Very dark brown sandy lean to fat clay, damp		CL-CH		1.5
								TOPSOIL				1061.2
1060		1	SSA	8	22.3			Brown-gray clayey fine to medium sand, moist		SC		
		2	SSA	9				Brown-gray fine to medium sand with silt after 3.5'		SP-SM	▽	
1056		3	SSA	13				Moisture seepage near and saturated after 5'		SM		
	8							Brown-gray silty fine sand after 6'		SM		
		4	SSA	12				**GLACIAL OUTWASH**				
1052								Gray and very moist after 8'				
												12.5
1048		5	SSA	12	19.0			Dark gray sandy lean clay, trace gravel, moist		CL		1050.2
	16							With interbedded sand seams throughout after 16'				
1044		6	SSA	17	17.4							
								WISCONSINAN GLACIAL TILL				
1040	24											
		7	SSA	20	16.2							
1036												
		8	SSA	41	12.0							31
1032	32							End of Boring				1031.7
1028												
1024	40											
1020												
1016	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: **5** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BS4

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1063.4'**
Datum: **Site Survey**

Date Drilled: **10/27/2023**
Drilling Depth, ft.: **30**

Drilling Method: **4" CFA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean to fat clay, moist		CL-CH		2
		1	SSA	8	15.4			**TOPSOIL**				
1060								Brown-gray clayey fine to medium sand, damp		SC		1061.4
		2	SSA	5	12.5			Brown-gray fine to medium sand with silt after 4'		SP-SM		
								GLACIAL OUTWASH				6.3
		3	SSA	9	17.8			Saturated after 5'		CL	▽	1057.1
1056	8							Dark gray sandy lean clay with interbedded silty				
		4	SSA	7	19.4			fine sand seams throughout, trace gravel, moist				
1052								**WISCONSINAN GLACIAL TILL**				
		5	SSA	7	19.4							
1048	16											16.5
								Dark gray silty fine sand, very moist		SM		1046.9
1044		6	SSA	19	16.6			**GLACIAL OUTWASH**				21
								Dark gray sandy lean clay, moist		CL		1042.4
1040	24	7	SSA	12	17.6							
1036								**WISCONSINAN GLACIAL TILL**				
		8	SSA	25	10.6							30
1032	32							End of Boring				1033.4
1028												
1024	40											
1020												
1016	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: 7 ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT1

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1062.5'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **38**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
1062.5	0							Very dark brown sandy lean clay, trace gravel, moist		CL		1.5
		1	SSA	8	18.9			**TOPSOIL**		SC		1061
1060		2	SSA	7	18.4			Brown-gray clayey fine to coarse sand, moist		CL		
								Brown-gray sandy lean clay after 3.5'				
1056		3	SSA	11	20.4			With interbedded silty sand seams throughout 3.5' to 18'				
	8	4	SSA	13	17.8			Dark gray after 6.5'			▽	
1052								Saturated sand seam near 11.5'				
1048		5	SSA	14	17.6							
	16							**WISCONSINAN GLACIAL TILL**				
1044		6	SSA	15	18.1							
1040								With interbedded sand seams throughout after 22'				
	24	7	SSA	13	19.0							
1036												
1032		8	SSA	12	19.7 13.3							
	32											
1028		9	SSA	47	13.0							36
								Light gray limestone, damp				1026.5
1024		10	SSA	50/0.3"				**BEDROCK**				38
	40							End of Boring ***Auger Refusal at 38'				1024.5
1020												
1016												
	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: **9** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT2

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1063.8'**
Datum: **Site Survey**

Date Drilled: **10/30/2023**
Drilling Depth, ft.: **43**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
	0							Very dark brown sandy lean to fat clay, trace organics, moist		CL-CH		2.5
		1	SSA	6	17.3			**LOCAL ALLUVIUM**		SC		1061.3
1060		2	SSA	7	27.9			Brown-gray clayey fine to medium sand, trace gravel, moist		CL	▽	
		3	SSA	8	18.8			Brown-gray sandy lean clay, very moist to moist after 4'			▽	
1056	8											
		4	SSA	11	18.6			Dark gray, moist after 6.5' Moisture seepage near 8.5' With interbedded sand silty sand seams throughout 9' to 19'				
1052												
		5	SSA	13	21.2							
1048	16											
		6	SSA	18	7.2			Dark gray silty fine sand from 19' to 22'		SM		
1044								**WISCONSINAN GLACIAL TILL**				
1040	24	7	SSA	12	20.2							
1036												
		8	SSA	18	15.7							
1032	32											
		9	SSA	29	11.6							
1028												
1024	40	10	SSA	124	13.5			With limestone fragments after 39'				40.5
								Light brown weathered limestone, damp Dense after 41'				1023.3 43
1020								**BEDROCK**				1020.8
								End of Boring				
1016	48											
1012												
1008	56											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation

Time: at completion **2.3** hrs. _____ days

Depth to water: **7** ft. ▽ **4.5** ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.

Geotechnical | Environmental | Construction Q.C.

BORING LOG NO. BT3

Project No.: 231247

Project: **Reisner Substation**
Millards Ln and Closz Dr
Webster City, Iowa

Client: **DGR ENgineering**
1302 South Union St
Rock Rapids, IA 51246

Surface Elevation: **1065.3'**
Datum: **Site Survey**

Date Drilled: **11/6/2023**
Drilling Depth, ft.: **41**

Drilling Method: **4" CFA/HSA**
Page: **1** of **1**

Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	Material Description*	Graphic Log	USCS	Water Level	Depth / Elevation ft.
1064	0							Very dark brown sandy lean clay, moist		CL		
		1	SSA	9	13.1			**TOPSOIL**				2
								Brown-gray clayey fine to medium sand, moist		SC		1063.3
1060		2	SSA	10	13.5			**GLACIAL OUTWASH**				
		3	SSA	16	19.6			Moisture seepage near 6'			▽	7
	8							Brown-gray sandy lean clay, trace gravel, moist		CL		1058.3
1056		4	SSA	14	19.8			Dark gray after 8.5'				
								WISCONSINAN GLACIAL TILL				
1052								Dark gray lean clay, trace sand and gravel with interbedded silty sand seams throughout, very moist after 12'		CL		
		5	SSA	4								
	16											17
1048								Dark gray silty fine sand, moist to very moist		SM		1048.3
		6	SSA	20								
1044												
	24							**GLACIAL OUTWASH**				
1040		7	SSA	25								
1036												30
		8	SSA	13	18.1			Dark gray sandy lean clay, trace gravel, moist		CL		1035.3
	32											
1032												
		9	SSA	50/1"	15.1			Boulder near 35'				
1028								**WISCONSINAN GLACIAL TILL**				
	40	10	SSA	7	17.2							41
1024								Dark gray medium to coarse sand, saturated after 40.3'		SP		1024.3
								End of Boring				
1020												
	48											
1016												
1012												
	56											
1008												

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

Water Level Observation
Time: at completion _____ hrs. _____ days
Depth to water: **6** ft. ▽ _____ ft. ▽ _____ ft. ▽

ALLENDER BUTZKE ENGINEERS, INC.
Geotechnical | Environmental | Construction Q.C.

ALLENDER BUTZKE ENGINEERS INC.
3660 109th Street
Urbandale, IA 50322

Reisner Substation
Millards Ln and Closz Drive
Webster City, Iowa

PN 231247

Site Plan

NOTES

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Adam Dickinson, Line Department Superintendent
John Harrenstein, Interim City Manager

DATE: June 17, 2024

RE: Bidding Package: Furnishing Major Materials – Phase 1 Electric Distribution Improvements

---

SUMMARY: Requesting permission to seek bids and schedule a Public Hearing for Major Materials as defined in the attached bidding documents to furnish said materials for the Phase 1 Electric Distribution Improvements project.

PREVIOUS COUNCIL ACTION: The City Council has previously authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.) for the Phase 1 Electric Distribution Improvements associated with the new Reisner Substation.

BACKGROUND/DISCUSSION: The equipment to be supplied is described in general as follows:

- 15 kV Primary Power Cable
- 15 kV Padmount Switchgear (Air-Insulated, Dead Front) and associated boxpads
- Single-Phase Padmount Distribution Transformers and associated boxpads
- Three-Phase Padmount Distribution Transformers and associated boxpads

The attached bidding documents reference in more detailed and complete description of the material specifications. At the proposed Public Hearing on August 5th, 2024 at 6:05 P.M., the City Council will also receive and consider any objection to said plans, specifications and form of contract or cost of the materials made by any interested party.

FINANCIAL IMPLICATIONS: The cost of construction is the responsibility of the City as it only involves 13.2 kV distribution.

The estimated cost of this portion of the project, along with the breakdown of the responsibility for those costs, is as follows:

Portion of Project	Total Project Cost Estimate	Estimated City of Webster City Portion	Estimated Corn Belt Power Co-op Portion
Major Materials	$658,000 (excluding taxes)	$658,000	N/A

PROJECT TIMELINE:

The current timeline for the Major Materials is as follows:

- Bid Opening: Wednesday, July 24, 2024 @ 1:30 PM at City Hall
- Desired Delivery Dates:
  - 15 kV Primary Power Cable: April 1, 2025
  - Padmount Switchgear: June 2, 2025
    - Boxpads: April 1, 2025
  - Single-Phase Padmount Transformers: July 1, 2025
    - Boxpads: April 1, 2025
  - Three-Phase Padmount Transformers: July 1, 2025
    - Boxpads: April 1, 2025

RECOMMENDATION: Approve the request to set public hearing for August 5th, 2024 at 6:05 P.M. at which the City Council will consider the plans and specifications, proposed form of contract and the estimate of cost to furnish materials for the Phase 1 Electric Distribution Improvements project as defined.

RESOLUTION NO. 2024 - xxx

RESOLUTION APPROVING THE REQUEST TO SEEK BIDS AND SCHEDULE A PUBLIC HEARING FOR FURNISHING MAJOR MATERIALS FOR THE PHASE 1 ELECTRIC DISTRIBUTION IMPROVEMENTS PROJECT

WHEREAS, the City Council of Webster City has previously authorized DGR Engineering to perform full design services (final design, bidding, construction administration, etc.) for the Phase 1 Electric Distribution Improvements associated with the new Reisner Substation; and

WHEREAS, the equipment to be supplied is described in general as follows:

- 15 kV Primary Power Cable
- 15 kV Padmount Switchgear (Air-Insulated, Dead Front) and associated boxpads
- Single-Phase Padmount Distribution Transformers and associated boxpads
- Three-Phase Padmount Distribution Transformers and associated boxpads; and

WHEREAS, the attached bidding documents provide a more detailed and complete description of the material specifications; and

WHEREAS, the proposed Public Hearing on August 5th, 2024, at 6:05 P.M. will allow the City Council to receive and consider any objections to said plans, specifications, form of contract, or cost of the materials made by any interested party; and

WHEREAS, the cost of construction is the responsibility of the City of Webster City as it involves only 13.2 kV distribution; and

WHEREAS, the estimated cost of this portion of the project is $658,000 (excluding taxes), which will be the responsibility of the City of Webster City.

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa, as follows:

Section 1. Approval to Seek Bids: The City Council hereby approves the request to seek bids for furnishing Major Materials for the Phase 1 Electric Distribution Improvements project.

Section 2. Public Hearing Scheduled: The City Council hereby schedules a Public Hearing for August 5th, 2024, at 6:05 P.M. at which time the Council will consider the plans and specifications, proposed form of contract, and the estimate of cost to furnish Major Materials for the Phase 1 Electric Distribution Improvements project as defined.

Section 3. Authorization: Authorize the City Manager to take all necessary actions to proceed with the bidding process for furnishing Major Materials for the Phase 1 Electric Distribution Improvements Project and to Authorize the City Clerk to ensure proper notice of the Public Hearing as required.

Passed and adopted this 17th day of June, 2024.

_____
John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PROPOSED PLANS AND SPECIFICATIONS, PROPOSED FORM OF CONTRACT, AND ESTIMATE OF COST FOR FURNISHING MAJOR MATERIALS – PHASE 1 ELECTRIC DISTRIBUTION IMPROVEMENTS FOR THE CITY OF WEBSTER CITY, IOWA.

Notice is hereby given that the City Council of Webster City, Iowa will meet in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595 on August 5, 2024 at 6:05 PM, at which time and place the City Council will consider the adoption of plans and specifications and proposed form of contract for the above referenced materials, which are now on file in the City Offices. At said meeting the City Council will receive and consider any objections to said plans, specifications, form of contract and estimate of cost made by any interested party.

The equipment to be supplied is described in general as follows:

- 15 kV Primary Power Cable
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- Single-Phase Padmount Distribution Transformers and associated boxpads
- Three-Phase Padmount Distribution Transformers and associated boxpads

Publication upon order of the City Council of Webster City, Iowa.

