



AGENDA
City Council Meeting
City Hall Council Chambers - Webster City, Iowa
September 6, 2022 (Tuesday) - 6:00 p.m.

This meeting will be open to the public and can also be attended via Zoom.com:

Meeting ID 849 0036 0299

Phone number to call to participate via telephone is **1-312-626-6799 US (Chicago)**

ROLL CALL

Motion on Approval of Agenda

Pledge of Allegiance

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
- b. [PROCLAMATION](#) on Doodlebug Days in Webster City week of September 12-17, 2022.

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 [AUGUST 15, 2022](#) and [AUGUST 17, 2022](#).
- b. [RESOLUTION](#) on [PAYROLL](#) for the period ending August 13, 2022 and paid on August 19, 2022.
- c. [RESOLUTION](#) on [PAYROLL](#) for the period ending August 27, 2022 and paid on September 2, 2022.
- d. [RESOLUTION](#) on [BILLS](#) Approve [FUND LIST](#)
- e. Recommend approval for issuance of Beer and Liquor Licenses by the Iowa Department of Commerce for the following:
 - 1. 5-Day Class C Liquor License and Sunday Service – Briggs Woods Conference Center for LIFT WC Taste of Fall Event to be held on Sunday, September 18, 2022.
- f. Inspection Department [REPORT](#) – July 2022
- g. Council Committee Reports
- h. Other reports and recommendations

City Council Meeting Agenda, September 6, 2022

3. GENERAL AGENDA

6:05 P.M. PUBLIC HEARING

COUNCIL MEMORANDUM

- a. Public Hearing on proposal to enter into a General Obligation Police Vehicle Acquisition Loan Agreement

RESOLUTION authorizing and approving a Loan Agreement, providing for the issuance of a \$170,000.00 General Obligation Police Vehicle Acquisition Note, Series 2022 and providing for the levy of taxes to pay the same. AMORTIZATION SCHEDULE

- b. COUNCIL MEMORANDUM RESOLUTION accepting quotation in the amount of \$34,677.00 per vehicle from Stew Hansen Dodge City for a RAM 1500 Crew Cab SSV listed in the State of Iowa Vehicle Contract Catalog; accepting quotations from Stivers Midwest Pro Upfitters totaling \$37,060.78; and authorizing the City Manager to purchase two vehicles, equipment, and upfitting of said vehicles for the Webster City Police Department.

QUOTE/STEW HANSEN QUOTE/STIVERS-RAM SSV SLICKTOP QUOTE/STIVERS RAM SSV W/LIGHTBAR

- c. COUNCIL MEMORANDUM Motion on request from IT Director to add MTR (Managed Threat Response) to the current 3-year subscription to Sophos Intercept X Advanced with EDR and XDR in the amount of \$10,982.15. QUOTE SOPHOS MTR INFO

- d. COUNCIL MEMORANDUM RESOLUTION authorizing the City Manager to accept the Quote from Dinges Fire Company, Amboy, Illinois and to purchase five sets of turnout gear for the Webster City Fire Department totaling \$17,100.00, plus shipping. BID REQUEST (SPECS) BID-DINGES BID-DINGES SPECIAL

- e. COUNCIL MEMORANDUM Motion to Set Public Hearing to Amend the FY23 Budget.
(September 19, 2022 – 6:01 p.m.) NOTICE

- f. COUNCIL MEMORANDUM RESOLUTION transferring cash to provide funding for certain projects and to repay internal loans and/or repay funds for projects and TIF obligation payments.

- g. COUNCIL MEMORANDUM RESOLUTION setting Public Hearing on proposed Plans and Specifications and proposed Form of Contract and Estimate of Cost for Furnishing Materials for the 2022 Electrical Underground Conversion Project. (October 3, 2022 – 6:05 p.m.) NOTICE SPECS/MATERIALS

- h. COUNCIL MEMORANDUM RESOLUTION setting Public Hearing on proposed Plans and Specifications and proposed Form of Contract and Estimate of Cost for Construction of Boone River Trail Panel Replacement Project. (October 3, 2022 – 6:05 p.m.) PH NOTICE NOTICE TO BIDDERS

- i. COUNCIL MEMORANDUM RESOLUTION setting Public Hearing on proposal to submit a Community Development Block Grant (CDBG) Application, to the Iowa Economic Development Authority to request funding for the 2022 Sanitary Sewer Rehabilitation Project. (September 19, 2022 – 6:05 p.m.) NOTICE

- j. COUNCIL MEMORANDUM RESOLUTION adopting Amendment No. 1 to the City's Portion of the 2019-2024 Hamilton County, Iowa Multi-Jurisdictional Hazard Mitigation Plan.

AMENDMENT NO. 1

RESOLUTION 2019-140

City Council Meeting Agenda, September 6, 2022

k. [COUNCIL MEMORANDUM](#) [RESOLUTION](#) designating the Assistant City Manager to be the Authorized Representative for the Water and Waste Disposal Loan & Grant Program in Iowa administered by the USDA.

[PROGRAM INFO](#)

[EMAIL CORRESPONDENCE](#)

l. [COUNCIL MEMORANDUM](#) [RESOLUTION](#) accepting the Water Treatment Plant Aerator Structure Support Repair Project and authorizing Final Payout to Peterson Construction, Webster City, Iowa in the amount of \$23,973.00.

[ENGR LETTER](#)

[INVOICE](#)

m. [COUNCIL MEMORANDUM](#) [RESOLUTION](#) authorizing the Mayor to accept the Proposal from Karl Chevrolet for a 2022 Work Truck with Utility Box and Truck Equipment to add Strobe Lights, Shovel Rack and Wrench Rack.

[BID SPECS-TRUCK](#)

[BID SPECS-UTILITY BOX](#)

[PROPOSAL-KARL CHEV](#)

[QUOTE-TRUCK EQUIPMENT](#)

n. [COUNCIL MEMORANDUM](#) [RESOLUTION](#) accepting and adopting the August 2022 Wastewater Treatment Facility Improvements Facility Plan prepared by Bolton & Menk, Inc., and authorizing the Submittal of the Facility Plan to the Iowa Department of Natural Resources.

[WC FACILITY PLAN](#)

o. Motion on [STREET CLOSURE REQUEST](#) from LIFT WC to close 700 block of Second Street on September 18, 2022 from the intersection of Des Moines Street and Second Street to the Intersection of Prospect Street and Second Street from 9 a.m. to 11 p.m. (at the latest) for the LIFT WC 2022 Taste of Fall fundraising dinner event.

p. Motion on [STREET CLOSURE REQUEST](#) from Webster City High School National Honor Society and issuance of Parade Permit for Homecoming Parade to be held on September 16, 2022. Staging to begin at approximately 1:30 p.m. with Parade at 2:30 p.m.

4. OTHER ITEMS

a. City Attorney [UPDATE/REPORT](#) - August 31, 2022

5. CLOSED SESSION

Meet in Closed Session to discuss strategy with counsel in matters that are presently in litigation or where litigation is imminent where its disclosure would be likely to prejudice or disadvantage the position of the governmental body in that litigation, as provided by Chapter 21.5 c. of the Code of Iowa.

6. ADJOURN

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

PROCLAMATION

DOODLEBUG DAYS IN WEBSTER CITY WEEK OF SEPTEMBER 12 – SEPTEMBER 17, 2022

WHEREAS Webster City, Iowa is the birthplace of the famous “Doodlebug” motor scooter produced between 1946 and 1948 which has become a collector’s item around the United States; and,

WHEREAS Of the 40,000 units built in Webster City, it is estimated that approximately 1,000 or less may exist; and,

WHEREAS The Doodlebug may be the last visible tie to the former Beam and Electrolux facilities; and,

WHEREAS Each year for the last 36 years, the Doodlebug Club of America has hosted an annual reunion of the club drawing attendance from all over the nation, with members in over 32 states plus France; and,

WHEREAS Webster City is fortunate to have the Club select Webster City for their annual convention each year which brings people into our great community, known nationwide as the “Doodlebug Capital of the World”.

NOW, THEREFORE, I, John Hawkins Mayor of the City of Webster City, do hereby proclaim the week of September 12 to September 17, 2022 as official “Doodlebug Days” in Webster City, Iowa, and encourage all citizens of the community to welcome our visitors and visit them at the reunion site at the Hamilton County Fairgrounds.

John Hawkins, Mayor
City of Webster City, Iowa

CITY COUNCIL MEETING MINUTES
Webster City, Iowa August 15, 2022 – 6:00 p.m.

The City Council met in regular session at the City Hall, Webster City, Iowa at 6:00 p.m. on August 15, 2022, upon call of 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 Mayor John Hawkins and the following Council Members: Abbie Hansen, Megan McFarland and Logan Welch. Council Member Matt McKinney was absent.

This meeting was Open to the Public with limited capacity and by electronic means utilizing the Zoom Platform. Details were provided in using the Zoom platform either by joining through the web portal or by calling in to view or participate.

It was moved by McFarland and seconded by Welch to approve the agenda.

ROLL CALL: Hansen, Hawkins, McFarland and Welch voting aye.

Mayor John Hawkins led the Pledge of Allegiance.

PETITIONS – COMMUNICATIONS – REQUESTS

None brought forth.

PUBLIC INFORMATION

Mayor Hawkins provided information on the Tour de Webster Bike Race/Fun Ride planned for Sunday, August 28, 2022 at 1 p.m. Those interested can register at Fuller Hall Recreation Center prior to the event.

MINUTES, CLAIMS, REPORTS AND LICENSES

It was moved by Welch and seconded by Hansen that the following items be accepted and placed on file, or approved and adopted collectively:

- a. That the meeting minutes of August 1, 2022 be approved.
- b. That Resolution No. 2022-118 approving Payroll for the period ending July 30, 2022 and paid on August 5, 2022, in the amount of \$203,821.86 be passed and adopted.
- c. That Resolution No. 2022-119 approving bills paid in the amount of \$1,725,868.07 be passed and adopted.
- d. Recommend approval for issuance of Beer and Liquor Licenses by the Iowa Department of Commerce for the following:
 1. Class C Liquor License, Outdoor Service and Sunday Service
Seneca Street Saloon (Olson V, LLC), 919 Seneca Street
- e. City Manager Reports – July 2022
- f. Inspection Department Report – June 2022
- g. Police Department Report – July 2022
- h. Fire Department Report – July 2022
- i. Planning and Zoning Commission Minutes of August 8, 2022
- j. Council Committee Reports – None brought forth.
- k. Other reports and recommendations – None brought forth.

ROLL CALL: Hawkins, McFarland, Welch and Hansen voting aye.

GENERAL AGENDA

- a. It was moved by McFarland and seconded by Hansen that Resolution No. 2022-120 approving Request from Noon Rotary to paint a Memorial Mural, in Honor of Patricia (Pat) Westcott on the West Wall of the RSVP Building and authorizing the Mayor to sign and Execute a Façade Easement Agreement with Rotary be passed and adopted.

ROLL CALL: McFarland, Welch, Hansen and Hawkins voting aye.

City Council Meeting Minutes, August 15, 2022

Ariel Bertran, Community Development Director, provided the background for this request. Mark Dohms, on behalf of Noon Rotary, presented a preliminary drawing of the painting of the mural and provided details of the project. He also mentioned that the dedication of the Kent Harfst Memorial has been scheduled for October 9, 2022.

b. It was moved by Welch and seconded by Hansen that Resolution No. 2022-121 authorizing the City Manager to approve the request from LIFT WC to Install a Soccer Mini-Pitch System in East Twin Park next to the Pickleball Court be passed and adopted.

ROLL CALL: Welch, Hansen, Hawkins and McFarland voting aye.

Community Development Director Bertran, City Manager Daniel Ortiz-Hernandez and City Attorney Zach Chizek provided information on the installation and timeline of this project.

c. It was moved by Welch and seconded by McFarland that Resolution No. 2022-122 authorizing the Amendment to the USDA Revolving Loan Fund Reuse Plan be passed and adopted.

ROLL CALL: Hansen, Hawkins, McFarland and Welch voting aye.

Community Development Director Bertran informed Council that with the recent staff changes, the plan needed to be updated.

d. It was moved by Welch and seconded by McFarland that Request from Asbury United Methodist Church for Street Closing for Rally Day Celebration to be held September 11, 2022 from 8:00 a.m. to 1:00 p.m. – Des Moines Street (Alleyway that runs north of Asbury United Methodist Church and Fuller Hall to the corner of Des Moines and Bank Street on the West Side - amounts to half a block) be approved.

ROLL CALL: Hawkins, McFarland, Welch and Hansen voting aye.

e. It was moved by Welch and seconded by McFarland that Resolution No. 2022-123 approving Change Order No. 4 and 5 to the 2021 Second Street Reconstruction Project with Rasch Construction, Inc., 1825 Johnson Avenue, Fort Dodge, Iowa be passed and adopted.

ROLL CALL: McFarland, Welch, Hansen and Hawkins voting aye.

Biridiana Bishop, Assistant City Manager, provided an explanation for the change orders in the scope of the overall project.

f. Discussion was held on the 2nd Street Streetscape. John Halderman of Snyder and Associates, presented information on species of trees selected and draft sketch of possible streetscape on 2nd Street from the intersection of Beach Street to Overpass Drive. Consensus of Council was to include all four blocks, remove the Hackberry species from the selection of trees and bring proposal back to Council from Snyder and Associates on costs to locate underground utilities and where trees could be placed. It was discussed to do this streetscape over a period of years and check into grants for purchasing trees and volunteers to plant trees to keep costs of the project low.

g. It was moved by Hansen and seconded by McFarland that Resolution No. 2022-124 authorizing the City Manager to Sign and Execute Amendment No. 1 to Task Order No. 4 with DGR Engineering, Inc. for Professional Engineering Services associated with Reisner Substation be passed and adopted.

ROLL CALL: Welch, Hansen, Hawkins and McFarland voting aye.

Assistant City Manager Bishop spoke on the Amendment to the Task Order.

h. It was moved by Welch and seconded by McFarland that Resolution No. 2022-125 authorizing the City Manager to execute purchase for a 1500kva transformer from Sunbelt Solomon in the Amount of \$46,500.00 to restock the City's Electric Utility Inventory be passed and adopted.

ROLL CALL: Hansen, Hawkins, McFarland and Welch voting aye.

City Manager Ortiz-Hernandez provided a background of the need and lead time on transformers due to the supply chain and planning for future.

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i. It was moved by McFarland and seconded by Hansen that Resolution No. 2022-126 authorizing the Mayor to sign and execute Agreement for 'As Needed' Lawn Mowing and Snow Removal Services on City Owned Properties within the Corporate Limits of Webster City with T & D Handyman Services, Webster City, Iowa, be passed and adopted.

ROLL CALL: Hawkins, McFarland and Hansen voting aye. Welch Abstained.

j. It was moved by Welch and seconded by McFarland that Resolution No. 2022-127 authorizing the Mayor to Sign and Execute Agreement with JC Toland Painting LLC for the Pool Slide Repair and Painting Project in the amount yet to be determined, be passed and adopted.

ROLL CALL: McFarland, Welch, Hansen and Hawkins voting aye.

Assistant City Manager Bishop explained the bidding process of this project and since bid came in over the budgeted amount, adjustments are being made for the repair and maintenance of the slide. Once these figures are solidified, final amounts will be reported back to Council.

k. It was moved by McFarland and seconded by Hansen that Resolution No. 2022-128 setting September 6, 2022 at 6:05 p.m. as the date for a public hearing on proposal to enter into a General Obligation Police Vehicle Acquisition Loan Agreement and to borrow money thereunder in a principal amount not to exceed \$170,000.00 be passed and adopted.

ROLL CALL: Welch, Hansen, Hawkins and McFarland voting aye.

It was moved by McFarland and seconded by Hansen that Council adjourn.

ROLL CALL: Hansen, Hawkins, McFarland and Welch voting aye.

The August 15, 2022 Regular City Council Meeting stood adjourned at 6:46 p.m.

John Hawkins, Mayor

Karyl K. Bonjour, City Clerk

CITY COUNCIL MEETING MINUTES
Public Meeting – Joint Work Session
City Council and Planning and Zoning Commission
August 17, 2022 – 6:00 p.m. Webster City, Iowa

The City Council met in a special Joint Work Session with the City Planning and Zoning Commission at the Council Chambers in City Hall, Webster City, Iowa at 6:00 p.m., on August 17, 2022.

1. The work session was called to order by Mayor Pro Tem Logan Welch and roll being called there were present Mayor Pro Tem Logan Welch and the following named Council Members: Abbie Hansen and Megan McFarland. Council Member Matt McKinney joined the meeting electronically. Mayor/Council Member John Hawkins was absent.

2. It was moved by Hansen and seconded by McFarland to approve the agenda.

ROLL CALL: Hansen, McFarland, McKinney and Welch voting aye.

Also present were City Manager Daniel Ortiz-Hernandez, Assistant City Manager Biridiana Bishop, City Clerk Karyl Bonjour, Finance Director Dodie Wolfram, Water/Wastewater Superintendent Nick Knowles, Community Development Director Ariel Bertran, Assistant Parks and Recreation/Public Grounds Supervisor Breanne Leshner, Greg Sindt, Engineer from Bolton and Menk and Susanne Gerlach of PFM Financial Advisors, LLC.

Planning and Zoning Commission Roll Call was taken by Community Development Director Bertran with the following members present: Steve Struchen, Sabrina Wohlford, Jerry Klobardanz, Shelby Kroona and Lynn Jaycox. Planning and Zoning Commission members Carolyn Cross, Jill Burnett, James Kumm and Barb Wollan were absent.

3. The purpose of the work session was to discuss the new Wastewater Treatment Plant. City Manager Ortiz-Hernandez thanked all for attending and introduced staff and consultants who were present and acknowledged those in attendance that serve on the Planning and Zoning Commission. He then turned the work session over to Greg Sindt, Engineer from Bolton and Menk to proceed with the presentation. Mr. Sindt gave a PowerPoint presentation using the following outline:

1. Wastewater Terms
2. Facility Planning Process
3. Plant History
4. Need for New Treatment Plant
5. New WWTP Design Loads
6. Cost Opinions

Sindt interacted with inquiries by those in attendance regarding the capacity of the new plant, the maintenance of the current plant while the new plant is being constructed and the termination of the current plant once the new plant is in use.

Susanne Gerlach of PFM Financial Advisors, LLC, provided discussion on the following financial aspects of the project:

1. Wastewater Treatment Plant Project Cost Considerations
2. Wastewater Treatment Plant Project Financing Options
3. Sewer Revenue Requirement Considerations
4. Sewer Revenue Adjustment

City Council Public Meeting/Joint Work Session with P & Z Commission, August 17, 2022

Gerlach pointed out the factors driving the higher costs for the Wastewater Treatment Plant Facility from when discussions first began on the replacement of the plant a few years back. She also provided the financing options available and financial scenarios of each option. Sewer Revenue Adjustment options were also provided for comparison and consideration.

Staff and Consultants are still working on details and possibilities of grants or loan forgiveness on the financing options. Council Member Welch asked Gerlach if she could provide a couple more scenarios on the SRF loan option and rate adjustments to review. Those present asked for guidance on “talking points” with legislators to bring the high costs of such projects to their attention and what action could be implemented to assist cities with these costs. Sindt expressed appreciation for the time commitment and involvement of those in attendance.

It was moved by McFarland and seconded by Hansen to adjourn the Joint Work Session of the City Council and Planning and Zoning Commission.

ROLL CALL: McFarland, McKinney, Welch and Hansen voting aye.

The August 17, 2022 Joint Work Session of the City Council and Planning and Zoning Commission stood adjourned at 8:52 p.m.

John Hawkins, Mayor

Karyl K. Bonjour, City Clerk

RESOLUTION NO. 2022 -

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

That the payroll for the 80-hour period ending August 13, 2022 and paid on August 19, 2022 aggregating the sum of \$199,088.59 herewith presented, be and the same is hereby approved.

Passed and adopted this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Employee Number	Name	Total Gross Amount	Total Gross Hours	3-01 OT no pen Emp Amt	4-00 OT pension Emp Amt	5-01 DBL OT np Emp Amt	6-00 DBL OT pen Emp Amt	23-01 OTHER pen Emp Amt	24-00 OTHER np Emp Amt	85-00 NET PAY Emp Amt	86-00 DIRECT DEP Emp Amt
20035	BISHOP, BIRIDIANA	3,778.86	80.00	.00	.00	.00	.00	.00	125.00	.00	2,512.68
60722	CHELESVIG, BETH A.	3,121.61	80.00	.00	.00	.00	.00	.00	.00	.00	2,044.37
61245	DINSDALE, ASHLEY J.	1,760.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,327.18
20020	ORTIZ-HERNANDEZ, DANIEL	5,368.91	80.00	.00	.00	.00	.00	.00	175.00	.00	2,853.74
60003	SMITH, ELIZABETH A.	2,197.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,477.07
Total CITY MANAGER:											
5		16,226.98	400.00	.00	.00	.00	.00	.00	300.00	.00	10,215.04
30980	STRONER, BRIAN M.	2,822.40	80.00	.00	.00	.00	.00	.00	.00	.00	1,979.75
Total ENVIRONMENTAL/SAFETY:											
1		2,822.40	80.00	.00	.00	.00	.00	.00	.00	.00	1,979.75
61164	BONJOUR, KARYL K.	2,266.39	80.00	.00	.00	.00	.00	.00	.00	.00	1,488.48
61238	HAGLUND, DENISE D.	1,440.00	80.00	.00	.00	.00	.00	.00	.00	.00	975.32
61243	HESLEY, EMILY M.	1,680.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,309.49
61241	JOHNSON, LAURA A.	1,440.00	80.00	.00	.00	.00	.00	.00	.00	.00	855.58
61190	NERLAND, DEDRA R.	1,992.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,377.26
61163	PEVESTORF, ELIZABETH J.	2,014.40	80.00	.00	.00	.00	.00	.00	.00	.00	1,386.32
30329	WOLFGRAM, DOREEN A.	3,117.60	80.00	.00	.00	.00	.00	.00	.00	.00	2,158.37
Total FINANCE OFFICE:											
7		13,950.39	560.00	.00	.00	.00	.00	.00	.00	.00	9,550.82
41502	CAMPBELL, AARON M.	150.00	.00	.00	.00	.00	.00	150.00	.00	.00	137.52
41215	CASEY, DANA R	20.00	.00	.00	.00	.00	.00	20.00	.00	.00	17.23
40857	DOOLITTLE, KENDALL J.	20.00	.00	.00	.00	.00	.00	20.00	.00	17.23	.00
41263	ESTLUND, JEROMY J.	2,490.88	112.00	.00	.00	.00	.00	.00	.00	.00	1,789.81
41395	FEICKERT, DAKOTA L.	336.00	24.00	.00	.00	.00	.00	.00	.00	.00	269.65
41300	FOX, JEFFREY A.	56.00	.00	.00	.00	.00	.00	56.00	.00	.00	48.24
41438	FRAKES, JUSTIN M.	20.00	.00	.00	.00	.00	.00	20.00	.00	.00	18.47
41260	FRAZIER, LOGAN W.	20.00	.00	.00	.00	.00	.00	20.00	.00	.00	18.47
41432	HANSON, STEVEN M.	20.00	.00	.00	.00	.00	.00	20.00	.00	.00	18.47
40971	HAYES, BRANDON W.	2,517.76	112.00	.00	.00	.00	.00	.00	.00	.00	1,832.82
41445	HAYES, HARRISON W.	378.00	23.00	.00	.00	.00	.00	56.00	.00	325.61	.00
41441	HAYES, HUNTER W.	40.00	.00	.00	.00	.00	.00	40.00	.00	36.94	.00
40031	HOLST, RONALD W	130.00	.00	.00	.00	.00	.00	130.00	.00	110.98	.00
41192	JESSEN, PHILLIP N.	1,050.00	64.00	.00	.00	.00	.00	154.00	.00	760.27	.00
41520	LAKE, MASON F.	40.00	.00	.00	.00	.00	.00	40.00	.00	36.94	.00
41460	LEHMAN, MICHEAL L.	40.00	.00	.00	.00	.00	.00	40.00	.00	.00	31.94
41200	MADSEN, TODD M	80.00	.00	.00	.00	.00	.00	80.00	.00	.00	68.91
41515	SCHWERING, DREW M.	110.00	.00	.00	.00	.00	.00	110.00	.00	.00	100.58
41219	SOWLE JR., ANDREW W.	2,496.48	112.00	.00	.00	.00	.00	.00	.00	.00	1,493.88
41400	STANSFIELD, CHARLES T.	3,083.20	80.00	.00	.00	.00	.00	.00	.00	.00	2,026.30
41029	STEWART, EARL L	60.00	.00	.00	.00	.00	.00	60.00	.00	.00	55.41
41485	THUMMA, AMANDA L.	30.00	.00	.00	.00	.00	.00	30.00	.00	.00	27.70
41088	TOLLE, PAUL A.	100.00	.00	.00	.00	.00	.00	100.00	.00	86.14	.00
41216	WEINSCHENK, KENRIC J	80.00	.00	.00	.00	.00	.00	80.00	.00	.00	73.88
41213	WILLIAMS, ZACHARY W.	40.00	.00	.00	.00	.00	.00	40.00	.00	.00	34.46
40815	WILLS, DON H.	100.00	.00	.00	.00	.00	.00	100.00	.00	92.35	.00
41340	YOUNGDALE, COLE C.	40.00	.00	.00	.00	.00	.00	40.00	.00	36.94	.00
41270	ZEHNER, DONALD F.	130.00	.00	.00	.00	.00	.00	130.00	.00	.00	119.05
41505	ZIMMER, COLLEN C.	40.00	.00	.00	.00	.00	.00	40.00	.00	.00	36.94

Employee Number	Name	Total Gross Amount	Total Gross Hours	3-01 OT no pen Emp Amt	4-00 OT pension Emp Amt	5-01 DBL OT np Emp Amt	6-00 DBL OT pen Emp Amt	23-01 OTHER pen Emp Amt	24-00 OTHER np Emp Amt	85-00 NET PAY Emp Amt	86-00 DIRECT DEP Emp Amt
Total FIRE DEPARTMENT:											
		29	13,718.32	527.00	.00	.00	.00	1,576.00	.00	1,503.40	8,219.73
61240	WINTER, KIRBY L.	4,086.99	80.00	.00	.00	.00	.00	.00	20.00	.00	2,810.81
Total INFORMATION SYSTEMS:											
		1	4,086.99	80.00	.00	.00	.00	.00	20.00	.00	2,810.81
61235	SIMPSON, CORY L.	1,994.40	80.00	.00	.00	.00	.00	.00	.00	.00	1,398.54
Total INSPECTION:											
		1	1,994.40	80.00	.00	.00	.00	.00	.00	.00	1,398.54
31210	BARNES, DERRICK S.	3,399.80	86.00	.00	343.80	.00	.00	.00	.00	.00	2,311.15
31185	CASEY, DANA R.	3,239.20	80.00	.00	.00	.00	.00	.00	.00	.00	2,188.84
31190	DAYTON, BRYAN K.	3,213.61	80.00	.00	.00	.00	.00	.00	.00	.00	2,172.62
30678	DICKINSON, ADAM L.	4,396.17	87.75	.00	557.77	.00	.00	.00	.00	.00	2,953.84
31230	MC COLLOUGH, DOUGLAS J.	3,277.47	84.00	.00	228.66	.00	.00	.00	.00	.00	2,271.56
31184	MOURTON, RUSSELL E.	3,241.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,860.89
31240	NEWMAN, BRADY N.	2,508.37	85.00	.00	187.50	.00	.00	.00	.00	.00	1,823.97
31186	ORTON, RYAN D.	3,682.51	83.00	.00	196.11	.00	.00	.00	.00	.00	2,485.00
30918	PARKHILL, MARTY E.	4,115.32	92.00	.00	262.68	.00	.00	.00	.00	.00	2,815.36
Total LINE DEPARTMENT:											
		9	31,074.05	757.75	.00	1,776.52	.00	.00	.00	.00	20,883.23
30976	MADSEN, TODD M.	1,776.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,286.20
Total METER DEPARTMENT:											
		1	1,776.00	80.00	.00	.00	.00	.00	.00	.00	1,286.20
61250	BERTRAN, ARIEL L.	2,538.46	80.00	.00	.00	.00	.00	.00	.00	.00	1,776.47
Total PLANNING/ZONING:											
		1	2,538.46	80.00	.00	.00	.00	.00	.00	.00	1,776.47
41480	DILLEY, JEAN M.	1,577.14	84.00	.00	109.14	.00	.00	.00	.00	.00	1,097.22
41500	HOLCOMBE, IAN J.	1,700.91	88.00	.00	218.51	.00	.00	.00	.00	.00	1,185.58
41390	NOWELL, TANNER J.	2,009.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,439.04
41475	RUSH, DEBORAH G.	1,707.20	80.00	.00	.00	.00	.00	.00	.00	.00	1,167.35
41525	SCHANZ, ALEC M.	1,455.20	80.00	.00	.00	.00	.00	.00	.00	.00	1,063.19
41510	WHITEHILL, AUDRIANA G.	1,683.09	88.00	.00	218.29	.00	.00	.00	.00	.00	1,178.06
41207	WINDSCHITL, JOAN E.	1,832.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,133.64
Total POLICE DEPARTMENT-D:											
		7	11,965.14	580.00	.00	545.94	.00	.00	.00	.00	8,264.08
41430	BASINGER, RYAN A.	2,970.94	94.50	457.38	.00	.00	.00	.00	.00	.00	2,144.60
41191	HOUGE, CLINTON J.	2,608.44	84.00	.00	.00	.00	.00	.00	.00	.00	1,820.51
41453	LEHMAN, MICHEAL L.	2,448.84	84.00	.00	.00	.00	.00	.00	.00	.00	1,803.31
41465	LOWE, ANDREW T.	2,411.04	84.00	.00	.00	.00	.00	.00	.00	.00	1,676.53
41479	LUFT, ANTHONY J.	2,647.56	103.00	.00	.00	.00	.00	.00	.00	.00	1,958.35
41230	MCKINLEY, ERIC K.	2,750.52	84.00	.00	.00	.00	.00	.00	.00	.00	1,987.43
41110	MORK, SHILOH B.	3,269.58	80.00	.00	.00	.00	.00	.00	.00	.00	2,183.38
41471	MOURLAM, DALTON G.	2,310.28	84.00	.00	.00	.00	.00	.00	.00	.00	1,629.87

Employee Number	Name	Total Gross Amount	Total Gross Hours	3-01 OT no pen Emp Amt	4-00 OT pension Emp Amt	5-01 DBL OT np Emp Amt	6-00 DBL OT pen Emp Amt	23-01 OTHER pen Emp Amt	24-00 OTHER np Emp Amt	85-00 NET PAY Emp Amt	86-00 DIRECT DEP Emp Amt
41225	PRITCHARD, BRANDON D.	2,566.92	84.00	.00	.00	.00	.00	.00	.00	.00	1,809.94
41426	ROSE, DYLAN M.	2,450.56	84.00	.00	.00	.00	.00	.00	.00	.00	1,608.52
41450	THUMMA, STEVEN L.	2,805.98	94.00	423.45	.00	.00	.00	.00	.00	.00	1,861.89
41495	WATKINS, MARK D.	2,610.27	86.00	89.43	.00	.00	.00	.00	.00	.00	1,914.00
Total POLICE DEPARTMENT-O:											
		12	31,850.93	1,045.50	970.26	.00	.00	.00	.00	.00	22,398.33
81672	CRYSTAL, EVERETT T.	510.00	40.00	.00	.00	.00	.00	.00	.00	.00	438.90
81697	FARO, FRANK L.	287.50	23.00	.00	.00	.00	.00	.00	.00	.00	243.42
81713	FOLEY, PATRICK R.	183.75	15.00	.00	.00	.00	.00	.00	.00	.00	157.14
81712	GARVEY, ROGER A.	281.75	23.00	.00	.00	.00	.00	.00	.00	.00	238.47
70980	HARMS, BRIAN K.	1,737.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,284.25
81714	MCBURNEY, BRAYZIN	281.75	23.00	.00	.00	.00	.00	.00	.00	.00	236.97
81739	MOURLAM, KEITH D.	208.00	16.00	.00	.00	.00	.00	.00	.00	.00	179.00
81617	OLSON, NICHOLAS L.	318.00	24.00	.00	.00	.00	.00	.00	.00	268.67	.00
51195	RODEN, JACOB J.	1,879.21	80.00	.00	.00	.00	.00	.00	.00	.00	1,277.13
Total PUBLIC GROUNDS:											
		9	5,687.56	324.00	.00	.00	.00	.00	.00	268.67	4,055.28
61200	ALCAZAR, MATTHEW D.	2,061.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,195.44
81745	KEANE, ROSS M.	1,200.00	80.00	.00	.00	.00	.00	.00	.00	.00	964.87
Total PUBLIC WORKS:											
		2	3,261.60	160.00	.00	.00	.00	.00	.00	.00	2,160.31
81716	BAILEY, CLAIRE M.	414.00	34.50	.00	.00	.00	.00	.00	.00	382.33	.00
81685	BAILEY, ERIN S.	277.75	25.25	.00	.00	.00	.00	.00	.00	.00	256.50
81755	BARGFREDE, DELAINEY ANN	84.00	7.00	.00	.00	.00	.00	.00	.00	.00	77.57
81750	BEAULIEU, ADDYSON JOY	576.00	48.00	.00	.00	.00	.00	.00	.00	490.80	.00
81653	BINDER, MEREDITH K.	485.75	33.50	.00	.00	.00	.00	.00	.00	418.04	.00
81726	BINDER, RILEY K.	372.00	31.00	.00	.00	.00	.00	.00	.00	.00	343.55
81756	CALLAHAN, SPENCER AARON	264.00	22.00	.00	.00	.00	.00	.00	.00	.00	231.13
81724	CASEY, REESE A.	348.00	29.00	.00	.00	.00	.00	.00	.00	.00	314.37
81674	CRUTCHER, JACIE M.	162.00	13.50	.00	.00	.00	.00	.00	.00	149.61	.00
81743	DINSDALE, SOPHIE J.	438.00	36.50	.00	.00	.00	.00	.00	.00	.00	393.49
81669	DRAEGER, MAKAYLEE M.	408.00	34.00	.00	.00	.00	.00	.00	.00	.00	367.78
70100	FLAWS, LARRY J.	2,704.20	80.00	.00	.00	.00	.00	.00	85.00	.00	1,797.07
81708	GALLETINE, ABIGAIL M.	536.38	44.50	.00	.00	.00	.00	.00	.00	476.51	.00
81746	GALLETINE, OLIVIA M.	336.00	28.00	.00	.00	.00	.00	.00	.00	304.30	.00
70107	GLASCOCK, MARK A.	2,059.78	87.00	.00	238.98	.00	.00	.00	.00	.00	1,359.63
81711	HANSEN, ELLA M.	506.50	42.50	.00	.00	.00	.00	.00	.00	.00	453.92
81753	HEDEEN, MARISSA KAY	418.00	38.00	.00	.00	.00	.00	.00	.00	.00	346.95
81727	HENDERSON, BRYAR J.	258.50	23.50	.00	.00	.00	.00	.00	.00	235.72	.00
81687	JOHNSON, KELLY R.	70.00	5.00	.00	.00	.00	.00	.00	.00	.00	64.64
81738	JOHNSON, NOLAN J.	259.56	21.00	.00	.00	.00	.00	.00	.00	.00	198.38
81723	KASCH, LIVIA R.	18.00	1.50	.00	.00	.00	.00	.00	.00	.00	16.62
81721	KENVILLE, REBECCA M.	144.00	12.00	.00	.00	.00	.00	.00	.00	.00	132.98
81731	LARSON, GABRIELLE M.	448.25	40.75	.00	.00	.00	.00	.00	.00	413.96	.00
81717	LASOURD, RILEY G.	516.00	43.00	.00	.00	.00	.00	.00	.00	474.74	.00
70975	LESHER, BREANNE M.	2,237.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,512.87
81651	LINDSTROM, SARAH J.	396.00	33.00	.00	.00	.00	.00	.00	.00	342.84	.00
81594	MCBURNEY, SONYA L.	703.80	51.00	.00	.00	.00	.00	.00	.00	.00	536.52
81673	MCKEE, BRONWYN E.	202.50	15.00	.00	.00	.00	.00	.00	.00	.00	187.00
81585	MITCHELL, MCKENNA K.	577.13	42.75	.00	.00	.00	.00	.00	.00	525.07	.00

		Total	Total	3-01	4-00	5-01	6-00	23-01	24-00	85-00	86-00
Employee		Gross	Gross	OT no pen	OT pension	DBL OT np	DBL OT pen	OTHER pen	OTHER np	NET PAY	DIRECT DEP
Number	Name	Amount	Hours	Emp Amt	Emp Amt	Emp Amt	Emp Amt	Emp Amt	Emp Amt	Emp Amt	Emp Amt
81752	MOORE, KENNEDY AIANE	302.50	27.50	.00	.00	.00	.00	.00	.00	.00	256.83
81689	NELSEN, DENISE L.	815.88	52.00	.00	.00	.00	.00	.00	.00	.00	650.69
81757	NOHRENBERG, BONNIE RAE	168.00	14.00	.00	.00	.00	.00	.00	.00	.00	154.07
81686	O'HEARN, ELLA A.	165.00	15.00	.00	.00	.00	.00	.00	.00	.00	152.38
81754	ORTON, ADDILYN LASHAE	401.50	36.50	.00	.00	.00	.00	.00	.00	342.37	.00
81742	OUVERSON, ERIN A.	110.00	10.00	.00	.00	.00	.00	.00	.00	.00	100.58
81744	PECK, EMMA G.	432.00	36.00	.00	.00	.00	.00	.00	.00	.00	388.96
81700	PETERSON, ADALIE J.	480.00	40.00	.00	.00	.00	.00	.00	.00	.00	443.28
81748	PETERSON, AVE	180.00	15.00	.00	.00	.00	.00	.00	.00	.00	162.96
31195	PETERSON, RICK E.	2,023.58	85.50	.00	189.17	.00	.00	.00	.00	.00	1,405.05
81665	PRUISMANN, LINDA A.	171.38	10.25	.00	.00	.00	.00	.00	.00	.00	146.48
81682	RANGE, JENAH L.	629.25	50.50	.00	.00	.00	.00	.00	.00	.00	550.00
81701	RANGE, MARAH G.	811.50	65.50	.00	.00	.00	.00	.00	.00	.00	691.08
81751	RICHARDSON, OLIVIA GRACE	181.50	16.50	.00	.00	.00	.00	.00	.00	166.20	.00
81719	SCHULTZ, CAMDEN J.	238.00	20.00	.00	.00	.00	.00	.00	.00	.00	216.79
81747	STANLEY, KAMEY	414.00	34.50	.00	.00	.00	.00	.00	.00	348.66	.00
81715	STOAKES, KELLY L.	54.00	4.50	.00	.00	.00	.00	.00	.00	.00	49.87
81718	THONGSOUK, TAHSAIYA W.	414.00	34.50	.00	.00	.00	.00	.00	.00	.00	372.33
Total RECREATION:											
	47	24,213.79	1,570.50	.00	428.15	.00	.00	.00	85.00	5,071.15	14,332.32
51187	BAHRENFUSS, BRANDON D.	3,131.92	88.00	.00	.00	.00	.00	.00	.00	.00	2,165.30
51210	DANIELS, JACOB S.	1,840.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,298.21
51178	DOOLITTLE, DAN L	220.00	10.00	.00	.00	.00	.00	.00	.00	.00	187.33
51225	JONDAL, KOOPER M.	1,760.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,304.67
51220	KLIEGL, SHAWN A.	1,760.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,233.83
51190	RATCLIFF, BRETT D.	2,131.20	80.00	.00	.00	.00	.00	.00	.00	.00	1,418.59
51215	SLAGLE, MATHEW L.	1,129.83	.00	.00	.00	.00	.00	.00	.00	.00	1,018.92
51184	WILLIAMS, ZACHARY W.	2,344.01	80.00	.00	.00	.00	.00	.00	.00	.00	1,597.77
51205	YOUNGDALE, COLE C.	2,201.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,547.96
Total STREET DEPARTMENT:											
	9	16,518.56	578.00	.00	.00	.00	.00	.00	.00	.00	11,772.58
30772	DINGMAN, CHAD M.	2,584.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,886.90
30977	JACKSON, JEFFREY S.	2,290.47	90.00	.00	75.51	.00	.00	.00	.00	.00	1,565.83
31179	WEST, JOHN A.	2,135.20	80.00	.00	.00	.00	.00	.00	.00	.00	1,596.89
Total WASTEWATER:											
	3	7,009.67	250.00	.00	75.51	.00	.00	.00	.00	.00	5,049.62
31189	CHAMBERS, TODD A.	2,874.55	93.00	.00	225.75	.00	.00	.00	.00	.00	1,879.50
31220	FARWELL, GREGORY A.	2,321.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,632.70
31215	KNOWLES, NICHOLAS A.	3,415.20	80.00	.00	.00	.00	.00	.00	.00	.00	2,213.92
31225	PARKER, LOGAN M.	1,782.00	88.00	.00	.00	.00	.00	.00	.00	.00	1,533.59
Total WATER PLANT:											
	4	10,393.35	341.00	.00	225.75	.00	.00	.00	.00	.00	7,259.71
Grand Totals:											
	148	199,088.59	7,493.75	970.26	3,051.87	.00	.00	1,576.00	405.00	6,843.22	133,412.82

RESOLUTION NO. 2022 -

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

That the payroll for the 80-hour period ending August 27, 2022 and paid on September 2, 2022 aggregating the sum of \$189,120.73 herewith presented, be and the same is hereby approved.