Dated this 19th day of July 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

NOTICE TO BIDDERS

Notice is hereby given that sealed bids will be received by the City Clerk of the City of Webster City, Iowa, at City Hall, 400 Second Street, Webster City, Iowa 50595, until **1:30 P.M. on July 24, 2024**, for Furnishing Electrical Distribution Major Materials for Phase 1 for the City of Webster City, Iowa. At said time, the bids will be publicly opened and read aloud in the Council Chambers, 400 Second Street, Webster City, Iowa 50595. Bids will be considered by the City Council at its meeting at 6:05 PM on August 5, 2024 in the Council Chambers at City Hall, 400 Second Street, Webster City, Iowa 50595. The City Council may award the contract(s) at said meeting or at such other time and place as shall then be announced.

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The above equipment shall be in accordance with the specifications and proposed form of contract now on file in the offices of, the City of Webster City, Iowa, by this reference made a part hereof, as though fully set out and incorporated herein.

Complete digital project bidding documents are available at www.questcdn.com. You may download the digital plan documents at no charge by inputting **Quest project #9174934** on the website's Project Search page. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information. An optional paper set of the proposal forms and specifications at no charge for individual use may be obtained from the office of the Engineer, DGR Engineering, 1302 South Union, P.O. Box 511, Rock Rapids, Iowa 51246, telephone 712-472-2531, Fax 712-472-2710, e-mail: dgr@dgr.com.

Each bid shall be made out on a blank form furnished by the Utility and must contain bid security as required by Iowa Code Section 26.8. The bidder's security shall be in the form of either (1) a cashier's check or certified check drawn on a state-chartered or federally chartered bank, in an amount equal to ten (10) percent of the amount of the Bid; or (2) a certified share draft drawn on a state-chartered or federally chartered credit union, in an amount equal to ten (10) percent of the amount of the Bid; or (3) a bid bond executed by a corporation authorized to contract as a surety in the State of Iowa, in an amount equal to ten (10) percent of the amount of the Bid. The bid security shall be made payable to the City of Webster City, Iowa. The bid security must not contain any conditions either in the body or as an endorsement thereon. Such bid security shall be forfeited to the City of Webster City, Iowa as liquidated damages in the event the successful bidder fails or refuses to enter into a contract within fifteen (15) days after the award of contract and post a satisfactory Performance Bond.

The sealed envelope containing the bid shall be clearly marked "BID ENCLOSED – FURNISHING MAJOR MATERIALS – PHASE 1 ELECTRIC DISTRIBUTION IMPROVEMENTS" on the outside of the envelope.

Payment to the Supplier will be made as described in the Material Agreement.

Delivery of the materials may start after the execution of the Contract Documents.

Award of the Contract(s), if an award is made, will be made to the lowest responsible and responsive bidder for each Bid Form. It is the intent of the Owner to award one (1) Contract for each Bid Form based on the total base bid price and guaranteed delivery date.

By virtue of statutory authority, a preference will be given to products and provisions grown, and coal produced within the State of Iowa, and preference shall be given to Iowa domestic labor in the construction of said improvements. The Owner will, in evaluating Bids, consider the requirements of the resident bidder preference law, and allow such preferences to resident bidders as are required to be allowed under State Law. Bidder shall, when submitting a Bid, furnish an executed Bidder Status Form for the Owner to use when applying the preference law. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

The City Council reserves the right to defer acceptance of any proposal for a period not to exceed thirty (30) days after the date bids are received and no bid may be withdrawn during this period. The City Council also reserves the right to reject any or all bids, and enter into such contract as it shall be deemed to be in the best interest of the Utility.

Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

Bidding Documents

Furnishing Major Materials
Phase 1 Electric Distribution Improvements

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

DGR Project No. 428405
City Project No. 9-25-001

DGR ENGINEERING

Bidding Documents

Furnishing Major Materials
Phase 1 Electric Distribution Improvements

City of Webster City/Municipal Utilities
Webster City, Iowa

June 2024

This engineering document is a reproduction of a certified engineering document, the official copy of which was certified by:

Andrew D. Koob, P.E. on 06.11.2024

The official copy of this engineering document is on file at the office of the Owner.

Pages of sheets covered by this seal: All bound pages.

DGR Project No. 428405

DGR Engineering
1302 South Union Street
Rock Rapids, IA
(712) 472-2531
dgr@dgr.com

Bidding Documents

Furnishing Major Materials
Phase 1 Electric Distribution Improvements

City of Webster City/Municipal Utilities
Webster City, Iowa

Contact persons for this project are as follows:

Owner's Representative:

City of Webster City/Municipal Utilities
400 Second Street
Webster City, IA 50595
Telephone: 515-832-9151

Adam Dickinson
Electric Utility Supervisor
Telephone: 515-832-9159
Cell: 515-297-1307
E-mail: adam@webstercity.com

Ryan Orton
Utility Technician
Telephone: 515-832-9159
Cell: 515-297-0820
E-mail: rorton@webstercity.com

Engineer:

DGR Engineering
1302 South Union Street
Rock Rapids, Iowa 51246
Telephone 712-472-2531

Andy Koob, P.E.
Project Manager
E-mail: andy.koob@dgr.com

Daniel Messner
Project Design Technician
E-mail: dan.messner@dgr.com

Bidding Documents

Furnishing Major Materials
Phase 1 Electric Distribution Improvements

City of Webster City/Municipal Utilities
Webster City, Iowa

Table of Contents

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Publication upon order of the City Council of Webster City, Iowa.

Dated this 18th day of June 2024.

CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON PROPOSED PLANS AND SPECIFICATIONS, PROPOSED FORM OF CONTRACT, AND ESTIMATE OF COST FOR FURNISHING MAJOR MATERIALS – PHASE 1 ELECTRIC DISTRIBUTION IMPROVEMENTS FOR THE CITY OF WEBSTER CITY, IOWA.

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CITY OF WEBSTER CITY, IOWA

By /s/ John Hawkins
Mayor

ATTEST:
/s/ Karyl K. Bonjour
City Clerk

INSTRUCTIONS TO BIDDERS

1.01 FAMILIARITY OF CONDITIONS.

A. Bidders are required to examine to their satisfaction, the plans and specifications and to make sure that the requirements are fully understood. The failure or omission of any Bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation regarding their bid.

1.02 BIDDERS QUALIFICATIONS.

A. Bidder must be capable of performing the work bid upon. The lowest responsive Bidders will be required to satisfy the Owner as to their integrity, experience, number of employees, equipment, personal, and financial ability to perform and ability to finance the cost of the work.

B. If the information and data requested by the Owner is not furnished, the Owner may consider the Bidder non-responsive or non-responsible. The Owner reserves the right, in its sole and absolute discretion, to accept the bid of a Bidder despite the fact that said Bidder has not submitted any information, list, data or statement requested.

C. The Owner reserves the right to reject any bid if the Owner determines, in its sole and absolute discretion, that the Bidder is not properly qualified to carry out the obligations of the Contract and/or to complete the work contemplated by the Contract. Conditional bids will not be accepted.

1.03 METHOD OF BIDDING.

A. Bids shall be submitted on a unit price or lump sum basis as stated on the Bid form. In preparing a bid, the Bidder shall specify the price, written legibly in ink or typewritten, at which the Bidder proposes to do each item of work. The price shall be stated with respect to each and every alternate item, whether an add alternate, or a deduct alternate. Failure to state a price for any alternate bid item shall constitute a non-responsive bid that will not be considered. The prices shall be stated in figures. In items where unit price is required, the total amount for each item shall be computed at the unit prices bid for the quantities given in the estimate. In the event of discrepancies in the unit price extensions listed in the bid, unit prices shall govern.

B. For all work let on a unit price basis, the Engineer's estimate of quantities shown on the bid is understood to be approximate only, and will be used only for the purpose of comparing bids. For work let on a lump sum basis, any estimate of quantities provided is furnished for the convenience of Bidders and is not guaranteed.

1.04 **BID SECURITY.**

A. Each bid shall be accompanied by bid security as specified in the Notice to Bidders and made payable to the Owner. Should the bidder receiving the award fail to execute a satisfactory contract and file acceptable bonds within fifteen (15) days after the award of contract, the Owner may consider Bidder to be in default, annul the Notice of Award, and the bid security of that Bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if Bidder defaults.

B. The bid security of unsuccessful Bidders will be returned promptly after the award has been made. In no case will the bid security be held longer than thirty (30) days without written permission of the Bidder, except that the bid security of the Bidder to whom the contract is awarded will be retained until he or she has entered into contract and filed an acceptable bond.

1.05 **TAXES.**

A. The prices for material items in all bids shall not include provisions for the payment of any taxes payable to the State of Iowa.

1.06 **ALTERNATE MATERIALS.**

A. Requests for approval of 'or-equal' materials and equipment shall be submitted to the Engineer in writing at least fifteen days prior to receipt of bids. Each request shall conform to the terms and conditions of the bidding documents and to the type, function, and quality standards of approved materials and equipment. The burden of proof of the merit of proposed 'or-equal' materials and equipment is upon the Bidder. The engineer's decision of approval or disapproval of a proposed 'or-equal' item will be final. No substitution shall be approved except by a written addendum issued to all prospective Bidders.

B. Bidders may submit bids for alternate materials which do not meet all of the detailed requirements of the specifications. Such submissions shall be in addition to the basic bid which shall comply with all requirements of the specifications. Bid evaluation and contract award will be made on the basis of the base bid. Alternate materials will then be considered, and the final contract amount adjusted accordingly if the Owner decides to accept bids for alternate materials. In submitting bids for alternate materials, Bidders shall submit manufacturer's data and note the exceptions to the requirements of the plans and specifications.

C. Additionally, as part of evaluating 'or-equal' requests, engineer will consider the following:

1. Manufacturer's ability to conform with the project specifications.

2. Manufacturer's relevant experience.

3. Manufacturer's support capabilities.

4. The Owner's and Engineer's experience with the proposed equipment.

1.07 **TERMS AND CONDITIONS.**

A. The Bidder is invited to attach their standard patent protection and liability limitation conditions, but shall not include any other terms and conditions to this bid. Attachment of additional terms and conditions shall be grounds for disqualification of the submitted bid.

1.08 **CHANGES IN QUANTITIES.**

A. The Bidder understands and agrees that the quantities called for in the bid are approximate, and that the total number of material items upon which payment shall be made shall be set forth in the material contract and purchase order.

1.09 **SUBMISSION OF BIDS.**

A. Bidders will be furnished with bid form(s) giving the estimate of quantities needed to complete the work. Two (2) copies of the completed bid form(s) and all supporting documentation shall be included with the bid.

B. If the bid is made by an individual, his or her name and post office address must be shown. If made by a firm or partnership, the name and post office address of the firm or partnership must be shown. If made by a corporation, the person signing the bid must name the state under the laws of which the corporation is chartered, and the name, title, and business address of the executive head of the corporation. Anyone signing a bid as agent may be required to submit satisfactory evidence of his or her authority to do so.

C. Any changes or alterations made in the official bid form, or any additions thereto, may result in the rejection of the bid. No bid will be considered which contains a clause in which the Bidder reserves the right to accept or reject a contract awarded by the Owner. Bids in which the unit prices are obviously unbalanced may be rejected.

D. Should the Bidder find discrepancies, ambiguities or omissions from these documents, they should immediately notify the Engineer and an addendum will be sent to all known entities holding copies of the Bidding Documents.

E. Two (2) copies of each bid form and all supporting documentation shall be provided. Bids shall be placed in an opaque envelope and the envelope sealed and marked "Bid Enclosed – FURNISHING MAJOR MATERIALS – PHASE 1 ELECTRIC DISTIRBUTION IMPROVEMENTS" to indicate its contents. If forwarded by mail, the envelope shall be mailed to the following address:

City of Webster City
Attn: Dedra Nerland, Public Works Management Assistant
400 Second Street
Webster City, IA 50595

F. Receipt of any Addenda must be acknowledged on the bid form or a copy of any addenda relating to the bid shall be signed and attached to the bid.

G. No oral, facsimile, e-mail, telegraphic or telephonic bids or modifications will be considered.

1.10 MODIFICATION OR WITHDRAWAL OF BIDS.

A. A bid may be withdrawn by an appropriate document duly executed in the same manner that a bid must be executed and delivered to the place where bids are to be submitted prior to the date and time for the opening of bids. Upon receipt of such notice, the unopened bid will be returned to the Bidder.

B. If a Bidder wishes to modify its bid prior to bid opening, Bidder must withdraw its initial bid and submit a new bid prior to the date and time for the opening of bids.