Passed and adopted this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Employee Number	Name	Total Gross Amount	Total Gross Hours	3-01 OT no pen Emp Amt	4-00 OT pension Emp Amt	5-01 DBL OT np Emp Amt	6-00 DBL OT pen Emp Amt	23-01 OTHER pen Emp Amt	24-00 OTHER np Emp Amt	85-00 NET PAY Emp Amt	86-00 DIRECT DEP Emp Amt
11195	HANSEN, ABIGAIL J.	250.00	.00	.00	.00	.00	.00	250.00	.00	227.64	.00
11183	HAWKINS, JOHN C.	180.00	.00	.00	.00	.00	.00	180.00	.00	.00	165.07
11190	MCFARLAND, MEGAN E.	200.00	.00	.00	.00	.00	.00	200.00	.00	184.70	.00
11184	MCKINNEY, MATTHEW L.	200.00	.00	.00	.00	.00	.00	200.00	.00	.00	182.52
11185	WELCH, LOGAN A.	250.00	.00	.00	.00	.00	.00	250.00	.00	.00	227.64
Total CITY COUNCIL:											
		5	1,080.00	.00	.00	.00	.00	1,080.00	.00	412.34	575.23
20035	BISHOP, BIRIDIANA	3,778.86	80.00	.00	.00	.00	.00	.00	125.00	.00	2,512.68
60722	CHELESVIG, BETH A.	3,121.60	80.00	.00	.00	.00	.00	.00	.00	.00	2,044.36
61245	DINSDALE, ASHLEY J.	1,760.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,327.18
20020	ORTIZ-HERNANDEZ, DANIEL	5,368.91	80.00	.00	.00	.00	.00	.00	175.00	.00	2,853.74
60003	SMITH, ELIZABETH A.	2,197.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,477.07
Total CITY MANAGER:											
		5	16,226.97	.00	.00	.00	.00	.00	300.00	.00	10,215.03
30980	STRONER, BRIAN M.	2,822.40	80.00	.00	.00	.00	.00	.00	.00	.00	1,979.75
Total ENVIRONMENTAL/SAFETY:											
		1	2,822.40	.00	.00	.00	.00	.00	.00	.00	1,979.75
61164	BONJOUR, KARYL K.	2,266.39	80.00	.00	.00	.00	.00	.00	.00	.00	1,488.48
61238	HAGLUND, DENISE D.	1,440.00	80.00	.00	.00	.00	.00	.00	.00	.00	975.32
61243	HESLEY, EMILY M.	1,680.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,281.41
61241	JOHNSON, LAURA A.	1,440.00	80.00	.00	.00	.00	.00	.00	.00	.00	855.58
61190	NERLAND, DEDRA R.	1,992.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,377.26
61163	PEVESTORF, ELIZABETH J.	2,014.40	80.00	.00	.00	.00	.00	.00	.00	.00	1,386.32
30329	WOLFGRAM, DOREEN A.	3,117.60	80.00	.00	.00	.00	.00	.00	.00	.00	2,158.37
Total FINANCE OFFICE:											
		7	13,950.39	.00	.00	.00	.00	.00	.00	.00	9,522.74
41502	CAMPBELL, AARON M.	60.00	.00	.00	.00	.00	.00	60.00	.00	.00	55.41
40857	DOOLITTLE, KENDALL J.	20.00	.00	.00	.00	.00	.00	20.00	.00	17.23	.00
41263	ESTLUND, JEROMY J.	2,490.88	112.00	.00	.00	.00	.00	.00	.00	.00	1,789.81
41395	FEICKERT, DAKOTA L.	252.00	18.00	.00	.00	.00	.00	.00	.00	.00	207.18
41038	FERGUSON, WILLIAM M.	80.00	.00	.00	.00	.00	.00	80.00	.00	73.88	.00
41300	FOX, JEFFREY A.	280.00	16.00	.00	.00	.00	.00	56.00	.00	.00	228.66
41438	FRAKES, JUSTIN M.	40.00	.00	.00	.00	.00	.00	40.00	.00	.00	36.94
41432	HANSON, STEVEN M.	20.00	.00	.00	.00	.00	.00	20.00	.00	.00	18.47
40971	HAYES, BRANDON W.	2,585.20	115.00	.00	.00	.00	.00	.00	.00	.00	1,881.61
41445	HAYES, HARRISON W.	336.00	16.00	.00	.00	.00	.00	112.00	.00	289.43	.00
41441	HAYES, HUNTER W.	100.00	.00	.00	.00	.00	.00	100.00	.00	92.35	.00
40031	HOLST, RONALD W.	80.00	.00	.00	.00	.00	.00	80.00	.00	68.91	.00
41192	JESSEN, PHILLIP N.	140.00	.00	.00	.00	.00	.00	140.00	.00	99.60	.00
41520	LAKE, MASON F.	40.00	.00	.00	.00	.00	.00	40.00	.00	36.94	.00
41460	LEHMAN, MICHEAL L.	20.00	.00	.00	.00	.00	.00	20.00	.00	.00	13.47
41200	MADSEN, TODD M.	80.00	.00	.00	.00	.00	.00	80.00	.00	.00	68.91
41515	SCHWERING, DREW M.	40.00	.00	.00	.00	.00	.00	40.00	.00	.00	36.94
41219	SOWLE JR., ANDREW W.	2,630.22	115.00	.00	.00	133.74	.00	.00	.00	.00	1,590.26
41400	STANSFIELD, CHARLES T.	3,083.20	80.00	.00	.00	.00	.00	.00	.00	.00	2,026.30
41029	STEWART, EARL L.	80.00	.00	.00	.00	.00	.00	80.00	.00	.00	73.88
41485	THUMMA, AMANDA L.	20.00	.00	.00	.00	.00	.00	20.00	.00	.00	18.47
41088	TOLLE, PAUL A.	80.00	.00	.00	.00	.00	.00	80.00	.00	68.91	.00

Employee Number	Name	Total Gross Amount	Total Gross Hours	3-01 OT no pen Emp Amt	4-00 OT pension Emp Amt	5-01 DBL OT np Emp Amt	6-00 DBL OT pen Emp Amt	23-01 OTHER pen Emp Amt	24-00 OTHER np Emp Amt	85-00 NET PAY Emp Amt	86-00 DIRECT DEP Emp Amt
41216	WEINSCHENK, KENRIC J	60.00	.00	.00	.00	.00	.00	60.00	.00	.00	55.41
41213	WILLIAMS, ZACHARY W.	60.00	.00	.00	.00	.00	.00	60.00	.00	.00	51.68
40815	WILLS, DON H.	60.00	.00	.00	.00	.00	.00	60.00	.00	55.41	.00
41340	YOUNGDALE, COLE C.	60.00	.00	.00	.00	.00	.00	60.00	.00	55.41	.00
41270	ZEHNER, DONALD F.	80.00	.00	.00	.00	.00	.00	80.00	.00	.00	73.88
41505	ZIMMER, COLLEN C.	40.00	.00	.00	.00	.00	.00	40.00	.00	.00	36.94
Total FIRE DEPARTMENT:											
		28	12,917.50	.00	.00	133.74	.00	1,428.00	.00	858.07	8,264.22
61240	WINTER, KIRBY L.	4,086.94	80.00	.00	.00	.00	.00	.00	20.00	.00	2,810.76
Total INFORMATION SYSTEMS:											
		1	4,086.94	.00	.00	.00	.00	.00	20.00	.00	2,810.76
61235	SIMPSON, CORY L.	1,994.40	80.00	.00	.00	.00	.00	.00	.00	.00	1,398.54
Total INSPECTION:											
		1	1,994.40	.00	.00	.00	.00	.00	.00	.00	1,398.54
31210	BARNES, DERRICK S.	3,199.25	82.50	.00	143.25	.00	.00	.00	.00	.00	2,173.12
31185	CASEY, DANA R.	3,239.20	80.00	.00	.00	.00	.00	.00	.00	.00	2,188.84
31190	DAYTON, BRYAN K.	3,213.61	80.00	.00	.00	.00	.00	.00	.00	.00	2,172.62
30678	DICKINSON, ADAM L.	4,222.24	88.00	.00	.00	.00	.00	.00	.00	.00	2,851.01
31230	MC COLLOUGH, DOUGLAS J.	3,048.81	80.00	.00	.00	.00	.00	.00	.00	.00	2,133.90
31184	MOURTON, RUSSELL E.	3,241.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,860.89
31240	NEWMAN, BRADY N.	2,275.00	90.00	.00	75.00	.00	.00	.00	.00	.00	1,668.50
31186	ORTON, RYAN D.	3,998.47	90.50	.00	163.43	.00	.00	.00	.00	.00	2,699.39
30918	PARKHILL, MARTY E.	3,633.74	82.00	.00	131.34	.00	.00	.00	.00	.00	2,488.07
Total LINE DEPARTMENT:											
		9	30,071.92	.00	513.02	.00	.00	.00	.00	.00	20,236.34
30976	MADSEN, TODD M.	1,776.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,286.20
31188	PASCHKE, RODNEY A.	1,518.69	24.00	.00	.00	.00	.00	1,005.33	.00	.00	536.30
Total METER DEPARTMENT:											
		2	3,294.69	.00	.00	.00	.00	1,005.33	.00	.00	1,822.50
61250	BERTRAN, ARIEL L.	2,538.47	80.00	.00	.00	.00	.00	.00	.00	.00	1,776.48
Total PLANNING/ZONING:											
		1	2,538.47	.00	.00	.00	.00	.00	.00	.00	1,776.48
41480	DILLEY, JEAN M.	1,471.20	80.00	.00	.00	.00	.00	.00	.00	.00	1,022.97
41500	HOLCOMBE, IAN J.	1,694.51	88.00	.00	218.51	.00	.00	.00	.00	.00	1,182.40
41390	NOWELL, TANNER J.	2,009.59	80.00	.00	.00	.00	.00	.00	.00	.00	1,439.04
41475	RUSH, DEBORAH G.	2,050.22	89.00	.00	128.03	.00	213.39	.00	.00	.00	1,401.66
41525	SCHANZ, ALEC M.	1,467.20	80.00	.00	.00	.00	.00	.00	.00	.00	1,071.16
41510	WHITEHILL, AUDRIANA G.	1,522.56	82.00	.00	54.56	.00	.00	.00	.00	.00	1,080.00
41207	WINDSCHITL, JOAN E.	1,833.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,134.83
Total POLICE DEPARTMENT-D:											
		7	12,048.88	.00	401.10	.00	213.39	.00	.00	.00	8,332.06
41430	BASINGER, RYAN A.	2,512.06	84.00	.00	.00	.00	.00	.00	.00	.00	1,819.44

Employee Number	Name	Total Gross Amount	Total Gross Hours	3-01 OT no pen Emp Amt	4-00 OT pension Emp Amt	5-01 DBL OT np Emp Amt	6-00 DBL OT pen Emp Amt	23-01 OTHER pen Emp Amt	24-00 OTHER np Emp Amt	85-00 NET PAY Emp Amt	86-00 DIRECT DEP Emp Amt
41191	HOUGE, CLINTON J.	2,594.64	84.00	.00	.00	.00	.00	.00	.00	.00	1,811.95
41453	LEHMAN, MICHEAL L.	2,462.64	84.00	.00	.00	.00	.00	.00	.00	.00	1,813.11
41465	LOWE, ANDREW T.	2,390.34	84.00	.00	.00	.00	.00	.00	.00	.00	1,661.33
41479	LUFT, ANTHONY J.	2,450.28	98.00	.00	.00	.00	.00	.00	.00	.00	1,798.93
41230	MCKINLEY, ERIC K.	2,748.52	84.00	.00	.00	.00	.00	.00	.00	.00	1,986.05
41110	MORK, SHILOH B.	3,269.61	80.00	.00	.00	.00	.00	.00	.00	.00	2,183.40
41471	MOURLAM, DALTON G.	2,310.28	84.00	.00	.00	.00	.00	.00	.00	.00	1,629.87
41225	PRITCHARD, BRANDON D.	2,587.14	84.00	.00	.00	.00	.00	.00	.00	.00	1,822.94
41426	ROSE, DYLAN M.	2,468.56	84.00	.00	.00	.00	.00	.00	.00	.00	1,619.98
41450	THUMMA, STEVEN L.	2,380.82	84.00	.00	.00	.00	.00	.00	.00	.00	1,521.06
41495	WATKINS, MARK D.	3,057.42	96.00	536.58	.00	.00	.00	.00	.00	.00	2,230.30
Total POLICE DEPARTMENT-O:											
		12	31,232.31	1,030.00	536.58	.00	.00	.00	.00	.00	21,898.36
81672	CRYSTAL, EVERETT T.	612.00	48.00	.00	.00	.00	.00	.00	.00	.00	519.16
81697	FARO, FRANK L.	62.50	5.00	.00	.00	.00	.00	.00	.00	.00	53.78
81713	FOLEY, PATRICK R.	367.50	30.00	.00	.00	.00	.00	.00	.00	.00	300.73
81712	GARVEY, ROGER A.	428.75	35.00	.00	.00	.00	.00	.00	.00	.00	359.98
70980	HARMS, BRIAN K.	1,737.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,284.25
81714	MCBURNIEY, BRAYZIN	220.50	18.00	.00	.00	.00	.00	.00	.00	.00	187.76
81617	OLSON, NICHOLAS L.	371.00	28.00	.00	.00	.00	.00	.00	.00	312.28	.00
51195	RODEN, JACOB J.	1,879.20	80.00	.00	.00	.00	.00	.00	.00	.00	1,277.13
Total PUBLIC GROUNDS:											
		8	5,679.05	324.00	.00	.00	.00	.00	.00	312.28	3,982.79
61200	ALCAZAR, MATTHEW D.	2,061.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,195.44
Total PUBLIC WORKS:											
		1	2,061.60	80.00	.00	.00	.00	.00	.00	.00	1,195.44
81716	BAILEY, CLAIRE M.	102.00	8.50	.00	.00	.00	.00	.00	.00	94.20	.00
81685	BAILEY, ERIN S.	57.75	5.25	.00	.00	.00	.00	.00	.00	.00	53.33
81755	BARGFREDE, DELAINEY ANN	18.00	1.50	.00	.00	.00	.00	.00	.00	.00	16.62
81750	BEAULIEU, ADDYSON JOY	132.00	11.00	.00	.00	.00	.00	.00	.00	121.91	.00
81653	BINDER, MEREDITH K.	426.75	30.00	.00	.00	.00	.00	.00	.00	367.26	.00
81726	BINDER, RILEY K.	174.00	14.50	.00	.00	.00	.00	.00	.00	.00	160.69
81724	CASEY, REESE A.	198.00	16.50	.00	.00	.00	.00	.00	.00	.00	180.85
81743	DINSDALE, SOPHIE J.	102.00	8.50	.00	.00	.00	.00	.00	.00	.00	94.20
70100	FLAWS, LARRY J.	2,704.20	80.00	.00	.00	.00	.00	.00	85.00	.00	1,797.07
81708	GALLENTINE, ABIGAIL M.	207.25	17.00	.00	.00	.00	.00	.00	.00	189.39	.00
81746	GALLENTINE, OLIVIA M.	174.00	14.50	.00	.00	.00	.00	.00	.00	158.69	.00
70107	GLASCOCK, MARK A.	1,820.80	80.00	.00	.00	.00	.00	.00	.00	.00	1,198.46
81711	HANSEN, ELLA M.	329.00	28.00	.00	.00	.00	.00	.00	.00	.00	297.83
81753	HEDEEN, MARISSA KAY	203.50	18.50	.00	.00	.00	.00	.00	.00	.00	177.31
81738	JOHNSON, NOLAN J.	509.85	41.25	.00	.00	.00	.00	.00	.00	.00	390.29
81731	LARSON, GABRIELLE M.	272.25	24.75	.00	.00	.00	.00	.00	.00	251.42	.00
81717	LASOURD, RILEY G.	162.00	13.50	.00	.00	.00	.00	.00	.00	149.61	.00
70975	LESHER, BREANNE M.	2,237.62	80.00	.00	.00	.00	.00	.00	.00	.00	1,512.89
81651	LINDSTROM, SARAH J.	84.00	7.00	.00	.00	.00	.00	.00	.00	77.57	.00
81594	MCBURNIEY, SONYA L.	752.10	54.50	.00	.00	.00	.00	.00	.00	.00	570.66
81673	MCKEE, BRONWYN E.	74.25	5.50	.00	.00	.00	.00	.00	.00	.00	68.57
81752	MOORE, KENNEDY AIANE	189.75	17.25	.00	.00	.00	.00	.00	.00	.00	166.00
81689	NELSEN, DENISE L.	772.73	49.25	.00	.00	.00	.00	.00	.00	.00	619.61
81757	NOHRENBERG, BONNIE RAE	72.00	6.00	.00	.00	.00	.00	.00	.00	.00	66.50

Employee Number	Name	Total Gross Amount	Total Gross Hours	3-01 OT no pen Emp Amt	4-00 OT pension Emp Amt	5-01 DBL OT np Emp Amt	6-00 DBL OT pen Emp Amt	23-01 OTHER pen Emp Amt	24-00 OTHER np Emp Amt	85-00 NET PAY Emp Amt	86-00 DIRECT DEP Emp Amt
81686	O'HEARN, ELLA A.	143.00	13.00	.00	.00	.00	.00	.00	.00	.00	132.06
81754	ORTON, ADDILYN LASHAE	187.00	17.00	.00	.00	.00	.00	.00	.00	165.73	.00
81742	OUVERSON, ERIN A.	198.00	18.00	.00	.00	.00	.00	.00	.00	.00	180.85
81744	PECK, EMMA G.	180.00	15.00	.00	.00	.00	.00	.00	.00	.00	164.23
81700	PETERSON, ADALIE J.	84.00	7.00	.00	.00	.00	.00	.00	.00	.00	77.57
81748	PETERSON, AVE	60.00	5.00	.00	.00	.00	.00	.00	.00	.00	55.41
31195	PETERSON, RICK E.	1,834.41	80.00	.00	.00	.00	.00	.00	.00	.00	1,273.52
81665	PRUISMANN, LINDA A.	589.38	35.25	.00	.00	.00	.00	.00	.00	.00	454.72
81682	RANGE, JENAH L.	286.25	22.50	.00	.00	.00	.00	.00	.00	.00	260.35
81701	RANGE, MARAH G.	201.75	16.50	.00	.00	.00	.00	.00	.00	.00	184.31
81751	RICHARDSON, OLIVIA GRACE	71.50	6.50	.00	.00	.00	.00	.00	.00	66.03	.00
81747	STANLEY, KAMEY	228.00	19.00	.00	.00	.00	.00	.00	.00	201.48	.00
81718	THONGSOUK, TAHSAIYA W.	156.00	13.00	.00	.00	.00	.00	.00	.00	.00	143.07
Total RECREATION:											
		37	15,995.09	900.50	.00	.00	.00	.00	85.00	1,843.29	10,296.97
51187	BAHRENFUSS, BRANDON D.	3,167.52	86.00	.00	320.32	.00	.00	.00	.00	.00	2,188.94
51210	DANIELS, JACOB S.	1,840.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,298.21
51225	JONDAL, KOOPER M.	1,760.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,304.67
51220	KLIEGL, SHAWN A.	1,760.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,233.83
51190	RATCLIFF, BRETT D.	2,131.20	80.00	.00	.00	.00	.00	.00	.00	.00	1,418.59
51184	WILLIAMS, ZACHARY W.	2,344.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,597.76
51205	YOUNGDALE, COLE C.	2,201.60	80.00	.00	.00	.00	.00	.00	.00	.00	1,547.96
Total STREET DEPARTMENT:											
		7	15,204.32	566.00	.00	320.32	.00	.00	.00	.00	10,589.96
30772	DINGMAN, CHAD M.	2,584.00	80.00	.00	.00	.00	.00	.00	.00	.00	1,886.90
30977	JACKSON, JEFFREY S.	2,214.96	88.00	.00	.00	.00	.00	.00	.00	.00	1,519.41
31179	WEST, JOHN A.	2,375.41	89.00	.00	.00	.00	.00	.00	.00	.00	1,763.61
Total WASTEWATER:											
		3	7,174.37	257.00	.00	.00	.00	.00	.00	.00	5,169.92
31189	CHAMBERS, TODD A.	2,724.05	87.00	.00	316.05	.00	.00	.00	.00	.00	1,790.02
31220	FARWELL, GREGORY A.	2,582.78	89.00	.00	.00	.00	.00	.00	.00	.00	1,792.95
31215	KNOWLES, NICHOLAS A.	3,799.41	89.00	.00	.00	.00	.00	.00	.00	.00	2,445.37
31225	PARKER, LOGAN M.	1,635.19	80.50	.00	15.19	.00	.00	.00	.00	.00	1,407.25
Total WATER PLANT:											
		4	10,741.43	345.50	.00	331.24	.00	.00	.00	.00	7,435.59
Grand Totals:											
		139	189,120.73	6,691.00	536.58	1,565.68	133.74	213.39	3,513.33	405.00	3,425.98
											127,502.68

RESOLUTION NO. 2022 -

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

That we, the City Council of the City of Webster City, Iowa, having examined bills aggregating the sum of \$719,008.75 presented herewith, hereby approve said bills, and the City Clerk is hereby authorized to issue warrants in payment of the same.

Passed and adopted this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
MUNICIPAL SUPPLY, INC. (672)							
0813123-IN	2	Invoice	3/4" MTR COUP	09/30/2021	743.91-	12/22	602-23-61-5935-870
0813123-IN	3	Invoice	3/4" MTR COUP	09/30/2021	743.91	12/22	602-23-62-5935-870
Total 0813123-IN:					.00		
Total MUNICIPAL SUPPLY, INC. (672):					.00		
Total 10/18/2021:					.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
METERING & TECHNOLOGY SOLUTIONS (5512)							
20728	2	Invoice	4 = 1" WATER METERS & BACK PLATES	10/27/2021	1,079.91-	12/22	602-23-62-5935-870
20728	3	Invoice	4 = 1" WATER METERS & BACK PLATES	10/27/2021	1,079.91	12/22	602-23-62-5935-870
Total 20728:					.00		
Total METERING & TECHNOLOGY SOLUTIONS (5512):					.00		
Total 11/15/2021:					.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
BROWN SUPPLY COMPANY, INC. (122)							
117256	2	Invoice	RUBBER WATER METER GASKETS	01/13/2022	20.00-	12/22	602-23-62-5935-870
117256	3	Invoice	RUBBER WATER METER GASKETS	01/13/2022	20.00	12/22	602-23-62-5935-870
Total 117256:					.00		
Total BROWN SUPPLY COMPANY, INC. (122):					.00		
METERING & TECHNOLOGY SOLUTIONS (5512)							
22039	2	Invoice	2" E-SERIES STAINLESS STEEL METER, 25'	01/14/2022	974.50-	12/22	602-23-62-5935-870
22039	3	Invoice	2" E-SERIES STAINLESS STEEL METER, 25'	01/14/2022	974.50	12/22	602-23-62-5935-870
Total 22039:					.00		
Total METERING & TECHNOLOGY SOLUTIONS (5512):					.00		
Total 02/07/2022:					.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
BROWN SUPPLY COMPANY, INC. (122)							
117524	2	Invoice	48 - 313 ERTS NO BACKS	02/04/2022	4,560.00-	12/22	602-23-62-5935-870
117524	3	Invoice	48 - 313 ERTS NO BACKS	02/04/2022	4,560.00	12/22	602-23-62-5935-870
Total 117524:					.00		
Total BROWN SUPPLY COMPANY, INC. (122):					.00		
METERING & TECHNOLOGY SOLUTIONS (5512)							
22165	2	Invoice	48 = 3/4" WATER METERS	02/02/2022	8,500.41-	12/22	602-23-62-5935-870
22165	3	Invoice	48 = 3/4" WATER METERS	02/02/2022	8,500.41	12/22	602-23-62-5935-870
Total 22165:					.00		
Total METERING & TECHNOLOGY SOLUTIONS (5512):					.00		
Total 02/21/2022:					.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
BROWN SUPPLY COMPANY, INC. (122)							
118449	2	Invoice	RUBBER WATER METER GASKETS	04/07/2022	60.00-	12/22	602-23-62-5935-870
118449	3	Invoice	RUBBER WATER METER GASKETS	04/07/2022	60.00	12/22	602-23-62-5935-870
Total 118449:					.00		
Total BROWN SUPPLY COMPANY, INC. (122):					.00		
MUNICIPAL SUPPLY, INC. (672)							
0830111-IN	2	Invoice	DUAL BATTERY PACK FOR WATER METERS	04/06/2022	235.00-	12/22	602-23-62-5935-870
0830111-IN	3	Invoice	DUAL BATTERY PACK FOR WATER METERS	04/06/2022	235.00	12/22	602-23-62-5935-870
Total 0830111-IN:					.00		
Total MUNICIPAL SUPPLY, INC. (672):					.00		
Total 05/02/2022:					.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
METERING & TECHNOLOGY SOLUTIONS (5512)							
23007	2	Invoice	48 = 3/4" WATER METERS	05/19/2022	3,283.49-	12/22	602-23-62-5935-870
23007	3	Invoice	48 = 3/4" WATER METERS	05/19/2022	3,283.49	12/22	602-23-62-5935-870
Total 23007:					.00		
23025	2	Invoice	48 25CUBIC FOOT METER W/BACK PLATE	05/20/2022	4,014.00-	12/22	602-23-62-5935-870
23025	3	Invoice	48 25CUBIC FOOT METER W/BACK PLATE	05/20/2022	4,014.00	12/22	602-23-62-5935-870
Total 23025:					.00		
Total METERING & TECHNOLOGY SOLUTIONS (5512):					.00		
Total 06/06/2022:					.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
MOTOROLA SOLUTIONS, INC. (5413)							
1781666-QU	2	Invoice	2PORTABLE APX8000 MOBILE RADIOS	06/08/2022	13,113.50-	12/22	100-41-22-5140-515
1781666-QU	3	Invoice	2PORTABLE APX8000 MOBILE RADIOS	06/08/2022	13,113.50	01/23	100-41-22-5140-515
Total 1781666-QUOTE:					.00		
Total MOTOROLA SOLUTIONS, INC. (5413):					.00		
Total 07/05/2022:					.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
PRAIRIE ENERGY COOPERATIVE (768)							
22685 08/05/	1	Invoice	AIRPORT ELECTRICITY/FIVE METERS	08/05/2022	767.92	02/23	205-23-45-5372-237
Total 22685 08/05/22:					767.92		
Total PRAIRIE ENERGY COOPERATIVE (768):					767.92		
Total 08/18/2022:					767.92		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
AFLAC, INC. (20)							
525203	1	Invoice	AFLAC PREMIUMS	08/12/2022	1,755.18	03/23	902-11215
Total 525203:					1,755.18		
Total AFLAC, INC. (20):					1,755.18		
AGSOURCE (4458)							
PS-INV2205	1	Invoice	WATER POOL SPA ROUTE CHARGE & PS CO	08/24/2022	40.50	03/23	100-22-42-5242-299
Total PS-INV220575:					40.50		
Total AGSOURCE (4458):					40.50		
ALTEC INDUSTRIES, INC. (35)							
12070002	1	Invoice	DIRT BLANKET/2=NYLON AUGER SLINGS	08/18/2022	462.64	03/23	601-23-52-5935-314
Total 12070002:					462.64		
Total ALTEC INDUSTRIES, INC. (35):					462.64		
ARELLANO, ELIZABETH (7584)							
083022	1	Invoice	CUSTOMER DEPOSIT REFUND	08/30/2022	298.63	03/23	601-21011
Total 083022:					298.63		
Total ARELLANO, ELIZABETH (7584):					298.63		
ARNOLD MOTOR SUPPLY (68)							
26NV072689	1	Invoice	KT PACK	08/09/2022	3.69	03/23	601-23-52-5588-318
Total 26NV072689:					3.69		
26NV073013	1	Invoice	FILTERS/OIL CEMETERY MOWER	08/15/2022	50.79	03/23	100-23-42-5371-314
26NV073013	2	Invoice	FILTERS/OIL CEMETERY MOWER	08/15/2022	87.48	03/23	100-23-42-5371-315
Total 26NV073013:					138.27		
26NV073730	1	Invoice	FLAP WHEEL-SHOP SUPPLY	08/29/2022	6.09	03/23	602-23-61-5935-314
Total 26NV073730:					6.09		
Total ARNOLD MOTOR SUPPLY (68):					148.05		
AVAILA BANK (6318)							
090122	1	Invoice	FULLER HALL PRINCIPAL PYMT	09/01/2022	5,308.10	03/23	300-22-98-5295-910
090122	2	Invoice	FULLER HALL INTEREST PYMT	09/01/2022	3,846.20	03/23	300-22-98-5295-911
Total 090122:					9,154.30		
Total AVAILA BANK (6318):					9,154.30		
BLACK HILLS ENERGY (3466)							
0976116930	1	Invoice	GAS UTILITY/LINE	08/10/2022	11.75	03/23	601-23-52-5586-234
0976116930	2	Invoice	GAS UTILITY/LINE	08/10/2022	11.75	03/23	601-23-52-5588-234
0976116930	3	Invoice	GAS UTILITY/LINE	08/10/2022	11.76	03/23	601-23-51-5566-234

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 0976116930 08/10/22:					35.26		
2074931097	1	Invoice	GAS UTILITY/CEMETERY	08/18/2022	35.26	03/23	100-23-42-5371-234
Total 2074931097 08/22/22:					35.26		
4752063290	1	Invoice	GAS UTILITY/DEPOT	08/16/2022	35.26	03/23	100-22-42-5221-234
Total 4752063290 08/16/22:					35.26		
5470636360	1	Invoice	GAS UTILITY/FULLER HALL	08/16/2022	35.26	03/23	100-22-42-5233-234
Total 5470636360 08/16/22:					35.26		
5542531803	1	Invoice	GAS UTILITY/FIRE STATION	08/16/2022	35.26	03/23	100-21-22-5140-234
Total 5542531803 08/16/22:					35.26		
5978424719	1	Invoice	GAS UTILITY/WATER PLANT SHED	08/10/2022	42.08	03/23	602-23-61-5642-234
Total 5978424719 08/10/22:					42.08		
6506969580	1	Invoice	GAS UTILITY/WATER PLANT	08/10/2022	35.26	03/23	602-23-61-5642-234
Total 6506969580 08/10/22:					35.26		
6886529163	1	Invoice	GAS UTILITY/OD POOL	08/23/2022	5,459.78	03/23	100-22-42-5242-234
Total 6886529163 082322:					5,459.78		
7824805624	1	Invoice	GAS UTILITY/WWTP	08/23/2022	2,712.87	03/23	603-23-70-5642-234
Total 7824805624 082322:					2,712.87		
8081102404	1	Invoice	GAS UTILITY/SR CITIZEN CTR	08/16/2022	100.01	03/23	100-21-22-5140-234
Total 8081102404 08/16/22:					100.01		
9634407409	1	Invoice	GAS UTILITY/STREET DEPT	08/23/2022	78.96	03/23	204-23-30-5310-234
Total 9634407409 082322:					78.96		
Total BLACK HILLS ENERGY (3466):					8,605.26		
BOLTON & MENK INC. (106)							
0290711	1	Invoice	ENG - WASTEWATER DESIGN-FACILITY IMP	05/31/2022	21,789.00	03/23	603-23-70-5652-860
Total 0290711:					21,789.00		
0294724	1	Invoice	ENG SVC - WATER PLANT IMPROVEMENTS -	07/29/2022	1,345.00	03/23	602-23-61-5651-212
0294724	2	Invoice	ENG SVC - WATER PLANT IMPROVEMENTS -	07/29/2022	3,782.50	03/23	602-23-61-5651-212
Total 0294724:					5,127.50		
0294725	1	Invoice	ENG - WASTEWATER DESIGN-FACILITY IMP	07/29/2022	1,140.00	03/23	603-23-70-5652-860
0294725	2	Invoice	ENG - WASTEWATER DESIGN-FACILITY IMP	07/29/2022	3,210.00	03/23	603-23-70-5652-860

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 0294725:					4,350.00		
Total BOLTON & MENK INC. (106):					31,266.50		
BOMGAARS (5165)							
62891059	1	Invoice	GATOR GRIP TAPE/SAWZALL BLADE-LINE	08/01/2022	32.98	03/23	601-23-52-5588-318
Total 62891059:					32.98		
62891789	1	Invoice	CHAINSAW BAR & CHAIN	08/03/2022	77.97	03/23	601-23-52-5588-318
Total 62891789:					77.97		
62891974	1	Invoice	HARRIS TORCH KIT	08/04/2022	124.99	03/23	204-23-30-5310-311
Total 62891974:					124.99		
62892420	1	Invoice	DOOR STOP/BOLTS/PIKSTIKS	08/05/2022	61.27	03/23	100-22-42-5210-318
Total 62892420:					61.27		
62893616	1	Invoice	SHOP SUPPLIES-STREET	08/08/2022	16.87	03/23	204-23-30-5310-314
Total 62893616:					16.87		
62893926	1	Invoice	HOLE SAW	08/09/2022	7.49	03/23	602-23-62-5662-318
Total 62893926:					7.49		
62893950	1	Invoice	6-WASP/HORNET SPRAY	08/09/2022	40.74	03/23	601-23-52-5588-318
Total 62893950:					40.74		
62894499	1	Invoice	SPHAGNUM PEAT MOSS/MOTOMIX OIL	08/11/2022	143.71	03/23	100-21-22-5140-318
Total 62894499:					143.71		
62894800	1	Invoice	LINK, ROPE CLIP, CABLE-OD POOL	08/12/2022	37.52	03/23	100-22-42-5233-318
Total 62894800:					37.52		
62896435	1	Invoice	INDOOR POOL SUPPLIES	08/16/2022	26.60	03/23	100-22-42-5233-318
Total 62896435:					26.60		
62897016	1	Invoice	FASTENERS	08/18/2022	7.60	03/23	601-23-52-5588-318
Total 62897016:					7.60		
62897036	1	Invoice	PUSH MOWER-OD POOL	08/18/2022	289.99	03/23	100-22-42-5242-318
Total 62897036:					289.99		
62897209	1	Invoice	CONDUIT/BUSHING/ADAPTER/FASTENERS	08/18/2022	35.26	03/23	601-23-52-5588-318
Total 62897209:					35.26		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
62897377	1	Invoice	RETURN PIPE BUSHING	08/19/2022	5.98-	03/23	601-23-52-5588-318
Total 62897377:					5.98-		
62900971	1	Invoice	WEED KILLER-ROUNDUP	08/29/2022	29.99	03/23	100-22-42-5233-318
Total 62900971:					29.99		
62901089	1	Invoice	PIPE SUPPLIES/LIQUID CONNECTOR	08/29/2022	44.66	03/23	603-23-70-5642-318
Total 62901089:					44.66		
62901364	1	Invoice	BOLTS/LUBRICANT	08/30/2022	36.39	03/23	603-23-70-5642-318
Total 62901364:					36.39		
Total BOMGAARS (5165):					1,008.05		
BORDER STATES INDUSTRIES INC (6530)							
924671316	1	Invoice	20 = 30' CONCRETE POLES (ordered 4/19/22,	08/01/2022	37,466.91	03/23	601-23-52-5935-871
Total 924671316:					37,466.91		
924819859	1	Invoice	20 = 6 ARMS FOR CONCRETE POLES (ordere	08/24/2022	9,501.18	03/23	601-23-52-5935-871
Total 924819859:					9,501.18		
Total BORDER STATES INDUSTRIES INC (6530):					46,968.09		
BROWN SUPPLY COMPANY, INC. (122)							
122029	1	Invoice	15/16" CARBIDE TIPPED HOLE SAW	08/11/2022	48.00	03/23	602-23-62-5662-318
Total 122029:					48.00		
122447	1	Invoice	SUPPLIES FOR WATERFILL STATION-STRE	08/24/2022	4,174.60	03/23	602-23-62-5673-870
Total 122447:					4,174.60		
Total BROWN SUPPLY COMPANY, INC. (122):					4,222.60		
CAPITAL SANITARY SUPPLY (6096)							
C345416	1	Invoice	9.5X11 WHITE COMPUTER PAPER	08/17/2022	231.25	03/23	100-21-21-5180-316
Total C345416:					231.25		
C352184B	1	Invoice	BLUE NITRILE GLOVES	08/24/2022	56.25	03/23	100-22-42-5233-318
Total C352184B:					56.25		
C352828	1	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	100-21-22-5140-316
C352828	2	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	204-23-30-5310-316
C352828	3	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	603-23-70-5921-316
C352828	4	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	100-23-42-5371-316
C352828	5	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	602-23-61-5921-316
C352828	6	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	100-21-18-5190-316
C352828	7	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	100-23-43-5361-316
C352828	8	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	601-24-16-5921-316
C352828	9	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	100-22-42-5233-316

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
C352828	10	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	601-23-52-5921-316
C352828	11	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	100-21-21-5110-316
C352828	12	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.11	03/23	100-24-18-5470-316
C352828	13	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	17.62	03/23	100-24-12-5430-316
C352828	14	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	32.07	03/23	602-23-81-5921-316
C352828	15	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	8.25	03/23	603-23-81-5921-316
C352828	16	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	51.95	03/23	601-23-81-5921-316
C352828	17	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	9.70	03/23	100-24-14-5435-316
C352828	18	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	20.52	03/23	602-23-80-5921-316
C352828	19	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	4.96	03/23	603-23-80-5921-316
C352828	20	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	51.78	03/23	601-23-80-5921-316
C352828	21	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	5.04	03/23	100-24-30-5380-316
C352828	22	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	5.04	03/23	601-24-30-5380-316
C352828	23	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	7.69	03/23	602-24-30-5380-316
C352828	24	Invoice	8.5X11 BRT WHITE COPY PAPER	08/10/2022	7.69	03/23	603-24-30-5380-316
C352828	25	Invoice	FORKS/NAPKINS	08/10/2022	51.44	03/23	100-24-36-5480-318
C352828	26	Invoice	FORKS/NAPKINS	08/10/2022	36.74	03/23	601-23-36-5480-318
C352828	27	Invoice	FORKS/NAPKINS	08/10/2022	29.40	03/23	602-23-36-5480-318
C352828	28	Invoice	FORKS/NAPKINS	08/10/2022	29.40	03/23	603-23-36-5480-318
Total C352828:					574.61		
C352917	1	Invoice	TRASH BAGS/GLOVES/TP/PAPERTOWELS	08/10/2022	102.09	03/23	100-24-36-5480-318
C352917	2	Invoice	TRASH BAGS/GLOVES/TP/PAPERTOWELS	08/10/2022	72.91	03/23	601-23-36-5480-318
C352917	3	Invoice	TRASH BAGS/GLOVES/TP/PAPERTOWELS	08/10/2022	58.34	03/23	602-23-36-5480-318
C352917	4	Invoice	TRASH BAGS/GLOVES/TP/PAPERTOWELS	08/10/2022	58.34	03/23	603-23-36-5480-318
Total C352917:					291.68		
C352935	1	Invoice	STREET SHOP MISC SUPPLIES	08/10/2022	399.32	03/23	204-23-30-5310-318
Total C352935:					399.32		
C353740	1	Invoice	SHAMPOO/LAUNDRY DETERGENT/KITCHEN	08/24/2022	190.81	03/23	100-22-42-5233-318
Total C353740:					190.81		
Total CAPITAL SANITARY SUPPLY (6096):					1,743.92		
CARRICO AQUATIC RESOURCES (6820)							
20224835	1	Invoice	CHLORINE FOR BOTH POOLS	08/01/2022	2,916.01	03/23	100-22-42-5233-318
20224835	2	Invoice	CHLORINE FOR BOTH POOLS	08/01/2022	2,916.01	03/23	100-22-42-5242-318
Total 20224835:					5,832.02		
Total CARRICO AQUATIC RESOURCES (6820):					5,832.02		
CENTRAL IOWA BLDG SUPPLY (1298)							
1012519	1	Invoice	3-1 1/4" STRUT CLAMP, 9-1 1/4" STRUT CLAM	08/22/2022	58.21	03/23	601-23-52-5588-318
Total 1012519:					58.21		
Total CENTRAL IOWA BLDG SUPPLY (1298):					58.21		
CENTRAL IOWA DISTRIBUTING, INC (153)							
229346	1	Invoice	SUPPLIES @ WATERPLANT	08/16/2022	334.00	03/23	602-23-61-5642-318

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 229346:					334.00		
Total CENTRAL IOWA DISTRIBUTING, INC (153):					334.00		
CENTURY LINK (4614)							
304761638	1	Invoice	TELEPHONE SERVICE	08/12/2022	9.45	03/23	100-24-12-5430-230
304761638	2	Invoice	TELEPHONE SERVICE	08/12/2022	18.90	03/23	602-23-81-5921-230
304761638	3	Invoice	TELEPHONE SERVICE	08/12/2022	31.51	03/23	601-23-81-5921-230
304761638	4	Invoice	TELEPHONE SERVICE	08/12/2022	3.15	03/23	603-23-81-5921-230
304761638	5	Invoice	TELEPHONE SERVICE	08/12/2022	5.66	03/23	100-24-14-5435-230
304761638	6	Invoice	TELEPHONE SERVICE	08/12/2022	12.60	03/23	602-23-80-5921-230
304761638	7	Invoice	TELEPHONE SERVICE	08/12/2022	3.79	03/23	603-23-80-5921-230
304761638	8	Invoice	TELEPHONE SERVICE	08/12/2022	40.96	03/23	601-23-80-5903-230
304761638	9	Invoice	TELEPHONE SERVICE	08/12/2022	34.66	03/23	100-24-30-5380-230
304761638	10	Invoice	TELEPHONE SERVICE	08/12/2022	12.60	03/23	100-24-18-5470-230
304761638	11	Invoice	TELEPHONE SERVICE	08/12/2022	15.75	03/23	100-21-18-5190-230
304761638	12	Invoice	TELEPHONE SERVICE	08/12/2022	31.29	03/23	204-23-30-5320-230
304761638	13	Invoice	TELEPHONE SERVICE	08/12/2022	73.44	03/23	100-21-22-5140-230
304761638	14	Invoice	TELEPHONE SERVICE	08/12/2022	73.44	03/23	100-23-42-5371-230
304761638	15	Invoice	TELEPHONE SERVICE	08/12/2022	73.44	03/23	601-23-52-5588-230
304761638	16	Invoice	TELEPHONE SERVICE	08/12/2022	73.44	03/23	100-22-42-5233-230
304761638	17	Invoice	TELEPHONE SERVICE	08/12/2022	73.44	03/23	204-23-30-5310-230
304761638	18	Invoice	TELEPHONE SERVICE	08/12/2022	73.45	03/23	603-23-70-5642-230
304761638	19	Invoice	TELEPHONE SERVICE	08/12/2022	73.45	03/23	602-23-61-5642-230
Total 304761638:					734.42		
832-2525 08/	1	Invoice	PHONE SERVICE-SENIOR CENTER	08/22/2022	158.92	03/23	100-22-42-5280-230
Total 832-2525 08/22/22:					158.92		
832-9166 08/	1	Invoice	PHONE SERVICE - POLICE DEPT	08/22/2022	351.20	03/23	100-21-21-5110-230
Total 832-9166 08/22/22:					351.20		
832-9190 08/	1	Invoice	PHONE SERVICE-OD POOL	08/22/2022	72.27	03/23	100-22-42-5242-230
Total 832-9190 08/22/22:					72.27		
Total CENTURY LINK (4614):					1,316.81		
CHIZEK LAW OFFICE (5715)							
073122	1	Invoice	COST FOR 5 ABANDONED PROPERTIES	07/31/2022	1,275.00	03/23	100-21-18-5190-211
073122	2	Invoice	COST FOR CERTIFIED/RETURN RECEIPT TO	07/31/2022	7.33	03/23	100-21-18-5190-211
073122	3	Invoice	COST TO MAIL NOTICE FOR 5 ABANDONED	07/31/2022	212.22	03/23	100-21-18-5190-211
073122	4	Invoice	COST TO SHERIFF FOR NOTICES/PETITION	07/31/2022	160.00	03/23	100-21-18-5190-211
073122	5	Invoice	COST TO MAIL NOTICE & PETITION TO HUSI	07/31/2022	8.39	03/23	100-21-18-5190-211
Total 073122:					1,662.94		
081522	1	Invoice	CITY ATTORNEY FEES/SEPTEMBER 2022	08/15/2022	1,166.67	03/23	100-24-13-5460-212
081522	2	Invoice	CITY ATTORNEY FEES/SEPTEMBER 2022	08/15/2022	3,208.33	03/23	601-24-13-5460-212
081522	3	Invoice	CITY ATTORNEY FEES/SEPTEMBER 2022	08/15/2022	729.17	03/23	602-24-13-5460-212
081522	4	Invoice	CITY ATTORNEY FEES/SEPTEMBER 2022	08/15/2022	729.16	03/23	603-24-13-5460-212
Total 081522:					5,833.33		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total CHIZEK LAW OFFICE (5715):					7,496.27		
CITY OF WEBSTER CITY (176)							
082522	1	Invoice	CITY UTILITIES	08/25/2022	651.39	03/23	100-24-36-5480-233
082522	2	Invoice	CITY UTILITIES	08/25/2022	465.28	03/23	601-23-36-5480-233
082522	3	Invoice	CITY UTILITIES	08/25/2022	372.22	03/23	602-23-36-5480-233
082522	4	Invoice	CITY UTILITIES	08/25/2022	372.22	03/23	603-23-36-5480-233
082522	5	Invoice	CITY UTILITIES	08/25/2022	1,135.80	03/23	100-21-22-5140-233
082522	6	Invoice	CITY UTILITIES	08/25/2022	571.74	03/23	204-23-30-5310-233
082522	7	Invoice	CITY UTILITIES	08/25/2022	641.29	03/23	100-21-30-5120-233
082522	8	Invoice	CITY UTILITIES	08/25/2022	178.08	03/23	602-23-62-5662-233
082522	9	Invoice	CITY UTILITIES	08/25/2022	528.83	03/23	603-23-71-5662-233
082522	10	Invoice	CITY UTILITIES	08/25/2022	19,547.13	03/23	603-23-71-5662-233
082522	11	Invoice	CITY UTILITIES	08/25/2022	10,174.76	03/23	100-21-30-5160-233
082522	12	Invoice	CITY UTILITIES	08/25/2022	389.73	03/23	100-22-42-5221-233
082522	13	Invoice	CITY UTILITIES	08/25/2022	440.83	03/23	100-22-42-5210-233
082522	14	Invoice	CITY UTILITIES	08/25/2022	38.33	03/23	100-22-42-5210-233
082522	15	Invoice	CITY UTILITIES	08/25/2022	312.58	03/23	100-22-42-5222-233
082522	16	Invoice	CITY UTILITIES	08/25/2022	4,116.64	03/23	100-22-42-5233-233
082522	17	Invoice	CITY UTILITIES	08/25/2022	542.48	03/23	100-23-42-5371-233
082522	18	Invoice	CITY UTILITIES	08/25/2022	10,194.83	03/23	602-23-60-5601-233
082522	19	Invoice	CITY UTILITIES	08/25/2022	175.48	03/23	601-23-51-5566-233
082522	20	Invoice	CITY UTILITIES	08/25/2022	175.48	03/23	601-23-52-5588-233
082522	21	Invoice	CITY UTILITIES	08/25/2022	175.48	03/23	601-23-52-5586-233
082522	22	Invoice	CITY UTILITIES	08/25/2022	8,220.29	03/23	100-22-42-5242-233
082522	23	Invoice	CITY UTILITIES	08/25/2022	3,053.66	03/23	602-23-61-5642-233
082522	24	Invoice	CITY UTILITIES	08/25/2022	451.14	03/23	100-23-43-5361-233
082522	25	Invoice	CITY UTILITIES	08/25/2022	813.87	03/23	100-22-42-5280-233
082522	26	Invoice	CITY UTILITIES	08/25/2022	450.20	03/23	100-21-22-5140-233
082522	27	Invoice	CITY UTILITIES	08/25/2022	642.66	03/23	204-23-30-5310-233
Total 082522:					64,832.42		
082522 SHE	1	Invoice	CITY UTILITIES/WEST TWIN PARK SHELTER	08/25/2022	287.48	03/23	100-22-42-5222-233
Total 082522 SHELTER:					287.48		
082522 WEL	1	Invoice	CITY UTILITIES - WELL #8	08/25/2022	1,154.99	03/23	602-23-60-5601-233
Total 082522 WELL #8:					1,154.99		
Total CITY OF WEBSTER CITY (176):					66,274.89		
CLAYTON, ASHA (7572)							
081622	1	Invoice	METER DEPOSIT REFUND	08/16/2022	300.00	03/23	601-21011
Total 081622:					300.00		
Total CLAYTON, ASHA (7572):					300.00		
CORIO, DIEGO COBO (7582)							
082422	1	Invoice	CUSTOMER DEPOSIT REFUND	08/24/2022	165.98	03/23	601-21011
Total 082422:					165.98		
Total CORIO, DIEGO COBO (7582):					165.98		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
CORN BELT POWER COOP, INC. (197)							
15828	1	Invoice	TAPE READINGS & REPORTS	08/10/2022	40.00	03/23	601-23-51-5566-299
Total 15828:					40.00		
Total CORN BELT POWER COOP, INC. (197):					40.00		
CORNELISON, HAROLD (3508)							
081522	1	Invoice	ENERGY EFFICIENCY REBATE/1330 1ST ST	08/15/2022	75.00	03/23	601-23-36-5930-979
081522	2	Invoice	CORN BELT EE RESIDENTIAL REBATE/REFR	08/15/2022	25.00	03/23	601-23-53-5930-979
Total 081522:					100.00		
Total CORNELISON, HAROLD (3508):					100.00		
COUNSEL (3995)							
23AR102464	1	Invoice	PRINTER CONTRACT - POLICE DEPT	07/27/2022	35.66	03/23	100-21-21-5110-225
Total 23AR1024642:					35.66		
23AR104394	1	Invoice	PRINTER CONTRACT - FULLER HALL	08/15/2022	177.95	03/23	100-22-42-5233-225
Total 23AR1043943:					177.95		
23AR104452	1	Invoice	PRINTER CONTRACT - WASTE WATER	08/15/2022	25.83	03/23	603-23-70-5931-225
Total 23AR1044525:					25.83		
23AR105647	1	Invoice	PRINTER CONTRACT - POLICE DEPT	08/25/2022	27.54	03/23	100-21-21-5110-225
Total 23AR1056470:					27.54		
Total COUNSEL (3995):					266.98		
CTI READY MIX, INC. (7518)							
96021	1	Invoice	C4 WATER MAIN ELM/MADSEN AVE	08/08/2022	294.71	03/23	602-23-62-5662-318
Total 96021:					294.71		
96090	1	Invoice	C4 WATER MAIN ELM/MADSEN AVE	08/09/2022	1,025.29	03/23	602-23-62-5662-318
Total 96090:					1,025.29		
96208	1	Invoice	C4 WATER MAIN BANK/WOOD ST	08/11/2022	622.50	03/23	602-23-62-5662-318
Total 96208:					622.50		
Total CTI READY MIX, INC. (7518):					1,942.50		
DAILY FREEMAN JOURNAL, INC. (211)							
8380	1	Invoice	AFFIDAVIT OF PUBLICATION-ABANDONED B	08/12/2022	70.23	03/23	100-21-21-5110-210
Total 8380:					70.23		
8388	1	Invoice	AFFIDAVIT OF PUBLICATION	08/10/2022	277.83	03/23	100-24-14-5435-210
Total 8388:					277.83		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
8415	1	Invoice	AFFIDAVIT OF PUBLICATION-WWTP ANTIDE	08/18/2022	23.81	03/23	603-23-70-5652-860
Total 8415:					23.81		
Total DAILY FREEMAN JOURNAL, INC. (211):					371.87		
DELL MARKETING L.P. (221)							
1060797740	1	Invoice	DELL REPLACEMENT POWER ADAPTERS	08/18/2022	17.55	03/23	100-24-16-5420-317
1060797740	2	Invoice	DELL REPLACEMENT POWER ADAPTERS	08/18/2022	64.32	03/23	601-24-16-5921-317
1060797740	3	Invoice	DELL REPLACEMENT POWER ADAPTERS	08/18/2022	17.55	03/23	602-24-16-5921-317
1060797740	4	Invoice	DELL REPLACEMENT POWER ADAPTERS	08/18/2022	17.55	03/23	603-24-16-5921-317
Total 10607977406:					116.97		
Total DELL MARKETING L.P. (221):					116.97		
DGR ENGINEERING (5967)							
00255099	1	Invoice	ENG - CAPITAL IMP. - ELECTRIC UTILITY PO	08/11/2022	81.40	03/23	601-23-36-5923-212
00255099	2	Invoice	ENG - CAPITAL IMP. - ELECTRIC UTILITY PO	08/11/2022	146.52	03/23	601-23-51-5566-212
00255099	3	Invoice	ENG - CAPITAL IMP. - ELECTRIC UTILITY PO	08/11/2022	976.80	03/23	601-23-52-5923-212
00255099	4	Invoice	ENG - CAPITAL IMP. - ELECTRIC UTILITY PO	08/11/2022	293.04	03/23	601-23-80-5905-212
00255099	5	Invoice	ENG - CAPITAL IMP. - ELECTRIC UTILITY PO	08/11/2022	130.24	03/23	601-23-81-5923-212
Total 00255099:					1,628.00		
00255556	1	Invoice	MISC ELECTRICAL ENGINEERING SERVICE	08/17/2022	33.80	03/23	601-23-36-5923-212
00255556	2	Invoice	MISC ELECTRICAL ENGINEERING SERVICE	08/17/2022	60.84	03/23	601-23-51-5566-212
00255556	3	Invoice	MISC ELECTRICAL ENGINEERING SERVICE	08/17/2022	405.60	03/23	601-23-52-5923-212
00255556	4	Invoice	MISC ELECTRICAL ENGINEERING SERVICE	08/17/2022	121.68	03/23	601-23-80-5905-212
00255556	5	Invoice	MISC ELECTRICAL ENGINEERING SERVICE	08/17/2022	54.08	03/23	601-23-81-5923-212
Total 00255556:					676.00		
00255557	1	Invoice	ENG - REISNER SUBSTATION - RELIMINARY	08/17/2022	2,799.00	03/23	601-23-51-5562-871
Total 00255557:					2,799.00		
Total DGR ENGINEERING (5967):					5,103.00		
DIAMOND VOGEL PAINTS (2240)							
233125287	1	Invoice	WHITE/YELLOW TRAFFIC PAINT/GLASS BEA	07/12/2022	1,582.20	03/23	100-21-30-5120-318
Total 233125287:					1,582.20		
233125551	1	Invoice	MESH FILTERS/LL5-625	08/03/2022	88.40	03/23	100-21-30-5120-318
Total 233125551:					88.40		
233125640	1	Invoice	5=5 gal YELLOW PAINT	08/11/2022	550.75	03/23	100-21-30-5120-318
Total 233125640:					550.75		
233125712	1	Invoice	4=5 gal YELLOW PAINT	08/17/2022	440.60	03/23	100-21-30-5120-318
Total 233125712:					440.60		
233125770	1	Invoice	5=5 gal ORANGE PAINT	08/24/2022	125.00	03/23	100-21-30-5120-318

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 233125770:					125.00		
233125772	1	Invoice	5=5 gal ORANGE PAINT	08/24/2022	125.00	03/23	100-21-30-5120-318
Total 233125772:					125.00		
270327504	1	Invoice	5=5 gal ORANGE PAINT	08/29/2022	75.00	03/23	100-21-30-5120-318
Total 270327504:					75.00		
Total DIAMOND VOGEL PAINTS (2240):					2,986.95		
DJ'S TROPHIES (6844)							
334723	1	Invoice	GOLD/SILVER CYCLING MEDALS	08/20/2022	154.00	03/23	100-22-42-5222-318
Total 334723:					154.00		
Total DJ'S TROPHIES (6844):					154.00		
DR. JAMES W. KUMM (6919)							
081922	1	Invoice	2ND QTR DRUG TESTING	08/19/2022	25.00	03/23	204-23-30-5310-212
081922	2	Invoice	2ND QTR DRUG TESTING	08/19/2022	25.00	03/23	602-23-61-5923-212
Total 081922:					50.00		
Total DR. JAMES W. KUMM (6919):					50.00		
ECHO GROUP, INC. (6306)							
S009584485.	1	Invoice	LIGHT FIXTURE-STREET SHOP	08/19/2022	275.75	03/23	204-23-30-5310-318
Total S009584485.002:					275.75		
S009619712.	1	Invoice	1 32W 5000L LUMAN MOG	08/15/2022	53.70	03/23	601-23-52-5588-318
Total S009619712.002:					53.70		
S009619897.	1	Invoice	3 TERMINAL BOXES	08/16/2022	673.38	03/23	601-23-52-5588-318
Total S009619897.002:					673.38		
S009628244.	1	Invoice	20-DUPLEX 20AMP/120V SELF-TEST	08/11/2022	724.20	03/23	601-23-52-5588-318
Total S009628244.001:					724.20		
S009634908.	1	Invoice	1-100AMP 1PH TERMINAL BOX	08/30/2022	224.46	03/23	601-23-52-5588-318
Total S009634908.001:					224.46		
S009639330.	1	Invoice	STRANDED GREEN WIRE	08/22/2022	307.94	03/23	601-23-52-5588-318
Total S009639330.002:					307.94		
S009649553.	1	Invoice	1 METER MAIN 100AMP BRK	08/26/2022	342.53	03/23	602-23-62-5673-870
Total S009649553.001:					342.53		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total ECHO GROUP, INC. (6306):					2,601.96		
FAREWAY STORES, INC. #395 (284)							
28211	1	Invoice	WATER & CLEANING SUPPLIES	07/22/2022	23.10	03/23	100-21-22-5140-318
Total 28211:					23.10		
Total FAREWAY STORES, INC. #395 (284):					23.10		
FASTENAL COMPANY (3509)							
IAFTD23634	1	Invoice	CREDIT FROM PAYING TWICE ON 7/6/2021	08/31/2022	66.14-	03/23	204-23-30-5310-312
IAFTD23634	2	Invoice	CREDIT FROM PAYING TWICE ON 7/6/2021	08/31/2022	20.13-	03/23	602-23-62-5662-312
IAFTD23634	3	Invoice	CREDIT FROM PAYING TWICE ON 7/6/2021	08/31/2022	9.58-	03/23	603-23-71-5662-312
Total IAFTD236343-CR:					95.85-		
IAFTD24862	1	Invoice	RESPIRATOR/EAR PLUGS/SAFETY EQUIP	08/24/2022	174.09	03/23	204-23-30-5310-312
IAFTD24862	2	Invoice	RESPIRATOR/EAR PLUGS/SAFETY EQUIP	08/24/2022	52.98	03/23	602-23-62-5662-312
IAFTD24862	3	Invoice	RESPIRATOR/EAR PLUGS/SAFETY EQUIP	08/24/2022	25.24	03/23	603-23-71-5662-312
Total IAFTD248627:					252.31		
Total FASTENAL COMPANY (3509):					156.46		
FLETCHER-REINHARDT COMPANY (305)							
S1280263.00	1	Invoice	FUSE LINK 30AMP T	08/04/2022	116.85	03/23	601-23-52-5588-318
Total S1280263.001:					116.85		
S1280264.00	1	Invoice	QUOTE E71522 MATERIAL	08/10/2022	1,196.80	03/23	601-23-52-5588-318
S1280264.00	2	Invoice	QUOTE E71522 MATERIAL	08/10/2022	3,263.50	03/23	601-23-52-5935-871
Total S1280264.001:					4,460.30		
S1280682.00	1	Invoice	TERMINAL CONNECTORS #8 SOL-250MCM	08/11/2022	719.04	03/23	601-23-52-5588-318
Total S1280682.001:					719.04		
Total FLETCHER-REINHARDT COMPANY (305):					5,296.19		
FLOWPOINT ENVIRONMENTAL SYSTEMS INC. (7570)							
223103	1	Invoice	BULK WATER FILL STATION-STREET DEPT	07/15/2022	49,933.18	03/23	602-23-62-5673-870
Total 223103:					49,933.18		
Total FLOWPOINT ENVIRONMENTAL SYSTEMS INC. (7570):					49,933.18		
FORCE AMERICA DISTRIBUTING, LLC (311)							
001-1661077	1	Invoice	FEMALE SWIVEL HOSE/MALE RIGID HOSE/P	08/18/2022	426.00	03/23	204-23-30-5310-314
Total 001-1661077:					426.00		
Total FORCE AMERICA DISTRIBUTING, LLC (311):					426.00		
FORT DODGE ASPHALT COMPANY (313)							
86005706	1	Invoice	SCREENED BLACK DIRT-LINE DEPT	08/23/2022	226.72	03/23	601-23-52-5588-318

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 86005706:					226.72		
Total FORT DODGE ASPHALT COMPANY (313):					226.72		
FRIZELL, MICHAEL (3945)							
083122	1	Invoice	ENERGY EFFICIENCY REBATE-3 TABLETS	08/31/2022	210.00	03/23	601-23-36-5930-979
Total 083122:					210.00		
Total FRIZELL, MICHAEL (3945):					210.00		
GALLS, LLC - DBA CARPENTER UNIFORM (331)							
021907361	1	Invoice	POINT BLANK VEST/OUTER CARRIER-BASIN	08/16/2022	1,202.25	03/23	100-21-21-5110-312
Total 021907361:					1,202.25		
021907402	1	Invoice	POINT BLANK VEST/OUTER CARRIER-ROSE	08/16/2022	1,202.25	03/23	100-21-21-5110-312
Total 021907402:					1,202.25		
Total GALLS, LLC - DBA CARPENTER UNIFORM (331):					2,404.50		
GERBER AUTO ELECTRIC (342)							
137183	1	Invoice	INTERSTATE BATTERY	08/15/2022	199.95	03/23	204-23-30-5310-314
Total 137183:					199.95		
137382	1	Invoice	INTERSTATE BATTERY-SKIDLOADER LINE D	08/29/2022	170.08	03/23	601-23-52-5935-314
Total 137382:					170.08		
Total GERBER AUTO ELECTRIC (342):					370.03		
GORDON FLESCH COMPANY (6978)							
IN13845694	1	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	11.40	03/23	100-24-12-5430-225
IN13845694	2	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	31.35	03/23	601-23-81-5931-225
IN13845694	3	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	7.13	03/23	602-23-81-5931-225
IN13845694	4	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	7.13	03/23	603-23-81-5931-225
IN13845694	5	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	5.13	03/23	100-24-14-5435-225
IN13845694	6	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	37.05	03/23	601-23-80-5931-225
IN13845694	7	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	11.40	03/23	602-23-80-5931-225
IN13845694	8	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	3.42	03/23	603-23-80-5931-225
IN13845694	9	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	4.85	03/23	100-24-30-5380-225
IN13845694	10	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	4.84	03/23	601-24-30-5380-225
IN13845694	11	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	4.84	03/23	602-24-30-5380-225
IN13845694	12	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	4.84	03/23	603-24-30-5380-225
IN13845694	13	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	18.81	03/23	100-21-18-5190-225
IN13845694	14	Invoice	C5550i-PRINTER/COPIER-MGR'S OFFICE	08/06/2022	18.81	03/23	100-24-18-5470-225
Total IN13845694:					171.00		
IN13864578	1	Invoice	CANON/IR C350IF	08/22/2022	9.59	03/23	100-24-14-5435-225
IN13864578	2	Invoice	CANON/IR C350IF	08/22/2022	69.30	03/23	601-23-80-5931-225
IN13864578	3	Invoice	CANON/IR C350IF	08/22/2022	21.32	03/23	602-23-80-5931-225
IN13864578	4	Invoice	CANON/IR C350IF	08/22/2022	6.40	03/23	603-23-80-5931-225

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total IN13864578:					106.61		
Total GORDON FLESCH COMPANY (6978):					277.61		
GRIFFIN, PAIGE (7579)							
082222	1	Invoice	ELECTRIC REFUND	08/22/2022	77.81	03/23	601-23-80-5903-980
Total 082222:					77.81		
Total GRIFFIN, PAIGE (7579):					77.81		
GROWMARK (7174)							
8500923	1	Invoice	PROPANE TANK RENTAL	07/31/2022	50.00	03/23	100-23-42-5371-225
Total 8500923:					50.00		
Total GROWMARK (7174):					50.00		
HASSEBROCK TAX & WEALTH MGMT INC (7512)							
14613	1	Invoice	WILLSON BREWER FOUNDATION	07/31/2022	591.70	03/23	534-23-42-5221-212
Total 14613:					591.70		
Total HASSEBROCK TAX & WEALTH MGMT INC (7512):					591.70		
HAWKEYE WEST PEST CONTROL (7345)							
45207	1	Invoice	PEST CONTROL STREET DEPT	08/15/2022	75.00	03/23	204-23-30-5310-299
Total 45207:					75.00		
Total HAWKEYE WEST PEST CONTROL (7345):					75.00		
HAWKINS, INC. (3668)							
6257288	1	Invoice	Chlorine & SODIUM BISULFITE	08/05/2022	2,530.10	03/23	603-23-70-5641-318
Total 6257288:					2,530.10		
6260289	1	Invoice	CHLORINE	08/10/2022	2,310.60	03/23	602-23-61-5641-318
Total 6260289:					2,310.60		
6264733	1	Invoice	CHLORINE CYLINDER	08/15/2022	20.00	03/23	603-23-70-5641-318
Total 6264733:					20.00		
6271204	1	Invoice	LPC-DP/AQUA HAWK	08/22/2022	5,901.41	03/23	603-23-70-5641-318
Total 6271204:					5,901.41		
6272264	1	Invoice	CHLORINE/SODIUM BISULFITE	08/23/2022	3,215.09	03/23	603-23-70-5641-318
Total 6272264:					3,215.09		
Total HAWKINS, INC. (3668):					13,977.20		
HEARTLAND ASPHALT INC. (5799)							
121.0372.01	1	Invoice	CONTRACTOR - 2021 HMA ST IMPR PROJ #5	08/26/2022	285,639.66	03/23	525-23-30-5310-299