C. No bid may be withdrawn for a period of thirty (30) days after the scheduled date and time for the receipt of bids.

1.11 CONTRACT AWARD.

A. Award of the Contract, if an award is made, will be on the basis of the base bid and/or any alternate bid(s) chosen by the Owner, as is in the best interest of the Owner. It is the intent of the Owner to award one (1) Contract for each of the bid(s) as is deemed to be in the best interest of the Owner. The Owner reserves the right to reject any or all bids, waive technicalities, and make award(s) as deemed to be in the best interest of the Owner. In addition to cost, other items that will impact the award decision include the following:

1. Relevant experience with installations of similar size and type.

2. Support capabilities.

3. Ability to meet specified delivery schedule.

4. Conformance to project specifications.

5. Life cycle and maintenance costs.

6. The Owner's and Engineer's experience with the units manufactured by the Bidder.

1.12 PERFORMANCE BOND.

A. Should the total value of the awarded work to any Bidder be equal to or greater than $25,000, the Bidder to whom the contract is awarded shall furnish a Performance Bond in an amount equal to the total amount of the bid guaranteeing the faithful performance of the work in accordance with the terms of the contract. Such bond shall be with a surety company authorized to do business in the State of Iowa and in form acceptable to the Owner. Any costs associated with procuring the necessary bond shall be included in the bid prices. Bidder may furnish a Supply Bond in lieu of a Performance Bond.

1.13 EXECUTION OF CONTRACT.

A. The Bidder to whom the contract has been awarded shall enter into contract with the Owner within fifteen (15) days after the award has been made.

B. No bid shall be considered binding upon the Owner until the contract is properly executed by both parties and the performance/supply bond filed, if required.

C. The contract, when executed, shall be combined with all the Contract Documents identified in the Material Agreement representing the entire agreement between parties. The Bidder shall not claim any modification resulting from representation or promise made by representative of the Owner or other persons.

1.14 WARRANTY

A. The Supplier shall warrant that the materials included in the contract are free of defects for one (1) year from the delivery date. The Supplier shall repair or replace any materials found to be defective at no cost to the Owner. Any costs incurred by the Owner due to defective materials supplied by the Supplier shall be reimbursed to the Owner by the Supplier.

1.15 MATERIAL DELIVERY

A. Materials specified within shall be purchased FOB, (Webster City), Iowa. Freight prepaid and included in quoted price. Materials shall be shipped in total or in truckload lots, minimum. **Shipping address: 309 3rd Street, Webster City, IA 50595.** Deliveries shall be arranged with the Electric Utility Supervisor or Utility Technician **AT LEAST 48 HOURS PRIOR TO DELIERY**. Contact information is provided at the beginning of this document. Acceptable delivery times are 8:00 AM to 4:00 PM, Monday through Friday, working days only.

B. The Owner desires delivery of the material as soon as possible, preferably no later than the following dates. Schedules for delivery shall be clearly stated in the Bid(s) submitted.

Material		Delivery Date
Bid Form No. 1	15 kV Primary Power Cable	April 1, 2025
Bid Form No. 2	Padmount Switchgear, Air-Insulated, Dead Front	June 2, 2025
	Padmount Switchgear Box Pads	April 1, 2025
Bid Form No. 3	Single-Phase Padmount Transformers	July 1, 2025
	Single-Phase Transformer Box Pads	April 1, 2025
Bid Form No. 4	Three-Phase Padmount Transformers	July 1, 2025
	Three -Phase Transformer Box Pads	April 1, 2025

C. The Owner agrees to indemnify the Supplier for circumstances beyond his control, including acts of God, acts of government, and related circumstances. Actions that cause delivery delays that are under the control of the Supplier are failure to allow sufficient time for manufacturing, failure to inform the Engineer of changes in the manufacturing schedule, or lack of cooperation in establishing effective measures by which delays could be minimized.

* * * END OF SECTION * * *

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ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name, and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name— Include Location)*:

BOND

Bond Number:

Date:

Penal sum _____ $ _____

(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
Title	Title

Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a nonresident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

City, State, Zip: _____

Dates: _____ /_____ /_____ to _____ /_____ /_____ Address: _____

You may attach additional sheet(s) if needed. City, State, Zip: _____

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State:

_____

2. Does your company's home state or foreign country offer preferences to resident bidders, resident labor force preferences or any other type of preference to bidders or laborers? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be a reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

You must submit the completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156. This form has been approved by the Iowa Labor Commissioner.

Worksheet: Authorization to Transact Business

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes.

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa secretary of state, has filed its most recent biennial report with the secretary of state, and has neither received a certificate of withdrawal from the secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

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PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:
   3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
   3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
   3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
   5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
   5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
   5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
   5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
      5.4.1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
      5.4.2. Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
   7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
   7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
   7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Definitions
   14.1. Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
   14.2. Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
   14.3. Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
   14.4. Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
   14.5. Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
16. Modifications to this Bond are as follows:

BID FORM No. 1
15 kV PRIMARY POWER CABLE

TO: City Council
Webster City, Iowa

FROM: Bidder's Name_____

Address_____

_____

Pursuant to and in compliance with the Notice to Bidders and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the seller on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the equipment. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the purchaser.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor. **Note: the Owner may accept non-firm bids that are presented as "subject to metals escalation" or similar provisions. If pricing of that nature is provided, a clear description of how pricing adjustments will be made shall be furnished, including metals base prices, pricing indexes, and quantity of metals in the material to be supplied.**

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa and off-loading and placement as detailed in the specifications.

4. Title to the equipment shall pass to the Owner upon delivery to the point above specified.

5. This bid is void unless a materials contract based on this proposal is entered into by the Owner and the Supplier within 30 days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the City of Webster City, Iowa, in strict conformance with the specifications and Bidding Documents, to-wit:

Item No.	Qty	Description	Unit Price	Extended Price
1	24,000 ft	more or less, 15 kV Power Cable Conductor: 750, AL., stranded Insulation: 220 mil EPR Neutral: **(15) #10**, round, CU. Outer jacket: Insulating black polyethylene 16 reels @ 1,500 ft. per reel -0% to +1%	$ _____	$ _____
2	2,000 ft	more or less, 15 kV Power Cable Conductor: 1/0, AL., solid Insulation: 220 mil EPR Neutral: **(16) #14**, round, CU. Outer jacket: Insulating black polyethylene 1 reel @ 2,000 ft. per reel -0% to +1%	$ _____	$ _____
3	>= 24,000 ft	more or less, 15 kV Power Cable Conductor: 750, AL., stranded Insulation: 220 mil EPR Neutral: **(15) #10**, round, CU. Outer jacket: Insulating black polyethylene **Supplier's Stock length and reels**	$ _____	$ _____
4	>= 2,000 ft	more or less, 15 kV Power Cable Conductor: 1/0, AL., solid Insulation: 220 mil EPR Neutral: **(16) #14**, round, CU. Outer jacket: Insulating black polyethylene **Supplier's Stock length and reels**	$ _____	$ _____
		TOTAL BASE BID (Items No. 1 and No. 2):		**$** _____
		TOTAL ALTERNATE BID (Items No. 3 and No. 4)		**$** _____

Manufacturer _____

Delivery Date _____

*All materials shall be F.O.B., Webster City, Iowa.

Bid Security Enclosed _____

Bidder Status Form Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Dated this ____ day of _____, 2024.

Bidder _____

Address _____

_____

Authorized Officer:

Signature _____

Print _____

Title _____

Phone _____

E-mail _____

Contact for Contract Document Processing:

Name _____

Phone _____

E-mail _____

Contact for Order Status Updates:

Name _____

Phone _____

E-mail _____

BID FORM No. 2
PADMOUNT SWITCHGEAR (AIR-INSULATED, DEAD FRONT)

TO: City Council
Webster City, Iowa

FROM: Bidder's Name_____

Address_____

_____

Pursuant to and in compliance with the Notice to Bidders and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the seller on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the equipment. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the purchaser.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa and off-loading and placement as detailed in the specifications.

4. Title to the equipment shall pass to the Owner upon completion of the contract and acceptance by the Owner.

5. This bid is void unless a materials contract based on this proposal is entered into by the Owner and the Supplier within 30 days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the City of Webster City, Iowa, in strict conformance with the specifications and Bidding Documents, to-wit:

Item No.	Qty	Description	Unit Price	Extended Price
1	8 ea	more or less, padmount switchgear with one fuse bay and three gang operated switch bays, 14.4 kV Catalog # _____	$ _____	$ _____
2	27 ea	more or less, fusing equipment	$ _____	$ _____
3	8 ea	Box pad for padmount switchgear	$ _____	$ _____
			TOTAL BID:	**$** _____

Switchgear:

Manufacturer _____

Delivery Date _____

Box Pad (Item 3):

Catalog #_____

_____" L x _____" W x _____" H

Manufacturer _____

Delivery Date _____

*All materials shall be F.O.B., Webster City, Iowa.

Bid Security Enclosed _____

Bidder Status Form Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Dated this ____ day of _____, 2024.

Bidder _____

Address _____

_____

Authorized Officer:

Signature _____

Print _____

Title _____

Phone _____

E-mail _____

Contact for Contract Document Processing:

Name _____

Phone _____

E-mail _____

Contact for Order Status Updates:

Name _____

Phone _____

E-mail _____

BID FORM No. 3
SINGLE-PHASE PADMOUNT DISTRIBUTION TRANSFORMERS

TO: City Council
Webster City, Iowa

FROM: Bidder's Name_____

Address_____

_____

Pursuant to and in compliance with the Notice to Bidders and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the seller on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the equipment. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the purchaser.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa and off-loading and placement as detailed in the specifications.

4. Title to the equipment shall pass to the Owner upon completion of the contract and acceptance by the Owner.

5. This bid is void unless a materials contract based on this proposal is entered into by the Owner and the Supplier within 30 days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the City of Webster City, Iowa, in strict conformance with the specifications and Bidding Documents, to-wit:

Item No.	Description	A	B
(1)	Rated kVA	25	50
(2)	Estimated Quantity	1	1
(3)	High Voltage Winding (Volts)	13,200 Grd Y/7,620	13,200 Grd Y/7,620
(4)	Low Voltage Winding (Volts)	240/120	240/120
(5)	Total Losses @ Rated kVA (Watts)		
(6)	No Load Losses (Watts)		
(7)	Load Losses (Watts) Line (5) – Line (6)		
(8)	P.W. of No Load Losses ($6.10) x Line (6)		
(9)	P.W. of Load Losses ($2.80) x Line (7)		
(10)	P.W. of Total Losses Line (8) + Line (9)		
(11)	Base Price Each	$	$
(12)	Evaluation Price Each Line (10) + Line (11)	$	$
(13)	Extended Base Price Line (2) x Line (11)	$	$
(14)	Extended Evaluation Price Line (2) x Line (12)	$	$

TOTAL BASE PRICE (Sum Line 13) (A and B) $

TOTAL EVALUATION PRICE (Sum Line 14) (A and B) $

Item No.	Qty	Description	Unit Price	Extended Price
C	2 ea	Box pad for 1Ø Padmount Transformer	$ _____	$ _____

TOTAL BASE BID (Total Transformer Base Prices + Item C Ext. Prices): $ _____

TOTAL BID (Total Transformer Evaluation Prices + Item C Ext. Prices): $ _____

7. The following information is offered in regard to the equipment type and delivery:

Transformers:

Manufacturer _____

Core Construction (Silicon Steel)_____

Winding Materials (AL/CU)_____

Delivery Date _____

	Outline			Base		
	L	W	H	L	W	Weight
A						
B						

Box Pads:

Catalog #_____

L	W	H

Manufacturer _____

Delivery Date _____

*All materials shall be F.O.B., Webster City, Iowa.

Bid Security Enclosed _____

Bidder Status Form Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Dated this _____ day of _____, 2024.

Bidder _____

Address _____

_____

Authorized Officer:

Signature _____

Print _____

Title _____

Phone _____

E-mail _____

Contact for Contract Document Processing:

Name _____

Phone _____

E-mail _____

Contact for Order Status Updates:

Name _____

Phone _____

E-mail _____

BID FORM No. 4
THREE-PHASE PADMOUNT DISTRIBUTION TRANSFORMERS

TO: City Council
Webster City, Iowa

FROM: Bidder's Name_____

Address_____

_____

Pursuant to and in compliance with the Notice to Bidders and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number	Addendum Date
_____	_____
_____	_____

1. The prices set forth herein do not include any sums which are or may be payable by the seller on account of taxes imposed by the State of Iowa upon the sale, purchase or use of the equipment. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the purchaser.

2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.

3. The price of the equipment set forth herein shall include the cost of delivery to the job site in Webster City, Iowa and off-loading and placement as detailed in the specifications.

4. Title to the equipment shall pass to the Owner upon completion of the contract and acceptance by the Owner.

5. This bid is void unless a materials contract based on this proposal is entered into by the Owner and the Supplier within 30 days after the date hereof.