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 121.0372.01:					285,639.66		
Total HEARTLAND ASPHALT INC. (5799):					285,639.66		
HEWETT WHOLESALE INC. (6097)							
176664	1	Invoice	OD POOL CONCESSIONS	07/28/2022	1,179.49	03/23	100-22-42-5242-323
Total 176664:					1,179.49		
177043	1	Invoice	OD POOL CONCESSIONS	08/04/2022	414.25	03/23	100-22-42-5242-323
Total 177043:					414.25		
177422	1	Invoice	OD POOL CONCESSIONS	08/11/2022	128.80	03/23	100-22-42-5242-323
Total 177422:					128.80		
Total HEWETT WHOLESALE INC. (6097):					1,722.54		
HOLLINGSHEAD, LUANA (6929)							
082222	1	Invoice	JANITORIAL SVC-SR CTR-SEPTEMBER 2022	08/22/2022	240.00	03/23	100-22-42-5280-299
Total 082222:					240.00		
Total HOLLINGSHEAD, LUANA (6929):					240.00		
HOLMES MURPHY & ASSOCIATES, LLC (5556)							
664886	1	Invoice	HOLMES MURPHY FEES-SEPTEMBER2022	08/15/2022	2,380.00	03/23	902-11215
Total 664886:					2,380.00		
Total HOLMES MURPHY & ASSOCIATES, LLC (5556):					2,380.00		
HOTSY EQUIPMENT COMPANY, INC. (411)							
60862	1	Invoice	5 GAL SALT LICK-SNOW	08/23/2022	164.00	03/23	204-23-30-5320-318
Total 60862:					164.00		
Total HOTSY EQUIPMENT COMPANY, INC. (411):					164.00		
inTANDEM (6526)							
2298	1	Invoice	RETAINER/SEPTEMBER 2022	08/15/2022	488.00	03/23	100-22-12-5370-299
2298	2	Invoice	RETAINER/SEPTEMBER 2022	08/15/2022	1,342.00	03/23	601-23-81-5930-299
2298	3	Invoice	RETAINER/SEPTEMBER 2022	08/15/2022	305.00	03/23	602-23-81-5930-299
2298	4	Invoice	RETAINER/SEPTEMBER 2022	08/15/2022	305.00	03/23	603-23-81-5930-299
Total 2298:					2,440.00		
Total inTANDEM (6526):					2,440.00		
INTOXIMETERS, INC. (2300)							
713648	1	Invoice	DRY GAS/BLUE GRIP CASE FOR ALCOHOL S	08/09/2022	130.00	03/23	100-21-21-5110-318
Total 713648:					130.00		
Total INTOXIMETERS, INC. (2300):					130.00		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
IOWA COMMUNICATIONS NETWORK (7419)							
652999	1	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	08/11/2022	45.20	03/23	100-24-16-5420-299
652999	2	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	08/11/2022	45.20	03/23	204-24-16-5930-299
652999	3	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	08/11/2022	45.20	03/23	601-24-16-5935-299
652999	4	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	08/11/2022	45.20	03/23	602-24-16-5935-299
652999	5	Invoice	ICN CONNECTION FEES FOR ALL CITY RADI	08/11/2022	45.20	03/23	603-24-16-5935-299
Total 652999:					226.00		
Total IOWA COMMUNICATIONS NETWORK (7419):					226.00		
IOWA ONE CALL (485)							
243933	1	Invoice	ONE CALL SERVICES	08/18/2022	207.00	03/23	601-23-52-5930-299
243933	2	Invoice	ONE CALL SERVICES	08/18/2022	174.60	03/23	602-23-62-5662-299
243933	3	Invoice	ONE CALL SERVICES	08/18/2022	174.60	03/23	603-23-71-5662-299
Total 243933:					556.20		
Total IOWA ONE CALL (485):					556.20		
JEFFERS, MARK (7581)							
082322	1	Invoice	ELECTRIC REFUND	08/23/2022	2.84	03/23	601-23-80-5903-980
Total 082322:					2.84		
Total JEFFERS, MARK (7581):					2.84		
LAMPERT LUMBER (564)							
134539	1	Invoice	CREDIT FOR NOKOMIS ROOF MATERIALS F	08/17/2022	8.99-	03/23	100-22-42-5210-310
Total 134539:					8.99-		
1394416	1	Invoice	LAP SIDING-WATERMAIN UPDATES	08/04/2022	55.98	03/23	602-23-62-5662-318
Total 1394416:					55.98		
1395667	1	Invoice	LAP SIDING-WATERMAIN UPDATES	08/05/2022	27.99	03/23	602-23-62-5662-318
Total 1395667:					27.99		
1412684	1	Invoice	NOKOMIS ROOF MATERIALS	08/17/2022	34.99	03/23	100-22-42-5210-310
1412684	2	Invoice	NOKOMIS ROOF MATERIALS	08/17/2022	65.48	03/23	100-22-42-5210-311
Total 1412684:					100.47		
1429050	1	Invoice	SUPPLIES FOR SHOP REPAIRS-LINE	08/29/2022	24.47	03/23	601-23-52-5591-226
Total 1429050:					24.47		
Total LAMPERT LUMBER (564):					199.92		
MACQUEEN EQUIPMENT (5144)							
P17014	1	Invoice	GUTTER BROOMS-ST #8	08/04/2022	806.40	03/23	100-23-30-5350-314
Total P17014:					806.40		
Total MACQUEEN EQUIPMENT (5144):					806.40		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
MARTIN MARIETTA MATERIALS (601)							
36443512	1	Invoice	1" CLEAN ROCK (setting poles)	08/11/2022	129.05	03/23	601-23-52-5588-318
Total 36443512:					129.05		
Total MARTIN MARIETTA MATERIALS (601):					129.05		
MASEK, RANDI & ED (7580)							
082322	1	Invoice	CUSTOMER DEPOSIT REFUND	08/23/2022	89.09	03/23	601-21011
Total 082322:					89.09		
Total MASEK, RANDI & ED (7580):					89.09		
MAXWELL, LARRY (7571)							
081822	1	Invoice	CUSTOMER DEPOSIT REFUND	08/18/2022	5.45	03/23	601-21011
Total 081822:					5.45		
Total MAXWELL, LARRY (7571):					5.45		
MC CLURE ENGINEERING CO. (7469)							
140506	1	Invoice	RECONSTRUCT AIRFIELD LIGHTING & NAVA	07/31/2022	2,122.02	03/23	205-23-45-5372-880
Total 140506:					2,122.02		
Total MC CLURE ENGINEERING CO. (7469):					2,122.02		
MECHANICAL COMFORT, INC. (618)							
45270, 4527	1	Invoice	HVAC REPAIRS UNITS 6A. 3 & 9	07/31/2022	359.97	03/23	100-24-36-5480-226
45270, 4527	2	Invoice	HVAC REPAIRS UNITS 6A. 3 & 9	07/31/2022	299.98	03/23	601-23-36-5480-226
45270, 4527	3	Invoice	HVAC REPAIRS UNITS 6A. 3 & 9	07/31/2022	269.98	03/23	602-23-36-5480-226
45270, 4527	4	Invoice	HVAC REPAIRS UNITS 6A. 3 & 9	07/31/2022	269.98	03/23	603-23-36-5480-226
Total 45270, 45271, 45272:					1,199.91		
45330	1	Invoice	HP15 REPAIRS	08/16/2022	438.83	03/23	100-24-36-5480-226
45330	2	Invoice	HP15 REPAIRS	08/16/2022	313.45	03/23	601-23-36-5480-226
45330	3	Invoice	HP15 REPAIRS	08/16/2022	250.76	03/23	602-23-36-5480-226
45330	4	Invoice	HP15 REPAIRS	08/16/2022	250.76	03/23	603-23-36-5480-226
Total 45330:					1,253.80		
45398	1	Invoice	COOLING PM FOR 2022	08/26/2022	561.09	03/23	100-24-36-5480-226
45398	2	Invoice	COOLING PM FOR 2022	08/26/2022	400.78	03/23	601-23-36-5480-226
45398	3	Invoice	COOLING PM FOR 2022	08/26/2022	320.62	03/23	602-23-36-5480-226
45398	4	Invoice	COOLING PM FOR 2022	08/26/2022	320.62	03/23	603-23-36-5480-226
Total 45398:					1,603.11		
Total MECHANICAL COMFORT, INC. (618):					4,056.82		
MEDIACOM (5464)							
081622	1	Invoice	DIGITAL BOX RENTAL	08/16/2022	7.86	03/23	100-21-21-5110-230
Total 081622:					7.86		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total MEDIACOM (5464):					7.86		
MENARDS (622)							
020886-CR	1	Invoice	REBATE CC PURCHASE 020886	08/26/2022	71.50-	03/23	603-23-70-5642-318
Total 020886-CR:					71.50-		
021512-CR	1	Invoice	REBATE CC PURCHASE 021512	08/26/2022	1.94-	03/23	601-23-52-5588-318
Total 021512-CR:					1.94-		
026852-CR	1	Invoice	REBATE CC PURCHASE 026852	08/26/2022	9.90-	03/23	100-22-42-5242-318
Total 026852-CR:					9.90-		
65949-CR	1	Invoice	REBATE INVOICE #65949	08/26/2022	22.55-	03/23	100-22-42-5221-310
65949-CR	2	Invoice	REBATE INVOICE #65949	08/26/2022	6.75-	03/23	100-23-42-5371-310
Total 65949-CR:					29.30-		
66025-CR	1	Invoice	REBATE INVOICE #66025	08/26/2022	7.70-	03/23	602-23-62-5662-318
66025-CR	2	Invoice	REBATE INVOICE #66025	08/26/2022	7.70-	03/23	603-23-71-5662-318
Total 66025-CR:					15.40-		
66482-CR	1	Invoice	REBATE INVOICE #66482	08/26/2022	23.68-	03/23	602-23-62-5662-311
Total 66482-CR:					23.68-		
69326-CR	1	Invoice	REBATE INVOICE #69326	08/26/2022	5.50-	03/23	601-23-51-5566-318
69326-CR	2	Invoice	REBATE INVOICE #69326	08/26/2022	2.68-	03/23	100-22-42-5221-310
69326-CR	3	Invoice	REBATE INVOICE #69326	08/26/2022	17.26-	03/23	601-23-51-5569-310
Total 69326-CR:					25.44-		
69382-CR	1	Invoice	REBATE INVOICE #69382	08/26/2022	1.69-	03/23	601-23-52-5921-316
69382-CR	2	Invoice	REBATE INVOICE #69382	08/26/2022	11.49-	03/23	100-23-42-5371-310
Total 69382-CR:					13.18-		
70519-CR	1	Invoice	REBATE INVOICE #70519	08/26/2022	4.94-	03/23	100-22-42-5210-311
Total 70519-CR:					4.94-		
74959	1	Invoice	1-1/2"-4X8 EXTRUDED PICK-WATER FILL STA	08/24/2022	293.51	03/23	602-23-62-5673-870
74959	2	Invoice	AIR FILTERS/BALL VALVE/FLUTED NAIL	08/24/2022	61.05	03/23	204-23-30-5330-318
74959	3	Invoice	FLUTED MASONRY NAIL	08/24/2022	10.61	03/23	602-23-62-5662-318
74959	4	Invoice	FLUTED MASONRY NAIL	08/24/2022	10.62	03/23	603-23-71-5662-318
Total 74959:					375.79		
Total MENARDS (622):					180.51		
MERTZ ENGINEERING CO. (3741)							
238523	1	Invoice	ELEC BOX-SAND BLAST/8' POST YELLOW	06/02/2022	422.65	03/23	601-23-52-5588-318
Total 238523:					422.65		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total MERTZ ENGINEERING CO. (3741):					422.65		
METERING & TECHNOLOGY SOLUTIONS (5512)							
INV127	1	Invoice	2' FLANGE SET/2' ELLIPTICAL GASKET	08/18/2022	149.26	03/23	602-23-62-5935-870
Total INV127:					149.26		
Total METERING & TECHNOLOGY SOLUTIONS (5512):					149.26		
MIDAS COUNCIL OF GOVERNMENT (631)							
0722136	1	Invoice	FY 2023 PLANNING SECTION ANNUAL DUES	07/01/2022	8,218.84	03/23	100-24-18-5470-215
Total 0722136:					8,218.84		
Total MIDAS COUNCIL OF GOVERNMENT (631):					8,218.84		
MIDWEST RADAR & EQUIPMENT (643)							
172081	1	Invoice	CALIBRATION OF CAR RADARS	08/18/2022	200.00	03/23	100-21-21-5110-227
Total 172081:					200.00		
Total MIDWEST RADAR & EQUIPMENT (643):					200.00		
MISSISSIPPI LIME COMPANY (652)							
1627990	1	Invoice	QUICKLIME 25.620T 8/19/22	08/19/2022	6,148.80	03/23	602-23-61-5641-318
Total 1627990:					6,148.80		
1629288	1	Invoice	QUICKLIME 24.150T 8/25/22	08/25/2022	5,796.00	03/23	602-23-61-5641-318
Total 1629288:					5,796.00		
Total MISSISSIPPI LIME COMPANY (652):					11,944.80		
MOORE CLEANING SERVICE, LLC (2902)							
082222	1	Invoice	CLEANING SERVICES FOR CITY HALL	08/22/2022	455.00	03/23	100-24-36-5480-299
082222	2	Invoice	CLEANING SERVICES FOR CITY HALL	08/22/2022	325.00	03/23	601-23-36-5480-299
082222	3	Invoice	CLEANING SERVICES FOR CITY HALL	08/22/2022	260.00	03/23	602-23-36-5480-299
082222	4	Invoice	CLEANING SERVICES FOR CITY HALL	08/22/2022	260.00	03/23	603-23-36-5480-299
Total 082222:					1,300.00		
Total MOORE CLEANING SERVICE, LLC (2902):					1,300.00		
MOTOROLA SOLUTIONS, INC. (5413)							
8281436583	1	Invoice	BATTERY CHARGER SYSTEM	08/10/2022	227.28	03/23	100-21-21-5110-318
Total 8281436583:					227.28		
Total MOTOROLA SOLUTIONS, INC. (5413):					227.28		
MULHERN, MACKENZIE (7583)							
082922	1	Invoice	CUSTOMER DEPOSIT REFUND	08/29/2022	31.71	03/23	601-21011
Total 082922:					31.71		
Total MULHERN, MACKENZIE (7583):					31.71		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
MUNICIPAL SUPPLY, INC. (672)							
0845007-IN	1	Invoice	4"X15" SS REPAIR CLAMP	08/23/2022	221.95	03/23	602-23-62-5662-318
Total 0845007-IN:					221.95		
0846131-IN	1	Invoice	3"X20' 200 PSI PVC/8"X15" REPAIR CLAMP	08/31/2022	436.45	03/23	602-23-62-5673-870
Total 0846131-IN:					436.45		
Total MUNICIPAL SUPPLY, INC. (672):					658.40		
MURPHY TRACTOR & EQUIP- FT DODGE (3780)							
1878260	1	Invoice	WIPER MOTOR- ST #18	08/18/2022	237.75	03/23	204-23-30-5310-314
Total 1878260:					237.75		
Total MURPHY TRACTOR & EQUIP- FT DODGE (3780):					237.75		
NAPA AUTO PARTS (677)							
948570	1	Invoice	HEAVY DUTY 30 QT	08/10/2022	3.79	03/23	602-23-61-5642-318
Total 948570:					3.79		
948587	1	Invoice	HYD HOSE FITTINGS/6MSTSREEL	08/10/2022	82.01	03/23	204-23-30-5310-314
Total 948587:					82.01		
948866	1	Invoice	BRAKE GRIPPER KIT/ACETONE/WINDSHIEL	08/15/2022	363.35	03/23	204-23-30-5310-314
Total 948866:					363.35		
949090	1	Invoice	MS 909 AUTEL SCAN TOOL	08/18/2022	3,677.58	03/23	204-23-30-5310-311
Total 949090:					3,677.58		
949263	1	Invoice	IMPACT SOCKET/THREAD SEALANT	08/22/2022	38.26	03/23	204-23-30-5310-314
Total 949263:					38.26		
949415	1	Invoice	FLAP WHEEL/MECHANICS WIRE/TECH TOR	08/23/2022	35.37	03/23	204-23-30-5310-314
Total 949415:					35.37		
949808	1	Invoice	COUPLER/ALTERNATOR/WIPER BLADE	08/29/2022	395.97	03/23	204-23-30-5310-314
Total 949808:					395.97		
Total NAPA AUTO PARTS (677):					4,596.33		
O'HALLORAN INTERNATIONAL (718)							
31P165541	1	Invoice	BELTT/BUCKLE/AIR SEAT/W/TEATHER/BELT	08/05/2022	454.82	03/23	204-23-30-5310-314
Total 31P165541:					454.82		
Total O'HALLORAN INTERNATIONAL (718):					454.82		
O'REILLY AUTOMOTIVE, INC. (727)							
0357-130820	1	Invoice	QUIK DETAILER/PROTECTANT/EXT TIRE	07/19/2022	42.96	03/23	204-23-30-5310-314

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 0357-130820:					42.96		
Total O'REILLY AUTOMOTIVE, INC. (727):					42.96		
OVERHEAD DOOR COMPANY (732)							
58514	1	Invoice	SERVICE DOORS-STREET DEPT	08/11/2022	412.12	03/23	204-23-30-5310-226
Total 58514:					412.12		
Total OVERHEAD DOOR COMPANY (732):					412.12		
PB ELECTRONICS INC. (5892)							
142756	1	Invoice	3 DUAL ANTENNA RADARS/3 POWER CABLE	08/24/2022	4,645.00	03/23	100-21-21-5110-515
Total 142756:					4,645.00		
Total PB ELECTRONICS INC. (5892):					4,645.00		
PETERSON CONSTRUCTION (749)							
081922	1	Invoice	WTP IMPROVEMENTS - PYMT.2	08/19/2022	19,000.00	03/23	602-23-61-5935-870
Total 081922:					19,000.00		
Total PETERSON CONSTRUCTION (749):					19,000.00		
PITNEY BOWES BANK INC RESERVE ACCT (758)							
082222	1	Invoice	PREPAID POSTAGE	08/22/2022	2,000.00	03/23	100-11210
Total 082222:					2,000.00		
Total PITNEY BOWES BANK INC RESERVE ACCT (758):					2,000.00		
PLEASANT HILL (2166)							
082222	1	Invoice	CORNBELT REBATE-LED FIXTURE 684	08/22/2022	4,104.00	03/23	601-23-53-5930-979
Total 082222:					4,104.00		
Total PLEASANT HILL (2166):					4,104.00		
PLUMB SUPPLY CO. INC. (761)							
8242544	1	Invoice	2-3/4 PVC-WATER PLANT	08/08/2022	12.65	03/23	602-23-61-5642-318
Total 8242544:					12.65		
Total PLUMB SUPPLY CO. INC. (761):					12.65		
REES HYDRAULIC SALES & SVC. (5581)							
14812B	1	Invoice	SEAL KIT-STR #9	07/28/2022	163.23	03/23	204-23-30-5310-227
Total 14812B:					163.23		
14836B	1	Invoice	SEAL KIT W/ROD, SPHERICAL BRG 1 1/4"-ST	08/17/2022	311.37	03/23	204-23-30-5310-227
Total 14836B:					311.37		
Total REES HYDRAULIC SALES & SVC. (5581):					474.60		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
RELIANT GASES, LTD (6253)							
130-1543329	1	Invoice	22560 lbs OF CO2	08/26/2022	1,660.42	03/23	602-23-61-5641-318
Total 130-1543329:					1,660.42		
Total RELIANT GASES, LTD (6253):					1,660.42		
RICOH USA, INC. (4831)							
106431598	1	Invoice	COPY MACHINE LEASE	08/11/2022	178.48	03/23	100-21-21-5110-225
Total 106431598:					178.48		
Total RICOH USA, INC. (4831):					178.48		
RUAN, INCORPORATED (6862)							
47779	1	Invoice	T10612 - MONTHLY VEHICLE LEASE	09/01/2022	1,220.66	03/23	100-21-21-5110-920
47779	2	Invoice	T10612 - MONTHLY VEHICLE LEASE	09/01/2022	9.95	03/23	100-21-21-5110-921
Total 47779:					1,230.61		
Total RUAN, INCORPORATED (6862):					1,230.61		
S AND K TRAILERS (2151)							
4718	1	Invoice	ROD LOCK FOR 2021 BEHNKE TILT TRAILER	07/24/2022	450.00	03/23	204-23-30-5310-314
Total 4718:					450.00		
Total S AND K TRAILERS (2151):					450.00		
SANDE CONSTRUCTION (7578)							
082222	1	Invoice	ELECTRIC REFUND	08/22/2022	1,259.95	03/23	601-23-80-5903-980
Total 082222:					1,259.95		
Total SANDE CONSTRUCTION (7578):					1,259.95		
SCOTT, PATTI (6164)							
083122	1	Invoice	ENERGY EFFICIENCY REBATE	08/31/2022	250.00	03/23	601-23-36-5930-979
Total 083122:					250.00		
Total SCOTT, PATTI (6164):					250.00		
SERITAGE SRC FINANCE LLC (7573)							
082222	1	Invoice	CUSTOMER DEPOSIT REFUND	08/22/2022	4,669.73	03/23	601-21011
Total 082222:					4,669.73		
Total SERITAGE SRC FINANCE LLC (7573):					4,669.73		
SHERWIN-WILLIAMS CO. (3060)							
0993-5	1	Invoice	SPRAYER PARTS/HOSES-ST #43	08/10/2022	642.14	03/23	204-23-30-5310-314
Total 0993-5:					642.14		
Total SHERWIN-WILLIAMS CO. (3060):					642.14		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
SKARSHAUG TESTING LAB, INC. (878)							
261907	1	Invoice	TEST RUBBER GLOVES-SIZE 10	08/08/2022	272.38	03/23	601-23-52-5935-227
Total 261907:					272.38		
Total SKARSHAUG TESTING LAB, INC. (878):					272.38		
SMITH, ANNIE & KACY (7574)							
082222	1	Invoice	CUSTOMER DEPOSIT REFUND	08/22/2022	139.47	03/23	601-21011
Total 082222:					139.47		
Total SMITH, ANNIE & KACY (7574):					139.47		
SNYDER & ASSOCIATES (2951)							
121.0372.01-	1	Invoice	ENG - 2021 HMA ST IMP PROJ (121.0372.01-1	08/22/2022	3,221.11	03/23	525-23-30-5310-212
Total 121.0372.01-11:					3,221.11		
122.0071.01-	1	Invoice	ENG SVC - ST CIP COST ESTIMATING	05/31/2022	796.26	03/23	204-23-30-5310-212
122.0071.01-	2	Invoice	ENG SVC - ST CIP COST ESTIMATING	05/31/2022	242.34	03/23	602-23-62-5662-212
122.0071.01-	3	Invoice	ENG SVC - ST CIP COST ESTIMATING	05/31/2022	115.40	03/23	603-23-71-5673-212
122.0071.01-	4	Invoice	ON CALL ENG SERVICES	05/31/2022	423.38	03/23	100-24-30-5380-212
122.0071.01-	5	Invoice	ON CALL ENG SERVICES	05/31/2022	423.38	03/23	601-24-30-5380-212
122.0071.01-	6	Invoice	ON CALL ENG SERVICES	05/31/2022	423.37	03/23	602-24-30-5380-212
122.0071.01-	7	Invoice	ON CALL ENG SERVICES	05/31/2022	423.37	03/23	603-24-30-5380-212
Total 122.0071.01-3:					2,847.50		
Total SNYDER & ASSOCIATES (2951):					6,068.61		
STAPLES (7480)							
3514016711	1	Invoice	CR FOR INV #8066786070-3 ECONOMY CHAI	07/30/2022	30.89-	03/23	100-24-12-5430-316
3514016711	2	Invoice	CR FOR INV #8066786070-3 ECONOMY CHAI	07/30/2022	61.79-	03/23	601-23-81-5921-316
3514016711	3	Invoice	CR FOR INV #8066786070-3 ECONOMY CHAI	07/30/2022	15.45-	03/23	602-23-81-5921-316
3514016711	4	Invoice	CR FOR INV #8066786070-3 ECONOMY CHAI	07/30/2022	15.44-	03/23	603-23-81-5921-316
Total 3514016711:					123.57-		
3516458338	1	Invoice	4-BLACK OFFICE CHAIRS	08/27/2022	393.56	03/23	204-23-30-5310-316
Total 3516458338:					393.56		
Total STAPLES (7480):					269.99		
STOREY KENWORTHY (5937)							
PINV101561	1	Invoice	BUSINESS CARDS/MOURLAM	08/01/2022	45.00	03/23	100-21-21-5110-316
Total PINV1015613:					45.00		
Total STOREY KENWORTHY (5937):					45.00		
STORM FLYING SERVICE, INC. (911)							
081922	1	Invoice	AIRPORT MANAGER FEE - SEPTEMBER 202	08/19/2022	4,006.67	03/23	205-23-45-5372-299
Total 081922:					4,006.67		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total STORM FLYING SERVICE, INC. (911):					4,006.67		
STRONER, HOLLY (7575)							
081622	1	Invoice	CUSTOMER DEPOSIT REFUND	08/16/2022	3.92	03/23	601-21011
Total 081622:					3.92		
Total STRONER, HOLLY (7575):					3.92		
STUART C. IRBY COMPANY (3585)							
S013097171.	1	Invoice	ARIAT JEANS-RUSS/MARTY	08/08/2022	802.50	03/23	601-23-52-5588-312
Total S013097171.001:					802.50		
S013130960.	1	Invoice	35-ABL-AMERICAN ELECTRIC LIGHTING-ST	08/15/2022	10,486.00	03/23	601-23-52-5585-313
Total S013130960.001:					10,486.00		
S13066784.0	1	Invoice	RED MARKING PAINT (LOCATE)	08/18/2022	121.98	03/23	601-23-52-5588-318
Total S13066784.001:					121.98		
Total STUART C. IRBY COMPANY (3585):					11,410.48		
SYNC/AMAZON (6343)							
4345338553	1	Invoice	1 USB 4 PORT HUB - SQUAD #7	08/08/2022	17.98	03/23	100-21-21-5110-314
4345338553	2	Invoice	1-USB SPEAKER-SQUAD #7	08/08/2022	19.98	03/23	100-21-21-5110-314
Total 434533855374:					37.96		
4388578644	1	Invoice	6FT USB EXTENSION CABLE-SQUAD CAR	07/31/2022	15.96	03/23	100-21-21-5110-314
4388578644	2	Invoice	3FT USB EXTENSION CABLE-SQUAD CAR	07/31/2022	13.96	03/23	100-21-21-5110-314
4388578644	3	Invoice	METAL BOOKENDS	07/31/2022	20.98	03/23	100-21-21-5110-316
4388578644	4	Invoice	2 VK-162 G MOUSE	07/31/2022	39.98	03/23	100-21-21-5110-316
Total 438857864456:					90.88		
4445334788	1	Invoice	CR ON INVOICE 467457589455-SCREWDRIV	07/29/2022	3.79-	03/23	100-24-16-5420-311
4445334788	2	Invoice	CR ON INVOICE 467457589455-SCREWDRIV	07/29/2022	13.87-	03/23	601-24-16-5930-311
4445334788	3	Invoice	CR ON INVOICE 467457589455-SCREWDRIV	07/29/2022	3.79-	03/23	602-24-16-5930-311
4445334788	4	Invoice	CR ON INVOICE 467457589455-SCREWDRIV	07/29/2022	3.79-	03/23	603-24-16-5930-311
Total 444533478837:					25.24-		
4457986899	1	Invoice	1 SUPER LED LIGHT BAR-SQUAD CAR #8	07/30/2022	270.57	03/23	100-21-21-5110-314
Total 445798689933:					270.57		
4465563586	1	Invoice	2 PAIRS MENS UNIFOR PANTS-OFFICER 688	07/14/2022	158.00	03/23	100-21-21-5110-312
Total 446556358687:					158.00		
4484679864	1	Invoice	1 SHORT SLEEVE POLO SHIRT - OFFICER 6	07/14/2022	31.80	03/23	100-21-21-5110-312
Total 448467986488:					31.80		
4488556449	1	Invoice	AUXBEAM SWITCH PANEL-SQUAD CAR #7	08/06/2022	145.69	03/23	100-21-21-5110-314
4488556449	2	Invoice	60 AMP CIRCUIT BREAKER-SQUAD CAR #7	08/06/2022	42.83	03/23	100-21-21-5110-314

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
4488556449	3	Invoice	8 GUAGE WIRE 25 FT	08/06/2022	19.99	03/23	100-21-21-5110-314
4488556449	4	Invoice	25FT 1/2IN SPLIT TUBING WIRE-SQUAD CAR	08/06/2022	14.99	03/23	100-21-21-5110-314
4488556449	5	Invoice	25FT 1IN SPLIT TUBING WIRE-SQUAD CAR #	08/06/2022	24.99	03/23	100-21-21-5110-314
Total 448855644995:					248.49		
4555454863	1	Invoice	FRIDGE FILTERS-CITY BREAKROOM	08/01/2022	19.60	03/23	100-24-36-5480-226
4555454863	2	Invoice	FRIDGE FILTERS-CITY BREAKROOM	08/01/2022	14.00	03/23	601-23-36-5480-226
4555454863	3	Invoice	FRIDGE FILTERS-CITY BREAKROOM	08/01/2022	11.20	03/23	602-23-36-5480-226
4555454863	4	Invoice	FRIDGE FILTERS-CITY BREAKROOM	08/01/2022	11.20	03/23	603-23-36-5480-226
Total 455545486387:					56.00		
4564433657	1	Invoice	2- PORTABLE RADIO BATTERIES	08/03/2022	278.00	03/23	100-21-21-5110-318
Total 456443365799:					278.00		
4595734848	1	Invoice	REPLACEMENT PHONE CORDS	08/03/2022	2.63	03/23	100-24-16-5420-317
4595734848	2	Invoice	REPLACEMENT PHONE CORDS	08/03/2022	9.61	03/23	601-24-16-5921-317
4595734848	3	Invoice	REPLACEMENT PHONE CORDS	08/03/2022	2.63	03/23	602-24-16-5921-317
4595734848	4	Invoice	REPLACEMENT PHONE CORDS	08/03/2022	2.63	03/23	603-24-16-5921-317
Total 459573484854:					17.50		
4598644676	1	Invoice	SHOULDER HARNESS - OFFICER 682	07/14/2022	69.35	03/23	100-21-21-5110-312
Total 459864467673:					69.35		
4598888763	1	Invoice	FLUKE TEST LEADS FOR METERS-LINE DEP	08/02/2022	52.00	03/23	601-23-52-5588-311
Total 459888876394:					52.00		
4653996784	1	Invoice	2 PAIRS MENS UNIFORM PANTS-OFFICER 6	07/14/2022	158.00	03/23	100-21-21-5110-312
Total 465399678477:					158.00		
4674575894	1	Invoice	SCREWDRIVERS FOR PC/LAPTOP REPAIR	07/25/2022	6.59	03/23	100-24-16-5420-311
4674575894	2	Invoice	SCREWDRIVERS FOR PC/LAPTOP REPAIR	07/25/2022	24.17	03/23	601-24-16-5930-311
4674575894	3	Invoice	SCREWDRIVERS FOR PC/LAPTOP REPAIR	07/25/2022	6.59	03/23	602-24-16-5930-311
4674575894	4	Invoice	SCREWDRIVERS FOR PC/LAPTOP REPAIR	07/25/2022	6.59	03/23	603-24-16-5930-311
Total 467457589455:					43.94		
4686859684	1	Invoice	CARHARTT SEATSAVER 1ST ROW-CAR #7	07/19/2022	225.00	03/23	100-21-21-5110-318
4686859684	2	Invoice	CARHARTT SEATSAVER 2ND ROW-CAR #7	07/19/2022	192.91	03/23	100-21-21-5110-318
4686859684	3	Invoice	TONNEAU COVER-TRUCK BED- CAR #7	07/19/2022	529.99	03/23	100-21-21-5110-318
Total 468685968436:					947.90		
4949389586	1	Invoice	PLATES FOR CITY HALL	08/04/2022	8.40	03/23	100-24-36-5480-318
4949389586	2	Invoice	PLATES FOR CITY HALL	08/04/2022	7.00	03/23	601-23-36-5480-318
4949389586	3	Invoice	PLATES FOR CITY HALL	08/04/2022	6.30	03/23	602-23-36-5480-318
4949389586	4	Invoice	PLATES FOR CITY HALL	08/04/2022	6.29	03/23	603-23-36-5480-318
Total 494938958689:					27.99		
5366437759	1	Invoice	2 PAIRS MENS UNIFOR PANTS-OFFICER 680	07/19/2022	158.00	03/23	100-21-21-5110-312

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 536643775999:					158.00		
6533338495	1	Invoice	1 PACK-36 ROLLS PRINTER PAPER	07/18/2022	154.50	03/23	100-21-21-5110-318
Total 653333849565:					154.50		
6567446766	1	Invoice	3 - TASER MOUNTS	07/08/2022	55.65	03/23	100-21-21-5110-312
Total 656744676667:					55.65		
6688444535	1	Invoice	SAMSUNG GALAXY A32 4G DUAL-GIS	07/27/2022	56.29	03/23	100-23-31-5420-318
6688444535	2	Invoice	SAMSUNG GALAXY A32 4G DUAL-GIS	07/27/2022	56.30	03/23	601-23-31-5420-318
6688444535	3	Invoice	SAMSUNG GALAXY A32 4G DUAL-GIS	07/27/2022	56.30	03/23	602-23-31-5420-318
6688444535	4	Invoice	SAMSUNG GALAXY A32 4G DUAL-GIS	07/27/2022	56.30	03/23	603-23-31-5420-318
Total 668844453573:					225.19		
6694968783	1	Invoice	SHOOTING REST BAGS	07/23/2022	12.59	03/23	100-21-21-5110-318
6694968783	2	Invoice	CALDWELL BRASS RETRIEVER-RANGE EQU	07/23/2022	69.03	03/23	100-21-21-5110-318
Total 669496878383:					81.62		
6774787558	1	Invoice	2 RIDGELINE HARD HATS-STREET DEPT	07/27/2022	15.61	03/23	204-23-30-5310-312
6774787558	2	Invoice	2 RIDGELINE HARD HATS-STREET DEPT	07/27/2022	15.61	03/23	602-23-62-5662-312
6774787558	3	Invoice	2 RIDGELINE HARD HATS-STREET DEPT	07/27/2022	15.61	03/23	603-23-71-5662-312
Total 677478755834:					46.83		
6847469995	1	Invoice	SCREEN PROTECTOR/PHONE CASE	08/03/2022	65.77	03/23	100-21-18-5190-318
Total 684746999577:					65.77		
6947986767	1	Invoice	NEW REPLACEMENT PHONE CORDS	08/04/2022	1.92	03/23	100-24-16-5420-317
6947986767	2	Invoice	NEW REPLACEMENT PHONE CORDS	08/04/2022	7.01	03/23	601-24-16-5921-317
6947986767	3	Invoice	NEW REPLACEMENT PHONE CORDS	08/04/2022	1.92	03/23	602-24-16-5921-317
6947986767	4	Invoice	NEW REPLACEMENT PHONE CORDS	08/04/2022	1.92	03/23	603-24-16-5921-317
Total 694798676793:					12.77		
6987855899	1	Invoice	60"TV FOR WATER PLANT/VIEW PLANS/SAV	07/19/2022	60.00	03/23	100-24-16-5420-399
6987855899	2	Invoice	60"TV FOR WATER PLANT/VIEW PLANS/SAV	07/19/2022	219.99	03/23	601-24-16-5930-399
6987855899	3	Invoice	60"TV FOR WATER PLANT/VIEW PLANS/SAV	07/19/2022	60.00	03/23	602-24-16-5930-399
6987855899	4	Invoice	60"TV FOR WATER PLANT/VIEW PLANS/SAV	07/19/2022	60.00	03/23	603-24-16-5921-399
Total 698785589944:					399.99		
7553877398	1	Invoice	USB 10FT EXTENSION CABLE-MEDIA ROOM	07/28/2022	7.97	03/23	100-22-12-5370-318
7553877398	2	Invoice	LOGITECH PRESENTER R800-MEDIA ROOM	07/28/2022	49.74	03/23	100-22-12-5370-318
Total 755387739859:					57.71		
7679794756	1	Invoice	4 - PEARCE GRIP INSERTS FOR GLOCKS	07/12/2022	26.60	03/23	100-21-21-5110-312
Total 767979475657:					26.60		
7878977538	1	Invoice	2 PAIR MENS UNIFORM PANTS-OFFICER 68	07/28/2022	158.00	03/23	100-21-21-5110-312
7878977538	2	Invoice	TRAILER HITCH COVER-SQUAD CAR #7	07/28/2022	7.49	03/23	100-21-21-5110-318

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
7878977538	3	Invoice	STEERING WHEEL COVER - SQUAD CAR #7	07/28/2022	16.99	03/23	100-21-21-5110-318
7878977538	4	Invoice	1 PAIR MENS TACTICAL BOOTS- OFFICER 6	07/28/2022	124.95	03/23	100-21-21-5110-312
Total 787897753888:					307.43		
7883755586	1	Invoice	16 IN ANTENNA FOR SQUAD #8	08/06/2022	24.99	03/23	100-21-21-5110-314
Total 788375558677:					24.99		
7999458854	1	Invoice	8" ANGLED CONSOLE- SQUAD #7	08/08/2022	433.99	03/23	100-21-21-5110-314
Total 799945885474:					433.99		
8356783686	1	Invoice	ALL LEATHER BLACK GLOVES-OFFICER MO	07/10/2022	31.99	03/23	100-21-21-5110-312
Total 835678368634:					31.99		
8373556993	1	Invoice	CUFF CASE FOR SHOLDER HOLSTER-OFFI	07/14/2022	39.99	03/23	100-21-21-5110-312
Total 837355699399:					39.99		
8385367974	1	Invoice	13 IN ANTENNA FOR SQUAD #8	08/05/2022	21.99	03/23	100-21-21-5110-314
Total 838536797493:					21.99		
8479643667	1	Invoice	CLEAR STORAGE CONTAINERS FOR IT SUP	08/02/2022	.99	03/23	100-24-16-5420-311
8479643667	2	Invoice	CLEAR STORAGE CONTAINERS FOR IT SUP	08/02/2022	3.61	03/23	601-24-16-5930-311
8479643667	3	Invoice	CLEAR STORAGE CONTAINERS FOR IT SUP	08/02/2022	.99	03/23	602-24-16-5930-311
8479643667	4	Invoice	CLEAR STORAGE CONTAINERS FOR IT SUP	08/02/2022	.99	03/23	603-24-16-5930-311
Total 847964366744:					6.58		
8659783585	1	Invoice	1 SHORT SLEEVE POLO SHIRT - OFFICER 6	07/14/2022	25.00	03/23	100-21-21-5110-312
Total 865978358575:					25.00		
8763639786	1	Invoice	1 WIRE TOOL KIT-PD GARAGE	08/08/2022	39.99	03/23	100-21-21-5110-318
Total 876363978656:					39.99		
9337598598	1	Invoice	MOUNTING BRACKET FOR LG TV	07/19/2022	12.62	03/23	100-24-16-5420-399
9337598598	2	Invoice	MOUNTING BRACKET FOR LG TV	07/19/2022	46.28	03/23	601-24-16-5930-399
9337598598	3	Invoice	MOUNTING BRACKET FOR LG TV	07/19/2022	12.62	03/23	602-24-16-5930-399
9337598598	4	Invoice	MOUNTING BRACKET FOR LG TV	07/19/2022	12.62	03/23	603-24-16-5921-399
Total 933759859866:					84.14		
9348673939	1	Invoice	1 SHOULDER HOLSTER FOR GLOCK - OFFI	07/14/2022	186.29	03/23	100-21-21-5110-312
Total 934867393979:					186.29		
9398959484	1	Invoice	FRONT DRIVER SIDE WINDOW REGULATOR	07/29/2022	54.22	03/23	204-23-30-5310-314
Total 939895948453:					54.22		
9457767664	1	Invoice	1 PRINTER CASE-CAR #7	07/18/2022	67.50	03/23	100-21-21-5110-314

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 945776766466:					67.50		
9538796688	1	Invoice	1 MOUNTING SYSTEM-STATION 2	08/08/2022	120.79	03/23	100-21-21-5180-318
Total 953879668854:					120.79		
9986754883	1	Invoice	150 AMP FUSE HOLDERS-ELECTRICAL EQUI	07/12/2022	19.99	03/23	100-21-21-5110-314
9986754883	2	Invoice	FUSE BLOCK 12 CIRCUIT W/GROUND & COV	07/12/2022	47.54	03/23	100-21-21-5110-314
9986754883	3	Invoice	PCS HEAT SHRINK WIRE CON. KIT- CAR 7 &	07/12/2022	44.99	03/23	100-21-21-5110-314
9986754883	4	Invoice	DOUBLE SIDED TAPE-MOUNTING HEAVY DU	07/12/2022	13.99	03/23	100-21-21-5110-314
9986754883	5	Invoice	ALL LEATHER BLACK GLOVES	07/12/2022	33.03	03/23	100-21-21-5110-312
Total 998675488338:					159.54		
Total SYNC/AMAZON (6343):					5,352.20		
TEREX SERVICES (5787)							
5004062592	1	Invoice	TUBE ASSEMBLY - Tk#4	08/08/2022	128.43	03/23	601-23-52-5935-314
Total 5004062592:					128.43		
Total TEREX SERVICES (5787):					128.43		
THE AMERICAN BOTTLING CO. (4800)							
3446018669	1	Invoice	POP/BEVERAGES FOR RESALE-OD POOL	08/04/2022	169.88	03/23	100-22-42-5242-323
Total 3446018669:					169.88		
Total THE AMERICAN BOTTLING CO. (4800):					169.88		
THE TILE PROS, INC. (2701)							
WO-0762	1	Invoice	RUN BIG MACHINE- LINE DEPT	08/24/2022	280.00	03/23	601-23-52-5591-226
Total WO-0762:					280.00		
Total THE TILE PROS, INC. (2701):					280.00		
THOMAS, KENNY (7576)							
081122	1	Invoice	CUSTOMER DEPOSIT REFUND	08/11/2022	68.41	03/23	601-21011
Total 081122:					68.41		
Total THOMAS, KENNY (7576):					68.41		
T-MOBILE (7288)							
973411563 0	1	Invoice	POLICE TOUGHBOOKS SVC	08/30/2022	147.91	03/23	100-21-21-5110-230
973411563 0	2	Invoice	PD CAR PHONES/INVESTIGATOR	08/30/2022	185.67	03/23	100-21-21-5110-230
973411563 0	3	Invoice	PHONE SVC/INSPECTOR	08/30/2022	15.50	03/23	100-21-18-5190-230
Total 973411563 08/30/22:					349.08		
Total T-MOBILE (7288):					349.08		
TOLLE AUTOMOTIVE, INC. (3188)							
20866	1	Invoice	1 TIRE/MOUNT/DISPOSAL-VAC TRAILER	08/25/2022	253.00	03/23	601-23-52-5935-227