6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the City of Webster City, Iowa, in strict conformance with the specifications and Bidding Documents, to-wit:

Item No.	Description	A
(1)	Rated kVA	75
(2)	Estimated Quantity	1
(3)	High Voltage Winding (Volts)	13,200 Delta
(4)	Low Voltage Winding (Volts)	240/120 Delta w/mid tap
(5)	Total Losses @ Rated kVA (Watts)	
(6)	No Load Losses (Watts)	
(7)	Load Losses (Watts) Line (5) – Line (6)	
(8)	P.W. of No Load Losses ($6.10) x Line (6)	
(9)	P.W. of Load Losses ($2.80) x Line (7)	
(10)	P.W. of Total Losses Line (8) + Line (9)	
(11)	Base Price Each	$
(12)	Evaluation Price Each Line (10) + Line (11)	$
(13)	Extended Base Price Line (2) x Line (11)	$
(14)	Extended Evaluation Price Line (2) x Line (12)	$

TOTAL BASE PRICE (Sum Line 13) (A) $

TOTAL EVALUATION PRICE (Sum Line 14) (A) $

Item No.	Qty	Description	Unit Price	Extended Price
B	1 ea	Box pad for 3Ø Padmount Transformer	$ _____	$ _____

TOTAL BASE BID (Total Transformer Base Price + Item B Ext. Price): $ _____

TOTAL BID (Total Transformer Evaluation Price + Item B Ext. Price): $ _____

7. The following information is offered in regard to the equipment type and delivery:

Transformers:

Manufacturer _____

Core Construction (Silicon Steel)_____

Winding Materials (AL/CU)_____

Delivery Date _____

	Outline			Base		
	L	W	H	L	W	Weight
A						
B						

Box Pads:

Catalog #_____

L	W	H

Manufacturer _____

Delivery Date _____

Bid Security Enclosed _____

Bidder Status Form Enclosed _____

The undersigned bidder certifies that this bid is made in good faith without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this bid is made in conformity with the Contract Documents and agrees that, in the event of any discrepancies or differences between any conditions of this bid and the Specifications, the provisions of the latter shall prevail.

Dated this _____ day of _____, 2024.

Bidder _____

Address _____

_____

Authorized Officer:

Signature _____

Print _____

Title _____

Phone _____

E-mail _____

Contact for Contract Document Processing:

Name _____

Phone _____

E-mail _____

Contact for Order Status Updates:

Name _____

Phone _____

E-mail _____

TECHNICAL SPECIFICATIONS

FOR FURNISHING

15 kV PRIMARY POWER CABLE

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS:

A. This specification is for 15 kV ethylene propylene rubber (EPR) insulated URD type power cable with concentric neutral and insulating jacket.

B. Cable is intended for use on a 15 kV grounded wye system and shall be suitable for direct burial installation.

C. The cable shall meet all applicable provisions of the current ANSI/ICEA Standard S-94-649 and current AEIC Cable Specification No. CS8 except where they conflict with the requirements of this specification, in which case this specification shall apply.

PART 2 - PRODUCTS

2.01 15 kV PRIMARY POWER CABLE (JCN, EPR):

A. Central Conductor:

1. Central conductor shall be aluminum, solid or stranded as specified in the attached Bid.

a. Solid-Aluminum: Aluminum 1350-H12 or H22, H14 or H24 in accordance with ASTM B609.

b. Stranded-Aluminum: Aluminum 1350-H14 or H24, H142 or H242, H16 or H26 in accordance with ASTM B609 or aluminum 1350-H19 in accordance with ASTM B230. Concentric stranded conductors shall conform to ASTM B231 for Class B stranding.

B. Conductor Shield:

1. An extruded insulating or semi-conducting shield meeting the applicable requirements of Part 3 of ANSI/ICEA S-94-649 shall be provided. The minimum point thickness shall be in accordance with Table 3-1.

C. Insulation:

1. Insulation shall be ethylene propylene rubber (EPR) which meets all requirements of ANSI/ICEA publication S-94-649.

2. The insulated cable shall fully comply with applicable provisions of current AEIC Cable Specification No. CS8 including the limits on voids and contaminants, as per section D.1, method of examination per section G, and frequency of sampling as per ANSI/ICEA S-94-649 Table 9-5.

3. The nominal thickness of the insulation shall be 220 mils.

4. The minimum and maximum thickness at any point shall be within the guidelines of Table 4-11 per ANSI/ICEA S-94-649.

D. Insulation Shielding:

1. A semi-conducting layer meeting the requirements of section 5 of ANSI/ICEA S-94-649 shall be extruded tightly over the insulation to serve as an electrostatic shield.

2. The shield compound shall be compatible with the insulation.

3. The voids and protrusion limits shall be in accordance with sections 5.3 and 5.4 of ANSI/ICEA S-94-649.

4. The thickness of the extruded insulation shield shall be in accordance with table 5-1 of ANSI/ICEA S-94-649.

5. The shielding shall be applied such that all conducting material can be easily removed without externally applied heat.

6. Stripping tension values shall be in accordance with the applicable requirements of part 5.4 of ANSI/ICEA S-94-649.

7. The insulation shielding shall meet all applicable tests of Table 9-5 of ANSI/ICEA S-94-649.

E. Concentric Neutral:

1. A concentric neutral of annealed copper wires shall be spirally wound over the insulation shielding with uniform spacing between wires, in accordance with ASTM B3.

2. The number, size, and shape of wires shall be as specified in the Bid.

3. The length of lay of the neutral wires shall be not less than 6 nor more than 10 times the diameter over the concentric wires.

F. Outer Jacket:

1. An insulating black linear low density polyethylene layer meeting the requirements of ANSI/ICEA S-94-649, Table 7-1 shall be extruded directly over the insulation shield and concentric neutral wires. The jacket shall fill the interstice area, leaving no voids.

2. The jacket shall be applied such that the neutral wires are equally spaced and they shall remain in intimate contact with the underlying extruded insulation shield.

3. The jacket shall be free stripping from the insulation shield and neutral wires without applying external heat.

4. The minimum and maximum thickness at any point of the jacket over metallic neutral wires or straps shall be per ANSI/ICEA S-94-649, Table 7-10.

G. Testing:

1. The following tests shall be performed on all lengths of cable shipped on this order:

   a. A cold bend test shall be performed in accordance with the appropriate provisions of ANSI/ICEA S-94-649.

   b. A spark test shall be performed in accordance with part 7.3.1 of ANSI/ICEA S-94-649 on all cable prior to its being wound on shipping reels.

   c. The manufacturer shall measure each length of cable supplied to determine compliance with the dimensional requirements in Table 2-6 of the appropriate AEIC specification.

   d. The manufacturer shall perform an apparent discharge test in accordance with ANSI/ICEA S-94-649 except with a maximum allowable discharge of 5 picocoulomb to full test voltage of 200 volts/mil.

   e. The manufacturer shall perform an A.C. Voltage Withstand test in accordance with ANSI/ICEA S-94-649.

2. The manufacturer shall provide certified test reports on all of the above tests at the time of cable shipment.

H. Markings:

1. The cable shall have suitable markings on the outer surface of the jacket at regular intervals to indicate the manufacturer, conductor size, type of insulation, type of conductor, voltage rating, and year of manufacture.

2. Markings shall also be applied sequentially for length and the required NESC direct buried electric cable symbol.

3. Marking shall include the use of multiple red stripes equally spaced around the cable.

I. Shipping:

1. Cable shall be shipped on non-returnable reels in lengths as specified in the Bid. The quantity of cable specified in the Bid shall not be exceeded. Reels shall be numbered by manufacturer for proper record keeping.

2. Watertight seals shall be applied to all cable ends to prevent the entrance of moisture during transit or outside storage.

3. Reels used for shipment shall be in good condition and free of sharp projections that would damage the cable. The drum shall be wrapped with heavy corrugated paper or equivalent prior to reeling cable.

4. The cable ends shall be secured to the reel in a manner to prevent cable damage and unreeling during shipment. The inside end shall be water sealed and secured to prevent "walkout" during unreeling.

5. The manufacturer shall be responsible for any damage resulting from improper packing, sealing or blocking of the reels during transit.

6. Identification tags for all reels shall be a weather-resistant tag firmly affixed to both the inside and outside of one flange. Reel tag information shall include:

   a. Destination

   b. Manufacturer's name and serial number

   c. The gross and tare weights

   d. The size, type, stranding, length and net weight of the conductor

   e. Coding to test data can be correlated to each reel

   f. Customer purchase order number

J. Acceptable Manufacturers:

1. Kerite.

2. LS Cable.

3. Okonite.

4. Prysmian/General Cable.

5. Or Engineer approved equal prior to bid. See Instructions to Bidders Section.

* * * END OF SECTION * * *

TECHNICAL SPECIFICATIONS

FOR FURNISHING

15 kV THREE-PHASE PADMOUNT SWITCHGEAR
(AIR-INSULATED, DEAD FRONT)

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS:

A. Padmount switchgear shall be 14.4 kV nominal, 95 kV BIL, 600 amp continuous, 14,000 amps RMS sym. short circuit.

B. The switchgear shall meet the latest applicable requirements of ANSI/IEEE standards, including but not limited to ANSI C57.12.28, ANSI C37.20, ANSI C37.74, and ANSI/IEEE 386.

PART 2 - PRODUCTS

2.01 DEAD FRONT SWITCHGEAR:

A. Design:

1. Double-side padmount style with front and back access.

2. Multi-way with 4 modules. **[SEE BID FORM FOR CONFIGURATIONS]**

3. Grounding studs at each incoming cable connection.

B. Enclosure:

1. Shall be mild steel.

2. Color: Olive green/Munsell.

3. Shall be free standing with padlocked security.

4. Enclosure finish shall be resistant to salt spray and shall have been successfully tested in accordance with ASTM B-117.

C. Load Break Switch Modules:

1. Three phase interrupter switches with 3-pole gang operated functionality.

2. Interrupter switches shall utilize a quick-make, quick-break mechanism which shall swiftly and positively open and close the interrupter switch independent of the speed of the switch operating handle.

3. External switch operating mechanism, folding switch operating handle in hub pocket.

4. Viewing window for visual identification of open or closed switch position. Viewing windows shall be wide-viewing and mar-resistant.

5. 600 amp bushings, dead front, suitable for bolt-on elbow connections.

6. Modules shall include parking stands for each phase included on each switch way.

7. Insulation: Air-insulated.

8. Ratings:

   a. 600 amp continuous

   b. 600 amp load break, with fault close in ratings to exceed short circuit rating of the gear.

D. Fuse Modules:

1. 200 amp bushings, dead front, suitable for elbow connections. **Include removable loadbreak bushing well inserts as required.**

2. Each fuse bay shall be equipped with fuse-unit end fittings (including silencer) for use with S&C SMU-20 fuse units.

3. Fuse units shall be S&C type SMU-20, E-speed, TCC 119-2, 14.4 kV. Fuse size will be provided after order is placed.

4. Viewing window for visual identification of blown-fuse indicators. Viewing windows shall be wide-viewing and mar-resistant.

5. Modules shall include parking stands for each phase included on each fuse way.

6. Insulation: Air-insulated.

7. Ratings:

   a. 200 amp continuous

b. 200 amp load break, with fault close in ratings to exceed short circuit rating of the gear.

E. Acceptable Manufacturers:

1. Federal Pacific, type PSE.

2. S & C, type PME.

3. Or Engineer approved equal prior to bid. See Instructions to Bidders Section.

2.02 BOX PADS FOR PADMOUNT SWITCHGEAR:

A. Fiberglass box pads shall be furnished and properly sized to match the padmount switchgear listed in the Bid.

B. Box pad shall be step designed of heavy construction in order to support the above switch.

C. Pad shall be sized to place the weight of the supported device as close to the outside edge as possible.

D. Height of pad shall be thirty-six (36) inches.

E. **The box pad manufacturer shall be responsible for coordinating with the padmount switchgear supplier regarding pad size, top opening, etc.**

F. Acceptable Manufacturers:

1. Highline, FSG series

2. Nordic Fiberglass, Inc., type GS

3. Or Engineer approved equal prior to bid. See Instructions to Bidders Section.

* * * END OF SECTION * * *

TECHNICAL SPECIFICATIONS

FOR FURNISHING

SINGLE PHASE PADMOUNT DISTRIBUTION TRANSFORMERS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS:

A. These specifications describe new transformers to be built in accordance with applicable portions of ANSI/IEEE Standards No. C57.12.21 and C57.12.25, except where specific requirements of this specification takes precedence.

B. Units shall meet short circuit withstand requirements of ANSI/IEEE C57.12.00.

C. Transformer shall comply with the latest DOE efficiency standards and meet all the requirements. The transformer is required to meet NEMA TP-1, 2, and 3 Standards.

D. Furnish all transformers in accordance with the following ratings:

Single-phase	60 Hz
Coolant	Oil
Temperature Rise	65°C
Cooling	ONAN
Self-cooled kVA	**See Bid Form**

PART 2 - PRODUCTS

2.01 SINGLE PHASE PADMOUNT DISTRIBUTION TRANSFORMERS:

A. High Voltage Winding (See Bid Form):

[See Bid Form]

B. Dual Voltage Switch: None

C. Taps: None

D. High Voltage Fusing:

1. Partial range current limiting fuse in series with Bay-O-Net fault sensing fuse.

2. Bay-O-Net fuse assembly shall include plastic drip guard.

E. High Voltage Terminals:

1. Bushing wells with 2-200 amp removable load break insert bushings, all copper current path, connected for loop design.

2. Loadbreak bushing inserts shall be included with transformers that have a high visibility latch indicator ring which becomes covered with proper elbow installation.

3. Parking stands shall be included next to the bushing wells for each incoming high side connection.

4. Bushing arrangement shall be ANSI Type II design.

F. Low Voltage Winding:

1. See Bid Form, 30 kV BIL

G. Low Voltage Terminals:

1. Three insulated 5/8" threaded copper studs with externally clamped epoxy bushings.

2. Insulated neutral bushing shall be grounded to tank ground via external strap.

H. Low Voltage Winding Protection:

1. Internal secondary breaker with external on-off secondary breaker handle.

2. **Manufacturer is responsible to verify secondary breaker coordinates with high side fusing such that breaker trips prior to high side fuses.**

I. Core Construction:

1. Silicon steel only.

J. Impedance:

1. Impedance of the transformer shall be in accordance with NEMA and ANSI/IEEE standards.

2. Impedance of the transformer shall not be less than that impedance that results in a secondary fault current exceeding 65 kA assuming no source impedance.

K. Cooling:

1. Transformers shall be designed for continuous self-cooled operation.

L. Enclosure and Finish:

1. Enclosure shall utilize a flip-top access cover. Enclosure and access cover shall be formed 12-gauge mild steel, minimum. Transformer shall be finished with a factory-applied standard green.

2. Enclosure shall be of a tamper resistant design that meets NEMA requirements, latest edition.

3. Security bolt shall be penta-head.

4. The transformer enclosure dimensions shall be similar for all transformers sizes bid, so one consistent pad size can be integrated.

M. Oil:

1. Transformers shall be designed for 65°C temperature rise with mineral oil.

2. Oil shall be Type II (oxidation inhibited) mineral insulating oil of petroleum origin for use as an insulating and cooling agent in power transformers with 0.3% inhibitor content.

N. Accessories:

1. One (1) automatic pressure relief.

2. Minimum of two (2) ground nuts.

3. Certification of PCB regulation compliance.

4. Permanent external, front-mounted means indicating PCB regulation compliance via nameplate or decal.

5. 1.0” upper fill plug and 1.0” drain valve w/ sampling device in LV compartment.

6. Permanent external, front-mounted, stenciled lettering indicating kVA size. Letters and numerals shall be 3” inches high, yellow in color, UV resistant.

7. Permanent internally-mounted decal indicating “DANGER HIGH VOLTAGE”. Minimum size shall be 6” x 6”.

8. A second transformer nameplate shall be mounted externally on the front of the transformer in addition to the internally mounted nameplate.

O. Tests:

1. Certified test reports for losses shall be submitted by the transformer manufacturer upon delivery of the transformers.

    a. No-load loss tests shall be performed on all transformers.

    b. Full-load loss tests shall be performed on all transformers.

2. Purchase Price Adjustment:

    a. The sum of the "no-load" and "load" losses from factory test results will be compared to the sum of the guaranteed "no-load" and "load" losses found in the Bid.

    b. The total purchase price of the distribution transformer order will be reduced if the sum of the cost of the tested losses exceeds the sum of the cost of the guaranteed losses submitted in the Bid.

    c. The adjustment will be made in accordance with the per watt "cost of losses" developed in the Bid.

    d. No adjustment in purchase price will be made if the sum of the test losses is less than the sum of the guaranteed losses.

P. Submittals: The following information shall be submitted at the time of the Bid:

1. Transformer drawing of each transformer size (kVA) showing outline dimensions and base dimensions (in inches).

2. Guaranteed losses.

3. Manufacturer.

4. Delivery date.

Q. Acceptable Manufacturers:

1. ABB.

2. Cooper.

3. Ermco.

4. Howard.

5. Power Partners.

6. Or Engineer approved equal prior to bid. See Instructions to Bidders Section.

R. Approval Drawings:

1. Detailed drawings of the transformers shall be submitted to the Engineer for approval promptly after Award of Contract.

2. Manufacture of the transformers shall not begin until drawings have been approved by Engineer.

S. Evaluation of Bids:

1. Evaluation price, transformer dimensions, delivery date, and transformer design will be considered in the evaluation of Bids.

2. Preference will be given to Bids with low evaluation price, physically small dimensions, and short lead times.

2.02 BOX PADS FOR SINGLE PHASE TRANSFORMERS:

A. Fiberglass box pad shall be furnished and properly sized for each single phase transformer size (kVA rating) listed in the Bid.

B. Box pad shall be heavy duty and Munsell green in color. Stainless steel inserts shall be provided for securing transformer to pad.

C. Height of pad shall be twenty-four (24) inches.

D. **The box pad manufacturer shall be responsible for coordinating with the transformer supplier regarding pad size, top opening, etc.**

E. Acceptable Manufacturers:

1. Highline, HL series.

2. Hubbell, BB series.

3. Nordic Fiberglass, Inc., Type GS or CBP.

4. Or Engineer approved equal prior to bid. See Instructions to Bidders Section.

* * * END OF SECTION * * *

TECHNICAL SPECIFICATIONS

FOR FURNISHING

THREE PHASE PADMOUNT DISTRIBUTION TRANSFORMERS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS:

A. These specifications describe new transformers to be built in accordance with applicable portions of ANSI/IEEE Standards No. C57.12.22 and C57.12.26, except where specific requirements of this specification takes precedence.

B. Units shall meet short circuit withstand requirements of ANSI/IEEE C57.12.00.

C. Transformer shall comply with the latest DOE efficiency standards and meet all the requirements. The transformer is required to meet NEMA TP-1, 2, and 3 Standards.

D. Furnish all transformers in accordance with the following ratings:

Three-phase	60 Hz
Coolant	Oil
Temperature Rise	65°C
Cooling	ONAN
Self-cooled kVA	**See Bid Form**

PART 2 - PRODUCTS

2.01 THREE PHASE PADMOUNT DISTRIBUTION TRANSFORMERS:

A. High Voltage Winding:

[See Bid Form]

1. The configuration of the low voltage winding and high voltage winding shall be the same. Only wye to wye or delta to delta transformer configurations shall be provided.

2. Delta to wye or wye to delta configurations are not acceptable.

B. Dual Voltage Switch: None

C. Taps:

1. The transformer shall be furnished with taps +/- two – 2-1/2% above and below nominal voltage.

2. The tap changer switch shall be an externally operated switch with a hookstick-operable handle.

3. The tap changer shall be clearly labeled to reflect that the transformer must be de-energized before operating the tap changer as required in Section 3.3 of ANSI/IEEE C57.12.26.

4. Taps shall be adjustable when the switch is in the feed through position when the loop is closed and the transformer is de-energized.

D. High Voltage Fusing:

1. Partial range current limiting fuse in series with Bay-O-Net fault sensing fuse.

2. Bay-O-Net fuse assembly shall include plastic drip guard and be load break rated.

E. High Voltage Terminals:

1. Bushing wells with 6-200 amp removable loadbreak insert bushings, all copper current path, connected for loop design.

2. Loadbreak bushing inserts shall be included with transformers that have a high visibility latch indicator ring which becomes covered with proper elbow installation.

3. Parking Stands shall be included next to the bushing wells for each incoming high side connection.

4. High Voltage Switching shall be 15 kV, 200 amp continuous, 200 amp loadbreak, 10,000 amp momentary, configured as follows:

   a. One (1) disconnect type, on-off, for switching of source “A”.

   b. One (1) disconnect type, on-off, for switching of source “B”.

   c. One (1) disconnect type, on-off, for disconnecting transformer from source.

F. Low Voltage Winding:

[See Bid Form]

G. Low Voltage Terminals:

1. Terminals shall be blade type copper spade terminals with locking nuts with NEMA standard hole spacing arranged for vertical take-off. Bushing shall be externally clamped bushing with copper studs.

2. Secondary spades shall have (6) holes for units less than 500 kVA and (8) holes for units 500 kVA and larger.

3. Spades shall have horizontal spacing of 5" minimum and vertical spacing shall be 4 ½" minimum.

4. The low voltage neutral shall be an insulated bushing grounded to the transformer tank by a removable grounding strap. Wye-wye connected transformers shall have the high and low voltage neutrals internally tied with a removable link for testing.

5. Secondary bushing spade supports shall be furnished on transformers 300 kVA and larger.

   a. Spade supports shall attach to the spade in an independent hole other than the cable connection holes.

   b. Spade support mounting shall be constructed of insulating material with adjustable means to increase or decrease tension.

   c. Cross members of the spade supports shall be mounted off the cabinet wall and compartment separation barrier.

   d. Spade support components shall be designed to be easily removed and reassembled for assembly of cable to secondary spades.

H. Impedance:

1. Impedance of the transformer shall be in accordance with NEMA and ANSI/IEEE standards.

2. Impedance of the transformer shall not be less than that impedance that results in a secondary fault current exceeding 65 kA assuming no source impedance.

I. Cooling:

1. Transformers shall be designed for continuous self-cooled operation.

J. Enclosure and Finish:

1. Enclosure shall have removable double doors with 180° opening. Transformer shall be finished with a factory-applied standard green.

2. Enclosure shall be of a tamper resistant design that meets NEMA NOSP TR-P9-1977 and ANSI C57.12.28.

3. Security bolt shall be penta-head.

K. Oil:

1. Transformers shall be designed for 65°C temperature rise with mineral oil.

2. Oil shall be Type II (oxidation inhibited) mineral insulating oil of petroleum origin for use as an insulating and cooling agent in power transformers with 0.3% inhibitor content.

L. Accessories:

1. One (1) automatic pressure relief.

2. Minimum of two (2) ground nuts in high voltage compartment and one (1) ground nut in low voltage compartment.

3. Certification of PCB regulation compliance.

4. Permanent external, front-mounted means indicating PCB regulation compliance via nameplate or decal.

5. 1.0” upper fill plug and 1.0” drain valve w/ sampling device in LV compartment.

6. Permanent external, front-mounted, stenciled lettering indicating actual primary and secondary voltage ratings, and kVA size. Letters and numerals shall be 3” inches high, yellow in color, UV resistant.

7. Permanent internally-mounted decal indicating “DANGER HIGH VOLTAGE”. Minimum size shall be 6” x 6”.

8. A second transformer nameplate shall be mounted externally on the front of the transformer in addition to the internally mounted nameplate.

M. Tests:

1. Certified test reports for losses shall be submitted by the transformer manufacturer upon delivery of the transformers.

a. No-load loss tests shall be performed on all transformers.

b. Full-load loss tests shall be performed on all transformers.

2. Purchase Price Adjustment:

a. The sum of the "no-load" and "load" losses from factory test results shall be compared to the sum of the guaranteed "no-load" and "load" losses found in the Bid.

b. The total purchase price of the transformer order shall be reduced if the sum of the cost of the tested losses exceeds the sum of the cost of the guaranteed losses submitted in the Bid.

c. The adjustments shall be made in accordance with the per watt "cost of losses" developed in the Bid.

d. No adjustment in purchase price shall be made if the sum of the test losses is less than the sum of the guaranteed losses.

N. Submittals: The following information shall be submitted at the time of the bid:

1. Transformer drawing of each transformer size (kVA) showing outline dimensions and base dimensions (in inches).

2. Guaranteed losses.

3. Manufacturer.

4. Delivery date.

O. Acceptable Manufacturers:

1. ABB.

2. Cooper.

3. Ermco.

4. Howard.

5. Maddox.

6. WEG/CG Power.

7. Or Engineer approved equal prior to bid. See Instructions to Bidders Section.

P. Approval Drawings:

1. Detailed drawings of the transformers shall be submitted to the Engineer for approval promptly after Award of Contract.

2. Manufacture of the transformers shall not begin until drawings have been approved by Engineer.

Q. Evaluation of Bids:

1. Evaluation price, transformer dimensions, delivery date, and transformer design will be considered in the evaluation of bids.

2. Preference will be given to bids with low evaluation price, physically small dimensions, and short lead times.

2.02 BOX PADS FOR THREE PHASE TRANSFORMERS:

A. Fiberglass box pad shall be furnished and properly sized for each three phase transformer size (kVA rating) listed in the Bid.