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 20866:					253.00		
Total TOLLE AUTOMOTIVE, INC. (3188):					253.00		
TORRES, LEYDI (7577)							
081222	1	Invoice	CUSTOMER DEPOSIT REFUND	08/12/2022	34.13	03/23	601-21011
Total 081222:					34.13		
Total TORRES, LEYDI (7577):					34.13		
TOWN & COUNTRY INSURANCE (959)							
6101	1	Invoice	INSURANCE COVERAGE-ADD 22 RAM-PD T	08/26/2022	624.00	03/23	100-21-21-5110-216
Total 6101:					624.00		
Total TOWN & COUNTRY INSURANCE (959):					624.00		
TRUCK CENTER COMPANIES (7383)							
XA30129465	1	Invoice	ENGINE BELT STREET #23	08/09/2022	48.30	03/23	204-23-30-5310-314
Total XA301294658:01:					48.30		
Total TRUCK CENTER COMPANIES (7383):					48.30		
UNITED COOPERATIVE (979)							
0230176	1	Invoice	LAWN SEED/FERTILIZER	08/11/2022	103.81	03/23	204-23-30-5330-318
0230176	2	Invoice	LAWN SEED/FERTILIZER	08/11/2022	103.82	03/23	602-23-62-5662-318
0230176	3	Invoice	LAWN SEED/FERTILIZER	08/11/2022	103.82	03/23	603-23-71-5662-318
Total 0230176:					311.45		
Total UNITED COOPERATIVE (979):					311.45		
UNITY POINT CLINIC-OCC MEDICINE (5263)							
136487	1	Invoice	PRE-EMPLOYMENT DRUG TEST	08/01/2022	42.00	03/23	204-23-30-5310-212
Total 136487:					42.00		
Total UNITY POINT CLINIC-OCC MEDICINE (5263):					42.00		
UPPER DES MOINES OPPORTUNITY (1386)							
081722	1	Invoice	ANNUAL PROJECT SHARE PAYMENT	08/17/2022	1,993.00	03/23	601-21010
Total 081722:					1,993.00		
Total UPPER DES MOINES OPPORTUNITY (1386):					1,993.00		
US CELLULAR (986)							
0525537118	1	Invoice	STREET WATERFILL STATION	08/10/2022	42.59	03/23	602-23-62-5662-230
Total 0525537118:					42.59		
Total US CELLULAR (986):					42.59		
UTILITY SERVICE CO., INC. (3294)							
564707	1	Invoice	LOGO INSTALLATION ON THE 520 TOWER T	08/18/2022	26,526.00	03/23	602-23-60-5614-299

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 564707:					26,526.00		
Total UTILITY SERVICE CO., INC. (3294):					26,526.00		
VALUTECH PEST CONTROL (6822)							
2599	1	Invoice	PEST CONTROL/SENIOR CENTER	08/18/2022	35.00	03/23	100-22-42-5280-299
Total 2599:					35.00		
2600	1	Invoice	PEST CONTROL/CEMETERY	08/18/2022	35.00	03/23	100-23-42-5371-299
Total 2600:					35.00		
2601	1	Invoice	PEST CONTROL/CITY HALL	08/18/2022	10.50	03/23	100-24-36-5480-299
2601	2	Invoice	PEST CONTROL/CITY HALL	08/18/2022	7.50	03/23	601-23-36-5480-299
2601	3	Invoice	PEST CONTROL/CITY HALL	08/18/2022	6.00	03/23	602-23-36-5480-299
2601	4	Invoice	PEST CONTROL/CITY HALL	08/18/2022	6.00	03/23	603-23-36-5480-299
Total 2601:					30.00		
2602	1	Invoice	PEST CONTROL/FULLER HALL	08/18/2022	32.00	03/23	100-22-42-5233-299
Total 2602:					32.00		
2604	1	Invoice	PEST CONTROL/DEPOT	08/18/2022	140.00	03/23	100-22-42-5221-299
Total 2604:					140.00		
Total VALUTECH PEST CONTROL (6822):					272.00		
VAN MAANEN ELECTRIC, INC. (6254)							
080122	1	Invoice	AIRPORT RUNWAY 14/32 LIGHTING PRJ-FFA	08/01/2022	4,750.00	03/23	205-23-45-5372-880
Total 080122:					4,750.00		
Total VAN MAANEN ELECTRIC, INC. (6254):					4,750.00		
VERIZON WIRELESS (3812)							
9913178248	1	Invoice	GPS UNIT PHONE	08/10/2022	40.01	03/23	100-23-31-5420-230
9913178248	2	Invoice	GPS UNIT PHONE	08/10/2022	40.01	03/23	601-23-31-5420-230
9913178248	3	Invoice	GPS UNIT PHONE	08/10/2022	40.01	03/23	602-23-31-5420-230
9913178248	4	Invoice	GPS UNIT PHONE	08/10/2022	40.01	03/23	603-23-31-5420-230
Total 9913178248:					160.04		
Total VERIZON WIRELESS (3812):					160.04		
WAHLTEK SALES & SERVICES (2468)							
71674	1	Invoice	MAINTENANCE CONTRACT/RECORD SYSTE	04/29/2022	1,596.40	03/23	100-21-21-5180-299
Total 71674:					1,596.40		
Total WAHLTEK SALES & SERVICES (2468):					1,596.40		
WEBSTER CITY RENTAL LLC (6478)							
081922	1	Invoice	CUSTOMER DEPOSIT REFUND/801 DM ST-S	08/19/2022	151.40	03/23	601-21011

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 081922:					151.40		
Total WEBSTER CITY RENTAL LLC (6478):					151.40		
WEBSTER CITY TRUE VALUE (2155)							
163305	1	Invoice	BOLTS/FASTENERS-STREET	08/15/2022	1.60	03/23	204-23-30-5310-314
Total 163305:					1.60		
163358	1	Invoice	UPS SHIPPING FEE	08/17/2022	13.42	03/23	603-23-70-5921-221
Total 163358:					13.42		
163377	1	Invoice	5PK 4.5" MTL CUT WHEEL-TOOL NOKOMIS R	08/17/2022	12.99	03/23	100-22-42-5210-310
Total 163377:					12.99		
163405	1	Invoice	1-1/4' PVC COUPLING/ADAPTER/ELBOWS-LI	08/18/2022	22.51	03/23	601-23-52-5588-318
Total 163405:					22.51		
163417	1	Invoice	9V ALK BATTERY	08/19/2022	12.99	03/23	601-23-80-5905-318
163417	2	Invoice	9V ALK BATTERY	08/19/2022	12.99	03/23	602-23-80-5903-318
Total 163417:					25.98		
163422	1	Invoice	1-1/4' 2HOLE STRAP/BUSHING	08/19/2022	8.87	03/23	601-23-52-5588-318
Total 163422:					8.87		
163436	1	Invoice	BOLTS/FASTENERS-LINE DEPT	08/19/2022	15.99	03/23	601-23-52-5588-318
Total 163436:					15.99		
163532	1	Invoice	3PK 12" CARB BLADE/COB WAND WORK LIG	08/24/2022	58.98	03/23	603-23-70-5642-318
Total 163532:					58.98		
163615	1	Invoice	SUPPLIES FOR SHOP REPAIRS-LINE	08/29/2022	23.48	03/23	601-23-52-5588-318
Total 163615:					23.48		
Total WEBSTER CITY TRUE VALUE (2155):					183.82		
WEBSTER CITY VETERINARY CLINIC (1030)							
473994	1	Invoice	VET VISIT/K-9	07/31/2022	109.60	03/23	214-21-21-5110-318
Total 473994:					109.60		
474998	1	Invoice	2ND QTR 2022 DOG POUND FEES	07/31/2022	1,250.00	03/23	100-22-21-5240-299
Total 474998:					1,250.00		
Total WEBSTER CITY VETERINARY CLINIC (1030):					1,359.60		
WESTECH (5750)							
87873	1	Invoice	WORK DONE ON CLARIFIER	08/26/2022	4,551.00	03/23	602-23-61-5642-299

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total 87873:					4,551.00		
Total WESTECH (5750):					4,551.00		
WOLFGRAM, JOE (5604)							
083022	1	Invoice	EE REBATE/1716 212TH ST	08/30/2022	213.47	03/23	601-23-36-5930-979
Total 083022:					213.47		
083122	1	Invoice	EE REBATE/826 BOONE ST	08/31/2022	250.00	03/23	601-23-36-5930-979
Total 083122:					250.00		
Total WOLFGRAM, JOE (5604):					463.47		
WOOLSTOCK MUTUAL TELEPHONE ASN (1054)							
839-1086 09/	1	Invoice	INTERNET SERVICE	09/01/2022	3.03	03/23	100-24-14-5435-230
839-1086 09/	2	Invoice	INTERNET SERVICE	09/01/2022	21.90	03/23	601-23-80-5903-230
839-1086 09/	3	Invoice	INTERNET SERVICE	09/01/2022	6.74	03/23	602-23-80-5921-230
839-1086 09/	4	Invoice	INTERNET SERVICE	09/01/2022	2.02	03/23	603-23-80-5921-230
839-1086 09/	5	Invoice	INTERNET SERVICE	09/01/2022	3.61	03/23	100-24-12-5430-230
839-1086 09/	6	Invoice	INTERNET SERVICE	09/01/2022	12.03	03/23	601-23-81-5921-230
839-1086 09/	7	Invoice	INTERNET SERVICE	09/01/2022	7.22	03/23	602-23-81-5921-230
839-1086 09/	8	Invoice	INTERNET SERVICE	09/01/2022	1.20	03/23	603-23-81-5921-230
839-1086 09/	9	Invoice	INTERNET SERVICE	09/01/2022	6.02	03/23	100-24-30-5380-230
839-1086 09/	10	Invoice	INTERNET SERVICE	09/01/2022	6.02	03/23	601-24-30-5380-230
839-1086 09/	11	Invoice	INTERNET SERVICE	09/01/2022	6.02	03/23	602-24-30-5380-230
839-1086 09/	12	Invoice	INTERNET SERVICE	09/01/2022	6.01	03/23	603-24-30-5380-230
839-1086 09/	13	Invoice	INTERNET SERVICE	09/01/2022	14.44	03/23	100-21-22-5140-230
839-1086 09/	14	Invoice	INTERNET SERVICE	09/01/2022	38.50	03/23	100-21-21-5110-230
839-1086 09/	15	Invoice	INTERNET SERVICE	09/01/2022	7.22	03/23	601-23-52-5588-230
839-1086 09/	16	Invoice	INTERNET SERVICE	09/01/2022	7.22	03/23	601-23-51-5566-230
839-1086 09/	17	Invoice	INTERNET SERVICE	09/01/2022	14.44	03/23	602-23-61-5642-230
839-1086 09/	18	Invoice	INTERNET SERVICE	09/01/2022	4.81	03/23	100-23-43-5361-230
839-1086 09/	19	Invoice	INTERNET SERVICE	09/01/2022	19.25	03/23	100-22-42-5233-230
839-1086 09/	20	Invoice	INTERNET SERVICE	09/01/2022	118.62	03/23	601-24-16-5921-230
839-1086 09/	21	Invoice	INTERNET SERVICE	09/01/2022	20.84	03/23	602-24-16-5921-230
839-1086 09/	22	Invoice	INTERNET SERVICE	09/01/2022	20.84	03/23	603-24-16-5921-230
Total 839-1086 09/01/22:					348.00		
839-3034 09/	1	Invoice	INTERNET SERVICE/RSVP	09/01/2022	29.95	03/23	100-22-42-5280-230
Total 839-3034 09/01/22:					29.95		
839-7981 09/	1	Invoice	INTERNET SERVICE/FULLER HALL	09/01/2022	29.95	03/23	100-22-42-5233-230
Total 839-7981 09/01/22:					29.95		
Total WOOLSTOCK MUTUAL TELEPHONE ASN (1054):					407.90		
ZIEGLER, INC. (1071)							
IN000641328	1	Invoice	BEARING FOR CATERPILLER ST #9	08/06/2022	51.72	03/23	204-23-30-5310-314
Total IN000641328:					51.72		

Invoice	Seq	Type	Description	Invoice Date	Total Cost	Period	GL Account
Total ZIEGLER, INC. (1071):					51.72		
Total 09/06/2022:					718,240.83		
Grand Totals:					719,008.75		

Report GL Period Summary

GL Period	Amount
02/23	767.92
01/23	13,113.50
12/22	13,113.50-
03/23	718,240.83
Grand Totals:	719,008.75

Vendor number hash: 1189807
Vendor number hash - split: 2253426
Total number of invoices: 300
Total number of transactions: 556

Terms Description	Invoice Amount	Net Invoice Amount
Open Terms	719,008.75	719,008.75
Grand Totals:	719,008.75	719,008.75

FUND LIST TOTALS FOR BILLS September 6, 2022

<u>Account</u>	<u>Fund</u>	<u>Total Amount</u>
100	General	83,141.54
204	Road Use Tax Funds	12,150.29
205	Airport Fund	11,646.61
214	K9 Trust SP Rev Trust Fund	109.60
300	Debt Service	9,154.30
525	Street Improvement	288,860.77
534	Wilson Brewer Park Impr Project	591.70
601	Electric Utility	96,680.11
602	Water Utility	147,947.44
603	Sewer Fund	64,591.21
902	Medical/Flex	4,135.18
	Grand Total	\$ 719,008.75

INSPECTOR:


DATE	TIME		REASON	ACTIVITY	FINDING	ACTION	REASON:
7/1/2022	10:07 AM	1 1118 Division St. (NEW Shingles) D.B.I. (NO Permit Pulled)(Send 1st Violation Letter)	2	15	31	47	01 Routine Inspection 02 Complaint Inspection
7/1/2022	10:08 AM	2 1108 Division St. (NEW Detached Garage) Site Visit (Framing Inspection)(GREEN)	1	13©	30	40	03 Routine re-Inspection 04 Complaint Re-Insp.
7/1/2022	10:19 AM	3 1400 Steiner Blvd. (NEW Deck) Site Visit (Framing Inspection)(GREEN)	1	13©	30	40	05 Permit Research
7/1/2022	12:19 PM	4 502 White Fox Rd. (Aerator Project) Site Visit (1st Photos)(Steel Member Repair)	1	13©	30	40	ACTIVITY: 10 Mechanical 11 Plumbing
7/1/2022	5:12 PM	5 546 Second St. (1st Floor Violation) D.B.I. (Complaint)(Living on Main Floor)(AMBER)	2	22	31	47	a. Service-Sewer-Water b. Rough In
7/5/2022	1:03 PM	6 909 Harding Ct. (Abandoned Property) Site Visit (Mold/Sheetrock Removed)	1	13©	30	40	c. Under Slab d. Final
7/5/2022	1:47 PM	7 1000 Grove St. (ROW Violation) D.B.I. (Complaint)(GREEN)	2	21	30	40	12 Electrical a. Service
7/5/2022	1:54 PM	8 1008 Second St. (NEW Fence) Site Visit (Setbacks & 1st Photos)	5	13(a)	30	40	b. Rough In c. Final
7/5/2022	2:00 PM	9 850 First St. (NEW Entrance) Site Visit (Projected Started)	1	14	30	40	13 Building a. Zoning
7/5/2022	2:08 PM	10 708 White Post Dr. (NEW Accessory Bldg) Site Visit (Final)(GREEN)	1	13(e)	30	40	b. Footing c. Framing
7/6/2022	2:27 PM	11 528 Second St. (Brick Wall-Roof Abatement) D.B.I. (Brick Wall Needing Abated)(AMBER)	2	21	30	40	d. Sheet Rock e. Final
7/6/2022	2:33 PM	12 1339 First St. (Load Bearing Wall) Site Visit (No Inspection of Open Wall)(AMBER)	1	13©	30	40	14 Entrance 15 Demolition
7/6/2022	2:47 PM	13 1337 Division St. (NEW Fence) Site Visit (Final)(GREEN)	1	13(e)	30	40	16 Moving 17 Excavation
7/6/2022	2:50 PM	14 1110 Elm St. (UNSAFE Porch) D.B.I. (Follow-Up)(AMBER)(Send Letter)	2	20	31	47	18 Mobile Home 19 Sign
7/7/2022	7:24 AM	15 505 Seneca St. (NEW Fence)(Scrap Processors) Site Visit (Project Started)	1	13(a)	30	40	20 Unsafe Building 21 Property Maintenance
7/7/2022	9:17 AM	16 921 James St. (S&W Service Lines Reconst.) Site Visit (1st Photos)	1	11(a)	30	40	22 Other
7/7/2022	9:47 AM	17 403 Broadway St. (Abandoned Property) D.B.I. (Re-Board-Up Property)	2	20	31	47	NUISANCE: 26 Weeds or Grass 27 Rubbish &/or Debris
7/7/2022	3:13 PM	18 400 Closz Dr. (Accessory Bldg) Site Visit (Re-Framing Started)	1	13©	30	40	28 Other
7/7/2022	3:47 PM	19 2235 Edgewood Drive (30 Plex #2) Site Visit (Fire Wall/Door Re-Frame)(GREEN)	1	13©	30	40	FINDINGS: 30 Satisfactory 31 Unsatisfactory
7/11/2022	7:41 AM	20 546 Second St. (1st Floor Violation) D.B.I. (Complaint)(Living on Main Floor)(RED)	2	22	31	47	32 Continued Unsatisfactory 33 Permit Needed
7/11/2022	11:09 AM	21 1121 E. Second St. (NEW Cooler Q's) Site Visit (1st Photos)(GREEN)	5	13(a)	30	40	34 City Not Involved 35 Not Home
7/11/2022	2:05 PM	22 1403 Grand St. (NEW Deck) Site Visit (Framing Inspection)(GREEN)	1	13©	30	40	36 Other
7/11/2022	2:09 PM	23 1403 Grand St. (NEW Detached Garage) Site Visit (Setback & 1st Photos)	5	13(a)	30	40	ACTION: 40 No Cause for Action 41 Abatement
7/11/2022	2:14 PM	24 1213 Nancy Ln. (NEW Water Heater) Site Visit (Final)(GREEN)	1	11(d)	30	40	42 Condemnation 43 Demolition
7/11/2022	2:25 PM	25 1400 Steiner Blvd. (NEW Deck) Site Visit (Final)(GREEN)	1	13(e)	30	40	44 Vacate Order Issued 45 Office Hearing
7/11/2022	2:34 PM	26 1711 Second St. (Accessory Bldg) Site Visit (Final)(GREEN)	1	13(e)	30	40	46 Show Cause Action 47 Other

Red Triangle refers to a Comment in that event. See: shared (\\SHARED); Zoning Inspection; Cory S; Daily Field Log 2019; Look Up Month // Date(s)

Approved: 08/14/2019 By: CLS

INSPECTOR: _____

DATE	TIME		REASON	ACTIVITY	FINDING	ACTION	REASON:
7/11/2022	2:44 PM	1 321 E. Curve Dr. (NEW Concrete Platform)	5	13(a)	30	40	01 Routine Inspection
		Site Visit (1st Photos)(AMBER)					02 Complaint Inspection
7/12/2022	5:15 PM	2 1002 Division St. (NEW Egress Window)	5	13(a)	30	40	03 Routine re-Inspection
		Site Visit (1st Photos)					04 Complaint Re-Insp.
7/13/2022	2:31 PM	3 306 Oak Ave. (Abandoned Property)	2	26&28	31	47	05 Permit Research
		D.B.I. (3rd Follow-UP & Last)(RED)					ACTIVITY:
7/13/2022	3:03 PM	4 809 Fair Meadow Dr. (NEW Fence)	1	13(e)	30	40	10 Mechanical
		Site Visit (Final)(GREEN)					11 Plumbing
7/13/2022	3:08 PM	5 1017 Summit Dr. (NEW Accessory Bldg)	1	13(e)	30	40	a. Service-Sewer-Water
		Site Visit (Final)(GREEN)					b. Rough In
7/13/2022	3:10 PM	6 1021 Summit Dr. (Detached Garage)	1	13©	30	40	c. Under Slab
		Site Visit (Framing Inspection)(GREEN)					d. Final
7/13/2022	3:38 PM	7 400 Closz Dr. (NEW Sign)	5	13(a)	30	40	12 Electrical
		Site Visit (Setbacks & 1st Photos)					a. Service
7/13/2022	3:40 PM	8 400 Closz Dr. (NEW Sign)	1	13©	30	40	b. Rough In
		Site Visit (Rafters & Steel Roof Update)					c. Final
7/13/2022	3:48 PM	9 345 Fair Meadow Dr. (NEW Fence)	1	13(e)	30	40	13 Building
		Site Visit (Final)(GREEN)					a. Zoning
7/13/2022	3:53 PM	10 2018 Superior St. (Lean-To Bldg)	5	13(a)	30	40	b. Footing
		Site Visit (Setbacks & 1st Photos)					c. Framing
7/13/2022	3:54 PM	11 2018 Superior St. (Added to NEW Fence)	5	13(a)	30	40	d. Sheet Rock
		Site Visit (Setbacks & 1st Photos)					e. Final
7/13/2022	4:05 PM	12 1402 Willson Ave. (6" Platform Deck)	2	13(a)	30	40	14 Entrance
		Site Visit (Setbacks & 1st Photos)					15 Demolition
7/13/2022	4:07 PM	13 1402 Willson Ave. (UNSAFE Porch)	2	20	31	47	16 Moving
		D.B.I. (1st Photos)(RED)					17 Excavation
7/13/2022	4:11 PM	14 1120 Elm St. (NEW Fence)	1	13(e)	30	40	18 Mobile Home
		Site Visit (Final)(GREEN)					19 Sign
7/13/2022	4:15 PM	15 1133 Elm St. (Damaged Fence)	2	21	31	47	20 Unsafe Building
		D.B.I. (Verbal Abate Request)(AMBER)					21 Property Maintenance
7/13/2022	4:20 PM	16 1233 Water St. (UNSAFE Deck/Steps)	2	20	31	47	22 Other
		D.B.I. (Send 1st Violation Letter)					NUISANCE:
7/13/2022	4:29 PM	17 727 Division St. (UNSAFE Roof)	2	20	31	47	26 Weeds or Grass
		D.B.I. (Send 1st Violation Letter)(RED)					27 Rubbish &/or Debris
7/14/2022	12:02 PM	18 1803 Superior St. (Remodel)	1	13(e)	30	40	28 Other
		Site Visit (Final)(GREEN)					FINDINGS:
7/25/2022	9:45 AM	19 850 First St. (NEW Entrance)	1	14	30	40	30 Satisfactory
		Site Visit (Final)(GREEN)					31 Unsatisfactory
7/25/2022	9:49 AM	20 1108 Division St. (NEW Detached Garage)	1	14	30	40	32 Continued Unsatisfactory
		Site Visit (Driveway-Approach)(GREEN)					33 Permit Needed
7/25/2022	10:03 AM	21 723 Bank St. (NEW Fence)	5	13(a)	30	40	34 City Not Involved
		Site Visit (Setbacks & 1st Photos)					35 Not Home
7/25/2022	10:05 AM	22 809 Bank St. (UNSAFE Roof)	2	20	31	47	36 Other
		D.B.I. (Send 1st Violation Letter)(RED)					ACTION:
7/25/2022	10:22 AM	23 2215 N. Terrace Dr. (NEW Upper Deck)	1	13©	30	40	40 No Cause for Action
		Site Visit (Framing Inspection)(GREEN)					41 Abatement
7/25/2022	10:40 AM	24 1104 Fair Meadow Dr. (NEW Dwelling)	1	13(a)	30	40	42 Condemnation
		Site Visit (Ground Movement Started)					43 Demolition
7/25/2022	11:08 AM	25 721 Boone St. (Ramp & Deck)	1	13©	30	40	44 Vacate Order Issued
		Site Visit (Framing Inspection)(GREEN)					45 Office Hearing
7/25/2022	11:28 AM	26 925 Water St. (Sewer Service Line Reconst.)	1	11(a)	30	40	46 Show Cause Action
		Site Visit (Final)(GREEN)					47 Other

REASON:
ACTIVITY:
NUISANCE:
FINDINGS:
ACTION:

Red Triangle refers to a Comment in that event. See: shared (\\SHARED); Zoning Inspection; Cory S; Daily Field Log 2019; Look Up Month // Date(s)

Approved: 08/14/2019 By: CLS



DATE	TIME		REASON	ACTIVITY	FINDING	ACTION	REASON:
7/25/2022	1:33 PM	1 1527 Superior St. (Repair New Sign) Site Visit (Damage Sign #2)	1	19	30	40	01 Routine Inspection 02 Complaint Inspection
7/25/2022	2:56 PM	2 1438 Third St. (NEW Lean-To) Site Visit (Setbacks & 1st Photos)	5	13(a)	30	40	03 Routine re-Inspection 04 Complaint Re-Insp.
7/25/2022	3:37 PM	3 925 Water St. (Sewer Service Line Reconst.) Site Visit (2nd Visit Final)(GREEN)	1	11(a)	30	40	05 Permit Research
7/25/2022	3:45 PM	4 1402 Willson Ave. (Abate Property) Site Visit (Porch DEMO Started)(AMBER)	1	15	30	40	ACTIVITY: 10 Mechanical 11 Plumbing
7/25/2022	3:53 PM	5 115 Bicentennial Ct. (Pool Deck) Site Visit (Final)(GREEN)	1	13(e)	30	40	a. Service-Sewer-Water b. Rough In
7/25/2022	4:33 PM	6 207 Edgewood Dr. (NEW Foundation-Remodel) Site Visit (Debris "TLC" Front Yard)	1	21	31	47	c. Under Slab d. Final
7/25/2022	3:13 PM	7 1735 James St. (DEMO Self-Storage Bldg) Site Visit (DEMO Started)	1	15	30	40	12 Electrical a. Service
7/26/2022	11:53 AM	8 925 Water St. (Sewer Service Line Reconst.) Site Visit (3rd Visit Final)(GREEN)	1	11(a)	30	40	b. Rough In c. Final
7/26/2022	1:50 PM	9 732 First St. (NEW Accessory Bldg) Site Visit (Final)(GREEN)	1	13(e)	30	40	13 Building a. Zoning
7/26/2022	1:58 PM	10 1100 Bank St. (Fire Damage Detached Garage) Site Visit (Final)(GREEN)	1	13(e)	30	40	b. Footing c. Framing
7/26/2022	2:08 PM	11 918 First St. (NEW Fence) Site Visit (Setbacks & 1st Photos)	5	13(a)	30	40	d. Sheet Rock e. Final
7/26/2022	2:15 PM	12 1023 Prospect St. (NEW Fence) Site Visit (Final)(GREEN)	1	13(e)	30	40	14 Entrance 15 Demolition
7/26/2022	2:21 PM	13 1040 Bank St. (Damage Fence) D.B.I. (Send 1st Violation Letter)	2	20	31	47	16 Moving 17 Excavation
7/26/2022	2:27 PM	14 934 Walnut St. (Egress Window) Site Visit (Final)(GREEN)	1	13(e)	30	40	18 Mobile Home 19 Sign
7/26/2022	2:32 PM	15 934 Walnut St. (Flower Planter) Site Visit (NO Permit NEEDED)	1	21	30	40	20 Unsafe Building 21 Property Maintenance
7/26/2022	2:46 PM	16 1133 Walnut St. (NEW Deck) Site Visit (Final)(GREEN)	1	13(e)	30	40	22 Other
7/26/2022	2:53 PM	17 1125 Walnut St. (NEW Deck) Site Visit (Final)(GREEN)	1	13(e)	30	40	NUISANCE: 26 Weeds or Grass 27 Rubbish &/or Debris
7/26/2022	3:00 PM	18 1104 Fair Meadow (NEW Dwelling) Site Visit (Footings & Reinforcement)(GREEN)	1	13(b)	30	40	28 Other
7/27/2022	12:16 PM	19 1104 Fair Meadow Dr. (NEW Dwelling) Site Visit (Footings & Reinforcement)(GREEN)	1	13(b)	30	40	FINDINGS: 30 Satisfactory 31 Unsatisfactory
7/27/2022	1:26 PM	20 1436 Division St. (UNSAFE Garage) D.B.I. (Verbal DEMO Agreement)(AMBER)	2	20	31	47	32 Continued Unsatisfactory 33 Permit Needed
7/27/2022	1:36 PM	21 1435 Division St. (NEW Carport) Site Visit (Start of Project)	1	13©	30	40	34 City Not Involved 35 Not Home
7/27/2022	1:45 PM	22 1408 First St. (NEW Accessory Bldg) Site Visit (NO Permit NEEDED)(Setback Required)	5	13(a)	30	40	36 Other
7/27/2022	1:49 PM	23 727 Division St. (UNSAFE Roof) D.B.I. (Update)(Roofing Company Sign?)	2	20	31	47	ACTION: 40 No Cause for Action 41 Abatement
7/27/2022	5:05 PM	24 1336 Grand St. (NEW Deck) Site Visit (Project Started)	1	13©	30	40	42 Condemnation 43 Demolition
7/27/2022	5:06 PM	25 1403 Grand St. (NEW Detached Garage) Site Visit (Setbacks & 1st Photos)	5	13(a)	30	40	44 Vacate Order Issued 45 Office Hearing
7/28/2022	7:19 AM	26 1735 James St. (DEMO Self-Storage Bldg) Site Visit (Complete)(GREEN)	1	15	30	40	46 Show Cause Action 47 Other

Red Triangle refers to a Comment in that event. See: shared (\\SHARED); Zoning Inspection; Cory S; Daily Field Log 2019; Look Up Month // Date(s)

Approved: 08/14/2019 By: CLS

INSPECTOR:

Cory Simpson

DATE	TIME	REASON	ACTIVITY	FINDING	ACTION	REASON:
7/28/2022	1:27 PM	1 502 White Fox Rd. (Aerator Project) Site Visit (Final Inspection)(GREEN)	1	13 (e)	30 40	01 Routine Inspection 02 Complaint Inspection
7/28/2022	2:20 PM	2 1104 Fair Meadow Dr. (NEW Dwelling) Site Visit (Post Concrete Footings)(GREEN)	1	13(b)	30 40	03 Routine re-Inspection 04 Complaint Re-Insp.
7/28/2022	2:43 PM	3 400 Closz Dr. (NEW Construction)(John Deere) Site Visit (Steel Roof, Walls & Framing)(GREEN)	1	13©	30 40	05 Permit Research
7/28/2022	3:04 PM	4 200 E. Commerce Dr. (Dog Kennel)(NEW Const.) Site Visit (Update Framing)	1	13©	30 40	ACTIVITY: 10 Mechanical 11 Plumbing
7/28/2022	3:37 PM	5 931 Third St. (NEW A/C) Site Visit (GREEN)	1	10	30 40	a. Service-Sewer-Water b. Rough In
7/28/2022	4:12 PM	6 1124 Bank St. (NEW Furnace & A/C)(Water Heater) Site Visit (GREEN)	1	10&11	30 40	c. Under Slab d. Final
7/28/2022	4:25 PM	7 1014 Elm St. (NEW Dwelling) Site Visit (Final Inspection)(GREEN)	1	13(e)	30 40	12 Electrical a. Service
7/29/2022	8:25 AM	8 1336 Grand St. (NEW Deck) Site Visit (Framing Q's)	1	13©	30 40	b. Rough In c. Final
7/29/2022	9:36 AM	9 901 Beach St. (Detached Garage Q's) Site Visit (Zoning/Setback Q's)(RED)	5	13(a)	30 40	13 Building a. Zoning
7/29/2022	9:41 AM	10 1336 Division St. (Fence Q's) Site Visit (Q's on Height)(AMBER)	5	13(a)	30 40	b. Footing c. Framing
		11				d. Sheet Rock e. Final
		12				14 Entrance
		13				15 Demolition
		14				16 Moving
		15				17 Excavation
		16				18 Mobile Home
		17				19 Sign
		18				20 Unsafe Building
		19				21 Property Maintenance
		20				22 Other
		21				NUISANCE:
		22				26 Weeds or Grass
		23				27 Rubbish &/or Debris
		24				28 Other
		25				FINDINGS:
		26				30 Satisfactory
						31 Unsatisfactory
						32 Continued Unsatisfactory
						33 Permit Needed
						34 City Not Involved
						35 Not Home
						36 Other
						ACTION:
						40 No Cause for Action
						41 Abatement
						42 Condemnation
						43 Demolition
						44 Vacate Order Issued
						45 Office Hearing
						46 Show Cause Action
						47 Other

Red Triangle refers to a Comment in that event. See: shared (\\SHARED); Zoning Inspection; Cory S; Daily Field Log 2019; Look Up Month // Date(s)

Approved: 08/14/2019 By: CLS

MEMO

TO: Mayor and City Council

FROM : Daniel Ortiz-Hernandez, City Manager
Dodie Wolfgram, Finance Director
Shiloh Mork, Police Chief

DATE: September 6, 2022

RE: Public Hearing – General Obligation Loan Agreement

SUMMARY: We are seeking City Council approval to enter into a new General Obligation Police Vehicle Acquisition Loan Agreement with People’s Credit Union in the amount of \$170,000.00 for a 33-month term at 2.99% interest.

PREVIOUS COUNCIL ACTION: Council approved the purchase of a 2022 Ram 1500 Special Service Vehicle from Stew Hansen Dodge in Urbandale at the July 18, 2022 council meeting with the financing to be a 3-year loan or lease. The cost of this truck after outfitting for police use is \$47,067.24.

The difficulty in obtaining police vehicles and the need to act quickly when one becomes available was also discussed at this meeting.

BACKGROUND/DISCUSSION: The City received a quotation from Stew Hansen for 2 additional Ram trucks with an anticipated delivery date in October. The all-in cost of these additional trucks will be \$58,728.27 each.

The following chart shows the financing source, interest rate, total interest for the 33-month loan, monthly payment and total cost of the loan.

	Interest Rate	Total Interest	Yearly Payments	Down pymt	Total
People's CU	2.99%	7,304.76	64,397.88		177,094.17
Availa Bank	3.95%	9,679.61	65,338.08		179,661.75
FSB	4.20%	10,303.44	65,564.88		180,284.39
WCF	4.25%	8,342.69	52,488.24	34,000.00	178,327.26
Ally	6.89%	17,099.79	68,036.28		187,067.42
Ruan	12.10%	30,697.27	72,980.88		200,636.56

FINANCIAL IMPLICATIONS: The yearly payments of \$64,397.88 are more than the \$60,000 per year of loan or lease payments budgeted in the Capital Equipment Fund for police vehicles due to changing the loan to 33 months versus 36 so our final payment will be at the end of a fiscal year.

A public hearing will be held on September 19, 2022 to amend the budget which will include rolling over the additional amount needed from monies not spent in the Police Department operating budget in FY22 to our current FY23 budget. We will budget for the additional needed in FY24 and FY25.

RECOMMENDATION: We recommend entering into a loan agreement with People’s Credit Union to borrow \$170,000.00 for 33 months at an interest rate of 2.99%.

RESOLUTION NO. _____

Resolution authorizing and approving a Loan Agreement, providing for the issuance of a \$170,000.00 General Obligation Police Vehicle Acquisition Note and providing for the levy of taxes to pay the same

WHEREAS, the City of Webster City (the “City”), in Hamilton County, State of Iowa, heretofore proposed to enter into a 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 \$170,000.00 for the purpose of paying the cost, to that extent, of a acquiring and equipping vehicles for the municipal police department (the “Acquisition”), and pursuant to law and duly published notice of the proposed action, has held a hearing thereon on September 6, 2022; and

WHEREAS, it is necessary at this time to authorize and approve the Loan Agreement and to make provision for the issuance of a \$170,000.00 General Obligation Police Vehicle Acquisition Note (the “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. It is hereby determined that the City, shall enter into the Loan Agreement with Peoples Credit Union, Webster City, Iowa (the “Purchaser”), in substantially the form which will be placed on file with the City, providing for a loan to the City in the amount of \$170,000.00 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 evidence of the obligation of the City under the Loan Agreement, in the principal amount of \$170,000.00 and shall be dated as of the date of its delivery to the Purchaser anticipated to be September 22, 2022, and shall be payable as to both principal and interest 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.”

The Note shall bear interest at the rate of 2.99% per annum. Both principal of and interest on the Note shall be payable in equal monthly installments in the amount \$5,366.49 on the first of day of each month, commencing October 1, 2022, and continuing to, and including final maturity on June 1, 2025 (each installment being applied first to interest due and then to unpaid principal). Interest shall be calculated on the basis of an actual calendar year of 365 days.

Payment of both principal of and interest on the Note shall be made to the registered owners appearing on the registration books of the City at the close of business on the fifteenth day of the month next preceding the payment date at the addresses shown on such registration books;

provided, however, that the final installment of principal and interest shall be payable only upon presentation and surrender of the Note to the Paying Agent.

The City reserves the right to prepay principal of the Note in whole or in part at any time prior to and in inverse order of maturity without penalty on terms of par and accrued interest. All principal so prepaid shall cease to bear interest on the date of prepayment.

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 and interest 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 and interest thereon 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 POLICE VEHICLE ACQUISITION NOTE

\$170,000

RATE	MATURITY DATE	NOTE DATE
2.99%	June 1, 2025	September 22, 2022

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

Peoples Credit Union
Webster City, Iowa

or registered assigns, the principal sum of ONE HUNDRED SEVENTY THOUSAND DOLLARS, together with interest on the outstanding principal hereof from the date of this Note, or from the most recent payment date on which interest has been paid, except as the provisions hereinafter set forth with respect to prepayment prior to maturity may be or become applicable hereto.

This Note shall bear interest at the rate of 2.99% per annum. Both principal of and interest on this Note shall be payable in equal monthly installments in the amount \$5,366.49 on the first of day of each month, commencing October 1, 2022, and continuing to, and including final maturity on June 1, 2025 (each installment being applied first to interest due and then to unpaid principal). Interest shall be calculated on the basis of an actual calendar year of 365 days.

Both principal of and interest on this Note are payable to the registered owner appearing on the registration books of the City maintained by the City Clerk (hereinafter referred to as the “Registrar” or the “Paying Agent”) at the close of business on the fifteenth day of the month next preceding the payment date in lawful money of the United States of America to the registered owner at the address shown on such registration books; provided, however, that the final installment of principal and interest will be payable only upon presentation and surrender of this Note to the Paying Agent.

This Note is being issued by the City to evidence its obligation under a certain Loan Agreement, dated the date hereof (the “Loan Agreement”), entered into by the City for the purpose of paying the cost, to that extent, of acquiring and equipping vehicles for the municipal police department.

This Note is issued pursuant to and in strict compliance with the provisions of Chapter 76 and Chapter 384 of the Code of Iowa, 2021, and all other laws amendatory thereof and supplemental thereto, and in conformity with a resolution of the City Council dated September 6, 2022 (the “Resolution”) authorizing and approving the Loan Agreement and providing for the issuance and securing the payment of this Note, 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 owner of this Note.

The City reserves the right to prepay principal of the Note in whole or in part at any time prior to and in inverse order of maturity without penalty on terms of par and accrued interest. All principal so prepaid shall cease to bear interest on the date of prepayment.

This Note is fully negotiable but shall be fully registered as to both principal and interest 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, premium, if any, and interest due hereon 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 and interest on this Note as the same will respectively become due; 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 September 22, 2022.

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	_____
JT TEN	- as joint tenants with right of survivorship and not as tenants in common		(Minor)
		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. It is anticipated that closing of the borrowing transaction contemplated herein will be on or around September 22, 2022, provided, however, that execution of the Note and the Loan Agreement shall be undertaken 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 or upon the direction of the Purchaser, 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. To the extent that the date of closing needs to be adjusted, the City staff, with advice from the Purchaser and/or Bond Counsel to the City, is hereby authorized to make such adjustment and to modify the transaction documents accordingly.

Section 5. The proceeds (the "Loan Proceeds") to be received under the Loan Agreement shall be used to pay the costs of the Acquisition, and costs of issuance of the Note. Any Loan Proceeds remaining after the full payment of such costs shall be deposited in the Debt Service Fund and used to pay principal of and interest on the Note as the same become due. The City shall keep a detailed and segregated accounting of the expenditure of, and investment earnings on, the Loan Proceeds to ensure compliance with the requirements of the Internal Revenue Code, as hereinafter defined.

Section 6. For the purpose of providing for the levy and collection of a direct annual tax sufficient to pay the principal of and interest on the Note as the same become due, there is hereby ordered levied on all the taxable property in the City in each of the years while the Note is outstanding, the following direct annual tax:

For collection in the fiscal year beginning July 1, 2023,
sufficient to produce the net annual sum of \$64,398.00; and

For collection in the fiscal year beginning July 1, 2024,
sufficient to produce the net annual sum of \$64,398.00.

Section 7. A certified copy of this resolution shall be filed with the Hamilton County Auditor, and the County Auditor is hereby instructed to enter for collection and assess the tax hereby authorized. When annually entering such taxes for collection, the County Auditor shall include the same as a part of the tax levy for Debt Service Fund purposes of the City and when collected, the proceeds of the taxes shall be converted into the Debt Service Fund of the City and set aside therein as a special account to be used solely and only for the payment of the principal of and interest on the Note hereby authorized and for no other purpose whatsoever.

Pursuant to the provisions of Section 76.4 of the Code of Iowa, each year while the Note remains outstanding and unpaid, any funds of the City which may lawfully be applied for such purpose may be appropriated, budgeted and, if received, used for the payment of the principal of and interest on the Note as the same become due, and if so appropriated, the taxes for any given fiscal year as provided for in Section 7 of this Resolution, shall be reduced by the amount of such alternate funds as have been appropriated for such purpose, and evidenced in the City's budget.

Section 8. The interest or principal and both of them falling due in any year or years shall, if necessary, be paid promptly from current funds on hand in advance of taxes levied and when the taxes shall have been collected, reimbursement shall be made to such current funds to the sum thus advanced.

Section 9. It is the intention of the City that interest on the Note be and remain excluded from gross income for federal income tax purposes pursuant to the appropriate provisions of the Internal Revenue Code of 1986, as amended, and the Treasury Regulations in effect with respect thereto (all of the foregoing herein referred to as the “Internal Revenue Code”). In furtherance thereof, the City covenants to comply with the provisions of the Internal Revenue Code as they may from time to time be in effect or amended and further covenants to comply with the applicable future laws, regulations, published rulings and court decisions as may be necessary to insure that the interest on the Note will remain excluded from gross income for federal income tax purposes. Any and all of the officers of the City are hereby authorized and directed to take any and all actions as may be necessary to comply with the covenants herein contained.

The City hereby designates the Note as a “Qualified Tax Exempt Obligation” as that term is used in Section 265(b)(3)(B) of the Internal Revenue Code.

Section 10. All resolutions or parts thereof in conflict herewith are hereby repealed to the extent of such conflict.

Section 11. This resolution shall be in full force and effect immediately upon its adoption and approval, as provided by law.

Passed and approved on September 6, 2022.

John Hawkins, Mayor

Attest:

Karyl K. Bonjour, City Clerk



Peoples Credit Union

Enter Values

Loan amount	\$170,000.00
Annual interest rate	2.99%
Loan period in years	3
Number of payments per year	12
Start date of loan	10/1/2022

Loan Summary

Scheduled payment	\$5,366.49
Scheduled number of payments	33
Actual number of payments	33
Total early payments	\$0.00
Total interest	\$7,304.76

Optional extra payments

Lender name

Peoples Credit Union ~ Pamela Kruger

Payment Number	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
1	10/1/2022	\$170,000.00	\$5,366.49	\$0.00	\$5,366.49	\$4,942.91	\$423.58	\$165,057.09	\$423.58
2	11/1/2022	\$165,057.09	\$5,366.49	\$0.00	\$5,366.49	\$4,955.22	\$411.27	\$160,101.87	\$834.85
3	12/1/2022	\$160,101.87	\$5,366.49	\$0.00	\$5,366.49	\$4,967.57	\$398.92	\$155,134.30	\$1,233.77
4	1/1/2023	\$155,134.30	\$5,366.49	\$0.00	\$5,366.49	\$4,979.95	\$386.54	\$150,154.35	\$1,620.31
5	2/1/2023	\$150,154.35	\$5,366.49	\$0.00	\$5,366.49	\$4,992.36	\$374.13	\$145,162.00	\$1,994.45
6	3/1/2023	\$145,162.00	\$5,366.49	\$0.00	\$5,366.49	\$5,004.79	\$361.70	\$140,157.20	\$2,356.14
7	4/1/2023	\$140,157.20	\$5,366.49	\$0.00	\$5,366.49	\$5,017.26	\$349.23	\$135,139.94	\$2,705.37
8	5/1/2023	\$135,139.94	\$5,366.49	\$0.00	\$5,366.49	\$5,029.77	\$336.72	\$130,110.17	\$3,042.09
9	6/1/2023	\$130,110.17	\$5,366.49	\$0.00	\$5,366.49	\$5,042.30	\$324.19	\$125,067.87	\$3,366.28
10	7/1/2023	\$125,067.87	\$5,366.49	\$0.00	\$5,366.49	\$5,054.86	\$311.63	\$120,013.01	\$3,677.91
11	8/1/2023	\$120,013.01	\$5,366.49	\$0.00	\$5,366.49	\$5,067.46	\$299.03	\$114,945.55	\$3,976.94
12	9/1/2023	\$114,945.55	\$5,366.49	\$0.00	\$5,366.49	\$5,080.08	\$286.41	\$109,865.47	\$4,263.35
13	10/1/2023	\$109,865.47	\$5,366.49	\$0.00	\$5,366.49	\$5,092.74	\$273.75	\$104,772.73	\$4,537.10
14	11/1/2023	\$104,772.73	\$5,366.49	\$0.00	\$5,366.49	\$5,105.43	\$261.06	\$99,667.30	\$4,798.16
15	12/1/2023	\$99,667.30	\$5,366.49	\$0.00	\$5,366.49	\$5,118.15	\$248.34	\$94,549.14	\$5,046.49
16	1/1/2024	\$94,549.14	\$5,366.49	\$0.00	\$5,366.49	\$5,130.91	\$235.58	\$89,418.24	\$5,282.08
17	2/1/2024	\$89,418.24	\$5,366.49	\$0.00	\$5,366.49	\$5,143.69	\$222.80	\$84,274.55	\$5,504.88
18	3/1/2024	\$84,274.55	\$5,366.49	\$0.00	\$5,366.49	\$5,156.51	\$209.98	\$79,118.04	\$5,714.86
19	4/1/2024	\$79,118.04	\$5,366.49	\$0.00	\$5,366.49	\$5,169.35	\$197.14	\$73,948.69	\$5,912.00
20	5/1/2024	\$73,948.69	\$5,366.49	\$0.00	\$5,366.49	\$5,182.23	\$184.26	\$68,766.46	\$6,096.26

Payment Number	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
21	6/1/2024	\$68,766.46	\$5,366.49	\$0.00	\$5,366.49	\$5,195.15	\$171.34	\$63,571.31	\$6,267.60
22	7/1/2024	\$63,571.31	\$5,366.49	\$0.00	\$5,366.49	\$5,208.09	\$158.40	\$58,363.22	\$6,426.00
23	8/1/2024	\$58,363.22	\$5,366.49	\$0.00	\$5,366.49	\$5,221.07	\$145.42	\$53,142.15	\$6,571.42
24	9/1/2024	\$53,142.15	\$5,366.49	\$0.00	\$5,366.49	\$5,234.08	\$132.41	\$47,908.07	\$6,703.83
25	10/1/2024	\$47,908.07	\$5,366.49	\$0.00	\$5,366.49	\$5,247.12	\$119.37	\$42,660.95	\$6,823.20
26	11/1/2024	\$42,660.95	\$5,366.49	\$0.00	\$5,366.49	\$5,260.19	\$106.30	\$37,400.76	\$6,929.50
27	12/1/2024	\$37,400.76	\$5,366.49	\$0.00	\$5,366.49	\$5,273.30	\$93.19	\$32,127.46	\$7,022.69
28	1/1/2025	\$32,127.46	\$5,366.49	\$0.00	\$5,366.49	\$5,286.44	\$80.05	\$26,841.02	\$7,102.74
29	2/1/2025	\$26,841.02	\$5,366.49	\$0.00	\$5,366.49	\$5,299.61	\$66.88	\$21,541.41	\$7,169.62
30	3/1/2025	\$21,541.41	\$5,366.49	\$0.00	\$5,366.49	\$5,312.82	\$53.67	\$16,228.59	\$7,223.29
31	4/1/2025	\$16,228.59	\$5,366.49	\$0.00	\$5,366.49	\$5,326.05	\$40.44	\$10,902.54	\$7,263.73
32	5/1/2025	\$10,902.54	\$5,366.49	\$0.00	\$5,366.49	\$5,339.32	\$27.17	\$5,563.21	\$7,290.89
33	6/1/2025	\$5,563.21	\$5,366.49	\$0.00	\$5,366.49	\$5,352.63	\$13.86	\$210.59	\$7,304.76

MEMORANDUM

TO: City Council

FROM: Daniel Ortiz, City Manager
Shiloh B. Mork, Chief of Police

DATE: September 6, 2022

RE: Resolution accepting quotes from Stew Hansen Dodge City for Purchase of two New Ram 1500 Special Service Vehicles and Stivers Midwest Pro Upfitters for equipment and upfitting vehicles for the Police Department

SUMMARY: Following up on discussion the City Council had on July 18, 2022 regarding the current police department vehicle fleet, staff is bringing back authorization to proceed with purchasing two additional Ram 1500 SSV trucks from Stew Hansen Dodge City, necessary upfitting equipment, and proceeding with upfitting quote from Stivers Midwest Pro Upfitters.

PREVIOUS COUNCIL ACTION: Council discussed police vehicle fleet condition and needs on July 18, 2022. Council approved the purchase of a Ram 1500 Crew Cab SSV Special Service Vehicle from Stew Hansen Dodge City.

BACKGROUND/DISCUSSION: Back on July 18, 2022, the City Council had a discussion on the condition of the police department's fleet of vehicles. The combination of mileage, engine hours, and mechanical issues of several of the new police vehicles, were factors presented. Staff presented four possible options the City Council could consider for addressing the police vehicle fleet needs.

The City Council directed staff to move forward with option #1, pursue purchasing 3 new police vehicles with no trade-in of older vehicles. This will increase the department's overall number vehicles from 7 to 10. As vehicles require maintenance and repairs, the additional vehicles will help to minimize significant impact. As a police vehicle reaches its useful life and is no longer cost effective to invest in repairing it, the vehicle would be retired.

The City Council at that time approved the purchase of a Ram 1500 SSV. Of the three vehicle platforms available under the State of Iowa vehicle contract price, the Ram 1500 SSV would be available at a lesser price over the Chevy Tahoe or Ford Police Interceptor SUV. The approximate cost breakdown for vehicle purchase, equipment, and upfitting are shown below:

Police Vehicle Fleet Additions 2022		
	Unit Price	Extended Total
Stew Hansen Ram 1500 SSV (7/5/22 Quote)	\$34,836.00	\$34,836.00
Stew Hansen Ram 1500 SSV (7/18/22 Quote)	\$34,677.00	\$69,354.00
Watchguard Camera System #1, #2, #3	\$4,609.00	\$13,827.00
Motorola Radio System #2, #3	\$4,723.00	\$9,446.00
Stivers Midwest Pro Upfitters Equipment and Install #1	\$7,622.24	\$7,622.24
Stivers Midwest Pro Upfitters Equipment and Install #2, #3	\$14,719.27	\$29,438.54
Total		\$164,523.78

The cost of the new vehicles, equipping and upfitting is expected to be financed over the next 33-36 months.

FINANCIAL IMPLICATIONS: This will be absorbed through the 2022-2023 Capital Equipment Budget and will remain under the annual finance payment budgeted for three police vehicles.

RECOMMENDATION: Staff recommends the City Council adopt the resolution accepting the quotes and authorizing the City Manager to purchase the 2022 Ram 1500 Crew Cab Special Service Vehicles from Stew Hansen Dodge and upfitting services from Stivers Midwest Pro Outfitters.

RESOLUTION NO. 2022 –

RESOLUTION ACCEPTING QUOTATION IN THE AMOUNT OF \$34,677.00 PER VEHICLE FROM STEW HANSEN DODGE CITY FOR A RAM 1500 CREW CAB SSV LISTED IN THE STATE OF IOWA VEHICLE CONTRACT CATALOG; ACCEPTING QUOTATIONS FROM STIVERS MIDWEST PRO UPFITTERS TOTALING \$37,060.78; AND AUTHORIZING THE CITY MANAGER TO PURCHASE TWO VEHICLES, EQUIPMENT, AND UPFITTING OF SAID VEHICLES FOR THE WEBSTER CITY POLICE DEPARTMENT.

WHEREAS, the City of Webster City (hereinafter referred to as the “City”), State of Iowa, is a political subdivision organized and existing under the law and the Constitution of the State of Iowa (the “State”); and

WHEREAS, the State of Iowa competitively bids and awards procurement contracts for goods and services; and

WHEREAS, local governments are eligible to utilize said procurement contracts awarded by the State of Iowa; and

Whereas, the City of Webster City budgeted for the acquisition of up to three vehicles for the Webster City Police Department; and

WHEREAS, Stew Hansen Dodge City was awarded a procurement contract with the State of Iowa for the Ram 1500 Crew Cab SSV; and

WHEREAS, On July 18, 2022 the City Council approved the first of three new Ram 1500 Crew Cab SSV purchase for the Webster City Police Department for law enforcement purposes from Stew Hansen Dodge City; and

WHEREAS, Stew Hansen Dodge City provided the City a quotation for two additional Ram 1500 Crew Cab SSV for \$34,677.00 each, plus applicable taxes and fees; and

WHEREAS, Stiver’s Midwest Pro Upfitters provided the City two quotes totaling \$37,060.78 for police equipment and installation for the three Ram 1500 Crew Cab SSV vehicles; and

WHEREAS, the City is obtaining financing for reimbursing cost of procuring three police vehicles and costs associated with equipping of necessary equipment for law enforcement patrol operations; and

WHEREAS, said purchase shall be governed by and construed in accordance with the laws of the State of Iowa; 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 purchase two Ram 1500 Crew Cab SSV Special Service Vehicle from Stew Hansen Dodge City, Inc. and execute any necessary documents.

SECTION 2: Authorizes the City Manager to execute quotations from Stivers Midwest Pro Upfitters and procure any additional necessary equipment.

Passed and adopted this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

STEW HANSEN DODGE CITY JEEP
12103 HICKMAN RD
URBANDALE, IA 503231801

Priced Order Confirmation (POC)

Date Printed:	2022-07-18 12:32 PM	VIN:	1C6RR7XT0NS232428	Quantity:	01
Estimated Ship Date:		VON:	52914458	Status:	D - Firm schedule:serial number is assigned
Date Ordered:	2021-12-21 2:19 PM	Ordered By:	S18194J	FAN 1:	
				FAN 2:	
				Client Code:	
				Bid Number:	
				PO Number:	
Sold to:		Ship to:			
STEW HANSEN DODGE CITY JEEP (45323)		THAT'S MY TRUCK @ (T9166)			
12103 HICKMAN RD		3201 E. 14TH STREET			
URBANDALE, IA 503231801		DES MOINES, IA 50316			

Vehicle: 2022 1500 SSV CREW CAB 4X4 (DS6T98)

	Sales Code	Description	MSRP(USD)
Model:	DS6T98	1500 SSV CREW CAB 4X4	46,760
Package:	26D	Customer Preferred Package 26D	0
	EZH	5.7L V8 HEMI MDS VVT Engine	0
	DFK	8-Spd Auto 8HP70 Trans (Buy-US)	0
Paint/Seat/Trim:	PXJ	Diamond Black Crystal P/C	100
	APA	Monotone Paint	0
	*D5	Cloth Front/Vinyl Rear Seats	0
	-X8	Black/Diesel Gray	0

Note: This is not an invoice. The prices and equipment shown on this priced order confirmation are tentative and subject to change or correction without prior notice. No claims against the content listed or prices quoted will be accepted. Refer to the vehicle invoice for final vehicle content and pricing. Orders are accepted only when the vehicle is shipped by the factory.

Options:	3AH	Price Protection - Code H	0
	XM9	Delete Spray in Bedliner	-200
	GFA	Rear Window Defroster	195
	DMH	3.92 Rear Axle Ratio	95
	TTB	LT265/70R17E BSW A/T Tires	250
	Z6D	GVW Rating - 6800#	
	NAS	50 State Emissions	0
	XHC	Trailer Brake Control	295
	NHK	Engine Block Heater	95
	AED	Chrome Appearance Group	695
	MBF	Bright Rear Bumper	
	MCT	Bright Front Bumper	
	MFD	Bright Grille	
	WFE	17X7.0 Aluminum Wheels	
	WMJ	Center Hub	
	ADB	Protection Group	395
	XEA	Tow Hooks	
	XEF	Transfer Case Skid Plate Shield	
	XEU	Front Suspension Skid Plate	
	LM1	Daytime Running Headlamps Low Beam	40
	DSA	Anti-Spin Differential Rear Axle	495
	GPG	Power Black Trailer Tow Mirrors	180
	LE4	Black Exterior Mirrors	
	LEB	Ext. Mirrors w/Supplemental Signals	
	LEC	Exterior Mirrors Courtesy Lamps	
	LEG	Trailer Tow Mirrors	
	NHJ	Exterior Mirrors w/Heating Element	
	4NU	Fuel Fill/Battery Charge	0
	4FM	Fleet Option Editor	0
	4ES	Delivery Allowance Credit	0
	2SQ	FCA Fleet Powertrain Care	0
	YGE	5 Additional Gallons of Gas	0
	4UQ	T3AC	0
	4FT		0
	5TA	September Production	0
	5N6	Easy Order	0
	4FT	Fleet Sales Order	0
	4EA	Sold Vehicle	0
Non Equipment:	4KA	Special Bid Handling	0
	4FA	Special Bid-Ineligible For Incentive	0
	4DH	Prepaid Holdback	0
	MAF	Fleet Purchase Incentive	0
Bid Number:	TB2061	Government Incentives	0
Discounts:	3A8	Fleet No Charge Paint Credit	0
Destination Fees:			1,695

Total Price: 51,090 .

Order Type:
Scheduling Priority:
Salesperson:
Customer Name:
Customer Address:

PSP Month/Week:
Build Priority: 01

Price: \$34,677

Instructions:

Note: This is not an invoice. The prices and equipment shown on this priced order confirmation are tentative and subject to change or correction without prior notice. No claims against the content listed or prices quoted will be accepted. Refer to the vehicle invoice for final vehicle content and pricing. Orders are accepted only when the vehicle is shipped by the factory.



EQUIPMENT & INSTALL QUOTE

Stivers Midwest Pro Upfitters
1450 E Hickman Rd
Waukee, Iowa 50263
United States

319-721-5224

BILL TO
WEBSTER CITY POLICE DEPARTMENT
CHIEF SHILOH MORK
400 SECOND STREET
PO BOX 217
WEBSTER CITY, Iowa 50595
United States

515-832-9166
CHIEF@WEBSTERCITY.COM

Estimate Number: WEBSTER CITY
SLICK TOP

Estimate Date: July 15, 2022

Expires On: August 14, 2022

Grand Total (USD): \$7,622.24

Items	Quantity	Price	Amount
IX42UFZ WHELEN XLP INNER EDGE	1	\$957.00	\$957.00
DTAW8RB 8 SEGMENT TRAFFIC ADVISOR WITH RED/BLUE END LIGHTS	1	\$596.25	\$596.25
SA315P/SAK9 WHELEN SIREN SPEAKER AND BRACKET	1	\$299.00	\$299.00
ETHFSS-SP-ISO, ETFBSSN-P FRONT AND REAR FLASHERS	1	\$275.00	\$275.00
INSTALL INSTALL CUSTOMER SUPPLIED 295 CONTROLLER, RADIO, DOCKING STATION, ID SCANNER, PRINTER	1	\$0.00	\$0.00
PKG-PSM-385 HAVIS FLOOR MOUNTED COMPUTER STAND KIT	1	\$720.89	\$720.89
C-PM-1001 HAVIS PRINTER MOUNT	1	\$162.23	\$162.23
C-AS-840-11 HAVIS UNIVERSAL FLOOR MOUNTED CONSOLE WITH 3 EQUIPMENT BRACKETS	1	\$325.00	\$325.00
GF1092DRT05 DODGE RAM SELF STANDING WEAPONS MOUNT	1	\$247.98	\$247.98



EQUIPMENT & INSTALL QUOTE

Stivers Midwest Pro Upfitters
1450 E Hickman Rd
Waukee, Iowa 50263
United States

319-721-5224

Items	Quantity	Price	Amount
GK10342UHKSSCAXL SETINA DUAL WEAPONS MOUNT	1	\$469.00	\$469.00
LPT1230,46063,75552,46985 LIND POWER TIMER, 12 POS FUSE BLOCK WITH GROUND STRAP, 75A RELAY, 100 AMP CIRCUIT BREAKER	1	\$269.89	\$269.89
FREIGHT PRODUCT & EQUIPMENT FREIGHT & SHIPPING COSTS	1	\$150.00	\$150.00
SHOP SUPPLIES MISC SHOP SUPPLIES	1	\$150.00	\$150.00
LABOR LABOR TO INSTALL EQUIPMENT	1	\$3,000.00	\$3,000.00
Total:			\$7,622.24
Grand Total (USD):			\$7,622.24



EQUIPMENT & INSTALL QUOTE

2022 RAM SSV

Stivers Midwest Pro Upfitters
1450 E Hickman Rd
Waukee, Iowa 50263
United States

319-721-5224

BILL TO
WEBSTER CITY POLICE DEPARTMENT
CHIEF SHILOH MORK
400 SECOND STREET
PO BOX 217
WEBSTER CITY, Iowa 50595
United States

515-832-9166
CHIEF@WEBSTERCITY.COM

Estimate Number: WEBSTER CITY
RAM

Estimate Date: August 26, 2022

Expires On: August 26, 2022

Grand Total (USD): \$14,719.27

Items	Quantity	Price	Amount
ETHFSS-SP-ISO, ETFBSSN-P FRONT AND REAR FLASHERS	1	\$275.00	\$275.00
EB2SP3JT WHELEN 54" LEGACY WECANX DUO LIGHTBAR WITH STRAP KIT	1	\$2,499.00	\$2,499.00
C399/CCTL6 WHELEN CORE LIGHT AND SIREN CONTROLLER WITH ROTARY KNOB CONTROLLER	1	\$1,038.45	\$1,038.45
SA315P/SAK9 WHELEN SIREN SPEAKER AND BRACKET	1	\$299.00	\$299.00
LINSV2R/LINSV2B WHELEN MIRROR POD LIGHTS PAIR (RED/BLUE)	1	\$396.00	\$396.00
LSVBKT42 WHELEN DODGE RAM MIRROR POD BRACKETS	1	\$21.84	\$21.84
PK0228DRT191500CCCL DODGE RAM RECESSED PANEL PARTITION WITH HORIZONTAL SLIDING WINDOW WITH COATED POLY	1	\$1,049.00	\$1,049.00
BK2019DRT131500 SETINA DODGE RAM PUSH BUMPER WITH FRONT DUO IONS & SIDE LIGHTS	1	\$1,038.35	\$1,038.35



EQUIPMENT & INSTALL QUOTE

2022 RAM SSV

Stivers Midwest Pro Upfitters
1450 E Hickman Rd
Waukee, Iowa 50263
United States

319-721-5224

Items	Quantity	Price	Amount
C-2410 HAVIS 2410 UNIVERSAL CONSOLE WITH EQUIPMENT BRACKETS, ARM REST, DUAL CUP HOLDER AND ACCY POCKET	1	\$873.00	\$873.00
C-HDM-205, C-MD-312 HAVIS SIDE MOUNT POLE W/ TABLET/KEYBOARD MOUNT	1	\$606.62	\$606.62
INSTALL INSTALL CUSTOMER SUPPLIED RADIO, CAMERA, RADAR ETC.	1	\$0.00	\$0.00
FREIGHT PRODUCT & EQUIPMENT FREIGHT & SHIPPING COSTS	1	\$250.00	\$250.00
SHOP SUPPLIES MISC SHOP SUPPLIES	1	\$150.00	\$150.00
LPT1230,46063,75552,46985 LIND POWER TIMER, 12 POS FUSE BLOCK WITH GROUND STRAP, 75A RELAY, 100 AMP CIRCUIT BREAKER	1	\$269.89	\$269.89
LABOR LABOR TO INSTALL EQUIPMENT	1	\$3,000.00	\$3,000.00
GK10342UHKSSCAXL SETINA DUAL WEAPONS MOUNT	1	\$469.00	\$469.00
4910LR-152-LTRK L-TRON IMAGING ID SCANNER	1	\$399.00	\$399.00
PJ722 BROTHER POCKET JET PRINTER, USB CABLE AND POWER CABLES	1	\$461.89	\$461.89
C-PM-1001 HAVIS PRINTER MOUNT	1	\$162.23	\$162.23



EQUIPMENT & INSTALL QUOTE

2022 RAM SSV

Stivers Midwest Pro Upfitters
1450 E Hickman Rd
Waukee, Iowa 50263
United States

319-721-5224

Items	Quantity	Price	Amount
DECKED BOX STORAGE SYSTEM DECKED BOX STORAGE SYSTEM FOR VEHICLE SPECIFIC PICK UP	1	\$1,461.00	\$1,461.00
Total:			\$14,719.27
Grand Total (USD):			\$14,719.27



MEMORANDUM

TO: Mayor and City Council

FROM: Kirby Winter, IT Director

DATE: September 6, 2022

RE: Addition of MTR (Managed Threat Response) to our current 3-year subscription to Sophos products

SUMMARY: Seeking approval from Council to approve the purchase of an additional subscription of MTR to our current Sophos Intercept X Advanced with EDR and XDR.

PREVIOUS COUNCIL ACTION: June 8th, 2021 approved purchase of the three-year subscription for Sophos Intercept X Advanced with EDR and XDR.

BACKGROUND/DISCUSSION: We have been using Sophos Intercept X Advanced with XDR since July 9, 2020. The addition of the Sophos MTR (Managed Threat Response) will enhance the City's security on our network and computer systems. Adding Sophos MTR service provides us with a 24/7 service that continuously scans the City's entire network. MTR is built on Intercept X Advanced with EDR technology and fuses machine learning technology and expert analysis for improved threat hunting and detection, deeper investigation of alerts, and targeted actions to eliminate threats to the City's network and computer systems. The MTR builds upon the Sophos Intercept X Advanced with EDR foundation by adding even more data and context that both increases visibility and provides even more insight during an investigation. This will result in faster and more accurate incident detection and response.

According to MS-ISAC (Multi-State Information Sharing & Analysis Center) Malware, Phishing, Vishing, Spam ware, are on a continuous rise for SLTTs (State, Local, Tribal, Territorial). Just this last quarter it rose from 34 new and different attacks that actually penetrated SLTTs to 38 new and different attacks that actually penetrated SLTTs.

Insurance officials say the higher premiums for both public and private organizations are a result of rising demand for coverage amid more frequent and costly cybercrime incidents often ransomware attacks. That means insurers have had to pay out more, which has led them to raise premiums and tighten standards for getting a policy. Some companies also have lowered caps on coverage or limited how many policies they write.

The cost of cyber insurance for the city doubled this year and the renewal process has increased considerably with the preventative measure that we are required to have in place.

FINANCIAL IMPLICATIONS: The cost of adding Sophos MTR to our existing three-year subscription will cost \$10,982.15. At the end of our current contract on July 9, 2024 we will have the option of acquiring another three years at a very discounted rate that can be budgeted for appropriately.

RECOMMENDATION: Approve to add Sophos MTR (Managed Threat Response) to our current Sophos Intercept X Advanced subscription of EDR and XDR for the remainder of our three-year contract.



ITsavvy LLC
313 South Rohlwing Road
Addison, IL 60101
www.ITsavvy.com

Quote Details	
Quote #:	3635574
Date:	08/10/2022
Payment Method:	Net 30 Days
Client PO#:	
Cost Center:	
Shipping Method:	Ground

Quote

Bill To:

ACCT #: 574149
City of Webster City
Karyl Bonjour
PO Box 217
400 2nd St
Webster City, IA 50595
United States
515-832-9116

Ship To:

City of Webster City
Kirby Winter
400 2nd St
Webster City, IA 50595-1534
United States
515-832-8574

Client Contact:

Kirby Winter
(P) 515-832-9151
kwinter@hamiltoncounty.org

Client Executive:

Scott Henson
(P) 630.396.6327
(F) 630.396.6322
shenson@ITsavvy.com

Description: Sophos MTR

Item Description	Part #	Tax	Qty	Unit Price	Total
1 Sophos Central MTR Advanced Add-on for Intercept X Advanced with XDR Subscription license (1 year) - 1 user - volume, GOV - 50-99 licenses Manufacturer Part #: MUAG1GSON 8/10/2022 - 8/9/23	22088477	Y	75	\$68.57	\$5,142.75
2 Sophos Central MTR Advanced Add-on for Intercept X Advanced with XDR Subscription license extension (1 month) - 1 user - volume, GOV - 50-99 licenses Manufacturer Part #: MUAG0GTON 8/9/23 to 7/9/24	22088466	Y	825	\$5.72	\$4,719.00
3 Sophos Central MTR Advanced Add-on for Intercept X Advanced for Server with XDR Subscription license (2 years) - 1 server - volume, GOV - 5-9 licenses Manufacturer Part #: MVAD2GSON 8/10/2022 to 8/9/23	22087778	Y	5	\$149.38	\$746.90
4 Sophos Central MTR Advanced Add-on for Intercept X Advanced for Server with XDR Subscription license extension (1 month) - 1 server - volume, GOV - 5-9 licenses Manufacturer Part #: MVAD0GTON 8/9/23 to 4/29/2025	22087761	Y	45	\$8.30	\$373.50

Fair Market Value		\$1 Buy Out	
3 Year FMV / Year	5 Year FMV / Year	3 Year \$1 / Year	5 Year \$1 / Year
\$3,670.06	\$2,369.98	\$3,939.21	\$2,444.55

Lease prices listed above are estimates. They apply for Public School and Municipal Entities only. They are based upon individual credit review and approval. Your final rates will be determined after credit review.

Subtotal:	\$10,982.15
Shipping:	\$0.00
Tax:	Exempt
TOTAL:	\$10,982.15

ITsavvy is always looking to deliver the lowest cost possible to our clients. This results in fluctuating prices that you will find are lower more often than not. However, prices are subject to increases without notice in the event of a manufacturer or distributor price increase. Available inventory is subject to change without notice. This document is a quotation only and is not an order or offer to sell.

We do accept credit cards for payment. However, if the credit card is provided after the order has been invoiced there will be a charge of 3% of the total purchase.

Unless specifically listed above, these prices do NOT include applicable taxes, insurance, shipping, delivery, setup fees, or any cables or cabling services or material.

All non-recurring services are 50% due upon signing of contract, 40% due upon delivery of equipment, balance due upon install.

ITsavvy's General Terms and Conditions of Sale, which can be found at www.ITsavvy.com/termsandconditions, shall apply to and are incorporated into all agreements with Client, including all Orders.

Printed Name: _____

Title: _____

Authorized Signature: _____

Date: _____

Sophos Managed Threat Response: Beyond the Endpoint

MTR Connectors and MTR Network Sensor

Sophos MTR goes beyond the endpoint adding in telemetry from other sources including network and cloud data. By extending visibility MTR operators can enrich endpoint investigations, better detect suspicious activity, and quickly neutralize active threats.



Intro

The Sophos MTR team provides 24/7 monitoring, threat hunting, and incident response. To have the most complete picture of a customer's environment, analysts need the broadest range of telemetry to ensure they have both the visibility and context to provide the absolute best protection. MTR Connectors and the MTR Network Sensor were designed to ensure MTR operators have the most crucial data at their fingertips ensuring attackers have fewer places to hide.

Network Visibility

The Sophos MTR service provides broad visibility and response capabilities across endpoints and servers. However, there are specific scenarios where extended visibility from additional telemetry would increase the effectiveness of the MTR service.

Combining endpoint and network visibility can aid in a variety of use cases, including:

- *Detect threats at the edge:* Network telemetry enables MTR operators to spot attempts to infiltrate the network at the perimeter.
- *Identify threats on the wire:* MTR operators can investigate threats detected in DNS requests, HTTP requests, and IP packets. Detection capabilities include web-based threats such as web application exploitation, SQL injection, and more.
- *Augment investigations with enhanced telemetry:* With Sophos XG telemetry in place, MTR can access network telemetry to aid investigations and validate threats. For example, with Sophos XG ATP events the MTR team can be alerted to malware call home addresses which have been classified by SophosLabs. This allows MTR to quickly begin investigating suspect hosts and identify unprotected devices in the estate.
- *View untrusted traffic:* Though most malicious traffic on the edge of the network is successfully identified and blocked before entry, it can be useful to observe dropped traffic as part of a larger indicator of attack within a threat campaign.

Highlights

- Siloed tools make it difficult for security operators to achieve enterprise-wide visibility
- MTR Advanced customers can add additional telemetry to endpoint and server data
- MTR Connectors allow MTR operators to consolidate data from multiple sources
- The Sophos Firewall MTR Connector adds network visibility for customers running XG Firewall managed in Sophos Central
- The Sophos Cloud Optix MTR Connector provides cloud visibility with access to Cloud Optix Policy and Anomaly alerts and Amazon GuardDuty events
- The MTR Network Sensor* virtual network appliance is a simple way to add network telemetry to the MTR Advanced service by deploying in non-blocking mode

- *Additional prevention and oversight for non-MTR managed devices:*
 - Unmanaged or guest devices: Security administrators need to ensure that protection is enabled on all devices and systems within their trusted environments. This includes guest devices on their network and other machines that did not have Intercept X Advanced installed by default. Security administrators must also quickly address new networks joining their domain via company reorganization or acquisitions when they can't quickly reconfigure the new endpoints and servers.
 - Endpoints and servers with legacy operating systems: Some systems can't be upgraded without significant cost (like large industrial equipment) or lack of specialized knowledge (like custom software).
 - IoT Devices: IoT devices often present unique challenges from a security perspective. Installing an endpoint agent may not be possible due to proprietary hardware and software, but they can be identified by their activity on the network.

Network Visibility: Sophos Firewall MTR Connector

Sophos MTR Advanced customers have the ability to fully deploy Sophos XG Firewall across their environment or deploy XG Firewall in tap mode while utilizing a non-Sophos firewall. Customers must manage their XG Firewalls in Sophos Central and use XG Central Firewall Reporting.

The Sophos Firewall MTR Connector generates MTR detections from the following network security events: ATP (Command & Control), IPS, Sophos AV (email, web, FTP), and Sophos Sandstorm (sandbox).

Network Visibility: MTR Network Sensor*

Sophos MTR Advanced customers* have the option to deploy the MTR Network Sensor in order to gain network telemetry. The network sensor is an SF SW/Virtual network appliance and is ideally suited for organizations who are unable or unwilling to deploy Sophos XG Firewall. The sensor is deployed in non-blocking mode and cannot be used as a replacement for a firewall.

The MTR Network sensor leverages the XG Firewall MTR Connector to generate MTR detections from ATP (Command & Control) and premium IDS events.

Customers must enable Central Firewall Management and Central Firewall Report. These features come with 7 days of data storage in the Sophos Data Lake, which can be used by customers to perform queries and run reports. This is separate from the MTR detections and data retention used exclusively by the MTR team.