B. Box pad shall be heavy duty and Munsell green in color. Stainless steel inserts shall be provided for securing transformer to pad.

C. Height of pad shall be thirty-six (36) inches.

D. **The box pad manufacturer shall be responsible for coordinating with the transformer supplier regarding pad size, top opening, etc.**

E. Acceptable Manufacturers:

1. Highline, FSG series.

2. Hubbell, BB series.

3. Nordic Fiberglass, Inc., Type RT.

4. Or Engineer approved equal prior to bid. See Instructions to Bidders Section.

* * * END OF SECTION * * *

MATERIAL AGREEMENT

THIS AGREEMENT made as of _____, 2024 between _____(hereinafter called the "Supplier"), and **City of Webster City, Iowa** (hereinafter called the "Owner"),

WITNESSETH, that the Supplier and the Owner for the considerations hereinafter named agree as follows:

1.01 SCOPE OF WORK.

A. The Supplier agrees to sell and deliver to the Owner and the Owner agrees to purchase and receive from the Supplier the equipment under Bid___, in strict accordance with the documents entitled "**Furnishing Major Materials – Phase 1 Electric Distribution Improvements**" for the City of Webster City/Municipal Utilities.

1.02 THE CONTRACT DOCUMENTS.

A. The Contract Documents shall consist of this written Agreement, Bid Form, Notice of Public Hearing and Letting, Instructions to Bidders, Addendums issued numbers ___, Insurance Policies and Certificates, General Requirements, Performance/Supply Bond, drawings and specifications, tests and engineering data, approved change orders, Supplier's Requests for Payment, and all addenda issued by the Owner prior to the awarding of the Contract (collectively, the "Contract Documents"). All of the Contract Documents listed in this Material Agreement are hereby incorporated by this reference as fully as if they were set out in this Agreement in full, all of which documents and instruments are incorporated by the signature of the parties hereto.

1.03 TIME OF COMPLETION.

A. The work to be performed under this contract shall be commenced upon execution of this Agreement. Material shall be fully delivered by _____*[To be updated with Supplier's delivery date].*

1.04 THE CONTRACT SUM.

A. The Owner shall pay the Supplier for the equipment, in current funds: The Owner shall pay to the Supplier for performance of the work encompassed by this Agreement, and the Supplier will accept as full compensation therefore the lump sum of $_____, subject to adjustment as provided by the Contract Documents, to be paid by progress payments in cash or its equivalent in the manner provided for in the Contract Documents.

1.05 PAYMENT.

A. Upon shipment of the complete equipment for Bid No. _____, the Supplier shall submit to the Owner a detailed statement of the equipment shipped. The Owner shall, within thirty (30) days after delivery receipt of the material in acceptable condition, final drawings, test reports, certification by the Engineer, and associated invoice, pay the Supplier one hundred percent (100%) of the contract price of the material.

1.06 TERMINATION.

A. This Agreement may be terminated by either party upon seven (7) days written notice should the other party breach the terms of this Agreement and, that party fails to initiate and diligently pursue a cure to such breach within the seven (7) day period after receiving such written notice. Further, any delay, suspension or termination of an order for convenience will be subject to Supplier's Cancellation and Delay Policy, as attached to Supplier's bid.

1.07 ASSIGNMENT.

A. The Supplier shall not assign all of his rights or obligations under this Agreement without the express written consent of the Owner. Upon any assignment even though consented to by the Owner, the Supplier shall remain liable for the performance of the work under this Agreement.

1.08 PARTIAL INVALIDITY.

A. If any provisions of this Agreement are in violation of any statute or rule of law of the State of Iowa, then such provisions shall be deemed null and void to the extent that they may be violative of law, but without invalidating the remaining provisions hereof.

1.09 WAIVER.

A. No waiver of any breach of any one of the agreements, terms, conditions or covenants of this Agreement by the Owner shall be deemed or imply or constitute a waiver of any other agreement, term, condition or covenant of this Agreement. The failure of the Owner to insist on strict performance of any agreement, term, condition or covenant, herein set forth, shall not constitute or be construed as a waiver of the Owner's rights thereafter to enforce any other default; neither shall such failure to insist upon strict performance be deemed sufficient grounds to enable the Supplier to forego or subvert or otherwise disregard any other agreement, term, condition or covenant of this Agreement.

1.10 ENTIRE AGREEMENT.

A. The within Agreement, together with the Contract Documents, constitute the entire agreement of the parties hereto. No modification, change, or alteration of the within

Agreement shall be of any legal force or effect unless in writing, signed by all the parties.

1.11 COUNTERPARTS, COPIES SAME AS ORIGINALS, ELECTRONIC AND SCANNED SIGNATURES PERMITTED:

A. When Owner issues an award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Material Agreement along with the other Contract Documents as identified in the Material Agreement. Within fifteen (15) days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Material Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten (10) days thereafter, Owner shall deliver one fully executed counterpart of the Material Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents.

B. This Agreement may be executed in several counterparts and each such counterpart shall be deemed an original. Any photocopies, electronic copies, or scanned copies of this Agreement shall be given full force and effect as the original(s). Given the distance between the parties and the time-sensitive nature of this Agreement, the parties stipulate that each party and/or their individual representatives may execute this Agreement using an electronic or scanned signature. Such electronic or scanned signatures shall be given full effect by the parties.

1.12 GOVERNING LAW.

A. Venue for any and all legal actions regarding or arising out of the transaction covered herein shall be solely in the District Court in and for Hamilton County, State of Iowa or the United States District Court for the State of Iowa. This transaction shall be governed by the laws of the State of Iowa.

1.13 PERFORMANCE BOND:

A. If the total value of this contract exceeds $25,000, Supplier shall provide a performance bond or supply bond as required by Iowa law valued at 100% of the contract amount.

1.14 INDEMNIFICATION:

A. To the fullest extent permitted by law, the Supplier shall defend, indemnify, and hold harmless Owner, its agents, representatives, and employees (Indemnitees) from and against all claims, damages, losses and expenses, including, but not limited to, attorney's fees, arising out of or resulting from or in connection with performance of the work, but only to the extent caused by the negligent acts or omissions of the Supplier, a Sub-supplier, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or

obligation of indemnity or contribution which would otherwise exist, as to any party or person described in Contract Documents.

1.15 CASUALTY INSURANCE.

A. Except when the risk of loss of the Equipment is with Owner, Supplier shall maintain on the Equipment insurance against loss or damage by fire, lightning and all other risks covered by the so-called extended coverage insurance endorsement in an amount equal to the full insurable value of the Equipment. Upon the request of Owner, Supplier shall deliver to Owner a certificate of insurance evidencing the insurance required by this section.

1.16 RISK OF LOSS.

A. Risk of loss of the Equipment shall remain with Supplier until the Equipment has been unloaded, inspected, and accepted by the Owner or Owner's Representative, at which time risk of loss shall pass to Owner. Notwithstanding the foregoing, if Owner rejects the Equipment as non-conforming, risk of loss of the Equipment shall be and remain with Supplier until Supplier corrects the non-conformity or Buyer accepts the Equipment.

1.17 LIQUIDATED DAMAGES.

A. Not Used

1.18 NOTICES.

A. All notices, requests, demands and other communications given or to be given under this Agreement shall be in writing and shall be deemed to have been duly given when served if served personally, or on the second day after mailing if mailed by first class mail, registered or certified, postage prepaid, and properly addressed to the party to whom notice is to be given as set forth below.

If to Owner:	If to Supplier:
City of Webster City	
400 Second Street	
Webster City, IA 50595	

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives all as of the day and year first above written.

City of Webster City, Iowa Owner	
Sign: _____	Sign: _____
Print: _____	Print: _____
Title: _____	Title: _____
ATTEST:	ATTEST:
Sign: _____	Sign: _____
Print: _____	Print: _____
Title: _____	Title: _____

WEBSTER CITY

MEMORANDUM

TO: Mayor and City Council

FROM: Brandon Bahrenfuss, Street Department Supervisor
John Harrenstein, City Manager

DATE: June 17, 2024

RE: Adopt a Resolution Authorizing the City Manager to Sign and Execute Amendment No. 33 with Snyder and Associates to Provide Professional Services Needed for the Beach Street PCC Rehabilitation Project

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SUMMARY: The Scope of this service is to provide preliminary and final design, PCC patch repair survey, limited topographic survey, plan preparation, contract documents, bid assistance services through an Iowa DOT letting, and construction services for the Beach Street Rehabilitation Project located on Beach Street from 400' south of Ohio Street to 2nd Street.

PREVIOUS COUNCIL ACTION: The Council approved agreement with Snyder and Associates to provide On-Call Paving Specialist Services on February 6, 2017. This was part of the 2024-2025 Capital Improvement Plan brought to Council on April 15, 2024.

BACKGROUND/DISCUSSION: The rehabilitation and maintenance of various local roads is critical to ensuring a healthy circulation of vehicles throughout the City. Local roads serve as transportation modes for multiple types of vehicles to move throughout the City. Beach Street is one of Webster City's most highly traveled roadways that see's everything from heavy truck traffic to local high school traffic.

This project will consist of full depth PCC pavement along with storm sewer intake complete and partial replacements, and intake and manhole adjustments. ADA ramp compliance improvements located adjacent to repair locations are included as required by federal regulations.

Schedule for the project is as follows:

Concept Statement to IDOT	June 18, 2024
City Council Approve Amendment	June 17, 2024
Kickoff PMT Meeting	July 9, 2024
Complete Preliminary Survey	July 12, 2024
Preliminary Design and Plans Submit to City	August 7, 2024
PMT Meeting (Review TCE's, ped ramps, detour, cost est)	August 7, 2024
Public Information Meeting	August 21, 2024
Submit Preliminary Plans to IDOT	September 17, 2024
Categorical Exclusion obtained from IDOT	November 5, 2024

Submit Check Plans to IDOT	November 5, 2024
Revise Cost Estimate in STP (as needed)	November 5, 2024
Check Plan comments from the IDOT	November 26, 2024
Temporary Easements obtained (as needed)	December 17, 2024
Submit Final Plans to IDOT	December 17, 2024
City Council Sets Public Hearing	March 3, 2025
IDOT Bid Letting	March 18, 2025
Memo-Engineer Letter of Recommendation	March 21, 2025
City Council Reviews Bids / Contract Award / Hearing	April 7, 2025
Preconstruction Meeting	April/May 2025
Early Start Construction	May 5, 2025
Late Start Construction	July 29, 2025
End Construction	October 31, 2025

FINANCIAL IMPLICATIONS: The estimated cost for Amendment No. 33 is $198,850.

RECOMMENDATION: Staff recommends the City Council adopt a resolution approving Amendment No. 33 with Snyder and Associates.

RESOLUTION NO. 2024- xxx

RESOLUTION AUTHORIZING THE CITY MANAGER TO SIGN AND EXECUTE AMENDMENT NO. 33 WITH SNYDER AND ASSOCIATES TO PROVIDE PROFESSIONAL SERVICES NEEDED FOR THE BEACH STREET PCC REHABILITATION PROJECT

WHEREAS, on February 6, 2017 the City of Webster City did enter an On-Call Street Paving Specialist Agreement with Snyder and Associates, Inc. Ankeny Iowa; and

WHEREAS, the City of Webster City will utilize the services of its consulting engineer, Snyder and Associates, to perform services noted in the attached as Exhibit "A";

WHEREAS, said professional services shall be governed by and construed in accordance with the laws of the State of Iowa and local municipal code; and

NOW THEREFORE BE IT RESOLVED, by the City Council of the City of Webster City, Iowa as follows:

SECTION 1: Authorizes the City Manager to sign and execute amendment number 33 with Snyder and Associates to provide professional services needed for the Beach Street PCC Rehabilitation Project.

Passed and adopted this 17th day of June, 2024.

_____

John Hawkins, Mayor

ATTEST:

_____

Karyl K. Bonjour, City Clerk

WEBSTER CITY, IOWA

AMENDMENT NO. 33 TO THE AGREEMENT FOR PROFESSIONAL SERVICES FOR THE ON-CALL STREET PAVING SPECIALIST

This Amendment to the Agreement for Engineering Services is made and entered into on the date hereinafter stated under City's signature, between the City of Webster City ("City"), Iowa, and Snyder & Associates, Inc. ("Professional").

For work on the On-Call Street Paving Specialist, the parties agree as follows:

1. **Engagement.** The City hereby engages the Professional to perform work necessary to provide all services as described in the Scope of Work in connection with this Amendment to the Contract.

2. **Scope of Work.** The Professional shall perform in a competent and professional manner, the Scope of Work as set forth in **Exhibit "A"** attached hereto and by reference incorporated herein.

3. **Completion.** The Professional shall commence work immediately upon receipt of a written notice from the City and complete the Scope of Work in an expeditious and professional manner as set forth in **Exhibit "B"** attached hereto and by reference incorporated herein.