* available in North America only

CASE STUDY

XG Firewall MTR Connector Enables MTR To Identify Active Threat

CUSTOMER

A USA-based MTR Advanced customer in the education vertical (~500 devices)

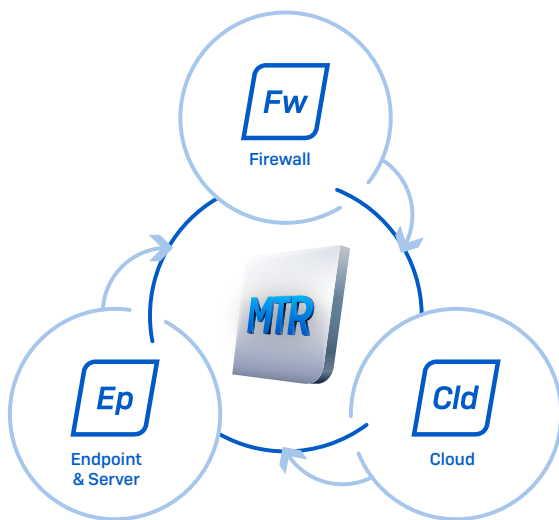
An intrusion prevention system (IPS) detected an attempted PHP remote code execution exploit, originating from a Russian IP address. While this would normally indicate the threat had been prevented via the traffic being dropped, the MTR team still investigated to confirm. Upon investigation, it was clear that active communication to this Russian IP over port 80 was still taking place after the IPS detection, indicating that the adversary had successfully circumnavigated detection and exploited the system.

Case details and instructions were provided to the customer, explaining the nature of the detection and recommending a block for the specific IP in question, as well as a geo-block for countries they do not conduct business with. The team followed up with the customer after they had made the recommended firewall configuration changes and confirmed that no more suspicious activity was present.

Cloud Visibility

By adding cloud telemetry, customers will receive around-the-clock security monitoring of major cloud platforms by a dedicated team of cybersecurity experts. The Sophos Cloud Optix MTR Connector provides Sophos MTR operators with the visibility needed to quickly identify critical cloud security events used in breach attempts across Amazon Web Services, Microsoft Azure, and Google Cloud Platform environments.

Extending cloud provider services with powerful artificial intelligence uncovers meaningful and actionable insights. Events from Sophos Cloud Optix generate MTR detections, including anomalous IAM user login activity, outbound network traffic connections, and other high-risk activity. Additional threat detections can be added via integration with the Amazon GuardDuty service, which analyzes CloudTrail, DNS and VPC flow logs.



About Sophos Managed Threat Response

The Sophos Managed Threat Response [MTR] service provides 24/7 threat hunting, detection, and response delivered by a team of Sophos experts as a fully managed service. While other managed detection and response [MDR] services simply notify you of attacks or suspicious events, with Sophos MTR, your organization is backed by an elite team of threat hunters and response experts who take targeted actions on your behalf to neutralize even the most sophisticated threats. Customers who choose to leverage Sophos MTR also receive Intercept X Advanced with EDR.

United Kingdom and Worldwide Sales
Tel: +44 (0)8447 671131
Email: sales@sophos.com

North American Sales
Toll Free: 1-866-866-2802
Email: nasales@sophos.com

Australia and New Zealand Sales
Tel: +61 2 9409 9100
Email: sales@sophos.com.au

Asia Sales
Tel: +65 62244168
Email: salesasia@sophos.com

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21-02-11 DS-EN (TN)

SOPHOS



MEMORANDUM

TO: Mayor and City Council

FROM: Andy Sowle, Fire Captain
Chuck Stansfield, Fire Chief

DATE: August 15, 2022

RE: Request to accept bid and Approve Purchase of 5 sets of turnout gear from Dinges Fire.

SUMMARY: Requesting council to approve purchase of 5 sets of Lion Fire Turnout Gear from Dinges Fire for the Webster City Fire Department.

PREVIOUS COUNCIL ACTION: Council has previously approved the purchase of 5 sets of new fire turnout gear in the 2022-2023 Capital Equipment Plan (CEP)

BACKGROUND/DISCUSSION: In order to stay up to date with NFPA standards, the Fire Department sent out bid request for 5 sets of new fire turnout gear. This is an annual purchase to keep turnout gear up to date and to replace turnout gear that has become worn-out. The department set up a committee of 8 firefighters to try on and inspect vendors turnout gear that would be used in bidding. With the fire service being inherently a dangerous job, we set forth standards of protection that companies needed to meet or exceed to be considered for the bid. We also take in to consideration durability of materials, breathability of fabric, cut and flexibility of gear to make the fit of the turnout gear the best for our firefighters, while also being financially conscience.

- Bid requests were sent to MES, Dinges Fire, Sandry Fire, Clarey's Fire Safety, Feld Fire, and Alex Air for turnout gear.
- As stated on bid request, vendor had until July 29th, 2022 if they wished to bring in gear to be tried on by personnel, as well as to give bid price quote on a set of turnout gear that best matches the specification and the department's needs. Four out of the six companies brought turnout gear for firefighters to try on.
- Per bid, companies were required to include TPP (Thermal Protective Performance) and THL (Total Heat Loss) data for each set being bid to help compare protection and breathability between sets.
- Five out of the six companies sent bids back for turnout gear.

The Following bids were received:

-Dinges Fire (Lion Gear) Quote #36490;

Item	Price	Total for 5 Sets
Lion-DFV-VF-P7K4-BLK-SET	\$ 3,420.00	17,100.00

○ TPP-42.4 THL-272

-MES (Morning Pride) - 5 sets of turnout gear \$19,815.00 (TPP-42.4 THL 272)

-Clarey's Fire Safety (Innotek) - 5 sets of turnout gear \$16,072.00 (TPP-38.9 THL-269)

-Sandry Fire (Globe Athletix) – 5 sets of turnout gear \$25,055.00 (Different Outer shell) (TPP-42.1 THL-303)

- Alex Air (Viking) – 5 sets of turnout gear \$15,950.00 (outer shell is made up of less durable/protective Materials per vendor) TPP- No data given THL- No data given

Although Dinges Fire Company was not the lowest bidder, the Webster City Fire Department recommends purchasing a turnout gear set quoted by Dinges (Lion-DFV-VF-P7K4-BLK-SET). This determination was reached based on the quality of materials, fit, and protection it provides.

Dinges Fire Company and Lion PPE have offered to provide 1 set of turnout gear (coat and pant) for free to Webster City Fire Department with the initial purchase of 5 sets (coat and pants). This offer was made separately and not stated in the submitted quote. The Fire Chief and City Attorney reviewed the Iowa Gift Law, Iowa Code Section 68B.22 and can provide further clarification as to any legal questions and potential issues.

FINANCIAL IMPLICATIONS: Council has previously approved \$16,679.00 towards 5 sets of turnout gear from the 2022-2023 CEP. The additional amount of \$421.00 will be taken out of the regular fire department budget. We have seen a major increase this year in turnout gear bids that range from 20%-34% per set.

RECOMMENDATION: After strong consideration of safety, quality, and fit, I recommend that the council approve the purchase of the Lion Turnout Gear from Dinges Fire as the desired and preferred tested product in the amount of \$17,100.00. The department has purchased the similar type of turnout gear through Morning Pride for the last 5 years. With Lion there will be a better cut of fabric to fit the firefighters better while still ensuring the same amount of protection at a cheaper cost. Lion has also improved on materials used in turnout gear that will wick away fluids from firefighters while not soaking into the material and creating heavier turnout gear that will add to heat exhaustion when working in fires. While the total cost is \$421.00 over approved CEP budget amount, not including shipping cost, we feel this turnout gear will continue to allow the department to have safe, reliable and comfortable turnout gear for our firefighters.

RESOLUTION NO. 2022 –

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WEBSTER CITY AUTHORIZING THE CITY MANAGER
TO ACCEPT THE QUOTE FROM DINGES FIRE COMPANY, AMBOY ILLINOIS
AND TO PURCHASE FIVE SETS OF TURNOUT GEAR FOR THE WEBSTER CITY FIRE DEPARTMENT
TOTALING \$17,100.00, PLUS SHIPPING**

WHEREAS, the City of Webster City Fire Department is in need of replacing old fire turnout gear on an annual basis, based on specification and needs; and

WHEREAS, the City of Webster City Fire Department solicited bids and received five responses from vendors; and

WHEREAS, the City wishes to accept Dinges Fire Company quote #36490 and purchase five sets of turnout gear item Lion-DFC-VF-P7K4-BLK-SET; and

WHEREAS, funding was provided in the FY 2022-2023 CEP budget in the amount of \$16,679.00; and

WHEREAS, the estimated total for five sets of turnout gear will exceed the original FY 2022-2023 CEP budgeted amount; and

WHEREAS, the additional funds necessary to complete the purchase will be absorbed by the Webster City Fire Department operating budget; and

WHEREAS, said purchase shall be governed by and construed in accordance with the laws of the State of Iowa; 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 accept the quote from Dinges Fire Company for five sets of turnout gear (item Lion-DFC-VF-P7K4-BLK-SET) in an amount not to exceed \$17,100.00, plus shipping.

SECTION 2: Authorizes the City manager to amend as necessary the fire department operating budget to complete said purchase and for which funds exceed budgeted amount in the FY 2022-2023 CEP budget.

Passed and adopted this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

WEBSTER CITY

FIRE DEPARTMENT

Structural Firefighting Turnout Gear Invitation to Bid

The Webster City Fire Department is requesting bid proposals for: **Structural firefighting turnout gear.**

The intent of this request is to provide basic guidelines and minimum design requirements. It is also the intent of this request to look at every offer that meets the threshold requirements. Therefore, vendors are encouraged to offer pricing for the various options and combinations that their gear has. The Webster City Fire department reserves the right, to select the **most responsible bid** as the best interest of the department may require, awarding the purchase contract from any of the proposals, to reject any or all proposals or parts thereof, and to waive any informalities in proposals received. Proposals will be good for one hundred and twenty (120) days once received.

1. All components and composites used in the construction of garments shall be third party tested, certified and listed for compliance to meet the current NFPA 1971 and anticipated standards changes. The label of the third-party tester shall denote certification.

2. Vendor shall be responsible to fit/ measure personnel. Upon receipt of turnout/ wildland gear if it does not fit the intended individual, the Vendor shall be responsible for correcting the problem.

Structural Firefighting Turnout Gear Specifications:

DESIGN POINT: Coat and pant ensemble shall be designed for the highest possible level of strength, durability, breathability, ergonomic fit, protection, and flexibility.

Outer shell – Made with highly constructed rip stop weave that is extremely durable and water resistant. Options can include any NFPA 1971 compliant materials, with preference to PBI, NOMEX/ Kevlar, Advance ultra, or any other higher quality material. Currently use PBI Max Bid shall include this material or comparable/Better.

Moisture Barrier – Materials should be made of lightweight materials, with moderate to good breathability and durability. Materials should also be able to offer enhanced comfort to the wearer. Materials using NOMEX and or KEVLAR will be preference. Currently use Stedair 4000 Bid shall include this material or comparable/Better.

Thermal Barrier – Shall be made with materials that at a minimum have medium dry time, medium to low water affinity and good to high level of facecloth slipperiness. Thermal Barrier should have an optimal balance of total heat loss and thermal protective performance. Currently use Glide Ice 2 Bid shall include this material or comparable/better.

Please include along with bid TPP and THL numbers of turnout set used for bid.

Basic Turnout Gear Specifications:

Color – Black

Closures – Velcro/ Zipper Closure – both jacket and pants

Zip out/ or button liner

Coat/ Pant Cuffs-Reinforced -black

Trim- NFPA- lime 2-tone Scotchlite (3”) double stitched

Lettering – Lime Scotchlite 3” sewn lettering

SIZES:

Coats shall be made available in even chest sizes with corresponding sleeve lengths available in short, regular, and long, with the ability to be altered if needed.

Pant sizes shall be made available in even waist sizes with inseam lengths available in short, regular and long, with ability to be altered if needed.

Male and female sizing must be available. Vendor must measure for size, and will take full responsibility for proper fit of gear for the identified wearers. Incorrect fit will be corrected by Vendor and at their expense.

Bunker Coat

Bellow pockets- Kevlar lined

Hand warmer behind Bellow pockets- fleece

Standard Wristlets with tabs

Firefighter recovery harness/ strap system with cover flap

Radio Pocket w/mic loop above (8” x3” x 2”)

Flashlight Snap & Strap

WCFD sewn on upper back

Firefighters name Velcro patch lower back

Bunker Pants

Bellow pockets X-large- Black

High padded knee pads- Black

Boot cut cuffs with reinforcement- black

“H” style suspenders w/quick adjustment rings or equivalent

Quick attach belt and loops installed

Must meet current NFPA specifications for turnout gear.

Vendor will have until July 29th, 2022 12pm to bring in gear if you so choose, to be tried on by personnel as well as to give bid price quote on turnout rescue gear that best matches the department's needs.

Questions or clarification on this request for proposal may be directed to Andy Sowle, Captain 515-832-9131 or Andy_Sowle@webstercity.com


DINGESFIRE
 COMPANY

TRUCKS.TOOLS.TRADITION.

Dinges Fire Company

243 E Main St.

Amboy, IL 61310

Phone: 815.857.2000

www.DingesFire.com

Bill To:

Webster City Fire (Webster City, IA)

C/O: Andy Sowl

919 Superior St.

Webster City, IA 50595

Ship To:

Webster City Fire(S)

919 Superior St.

Webster City, IA 50595

Quantity	Item	Description	Price	Total
1.00	Lion-DFC-VF-P7K4-BLK-SET	[PSGQ24235] V-FORCE IsoDri Set, PBI 7oz (Black)-K4 Liner (Glide Ice AraFlo/Stedair 4000) - Bi-Swing Coat with 9x7x2 hand warmer pockets, Flashlight Strap FLS554 on Right Chest, Radio Pocket RP800 and Mic Tab MT503 on Left Chest and Pant with Zipper In/Velcro Out Fly, Black PCA Cuff and Knee Reinforcement with Lite-N-Dri Knee Padding and Red V-Back Suspenders with Self Material Suspender Tab Options: - C - Trim: [CT134PTY + PTC4PT3Y] NFPA LIME/YELLOW - D - Yoke Lettering: [LTSL3YNS] 3" LIME/YELLOW - Straight (WCDF) - F - Name Letter Panel: [LP34 - LPV13 - LPS10 - LTSL3YNS] Hanging Letter Panel 3" LIME/YELLOW - G - Wristlet: [CLW760] 4" IsoDri Wristlet with Nomex Webbing Thumb Loop - H - Flag: [EM1] 2x3 American Flag LEFT SLEEVE - I - Coat Closure: [SF244] 2.5" Storm Flap with Zipper In/Velcro Out - K - Waist: [BHS013 + BL007] 2" Kevlar Belt and 3 Belt Loops	\$3,420.00 THL 272	\$3,420.00 TPP 42.4
1.00	Lion-DFC-VF-P7K7-BLK-SET	[PSGQ25744] V-FORCE IsoDri Set, PBI 7oz Outer Shell (Black)-K7 Liner (Glide Ice AraFlo/Crosstech Black) - Bi-Swing Coat with 9x7x2 hand warmer pockets, Flashlight Strap FLS554 on Right Chest, Radio Pocket RP800 and Mic Tab MT503 on Left Chest and Pant with Zipper In/Velcro Out Fly, Black PCA Cuff and Knee Reinforcement with Lite-N-Dri Knee Padding and Red V-Back Suspenders with Self Material loops Options: - C - Trim: [CT134PTY + PTC4PT3Y] NFPA LIME/YELLOW - D - Yoke Lettering: [LTSL3YNS] 3" LIME/YELLOW - Straight (WCDF) - F - Name Letter Panel: [LP34 - LPV13 - LPS10 - LTSL3YNS] Hanging Letter Panel 3" LIME/YELLOW - G - Wristlet: [CLW760] 4" IsoDri Wristlet with Nomex Webbing Thumb Loop - H - Flag: [EM1] 2x3 American Flag LEFT SLEEVE	\$3,520.00 THL 277	\$3,520.00 TPP 38.9

		- I - Coat Closure: [SF244] 2.5" Storm Flap with Zipper In/Velcro Out - K - Waist: [BHS013 + BL007] 2" Kevlar Belt and 3 Belt Loops		
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* Sales tax will be applied to customers who have not provided a tax exempt certificate.

Sub \$6,940.00

Total

* Quote Created on 07/25/2022

Shipping TBD

* Shipping is an estimate, Actual Shipping will be reflected on Invoice.

Total \$6,940.00

****This is a quotation only. Please do not make payment based off this quotation. An invoice will be sent to you when product is ready for delivery. Contact your local sales representative with any questions or requests.****

Notes:

Option 1- P7K4 (Stedair 4000 & Glide ice 2 layer with ARAFLO)

THL-272.2

TPP-42.4

RET- 64.0

Option 2- P7K7 (Crosstech Black & Glide ice 2 layer with ARAFLO)

THL- 277.7

TPP-38.9

RET-30.0



Chief Stansfield-

Dinges Fire Company and Lion PPE have agreed to provide 1 set of turnout gear (coat and pant) at NO COST to Webster City Fire Department with your initial purchase of 5 sets (coat and pants). This offer will not apply to any future purchases. If you have any questions or concerns, feel free to reach out to Jon Schrek or myself.

Thank you for your business!

Chaon Hanson
Iowa Sales manager



MEMORANDUM

TO: Mayor and City Council

FROM: City Manager
Finance Director

DATE: September 6, 2022

RE: Public Hearing to Amend the FY23 Budget

SUMMARY: Staff would like to amend the FY23 budget by rolling over funds for items that were budgeted in FY22 but were not purchased until FY23.

PREVIOUS CONCIL ACTION: The amendment process has been performed on an annual basis in the past. The year-to-date revenues and expenses are evaluated and amendments made if it appears the actual will be over budget for expenses or under budget for revenues.

BACKGROUND/DISCUSSION: The recent supply and demand issues resulted in some of our FY22 budgeted expenditures not being received until FY23. Accrual accounting mandates expenditures are recorded when received or the service performed.

On occasion, we have allowed departments to use prior year's budget, however we did not always amend the budget. The budget reports departments are given compare the actual expenditures to budget so when we use old budget but do not record it in the software it looks like the departments have overspent which can be confusing.

The amendments are:

PUBLIC SAFETY - \$8,871.00

- \$4,400.00 – this is to purchase a forcible door simulator for the Fire Department that was budgeted in FY22 but received in FY23
- \$4,471.00 from Police Operations to be used towards loan payments for the new police vehicles.

CULTURE & RECREATION -\$85,507.00

- \$1,507.00 – a replacement panel for Lions Park (1,507)
- \$15,000.00 - additional funds that may be needed for the pool slide repairs

- \$69,000.00 – trail work at Wilson Brewer Park

BUSINESS TYPE/ENTERPRISE - \$1,236,664.00

- \$32,835.00 for materials ordered but not received for the Stonega Line Pole Changeout project
- \$5,000.00 for materials not received for a street lighting project
- \$39,335.00 for transformers that were ordered but not received
- \$749,494.00 for the URD project that was budgeted for FY22 but will not begin until FY23 (we may need to amend again if the project is not complete by June 30, 2023)
- \$60,000.00 for the water fill station that was budgeted in FY22 with completion to be in the next few weeks
- \$350,000.00 for the sanitary slip lining project budgeted in FY22 that will be combined with FY23 budget

CAPITAL PROJECTS - \$463,565.00

- 2ND Street Project expenses budgeted for FY22 but have not been completed yet.

CAPITAL EQUIPMENT \$152,114.00 – The Capital Equipment amendments are for in-house purposes and not part of the state budget form.

- \$50,000.00 - Pickup with utility box for the Street Department
- \$13,114.00 - Radios for the Fire Department
- \$58,000.00 - Pickups for the Water & Wastewater Departments
- \$31,000.00 - Generator for the Wastewater Department

FINANCIAL: All of the items are for budgeted FY22 expenses that were not completed by June 30th except the \$4,471.00 additional funding needed for the police vehicles. The additional needed for the Police vehicles will be from unspent budgeted operational expenses within the Police Department.

RECOMMENDATION: We recommend that the Public Hearing be set for 6:01 p.m. on Monday, September 19, 2022.

NOTICE OF PUBLIC HEARING - AMENDMENT OF CURRENT BUDGET

City of WEBSTER CITY
Fiscal Year July 1, 2022 - June 30, 2023

The City of WEBSTER CITY will conduct a public hearing for the purpose of amending the current budget for fiscal year ending June 30, 2023

Meeting Date/Time: 9/19/2022 06:01 PM

Contact: Dodie Wolfgram

Phone: (515) 832-9141

Meeting Location: City of Webster City Municipal Building
400 2nd Street
Webster City, IA 50595

There will be no increase in taxes. Any residents or taxpayers will be heard for or against the proposed amendment at the time and place specified above. A detailed statement of: additional receipts, cash balances on hand at the close of the preceding fiscal year, and proposed disbursements, both past and anticipated, will be available at the hearing.

REVENUES & OTHER FINANCING SOURCES		Total Budget as Certified or Last Amended	Current Amendment	Total Budget After Current Amendment
Taxes Levied on Property	1	4,527,493	0	4,527,493
Less: Uncollected Delinquent Taxes - Levy Year	2	0	0	0
Net Current Property Tax	3	4,527,493	0	4,527,493
Delinquent Property Tax Revenue	4	0	0	0
TIF Revenues	5	294,044	0	294,044
Other City Taxes	6	1,037,821	0	1,037,821
Licenses & Permits	7	123,830	0	123,830
Use of Money & Property	8	920,131	0	920,131
Intergovernmental	9	1,276,768	0	1,276,768
Charges for Service	10	18,364,782	0	18,364,782
Special Assessments	11	0	0	0
Miscellaneous	12	1,702,160	0	1,702,160
Other Financing Sources	13	25,030,000	0	25,030,000
Transfers In	14	10,244,018	0	10,244,018
Total Revenues & Other Sources	15	63,521,047	0	63,521,047
EXPENDITURES & OTHER FINANCING USES				
Public Safety	16	2,988,186	8,871	2,997,057
Public Works	17	1,809,531	0	1,809,531
Health and Social Services	18	48,274	0	48,274
Culture and Recreation	19	1,285,924	85,507	1,371,431
Community and Economic Development	20	666,348	0	666,348
General Government	21	428,990	0	428,990
Debt Service	22	1,238,285	0	1,238,285
Capital Projects	23	2,148,721	463,585	2,612,306
Total Government Activities Expenditures	24	10,614,259	557,963	11,172,222
Business Type/Enterprise	25	47,344,062	1,236,664	48,580,726
Total Gov Activities & Business Expenditures	26	57,958,321	1,794,627	59,752,948
Transfers Out	27	10,244,018	0	10,244,018
Total Expenditures/Transfers Out	28	68,202,339	1,794,627	69,996,966
Excess Revenues & Other Sources Over (Under) Expenditures/Transfers Out	29	-4,681,292	-1,794,627	-6,475,919
Beginning Fund Balance July 1, 2022	30	41,098,823	0	41,098,823
Ending Fund Balance June 30, 2023	31	36,417,531	-1,794,627	34,622,904

Explanation of Changes: The amended amounts are expenses budgeted for FY22 that will be incurred in FY23. These expenses are materials for the Fire Department, Line Department and Parks as well as Improvement projects for the Parks, Outdoor Pool, Electric, Water and Sewer.



MEMORANDUM

TO: Mayor and City Council

FROM: Dodie Wolfram, Finance Director
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

RE: Transfer of Funds

SUMMARY: Council authorization is needed to make the 27 transfers described below for a total of \$5,080,077.28. The transfers will be posted as June 2022 transactions.

PREVIOUS COUNCIL ACTION: In the past, transfers have been presented to council in December and June of each year.

BACKGROUND/DISCUSSION: In the past, year-end transfers have been brought to the council in June. This procedure works with the majority of the transactions however, a few transfers are based on the year-end balance of a fund which cannot be determined until June invoices are paid in July or August. Staff confirmed with our auditor's that year end transfers can be presented to council after the fiscal year end with council giving the authorization to post the transfers for FY22.

The transfer transactions that are included in the resolution are:

1. Transfer from the General Fund (2021A Bond Proceeds) to the Annual Street Maintenance Fund for the parking lot portion of the 2021 HMA Project.
2. Transfer from the General Fund to the E Twin Park Fund to reconcile Phase I of the project. Total project expenses were \$243,941.46; received Wellmark Grant (\$96,928.00); Friends of WC Parks Donations (\$53,879.47).
3. Transfer from the General Fund to the W Twin Park fund to remove the negative balance. This fund was rarely used with the majority of the expenses being shown in transfer #7.
4. Transfer from the General Operations Fund to the General Capital Equipment Fund from the revenue received from Fire Township Agreements to be set aside for future fire trucks.
5. Transfer from the General Fund to the Boone River Trail Project fund to offset the negative balance.
6. Transfer from the General Fund to the Parks & Rec Improvement Fund the Hotel/Motel annual contribution to be solely used on parks or recreation projects.

7. Transfer from the General Fund to the Parks & Rec Improvement Fund to offset the negative balance in this newly established fund which was made to better track how the Hotel/Motel contribution is being used. The improvement costs would have been shown as an expense to the General Fund in the past.
8. Transfer from the Road Use Fund to the Bridge Improvement Fund for the 2021 Bridge Repair Project.
9. Annual transfer to move FY22 revenue received in the Emergency Levy to the General Fund.
10. Annual transfer from Riverview TIF receipts to SSMID with the transfer amount being calculated during the budget process, using the SSMID tax levy and the taxable incremental value of the downtown SSMID district.
11. The balance of the Riverview TIF Funds after the SSMID contribution are transferred to the 2nd Street Reconstruction Project to repay the loan.
12. Transferring the required portion of Brewer Creek Estates TIF receipts received to the LMI Fund.
13. Transferring the balance in the Brewer Creek Estates Fund to the BC Estates Improvement Fund that will in turn be transferred to the Electric Reserve Fund to repay the internal loan.
14. Gourley TIF Fund annual transfer to the LMI Fund.
15. Transfer from WCF TIF to the Sewer Reserve Fund to pay back debt for an advance for necessary sewer work.
16. Ridge Development TIF Fund annual transfer to the LMI Fund.
17. Transfer from the Capital Improvement Fund (LOSST Receipts) to the Annual Street Maintenance Fund to cover the costs for 2021 HMA Project (Street & Storm Sewer portion) as well as reconcile the FY21 transfer for the 2020 HMA Project to actual.
18. Transfer the revenue received from a lot sale in the Brewer Creek Estates and the TIF receipts to the Electric Reserve Fund to repay the internal loan.
19. Transferring from the Electric Reserve to the 2nd Street Project Fund for the electric portion of the project.
20. Transferring from the Electric Reserve to Electric Operations to reimburse for Capital Improvement expenses that include portions of the following projects; 1st Street Lighting Project; Sweazey Substation & Annunciator Panels; 2020 URD Project and the 2021 2nd & Beach Electrical Project.
21. Transfer from Water Operations to Water Improvement Reserve for future CIP.
22. Transfer from Water Improvement Reserve to the Annual Street Maintenance Fund for the water portion of the 2021 HMA Project.
23. Transfer from Water Improvement Reserve to Water Operations for the costs not already transferred for the Edgewood Watermain Loop and River Street Watermain Projects.
24. Transfer from Water Improvement Reserve to the 2nd Street Project Fund for the to date water portion of the project.
25. Transfer from Sewer Improvement Fund to Annual Street Maintenance to pay for the sewer portions of the 2020 & 2021 HMA Projects.
26. Transfer from Sewer Improvement Fund to 2nd Street Project Fund for the to date sewer portion of the project.
27. Annual transfer from Sewer Operations to the Sewer Improvement Reserve for future CIP.

FINANCIAL IMPLICATIONS: The transfers were budgeted or needed to reconcile and/or close funds.

RECOMMENDATION: Staff recommends Council approve the requested transfers.

RESOLUTION 2022-

Transferring cash to provide funding for certain projects and to repay internal loans and/or repay funds for projects and TIF obligation payments.

WHEREAS, the following projects require transfers in cash for funding of certain projects, and to return balances of completed projects to their supporting funds as follows:

1	100-General Fund to 525-Annual Street Maintenance	525	210,244.00	210,244.00	100
2	100-General Fund to 537-E Twin Park Project Fund	537	90,146.50	90,146.50	100
3	100-General Fund to 535-W Twin Park Project Fund	535	1,340.00	1,340.00	100
4	100-General Fund to 100B-Gov't Capital Equipment	100B	34,501.00	34,501.00	100
5	100-General Fund to 503-Boone River trail	503	2,165.00	2,165.00	100
6	100-General Fund to 100C Park & Rec Impr Reserve	100C	26,489.00	26,489.00	100
7	100-General Fund to 100C Park & Rec Impr Reserve	100C	131,830.45	131,830.45	100
8	204-Road Use Fund to 528-Bridge Improvement Fund	528	162,725.00	162,725.00	204
9	209-Emergency Levy Fund to 100-General Fund	100	70,155.49	70,155.49	209
10	250-Riverview TIF Fund to 260-SSMID	260	2,646.00	2,646.00	250
11	250-Riverview TIF Fund to 504-2nd Street Reconstruction Fund	504	29,891.06	29,891.06	250
12	255-BC Estates TIF Fund to 228-LMI Fund	228	6,969.43	6,969.43	255
13	255-BC Estates TIF Fund to 502-BC Estates Improvement Fund	502	10,205.11	10,205.11	255

	CASH TRANSFERS	FUND	TRANSFERS IN		TRANSFERS OUT	FUND
14	281-Gourley TIF Fund to 228-LMI Fund	228	8,733.13		8,733.13	281
15	287--WCF TIF Fund to 603D-Sewer Improvement Reserve	603D	10,000.00		10,000.00	287
16	294-Ridge Development TIF Fund to 228-LMI Fund	228	10,714.00		10,714.00	294
17	500-Capital Improvement Fund to 525-Annual Street Maintenance Fund	525	580,708.00		580,708.00	500
18	502-BC Estates Improvement Fund to 601D-Electric Improvement Reserve	601D	50,200.11		50,200.11	502
19	601-Electric Improvement Reserve to 536-2nd Street Project	536	171,196.00		171,196.00	601D
20	601D-Electric Improvement Reserve to 601-Electric Operations	601	341,963.00		341,963.00	601D
21	602-Water Operations to 602D-Water Improvement Reserve	602D	700,000.00		700,000.00	602
22	602-Water Improvement Reserve to 525-Annual Street Project	525	186,163.00		186,163.00	602D
23	602D-Water Improvement Reserve to 602-Water Operations	602	825,543.00		825,543.00	602D
24	602-Water Improvement Reserve to 536-2nd Street Project	536	613,988.00		613,988.00	602D
25	603-Sewer Improvement Reserve to 525-Annual Street Project	536	66,292.00		66,292.00	603D
26	603-Sewer Improvement Reserve to 536-2nd Street Project	536	235,269.00		235,269.00	603D
27	603-Sewer Operations to 603D-Sewer Improvement Reserve	603D	500,000.00		500,000.00	603
	TOTALS		5,080,077.28		5,080,077.28	

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Webster City, Iowa that the Finance Director is hereby authorized and directed to make the cash transfers in the amounts described above in the period of June 2022.

Passed and adopted this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K Bonjour, City Clerk



MEMORANDUM

TO: Mayor and Council

FROM : Dedra Nerland, Public Works Management Assistant
Biridiana Bishop, Assistant City Manager
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

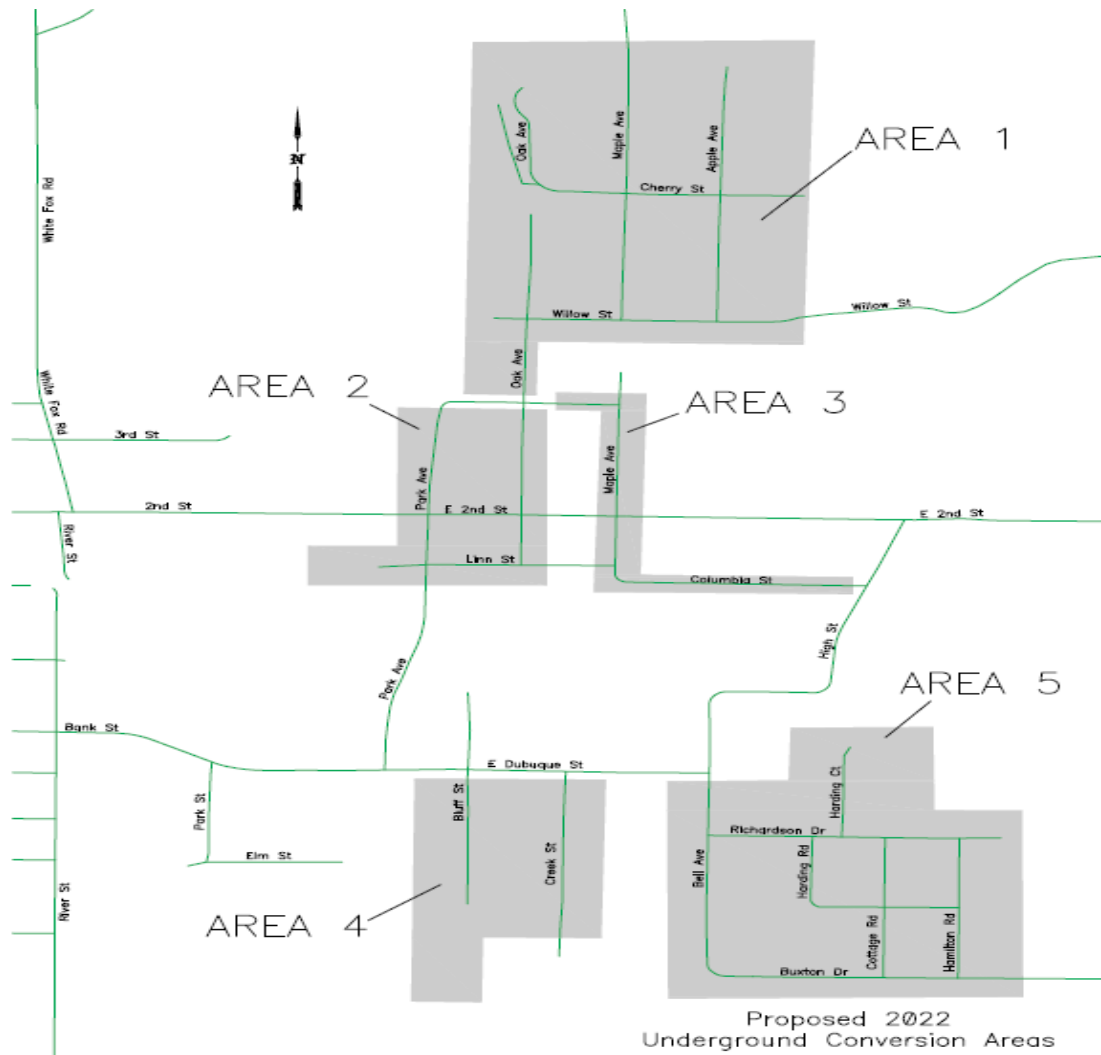
RE: Adopt a Resolution to Set a Public Hearing on Proposed Plans and Specifications, Form of Contract, and Estimate of Cost for Furnishing Materials for the 2022 Electrical Underground Conversion Project

SUMMARY: The 2022 Electrical Conversion Project plans and specifications, form of contract and estimate of cost for furnishing materials of the project are prepared and the project is ready to rebid. The project will consist of converting the overhead system to an underground distribution (URD) system within 5 areas: **Note map.**

The bid request at this time is for materials only. The materials contract will be awarded to the lowest bid or bidders able to supply the materials. The timeline for construction will be determined at a later date pending the results of the product lead times.

PREVIOUS COUNCIL ACTION: At the February 27, 2022 Council Meeting, the Council rejected all bids on the 2022 Electrical Underground Conversion Project Material Purchase Contract. At that time, the previously scheduled Public Hearing to review plans and specifications was canceled. After consulting with engineers, it was determined that the project would be re-bid at a time when supply chain may be better.

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.



Detailed plans and specifications are available in the Public Works office for review. Because the City did not receive complete bids last time the materials contract was let, the engineer is recommending the City make amendments to the proposed contract and incorporate a clause to permit bidders to quote with escalation factors included in their price. If vendors are quoting with an escalation, they will need to provide a full explanation of the methodology used to determine the final invoices price. The escalation modification was reviewed by the city attorney and deemed acceptable.

The proposed schedule for the material purchase contract is as follows:

- September 6, 2022: City Council sets bid date/time and public hearing date/time
- September 7, 2022: Publish Notice to Bidders
- September 14, 2022: Publish Notice of Public Hearing
- September 22, 2022 at 3:00 p.m.: Conduct the bid lettings
- September 27, 2022: Bid evaluation and recommendation to Council
- October 3, 2022 at 6:05 p.m.: Conduct the public hearing and award contracts and authorize execution of contracts by Mayor and City Clerk
- October 4, 2022: Issue Purchase Orders

The tentative project schedule will be contingent on the lead times of materials. Once we have a general idea on when we may have materials in place for construction phase, we can better determine when it will be best to seek contractors for construction. We will bring the information before you prior to proceeding further.

FINANCIAL IMPLICATIONS: Funding for the project is from Electric Utility funds. The opinion of probable cost, including both materials to be purchased under the contract that is to be bid at this time and the future construction contract, for the 5 areas:

AREA 1 = \$575,000.00
AREA 2 = \$337,000.00
AREA 3 = \$185,000.00
AREA 4 = \$259,000.00
AREA 5 = \$643,000.00

Estimate for all 5 AREAS	\$1,999,000.00
Contingency/ Construction Observation 7%:	\$ 139,930.00
Right of Way Services (33 easements)	\$ 24,000.00 (Resolution No. 2022-052)
Engineering costs to date:	\$ 71,272.27
Publication cost to date:	\$ 111.30
Total	\$2,234,313.57

There are sufficient funds in the Electric Utility fund to cover this project.

RECOMMENDATION: Staff recommends adopting a Resolution to Set a Public Hearing on Proposed Plans and Specifications, Form of Contract, and Estimate of Cost for Furnishing Materials for the 2022 Electrical Underground Conversion Project.

RESOLUTION NO. 2022 - ____

**PROVIDE FOR NOTICE OF HEARING ON PROPOSED PLANS AND SPECIFICATIONS
AND PROPOSED FORM OF CONTRACT AND ESTIMATE OF COST FOR FURNISHING MATERIALS FOR THE
2022 ELECTRICAL UNDERGROUND CONVERSION 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 2022 Electrical Underground Conversion Project, (and is sometimes 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, it is necessary to fix a time and place of public hearing on the proposed plans, specifications and form of contract and estimate of cost for the Project and to advertise for sealed bids for the Project;

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

Section 1. The detailed plans and specifications, notice of hearing and estimate of cost referred to in the preamble hereof be and the same are hereby approved.