4. **Payment.** The prices for work performed by the Professional on this Amendment shall not exceed those prices as set forth in **Exhibit "C"** attached hereto and by reference incorporated herein.

5. **Fee Schedule.** Billing rates for work performed under this Agreement shall be in accordance with **Exhibit "D"**.

6. **Project Location Maps.** Project location maps depicting the limits and Scope of Work are included in this Agreement as **Exhibit "E"**.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Amendment to the Agreement. All provisions of the Agreement shall remain in full force and effect.

CITY OF WEBSTER CITY, IOWA

_____

John Harrenstein, City Manager

Dated: June 17, 2024

SNYDER & ASSOCIATES, INC.

_____

EXHIBIT "A"

SCOPE OF WORK

To accomplish the City's mission of providing quality street, alley, electric, water, wastewater, and storm water services for its customers, it owns and maintains streets and alleys with appurtenant structures, electric facilities with appurtenant structures, water treatment and distribution systems, wastewater collection and treatment systems and storm water collection systems within public rights-of-way.

I. GENERAL

BEACH STREET PCC REHABILITATION PROJECT

This Scope of Services is for the preliminary and final design, PCC patch repair survey, limited topographic survey, plan preparation, contract documents, bid assistance services through an Iowa DOT letting, and construction services for the Beach Street PCC Rehabilitation Project located on Beach Street from about 400' south of Ohio Street to 2nd Street.

The Project includes full depth PCC pavement parking along with storm intake complete and partial replacements, and intake and manhole adjustments. ADA ramp compliance improvements located adjacent to repair locations are included as required by Federal regulations. Traffic control and staging plans will be included. The design will follow Iowa DOT specifications and plan development.

One plan set will be prepared for the Project. A March 18, 2025 Iowa DOT bid letting is anticipated for the Project with construction in the Spring/Summer of 2025 and an approximate October 31, 2025, completion.

Construction activities will require road closures and detour routing will be planned. A staging plan will be developed to maintain access to residences and businesses during construction.

The scope of the Project will be adjusted to meet the City's available budget.

Refer to Exhibit E for locations and limits.

The project scope does not include acquisition or permanent easement plats, exhibits, or acquisitions.

II. BASIC SERVICES

The following basic services will be provided where applicable.

A. PROJECT ADMINISTRATION

For the duration of the Project, the Professional will confer with the City for the purpose of accomplishing the following:

1. An initial project meeting will be held with the representatives of the City to establish lines of communication regarding elements of the scope and schedule, set design parameters for the project, and review replacement locations. One additional meeting will be held for the purpose of reviewing design and reviewing budget considerations as the project progresses.

2. Necessary project coordination efforts by the Professional to assure proper integration of participation levels from the Professional's staff, and the City.

3. Utility coordination will be limited to obtaining base mapping and notifying the utilities of the Project. No utility relocations are anticipated.

4. The Professional shall work with the City to develop a schedule for the project. Anticipated preliminary schedule is outlined in Exhibit "B".

5. The Professional will provide to the City a monthly project status report. This written report will be submitted in such a way that is suitable for the use as a City Council information item. Accompanying this report at monthly intervals, the Professional will submit a certified invoice for allowable cost incurred for the performance of the project agreement. Invoice statements will be based on actual cost incurred by the Professional per invoice period. All invoices will be documented, detailing the work performed by the Professional during the invoice period.

B. PRELIMINARY SURVEY

The Professional will complete a limited pavement patch repair survey of the project corridor to gather necessary information for design and plan preparation. A topographic survey will be limited to information needed to check compliance and for planned replacement of existing ADA ramps. Valves, manholes and other in pavement fixtures will be surveyed in designated patch repair locations only. The survey will be used to prepare a patching plan overlain on recent aerial photos. Boundary retracement surveys are not planned and would be considered Additional Services.

The utility portion of the survey shall be created using the field survey and base mapping information provided to the Professional from the utility owners. The Professional shall make a diligent attempt to make an accurate representation of underground utilities, vaults, and related items, but no guarantee can be made as to the condition or location horizontally or vertically between each structure. This portion of the topographic survey would constitute a level "C" utility survey as outlined by the Subsurface Utility Engineering profession. Additional work may be required to upgrade to level "B" or better during advanced states of design and that work would be considered extra services as outlined in Section IV - Additional Services.

C. DESIGN, PLANS, AND CONTRACT DOCUMENTS

The Professional will design and prepare plan documents for review, comment, and coordination. The plans will address significant project features such as pavement patches, possible sidewalk and ADA ramp replacement limits, intake and manhole adjustments and replacements, and other design issues that would affect the limits of construction.

Pavement coring services have not been included, but existing pavement depths will be obtained from previous construction plans. Geotechnical Services are not included in the design scope.

The Professional will prepare plans for bidding in accordance with the Iowa DOT requirements. Plan sets will include construction details, layout information, tabulations, and quantities. Production will include submittal of final plans, and contract documents for review and approval. All plans will be created on bond paper, with an 11" x 17" size. Final Plans will be certified by a Licensed Professional Engineer, licensed in the State of Iowa.

The Project will be let by the Iowa DOT and the Professional shall supply the necessary documents for this process. The Professional shall prepare any final special provisions to be included in the Iowa DOT contract documents. Also included may be recommendations for working days, liquidated damage requirements or any special City requests.

The Professional will prepare the final cost opinion based on the final plans. Opinions of probable construction cost prepared by the Professional represent the best judgment of a design professional familiar with the construction industry. It is recognized, however that the Professional has no control over the cost of labor, materials or equipment over the contractor's methods of determining bid prices, or over the competitive bidding or market conditions. Accordingly, the Professional does not guarantee that any actual cost will not vary from any cost opinion prepared by the Professional.

D. TEMPORARY CONSTRUCTION EASEMENT EXHIBITS

The Professional shall prepare up to 17 exhibits (letter-sized) depicting temporary construction easement needs. The City will utilize these exhibits to aid in obtaining temporary construction easements from effected property owners.

E. PUBLIC PARTICIPATION

The Professional will coordinate, facilitate, and present at one (1) public informational meeting to encourage public input and provide a forum for area residents and business owners to voice questions or concerns. Additionally, the Professional shall meet with, from time to time, individual City Council members to explain the project, provide updates on the schedule and budget, and gather input into the project development phase. Informational meetings will focus on presenting the preliminary design status, funding sources, and will be held during the development of the design, based on direction from the City. Input will be gathered from adjacent property owners regarding the phasing of the improvements and maintenance of access to their properties during construction.

III. CONSTRUCTION SERVICES

A. CONSTRUCTION ADMINISTRATION

Upon award of the initial construction contracts, the Professional shall perform the following administrative services during construction of the Project:

1. During the construction phases, the Professional shall specify the testing of materials and administrative procedures as per the City's requirements and as directed by the Professional.

2. Public Communication, the Professional will review and approve the contractor's handbills and door hanger notices prior to distributing to residents and businesses affected by the construction.

3. Preconstruction Conferences - The Professional shall arrange and conduct a preconstruction conference with the contractor and City, to review the contract requirements, details of construction, utility conflicts, and work schedule prior to construction.

4. Site Observation – The Professional shall visit the construction site, at such times and with such frequency deemed necessary to (a) observe the progress and (b) determine if the results of the construction work substantially conforms to the drawings and specifications in the Construction Documents.

5. Contractor Payment Requests - The Professional shall review the requests of the contractor for progress payments and shall approve a request, based on site observations, which authorizes payments and is a declaration that the contractor's work has progressed to the point indicated.

6. Notification of Nonconformance - The Professional shall notify the City of any known work which does not conform to the construction contract, make recommendations to the City for the correction of nonconforming work and, at the request of the City, see that these recommendations are implemented by the contractor.

7. Shop Drawings - The Professional shall review shop drawings and other submissions of the contractor for general compliance with the construction contract.

8. Change Orders - The Professional shall prepare change orders for approval of the City.

9. Substantially Complete and Final Site Observation - The Professional shall perform a site observation to determine if the project is substantially complete according to the plans and specifications and make recommendation on final payment for each construction phase.

10. During the Construction Services Phase, the Professional shall confer with the City to report project status. A written progress report shall be submitted and written in such a way that it is suitable for use as a City Council information item.

11. If the contractor exceeds the estimated working days in completing construction of the project, or if change orders or project additions require additional working days, the Professional will be compensated for administration and observation services based on established hourly rates and fixed expenses, as agreed, and amended by the parties to this Agreement.

12. Final Acceptance - It is understood that the City will accept any portion of the project only after recommendation by the Professional. Final acceptance of the project by the City shall not be deemed to release the contractor from responsibility for ensuring that the work is done in a good and workmanlike manner, free of defects in materials and workmanship nor the Professional for liability of design.

13. Reimbursement Requests – The Professional shall prepare Reimbursement Requests to the Iowa DOT for the City’s reimbursement of STBG funds from the State. These reimbursement requests will be prepared after each pay application is approved ty City Council.

B. CONSTRUCTION OBSERVATION

The Professional will provide one or more Resident Engineer or Resident Construction Observer for the Project during the construction phase. This may be periodic or full time as determined by the Professional based on the type of construction activity and contractor’s schedule. At a minimum, observation will include the beginning portions of all phases and full-time services during paving and pedestrian ramp construction. If the contractor requests a waiver of any provisions of the plans and specifications, the Professional will make a recommendation on the request to the City for their determination. No waiver shall be granted if such waiver would serve to reduce the quality of the final product. The City shall never be deemed to have authorized the Professional to consent to the use of defective workmanship or materials. The Construction Observer will give guidance to the project during the construction periods, including the following:

1. Setting and/or checking of lines and grades required during construction.

2. Observation of the work for general compliance with plans and specifications.

3. Keep a record or log of contractor's activities throughout construction, including notation on the nature and cost of any extra work or changes ordered during construction.

Examples of periodic observation services for this project include: traffic control setups, pavement removals, subgrade restoration, tie and dowel bar installations, joint sawing and filling and fixture adjustments and replacements.

Examples of full-time observation services for this project include: placing, consolidation, finishing and curing PCC patches, intakes replacements and pedestrian ramp construction.

4. Resident Services provide the City with representation during the construction phases of the project, which results in increasing the probability that the project will be constructed in substantial compliance with the plans, specifications, and Contract Documents. However, such Resident Services do not guarantee the contractor's performance. Resident services do not include responsibility for construction means, controls, techniques, sequences, procedures, or safety.

5. The Resident Engineer or Construction Observer shall coordinate the acceptance testing and monitoring according to City requirements. Concrete field air, slump tests, compaction testing, and other PCC sampling will be provided by the contractor. All material testing and inspection shall be provided by the contractor with review for acceptance or denial by the Professional.

C. CONSTRUCTION SURVEY

The Professional shall perform the Construction Survey for the Beach Street PCC Rehabilitation Project as specified in 2024 Iowa SUDAS Standard Specifications Division 11 Section 11,010 excluding monument preservation survey. Construction survey will be required for pedestrian ramp replacements.

D. RECORD DRAWINGS

Record Documents – No Record Drawings are included but may be added with Additional Services.

E. MONUMENT PRESERVATION SURVEY

The Professional shall prepare a Monument Preservation Certificate in accordance with Iowa Code 355.6A. This document may include, but not be limited to, identifying the existing monuments within the project corridor, and replacing any monument disturbed or removed at its preserved position. The results of this survey will be provided to the City for their record and recorded with the Hamilton County Recorder’s Office.

IV. ADDITIONAL SERVICES

The following items shall be considered additional services and are not included within the Scope of Work. These items are listed to further assist with clarity of project scope as well as provide a listing of services, which the Professional could perform upon request.

1. Assessment Plats and Schedules.

2. Permanent Easement Plats and/or Acquisition Plats.
3. Right-of-way Services.
4. NPDES Stormwater and Iowa DNR Water and Sanitary Construction Permits.
5. Submittal fees and/or permit fees to any and all regulatory agencies.
6. Subsurface utility investigation.
7. Geotechnical Services.
8. Franchise utility services, such as electrical, telephone, fiber optic, and gas services.
9. Client requested major revisions.
10. Environmental Services not detailed herein.
11. Deleterious Materials Testing.
12. As-built documents.
13. Record Drawings.

All work is on an "as needed" basis and work on each project shall be as directed by the City. Costs for each project assigned shall be negotiated as 'lump sum,' 'not to exceed,' or performed on a 'time and materials' basis, as mutually agreed and detailed in Exhibit "C".

Responsible persons assigned to this project shall be:

City – Brandon Bahrenfuss, Street Department Superintendent
Dedra Nerland, Public Works Management Assistant

Professional – John Haldeman, P.E., Project Manager

EXHIBIT "B"

COMPLETION

Professional shall commence work immediately upon receipt of a written Notice to Proceed from the City and shall complete all phases of the Scope of Work as expeditiously as is consistent with professional skill and care and the orderly progress of the Work in a timely manner.

A. BEACH STREET PCC REHABILITATION PROJECT

The parties anticipate that all design work pursuant to this Agreement shall be completed to facilitate a March 2025 bid letting with construction completed by October 31, 2025.

The anticipated schedule for the project is as follows:

Task	Completion Date
Concept Statement to IDOT (Minor Project)	June 18, 2024
City Council Approve Amendment	June 17, 2024
Kickoff PMT Meeting	July 9, 2024
Complete Preliminary Survey	July 12, 2024
Preliminary Design and Plans Submit to City	August 2, 2024
PMT Meeting (Review TCE's, ped ramps, detour, cost est)	August 7, 2024
Public Information Meeting	August 21, 2024
Submit Preliminary Plans to IDOT	September 17, 2024
Categorical Exclusion obtained from IDOT	November 5, 2024
Submit Check Plans to IDOT	November 5, 2024
Revise Cost Estimate in STP (as needed)	November 5, 2024
Check Plan comments from the IDOT	November 26, 2024
Temporary Easements obtained (as needed)	December 17, 2024
Submit Final Plans to IDOT	December 17, 2024
City Council Sets Hearing Date	March 3, 2025
IDOT Bid Letting	March 18, 2025
Memo – Engineer Letter of Recommendation	March 21, 2025
City Council Review Bids / Contract Award / Hearing	April 7, 2025
Preconstruction Meeting	April/May 2025
Early Start Construction	May 5, 2025
Late Start Construction	July 29, 2025
End Construction	October 31, 2025

EXHIBIT "C"

PAYMENT

COMPENSATION

Below is a table summarizing the Professional's fees for the scope of services outlined in this Exhibit "A". Fees will be invoiced and paid on an hourly rate plus expenses basis not to exceed amount and rates will be accrued in accordance with the Professional's 2024 Standard Fee Schedule contained in Exhibit "D" of this Amendment No. 33 to the Agreement for Professional Services.

A. BEACH STREET PCC REHABILITATION PROJECT

Basic Services	
Project Administration	$17,400
Preliminary Survey	$6,100
Preliminary Design (50%) and Check Plans (90%)	$36,200
Public Information Meeting	$3,500
Temporary Construction Easement Exhibits (x17)	$4,250
Final Design and Plans (100%)	$35,600
Bid Letting Services (IDOT Bid Letting)	$2,400
Subtotal	$105,450

Construction Services	
Construction Administration	$14,700
Construction Observation	$67,400
Construction Staking	$9,800
Monument Preservation	$1,500
Subtotal	$93,400

Amendment #33 Total	**$198,850**

SNYDER & ASSOCIATES

EXHIBIT "D"

2024 STANDARD FEE SCHEDULE

PROFESSIONAL	
Engineer, Landscape Architect, Land Surveyor, GIS, Environmental Scientist Project Manager, Planner, Right-of-Way Agent, Graphic Designer	
Principal II	$252.00/hour
Principal I	$237.00/hour
Senior	$216.00/hour
VIII	$198.00/hour
VII	$187.00/hour
VI	$178.00/hour
V	$166.00/hour
IV	$153.00/hour
III	$141.00/hour
II	$128.00/hour
I	$115.00/hour
TECHNICAL	
CAD, Survey, Construction Observation	
Lead	$150.00/hour
Senior	$144.00/hour
VIII	$134.00/hour
VII	$124.00/hour
VI	$111.00/hour
V	$101.00/hour
IV	$91.00/hour
III	$82.00/hour
II	$75.00/hour
I	$66.00/hour
ADMINISTRATIVE	
II	$77.00/hour
I	$63.00/hour
REIMBURSABLES	
Mileage	Current IRS standard rate
Outside Services	As Invoiced

SNYDER & ASSOCIATES

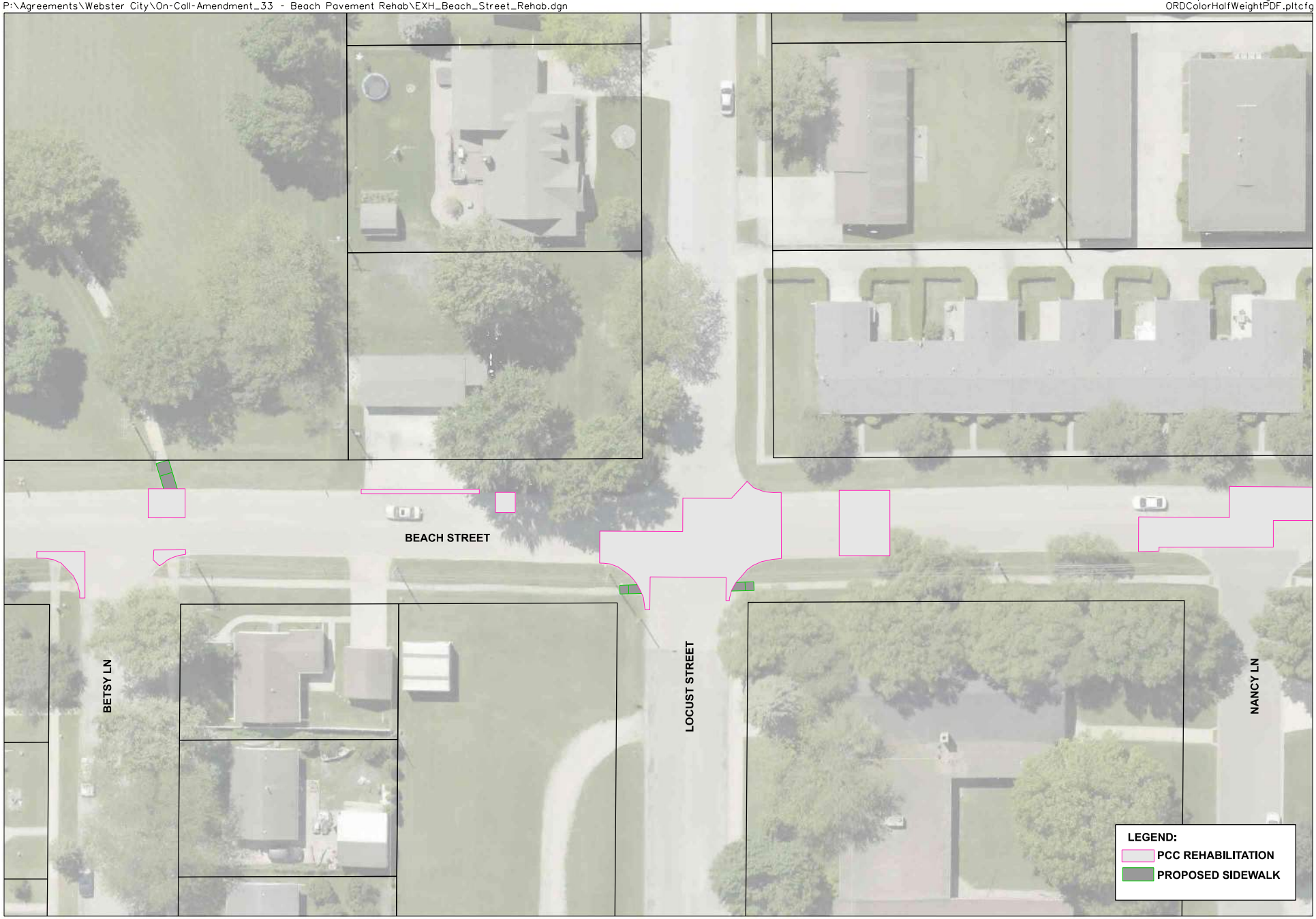
WEBSTER CITY

0 30 60
FEET

N

Exhibit E-1

Beach Street PCC Rehabilitation Project | Webster City, Iowa | 05/08/2024



SNYDER & ASSOCIATES

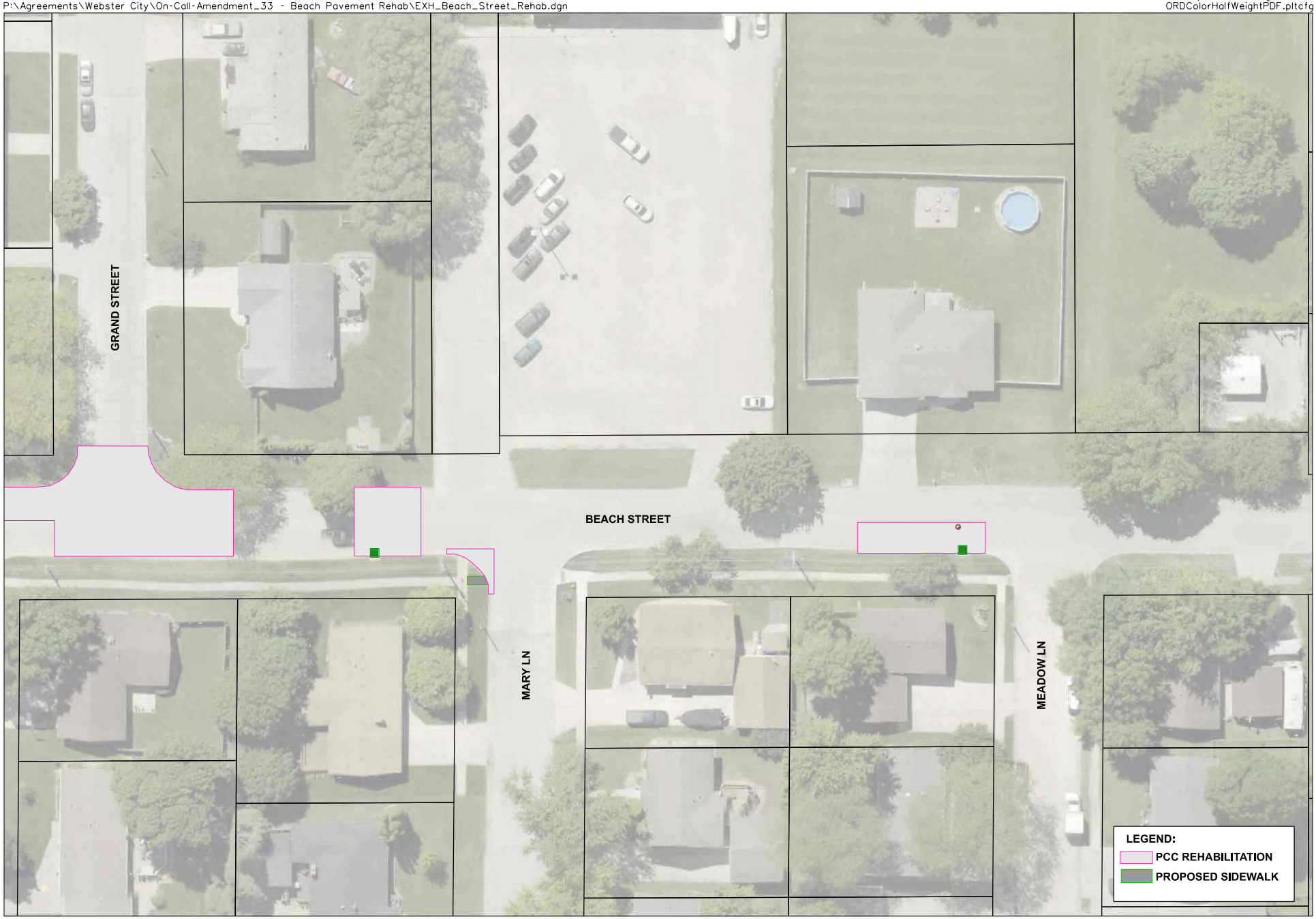
WEBSTER CITY

0 30 60
FEET

N

Exhibit E-2

Beach Street PCC Rehabilitation Project | Webster City, Iowa | 05/08/2024



0 30 60
FEET

N

SNYDER & ASSOCIATES

WEBSTER CITY

Exhibit E-3

SNYDER & ASSOCIATES

WEBSTER CITY

0 30 60
FEET

N

Exhibit E-4

Beach Street PCC Rehabilitation Project | Webster City, Iowa | 05/08/2024

SNYDER & ASSOCIATES

WEBSTER CITY

0 30 60
FEET

N

Exhibit E-5

Beach Street PCC Rehabilitation Project | Webster City, Iowa | 05/08/2024

SNYDER & ASSOCIATES

WEBSTER CITY

0 30 60
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N

Exhibit E-6

Beach Street PCC Rehabilitation Project | Webster City, Iowa | 05/08/2024

SNYDER & ASSOCIATES

WEBSTER CITY

0 30 60
FEET

N

Exhibit E-7

Beach Street PCC Rehabilitation Project | Webster City, Iowa | 05/08/2024