Section 2. The Project is necessary and desirable for the City, and it is in the best interests of the City to proceed toward the construction of the Project.

Section 3. The amount of the bid security to accompany each bid is hereby fixed at 5% of the amount of the proposal.

Section 4. Sealed proposals will be received by the City Clerk of Webster City, at the Council Chambers of the City Council, in the City Hall of said City, until 3:00 p.m. on the 22nd day of September, 2022, for the 2022 Electrical Underground Conversion Project, as described in the plans and specifications therefor now on file in the office of the City Clerk. Proposals will be opened by City Staff appointed by the City Council as provided by Section 384.101, Code of Iowa.

Section 5. The 3rd day of October, 2022, at 6:05 o'clock p.m. at the City Hall, Webster City, Iowa, is hereby fixed as the time and place of hearing on the proposed plans, specifications, form of contract and estimate of cost for the Project, and also as the time and place of considering bids previously received by the City Clerk in connection therewith.

Section 6. The City Clerk is hereby authorized and directed to give notice of the aforementioned hearing and letting by publication of such notices in a newspaper of general circulation in the City, which publication shall be made not less than four nor more than twenty days prior to the time of the said hearing, all in conformity with Chapters 362, 384, and 26 of the Code of Iowa. The said notice shall be in the form substantially as attached to this resolution.

Section 7. All provisions set out in the following form of notice are hereby recognized and prescribed by this Council and all resolutions or orders or parts thereof, to the extent the same may be in conflict herewith, are hereby repealed.

Passed and approved this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

NOTICE TO BIDDERS AND NOTICE OF PUBLIC HEARING ON PROPOSED PLANS, SPECIFICATIONS, FORM OF CONTRACT, AND ESTIMATE OF COST FOR FURNISHING MATERIALS FOR THE "2022 ELECTRICAL UNDERGROUND CONVERSION PROJECT", IN AND FOR THE CITY OF WEBSTER CITY, IOWA, AND THE TAKING OF BIDS FOR SAID IMPROVEMENTS

Sealed proposals, subject to the conditions contained herein, will be received at the office of the City Clerk in City Hall, 400 Second Street, Webster City, Iowa, 50595, until 3:00 o'clock p.m. on the 22nd day of September, 2022 for:

Furnishing materials for the "2022 Electrical Underground Conversion Project", as hereinafter described in general and as described in detail in the plans and specifications now on file in the office of the City Clerk, Webster City, Iowa.

Proposals received will be opened, read aloud, tabulated, and referred to the City Council for consideration at 6:05 p.m. on the 3rd day of October, 2022. Bids will be acted upon at such time or at such later time as may then be fixed. Prior thereto, at said time specified above, in the City Council Chambers at Webster City Hall, a hearing will be held on the proposed plans, specifications, form of contract, and estimate of cost for said Improvements, and at said hearing any interested person may appear and file objections thereto.

The extent of the work involved is the furnishing of materials that are generally described as follows:

- a. Secondary (600 volt class) and primary (15 kV class) electric distribution cable
- b. Electric power cable accessories
- c. Fused cutouts and surge arresters
- d. Pad mounted transformers (single phase, 15 kV class)
- e. Pad mounted switchgear (15 kV class)
- f. Junction cabinets, handholes, box pads, and pedestals
- g. Connectors and other electrical construction materials

The Proposal shall be made out on the form furnished by the City of Webster City and obtained from P&E Engineering Co., and must be accompanied in a separate sealed envelope by either: (1) a certified check, or a cashier's check drawn on an Iowa bank, or a bank chartered under the laws of the United States, in an amount of 5% of bid amount; or (2) a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States, in an amount of 5% of bid amount; or (3) a bid bond executed by a corporation authorized to contract as a surety in the State of Iowa, in the penal sum of 5% of bid amount.

The bid security shall be made payable to the City Clerk of the City of Webster City, Iowa.

The bid security must not contain any conditions either in body or as an endorsement thereon. The bid security shall be forfeited to the City as liquidated damages in the event the successful bidder fails or refuses to enter into contract within ten (10) days after the award of contract and post bond satisfactory to the City insuring the faithful fulfillment of the contract and the maintenance of said work, if required, pursuant to the provisions of this notice and the other contract documents. The City will accept bid bond forms that meet the Requirements of Iowa Code, Section 26.8.

Bid prices shall be exclusive of Iowa Sales and Use tax. All state and local taxes will be added to the prices shown in the Bid at the rate prescribed by law.

Bidders shall not be permitted to withdraw their bids for a period of thirty (30) days after the same are opened.

In accordance with Iowa statutes, a resident bidder shall be allowed a preference as against a nonresident bidder from a state or foreign country if that state or foreign country gives or requires any preference to bidders from that state or foreign country, including but not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference shall be equal to the preference given or required by the state or foreign country in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

Bidders will be required to complete a Bidder Status Form from the Iowa Department of Labor regarding the Contractor's resident status within the State of Iowa and to submit that form with the bid. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

Goods are to be delivered within the lead time quoted. All deliveries must be completed as identified on Seller's proposal and agreed to by Buyer.

Seller shall submit his normal application for payment or invoice directly to Buyer following the delivery of materials. Buyer will pay Seller within 30 days after satisfactory delivery and acceptance of materials and receipt of the application for payment or invoice.

Plans and specifications governing the furnishing of the materials have been prepared by P&E Engineering Co., which plans and specifications and the proceedings of the Owner referring to and defining said proposed improvements are hereby made a part of the Notice by reference, and the proposed contract shall be executed in compliance therewith. Copies of said plans and specifications are now on file with the City Clerk and at the offices of P&E Engineering Co., and may be examined by the bidders.

Plans and specifications may be obtained from P&E Engineering Co., by contacting Al Powers at 515-979-7496 (cell) or by email at arpowers@peengr.com. Bidding documents may be obtained electronically at no cost. A single copy of the Bidding documents in paper form may also be obtained at no cost from the Engineer.

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

CITY OF WEBSTER CITY, IOWA

Attest: /s/ Karyl K. Bonjour
City Clerk

WEBSTER CITY

2022 Electrical Underground Conversion Project MATERIAL PROCUREMENT CONTRACT CONTRACT DOCUMENTS AND SPECIFICATIONS



	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.
	_____ (signature) _____ (date)
	ALLAN R. POWERS, IOWA REG. NO. 07248
	MY LICENSE RENEWAL DATE IS DECEMBER 31, 2022
	PAGES OR SHEETS COVERED BY THIS SEAL: As listed on Index Page 00000-1 _____ _____ _____

ISSUED FOR BIDDING
Sept. 6, 2022

 **P & E ENGINEERING CO.**
POWER SYSTEM ANALYSIS AND DESIGN

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract

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SECTION	TITLE
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Contract Documents	
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00300	Bid Proposal
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00520	Purchase Order Form
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00550	Contract Conditions
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Equipment Specifications	
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16101	Secondary Cable Specifications
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16102	Primary Cable Specifications
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16200	Single Phase Pad Mounted Transformer Specification
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16300	Pad Mounted Switchgear Specification
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WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 00101 – Notice to Bidders and Notice of Public Hearing

NOTICE TO BIDDERS AND NOTICE OF PUBLIC HEARING ON PROPOSED PLANS, SPECIFICATIONS, FORM OF CONTRACT, AND ESTIMATE OF COST FOR FURNISHING MATERIALS FOR THE “2022 ELECTRICAL UNDERGROUND CONVERSION PROJECT”, IN AND FOR THE CITY OF WEBSTER CITY, IOWA, AND THE TAKING OF BIDS FOR SAID IMPROVEMENTS

Sealed proposals, subject to the conditions contained herein, will be received at the office of the City Clerk in City Hall, 400 Second Street, Webster City, Iowa, 50595, until 3:00 o'clock p.m. on the 22nd day of September, 2022 for:

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Proposals received will be opened, read aloud, tabulated, and referred to the City Council for consideration at 6:05 p.m. on the 3rd day of October, 2022. Bids will be acted upon at such time or at such later time as may then be fixed. Prior thereto, at said time specified above, in the City Council Chambers at Webster City Hall, a hearing will be held on the proposed plans, specifications, form of contract, and estimate of cost for said Improvements, and at said hearing any interested person may appear and file objections thereto.

The extent of the work involved is the furnishing of materials that are generally described as follows:

- a. Secondary (600 volt class) and primary (15 kV class) electric distribution cable
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- g. Connectors and other electrical construction materials

The Proposal shall be made out on the form furnished by the City of Webster City and obtained from P&E Engineering Co., and must be accompanied in a separate sealed envelope by either: (1) a certified check, or a cashier's check drawn on an Iowa bank, or a bank chartered under the laws of the United States, in an amount of 5% of bid amount; or (2) a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States, in an amount of 5% of bid amount; or (3) a bid bond executed by a corporation authorized to contract as a surety in the State of Iowa, in the penal sum of 5% of bid amount.

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The bid security must not contain any conditions either in body or as an endorsement thereon. The bid security shall be forfeited to the City as liquidated damages in the event the successful bidder fails or refuses to enter into contract within ten (10) days after the award of contract and post bond satisfactory to the City insuring the faithful fulfillment of the contract and the maintenance of said work, if required, pursuant to the provisions of this notice and the other contract documents. The City will accept bid bond forms that meet the Requirements of Iowa Code, Section 26.8.

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 00101 – Notice to Bidders and Notice of Public Hearing

Bid prices shall be exclusive of Iowa Sales and Use tax. All state and local taxes will be added to the prices shown in the Bid at the rate prescribed by law.

Bidders shall not be permitted to withdraw their bids for a period of thirty (30) days after the same are opened.

In accordance with Iowa statutes, a resident bidder shall be allowed a preference as against a nonresident bidder from a state or foreign country if that state or foreign country gives or requires any preference to bidders from that state or foreign country, including but not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference shall be equal to the preference given or required by the state or foreign country in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

Bidders will be required to complete a Bidder Status Form from the Iowa Department of Labor regarding the Contractor's resident status within the State of Iowa and to submit that form with the bid. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

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Seller shall submit his normal application for payment or invoice directly to Buyer following the delivery of materials. Buyer will pay Seller within 30 days after satisfactory delivery and acceptance of materials and receipt of the application for payment or invoice.

Plans and specifications governing the furnishing of the materials have been prepared by P&E Engineering Co., which plans and specifications and the proceedings of the Owner referring to and defining said proposed improvements are hereby made a part of the Notice by reference, and the proposed contract shall be executed in compliance therewith. Copies of said plans and specifications are now on file with the City Clerk and at the offices of P&E Engineering Co., and may be examined by the bidders.

Plans and specifications may be obtained from P&E Engineering Co., by contacting Al Powers at 515-979-7496 (cell) or by email at arpowers@peengr.com. Bidding documents may be obtained electronically at no cost. A single copy of the Bidding documents in paper form may also be obtained at no cost from the Engineer.

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

CITY OF WEBSTER CITY, IOWA

Attest: /s/ Karyl K. Bonjour
City Clerk

**WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 00300 – Bid Proposal Form**

PROJECT IDENTIFICATION

This Contract covers the procurement of electrical distribution materials for The City of Webster City 2022 Electrical Underground Conversion Project.

THIS BID IS SUBMITTED TO (Buyer):

City of Webster City
Public Works Dept.
400 Second Street
Webster City, Iowa, 50595

THIS BID IS SUBMITTED BY (Bidder):

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to accept Buyer's Purchase Order to furnish all Goods as specified or indicated in the Purchase Order for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions in the Bidding Documents.

2.01 Bidder accepts all terms and conditions of the Contract Conditions, and the Notice to Bidders and Notice of Public Hearing, including without limitation those dealing with the disposition of Bid Security. The 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 Buyer.

3.01 In submitting this Bid, Bidder represents that:

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged.

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

- B. Bidder declares that he has examined to his own satisfaction the Drawings, Specifications, and other Bidding Documents, the character, quality and quantity of materials to be supplied, and other matters which can affect the work under this contract; and that this proposal is made with full knowledge of the intent and purpose of the same. He further declares that in respect to these matters he is not relying upon any representation made to him by any officer, agent, or employee of the Buyer, or by any other person on behalf of Buyer, but that he relies solely upon his own investigation.

WEBSTER CITY
2020 OH-UG Conversion Project
Material Procurement Contract
Section 00300 – Bid Proposal Form

- C. The undersigned certifies that the bid prices contained herein have been carefully checked and are submitted as correct and final. It is proposed to furnish Goods at the prices set out for each item.

5.01 A Bid Security in the amount of 5% of the total amount of the bid has been furnished with this Proposal Form, enclosed in a separate sealed envelope that is marked "Bid Security". In case of default or failure on the part of the undersigned to accept a purchase order for the goods, it is hereby agreed that the accompanying Bid Security may be cashed and deposited with the Buyer, and it is further agreed that in that case the Sum of

_____ Dollars (\$_____) which is the amount of the Bid Security accompanying this proposal, is the fair measure of the amount of the damages that the City of Webster City will sustain in case the undersigned shall fail or refuse to accept a Purchase Order if said Contract is awarded to him.

6.01 A completed Iowa Department of Labor Bidder Status Form (309-6001) regarding the Contractor's resident status within the State of Iowa must be submitted with this Bid Form.

7.01 Bid prices are shown on the following pages 00300-3 through 00300-7. Items for which no bid is being submitted are marked with "No Bid".

Submitted on _____, 2022

Firm Name _____

Type of Firm _____
(corporation, partnership, individual, or joint venture)

By _____
(typed or printed)

(individual's signature)

Title _____

Business address _____

Phone No. _____

Email Address _____

Webster City
2022 Electrical Underground Conversion Project
Material Procurement Contract
Material Bid Form

										Pricing		
Line	Item Number	Quantity	U/M	Description	Specified Manufacturer and Cat. No.	Quoted Manufacturer and Cat. No.	Quantity to be Supplied	Quoted Unit Price	Total Price	Firm	Escalated	Quoted Lead Time or Delivery Date
1	05511	4,000	ft	Cable, #4-#4-#4 Al URD TX, 600V, per specifications, with approximately 2000 ft per reel	Vassar							
2	05511 Alternate											
3	05520	8,500	ft	Cable, 4/0-4/0-2/0 Al URD TX, 600V, per specifications, with approximately 1700 ft per reel	Sweetbriar							
4	05520 Alternate											
5	05523	19,800	ft	Cable, 350-350-4/0 Al URD TX, 600V, per specifications, with approximately 1800 ft per reel	Wesleyan							
6	05523 Alternate											
7	05612	42,000	ea	Cable, 15kV, #1/0 solid Al, 220 mil, per specifications, with approximately 3500 ft per reel								
8	05612 Alternate											
9	10036	5	ea	Bracket, cutout/arrester, fiberglass, 3 phase, 48"	Maclean G3MA014813DD							
10	10036 Alternate											
11	10037	2	ea	Bracket, cutout/arrester, fiberglass, 1 phase, 18"	Maclean G1MA0118DD							
12	10037 Alternate											
13	10371	2	ea	U-guard, 2" galvanized steel, 8ft section, with ground clamp (2.25" ID)	Electrical Materials 52-2(8)G							
14	10371 Alternate											
15	10373	7	ea	U-guard, 4" galvanized steel, 8 ft section, with ground clamp (4.6" ID)	Electrical Materials 54-2(8)G							
16	10373 Alternate											
17	10376	4	ea	U-guard, 2" plastic, 10ft section	Electrical Materials PE-2UG10							
18	10376 Alternate											
19	10378	14	ea	U-guard, 4" plastic, 10 ft section	Electrical Materials PE-4UG10							
20	10378 Alternate											

Webster City
2022 Electrical Underground Conversion Project
Material Procurement Contract
Material Bid Form

										Pricing		
Line	Item Number	Quantity	U/M	Description	Specified Manufacturer and Cat. No.	Quoted Manufacturer and Cat. No.	Quantity to be Supplied	Quoted Unit Price	Total Price	Firm	Escalated	Quoted Lead Time or Delivery Date
21	10395	2	ea	U-guard base adapter, 3" conduit - 2" U-guard, steel	Electrical Materials 52-2BC							
22	10395 Alternate											
23	10396	6	ea	U-guard base adapter, 6" conduit - 4" U-guard, steel	Electrical Materials 54-26BC							
24	10396 Alternate											
25	10401	65	ea	Rod, ground, 1/2" X 10' copperweld	Eritech 611200							
26	10401 Alternate											
27	10405	65	ea	Clamp, 1/2" ground rod to #10-#2 Cu	ABB/T&B JAB12H							
28	10405 Alternate											
29	10920	21	ea	Clamp, hot line	Anderson BH-4FTP							
30	10920 Alternate											
31	12900	6	ea	Grip, wire mesh, double eye, closed mesh, 2.00-2.49"	Hubbell/Kellems 02201009							
32	12900 Alternate											
33	12901	2	ea	Grip, wire mesh, double eye, closed mesh, 1.00-1.24"	Hubbell/Kellems 02201005							
34	12901 Alternate											
35	12902	1	ea	Grip, wire mesh, double eye, closed mesh, 2.50-2.99"	Hubbell/Kellems 02201010							
36	12902 Alternate											
37	14010	100	ea	Lug, transformer grounding, #1 max	Hubbell/Anderson GTCL-23A							
38	14010 Alternate											
39	14690	21	ea	Connector, bolted, #6-2/0	3M CP-1							
40	14690 Alternate											
41	14702	130	ea	Connector, stud, sec, 5/8", 6x 350 kcmil	ABB/T&B CSW6350-SLC							
42	14702 Alternate											

Webster City
2022 Electrical Underground Conversion Project
Material Procurement Contract
Material Bid Form

										Pricing		
Line	Item Number	Quantity	U/M	Description	Specified Manufacturer and Cat. No.	Quoted Manufacturer and Cat. No.	Quantity to be Supplied	Quoted Unit Price	Total Price	Firm	Escalated	Quoted Lead Time or Delivery Date
43	18002	21	ea	Arrester, surge, 8.4 kV MCOV, dist class, w/o XA bkt	Cooper URT1005-0A1A-1A1A							
44	18002 Alternate											
45	18303	10	ea	Arrester, surge, 8.4 kV MCOV, 15 kV elbow	ABB/T&B 167ESA-10							
46	18303 Alternate											
47	20021	18	ea	Cutout, 100 A, 15 kV non-load break, polymer, w/o XA bkt	S&C 89021R10-P-D							
48	20021 Alternate											
49	20031	3	ea	Cutout, 200 A, 15 kV non-load break, polymer, w/o XA bkt	S&C 89071R11-P-D							
50	20031 Alternate											
51	20626	6	ea	Fuse, SMU-20, 15 kV, 100E standard speed	S&C 612100							
52	20626 Alternate											
53	40050	100	ea	Insert, 200 amp load break, 15 kV	ABB/T&B 1601A4							
54	40050 Alternate											
55	40070	12	ea	Stand off bushing, insulated, 200 amp, 15 kV	ABB/T&B 161SOP							
56	40070 Alternate											
57	40078	6	ea	Junction, loadbreak, 3 point, 200 amp, 15 kV, with mtg straps	ABB/T&B 164J3-5							
58	40078 Alternate											
59	40102	18	ea	Terminator, 15kV, 1/0 Sol, with stem connector	3M 7652-S-4 w/ SC0001							
60	40102 Alternate											
61	40105	3	ea	Terminator, 15kV, 4/0 Str, with stem connector	3M 7653-S-4 w/ SC0040							
62	40105 Alternate											
63	40317	120	ea	Elbow, 200 amp, 15 kV, 1/0 Sol 220 mils, no test point, with integral jacket seal	ABB/T&B 161LRJS-B5230							
64	40317 Alternate											

Webster City
2022 Electrical Underground Conversion Project
Material Procurement Contract
Material Bid Form

										Pricing		
Line	Item Number	Quantity	U/M	Description	Specified Manufacturer and Cat. No.	Quoted Manufacturer and Cat. No.	Quantity to be Supplied	Quoted Unit Price	Total Price	Firm	Escalated	Quoted Lead Time or Delivery Date
65	41011	3	ea	Elbow, 600 amp, 15 kV, 4/0 Str Al, 220 mil	ABB/T&B K656LR-H0270							
66	41011 Alternate											
67	52313	19	ea	Transformer, 1 ph pad mtd, 7.62 kV-240/120V, 25kVA, per specification								
68	52313 Alternate											
69	52315	22	ea	Transformer, 1 ph pad mtd, 7.62 kV-240/120V, 50kVA, per specification								
70	52315 Alternate											
71	52316	5	ea	Transformer, 1 ph pad mtd, 7.62 kV-240/120V, 75kVA, per specification								
72	52316 Alternate											
73	56300	1	ea	Swgr, pad mtd, Dead Front, 13 kV, 600 amp, 2 sw, 2 fuse, per specifications	S&C PME-9							
74	56300 Alternate											
75	58001	46	ea	Pad, box, preformed, for single phase transformer	Nordic CBP-37-43-24A-MG-22x24							
76	58001 Alternate											
77	58069	1	ea	Pad, box, preformed, for swgr, 4 way 600 amp PME with 1 or 2 switch bays	Nordic GS-75-69-36MG-65x59							
78	58069 Alternate											
The following items will be purchased as a single group												
79	58134	2	ea	Handhole, 30"x48"x24"; Tier 8, open bottom, with prov for bolted cvr	Quazite/Hubbell PG3048BA24							
80	58134 Alternate											
81	58184	2	ea	Handhole cvr, 30"x48"; Tier 8, with logo "ELECTRIC"	Quazite/Hubbell PG3048CA0017							
82	58184 Alternate											
Total quoted cost for group (sum of individual items in group)												
83	58203	2	ea	Pedestal, 3 Ph secondary, 6 - 500 kcmil max/ph and neutral	API 16x28 with 6 port 500 kcmil covered connectors							
84	58203 Alternate											

Webster City
2022 Electrical Underground Conversion Project
Material Procurement Contract
Material Bid Form

										Pricing		
Line	Item Number	Quantity	U/M	Description	Specified Manufacturer and Cat. No.	Quoted Manufacturer and Cat. No.	Quantity to be Supplied	Quoted Unit Price	Total Price	Firm	Escalated	Quoted Lead Time or Delivery Date
85	58251	120	ea	Pedestal, secondary, low profile, with 3 x 6 port, 350 kcmil connectors	Hubbell AG18HDXBY30							
86	58251 Alternate											
87	58600	1	ea	Cabinet, junction, 1 ph, 30", w/ grnd slv, mounting plates, and grnd bus	Nordic ND-2322248-MG-112-B1A							
88	58600 Alternate											
89	58601	2	ea	Cabinet, junction, 3 ph, 54"x23"x48", w/ grnd slv and grnd bus	Nordic ND-350-MG-101-B3A							
90	58601 Alternate											
91	58602	1	ea	Cabinet, junction, 3 ph, 68"x25"X53" w/ grnd slv and grnd bus	Nordic ND-430-MG-101-B3B							
92	58602 Alternate											
Notes:												
1) All prices to be quoted exclusive of Iowa Sales and Use Taxes. Taxes are to be added at the appropriate rate as prescribed by law as a separate line item on all invoices submitted for payment.												
2) Furnish data required by Specifications on separate sheets												
3) Cable quantities shown are minimum, see specifications												
4) Each line item must be marked as either "FIRM" or "ESCALATED". Details must be provided on a separate sheet for all escalated prices. See specifications.												

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 00550 – Contract Conditions

1.0 GENERAL

- 1.1 These Conditions apply to all aspects of the Purchase Contract, and constitute the terms and conditions of the Contract.

2.0 DEFINED TERMS

- 2.1 Terms used in the Contract Documents have the following definitions.

Buyer or Owner: City of Webster City

Engineer: P & E Engineering Co., Carlisle, Iowa

Seller: Successful Bidder for each line item

3.0 BONDS and SECURITIES

- 3.1 Each bid must be accompanied in a separate sealed envelope by either: (1) a certified check, or a cashier's check drawn on an Iowa bank, or a bank chartered under the laws of the United States, in an amount of 5% of bid amount; or (2) a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States, in an amount of 5% of bid amount; or (3) a bid bond executed by a corporation authorized to contract as a surety in the State of Iowa, in the penal sum of 5% of bid amount.

- 3.2 The bid security shall be made payable to the City Clerk of the City of Webster City, Iowa.

- 3.3 The bid security must not contain any conditions either in body or as an endorsement thereon. The bid security shall be forfeited to the City as liquidated damages in the event the successful bidder fails or refuses to enter into contract within ten (10) days after the award of contract and post bond satisfactory to the City insuring the faithful fulfillment of the contract and the maintenance of said work, if required, pursuant to the provisions of this notice and the other contract documents. The City will accept bid bond forms that meet the Requirements of Iowa Code, Section 26.8.

4.0 SCHEDULES

- 4.1 Bidders shall not be permitted to withdraw their bids for a period of thirty (30) days after they are opened.

- 4.2 Delivery of Goods and Special Services shall be completed as soon as possible and within the lead time quoted on bid form.

5.0 INSURANCE

- 5.1 Seller shall be responsible for determining minimum insurance coverages to protect the Seller, Buyer, and the Goods to be provided.

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 00550 – Contract Conditions

- 5.2 Seller shall be responsible for the Goods until delivered to and accepted by Buyer. In case any of the Goods becomes damaged through any cause before the time of acceptance of the same, the Seller must make good the same before the Goods will be accepted. This provision is not to prevent the Buyer from using such parts of the accepted Goods as are ready for use, and by the use of which the Seller's work will not be damaged or hindered.

6.0 SHIPMENT AND DELIVERY

- 6.1 All cartons, crates, pallets, cable reels, and other shipping containers must be clearly marked with the Delivery Address, Seller Identification, Purchase Order number, and with the words "2022 Electrical Underground Conversion Project".
- 6.2 Seller shall deliver the Goods F.O.B. the Point of Destination. Goods shall be delivered to:
- Webster City Municipal Utility
2022 Electrical Underground Conversion Project
Attn: Mr. Adam Dickinson
309 3rd St.
Webster City, IA 50595
Phone 515-297-1307 (C)
- 6.3 Deliveries will be accepted between 8:00 A.M. and 3:30 P.M., Monday through Friday.
- 6.4 Seller shall select the carrier and bear all costs of packaging, transportation, insurance, special handling, and any other costs associated with shipment and delivery.
- 6.5 Buyer will be responsible for and bear all costs for unloading the Goods from carrier.
- 6.6 Buyer will assure that adequate facilities are available to receive delivery of the Goods during the times specified.
- 6.7 Seller shall require the carrier to give Buyer at least 24 hours notice by telephone prior to the anticipated hour of delivery.
- 6.8 Buyer or Engineer will inspect the Goods upon delivery solely for purposes of identifying the Goods and general verification of quantities and observation of apparent condition in order to provide a basis for a progress payment. Such inspection will not be construed as final or as receipt of any Goods that, as a result of subsequent inspections and tests, are determined to be non-conforming.

7.0 PAYMENTS

- 7.1 Seller shall submit his normal application for payment or invoice directly to Buyer following the delivery of materials. Iowa Sales and Use Tax must be shown as a separate line item on each invoice.
- 7.1 If items are quoted with escalation or with a length tolerance, the invoice must clearly show the original (non-escalated) price and quantity; and the full calculation of all adjustments,

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 00550 – Contract Conditions

including the underlying commodity prices and escalation rates, the actual length delivered, and the final invoiced cost.

- 7.2 Buyer will pay Seller within 30 days after satisfactory delivery of materials and receipt of the application for payment or invoice.

8.0 TAXES

- 8.1 Bid prices shall be exclusive of Iowa Sales and Use tax. All state and local taxes will be added to the prices shown in the Bid at the rate prescribed by law.

9.0 WARRANTY

- 9.1 Seller warrants and guarantees to Buyer that the title to the Goods conveyed shall be proper, its transfer rightful, and free from any security interest, lien, or other encumbrance.
- 9.2 Seller warrants and guarantees to Buyer that all Goods will conform with the Contract Documents, including any Samples approved by Engineer, and the Goods will be of merchantable quality. Engineer shall be entitled to rely on representation of Seller's warranty and guarantee.
- 9.3 Minimum warranty shall be one year from the date the Goods are delivered, unless defined otherwise in the individual equipment specification pages.
- 9.4 Seller's warranty and guarantee hereunder excludes defects or damage caused by abuse, improper modification or improper maintenance or operation by persons other than Seller, or normal wear and tear under normal usage.

10.0 QUANTITIES

- 10.1 For all items except for cable, quantities shall be quoted exactly as requested in the Contract Documents, but alternate quotes (in addition to the base quote) on alternate quantities corresponding to standard package quantities are encouraged.
- 10.2 Quantities shown for cable are the minimum acceptable lengths. Bidders must indicate the tolerance on shipment quantities compared to quoted quantities, and shall adjust the nominal quoted length to ensure the length shown will actually be delivered. Payment will be made on a unit cost basis for cable actually shipped that is within the tolerance stated in the proposal.
- 10.3 Buyer may make minor adjustments in quantities following receipt of bids and before issuing purchase order, without any change in the unit price quoted by the Bidder, subject to agreement between Buyer and Seller. The quantities delivered shall be as shown on the purchase order.

11.0 COMPARISON OF BIDS

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2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 00550 – Contract Conditions

- 11.1 Bidders may submit proposals for any or all bid line items. One or more line items may be awarded to each successful bidder.
- 11.2 The pricing for each line item must be shown on the proposal form by checking either the “FIRM” or “ESCALATED” column. If quoted with escalation, a full explanation of the methodology to be used to determine the final invoiced price must be included on a separate submittal sheet. This must include the base value of all underlying commodity prices, the quantity, rate, or other multiplier to be applied to changes in the commodity prices, and the basis for any other adjustments that will be made to determine the final invoiced cost.
- 11.3 For determination of the apparent low Bidder for each item, Bids will be compared on the basis of the respective quoted quantity multiplied by the projected invoiced unit price. The projected invoiced unit cost for items quoted with escalation will be based on expected commodity prices and other variables as determined by the Engineer.
- 11.4 Bid items will be evaluated on an item by item basis. Mathematical errors by the bidder may be corrected by the Buyer before making the bid comparison.
- 11.5 Prices quoted must be all inclusive (except for taxes as described in Paragraph 8.0), including all delivery costs.

12.0 COMPLIANCE WITH SPECIFICATIONS

- 12.1 The Contract, if awarded, will be on the basis of material and equipment specified or described in the Bidding Documents, or those “or-equal” or alternate materials and equipment approved by Engineer. The materials and equipment described in the Bidding documents establish a standard of required type, function, and quality to be met by any proposed “or-equal” item. The burden of proof of the merit of the proposed item is upon Bidder. If requested, Bidder shall supply catalog pages, data sheets, test reports, or other descriptive information sufficient to allow for evaluation of proposed “or-equal” items by Engineer. Engineer’s decision of approval or disapproval of a proposed item will be final.
- 12.2 Buyer shall have the right to perform, or cause to be performed, reasonable inspections and require reasonable tests of the Goods. Seller shall allow Buyer a reasonable time to perform such inspections or tests.
- 12.3 Buyer shall bear all expenses, except for travel, lodging, and subsistence expenses of Seller’s representatives, for inspections and tests at the Point of Destination, but buyer shall be entitled to reimbursement from Seller for Buyer’s expenses for re-inspection or re-testing if, on the basis of an initial inspection or test, the Goods are determined to be non-conforming.
- 12.4 Buyer will give Seller timely notice of all specified tests, inspections, and approvals of the Goods.
- 12.5 Neither payments made by Buyer to Seller prior to any tests or inspections, nor any tests or inspections shall constitute acceptance of non-conforming Goods, or prejudice Buyer’s rights under the Contract.

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 00550 – Contract Conditions

13.0 CONTRACT AGREEMENT

- 13.1 A Purchase Order will be issued to the Successful Bidder(s) by the Buyer as the form of Agreement. Acceptance of the Purchase Order by the Bidder shall signify acceptance of and agreement to all provisions of the Contract.
- 13.2 The Purchase Order shall be deemed as having been awarded when formal notice of award has been duly served upon the intended awardee by the Buyer or an agent or officer duly authorized to give such notice.

14.0 SPECIAL REQUIREMENTS

- 14.1 In accordance with Iowa statutes, a resident bidder shall be allowed a preference as against a nonresident bidder from a state or foreign country if that state or foreign country gives or requires any preference to bidders from that state or foreign country, including but not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference shall be equal to the preference given or required by the state or foreign country in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 16101 – Specification for Secondary (600 v) Cable

1.0 SCOPE

This specification covers the physical and electrical characteristics of secondary (600 volt) cable assemblies suitable for direct burial.

2.0 STANDARDS

The cable must meet all applicable requirements of ANSI/ICEA S-81-570-2019 for Ruggedized Design conductor assemblies.

3.0 CONDUCTORS

Conductors shall be 1350 H-19 or H-26 aluminum.

Item 05511 – Vassar
4-4-4 URD TX (twisted cable assembly)

Item 05520 - Sweetbriar
4/0-4/0-2/0 URD TX (twisted cable assembly)

Item 05523 - Wesley
350-350-4/0 URD TX (twisted cable assembly)

4.0 INSULATION

Insulation shall meet all requirements of ICEA S-81-570-2019 for 600 Volt Rated Cables of Ruggedized Design and shall be suitable for operation at 90° C. The insulation on the outer layer of the phase conductors shall be uniformly black. The insulation on the outer layer of the neutral conductor shall be black with three extruded yellow stripes.

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Material Procurement Contract
Section 16101 – Specification for Secondary (600 v) Cable

5.0 SHIPPING LENGTHS

Cable is to be shipped on non-returnable wood reels, with a maximum size as shown below. Specific cut lengths applicable to an individual order may be shown on the inquiry or purchase order.

Item 05511 (4-4-4 URD TX) is to be wound with one continuous length on each reel, with each reel no larger than 42" overall width and 56" flange diameter. The maximum length per reel is approximately 2000 ft.

Item 05520 (4/0-4/0-2/0 URD TX) is to be wound with one continuous length on each reel, with each reel no larger than 42" overall width and 56" flange diameter. The maximum length per reel is approximately 1700 ft.

Item 05523 (350-350-4/0 URD TX) is to be wound with one continuous length on each reel, with each reel no larger than 42" overall width and 66" flange diameter. The maximum length per reel is approximately 1800 ft.

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 16102 – Specification for Primary (15 kV) Cable

1.0 SCOPE

This specification covers the physical and electrical characteristics of jacketed concentric neutral power cable for use on an alternating current, three-phase, 13.2 kV nominal, 60 Hertz power system at the 133% insulation level.

2.0 STANDARDS

Except as modified by these specifications, the cable must meet all applicable requirements of ANSI/ICEA S-94-649-2021 and AEIC Standard CS-8-20.

3.0 GENERAL

Cable insulation shall be Ethylene Propylene Rubber (EPR).

4.0 PHASE CONDUCTOR

The phase conductor shall be solid or compressed stranded 1350 H-19 aluminum, with sizes as follows

Item No.	Conductor
05612	1/0 AWG, solid
05614	4/0 AWG, 19 strand (Class B stranding)

5.0 INSULATION

The insulation shall consist of 220 mils (nominal thickness) of ethylene propylene rubber (EPR).

6.0 SEMI-CONDUCTING INSULATION SHIELD

The insulation shield shall be extruded directly over the insulation, and shall be free stripping within the requirements of ANSI/ICEA S-94-649-2021.

7.0 NEUTRAL

The concentric neutral shall be sized as follows and, where indicated, in accordance with the referenced table in ANSI/ICEA S-94-649-2021.

Item No	Phase Conductor	Neutral	Reference
05612	1/0 AWG	Full	Table 6-3
05614	4/0 AWG	One-third	Table 6-5

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Material Procurement Contract
Section 16102 – Specification for Primary (15 kV) Cable

8.0 JACKET

The overall cable jacket shall consist of a layer of insulating chlorosulfonated polyethylene, or linear low density polyethylene extruded-to-fill in accordance with ANSI/ICEA S-94-649-2021.

9.0 DIMENSIONS

All insulation and shield dimensions shall be in accordance with the requirements of Appendix C of ANSI/ICEA S-94-649-2021.

10.0 BASIS OF QUOTE

Cable length is specified and is to be quoted on a cable foot basis, regardless of packaging method. For cable that is packaged with three parallel lengths on a reel, the specified cable length will be three times the required circuit length.

11.0 SHIPPING REELS

Cable is to be shipped on non-returnable wood reels, with a maximum size as shown below. Specific cut lengths applicable to an individual order may be shown on the inquiry or purchase order.

Item 05612 (1/0 solid aluminum conductor) is to be wound with one continuous length on each reel, with each reel no larger than 36.5" overall width and 60" flange diameter. The maximum length per reel is approximately 3500 ft.

Item 05614 (4/0 stranded aluminum conductor) is to be wound with one continuous length on each reel, with each reel no larger than 54.5" overall width and 78" flange diameter. The maximum length per reel is approximately 3500 ft.

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 16200 – Single phase pad mounted transformer, Dead front

1.0 SCOPE

Transformers covered by this specification are to be single phase, dead front, loop feed, pad mounted units rated 25 through 167 kVA, for operation on a 60 Hz power system. All transformers are to be suitable for installation outdoors on a pad, and are to be oil filled and self-cooled. The transformers must meet all applicable requirements of IEEE Standards C57.12.00-2015, C57.12.28-2014, and C57.12.38-2014.

2.0 PRIMARY VOLTAGE

13,200 Grd Y/7,620 volts, no taps, 95 kV BIL

3.0 SECONDARY VOLTAGE

The secondary voltage rating shall be 240/120 volts, 3 wire, 30 kV BIL

4.0 THROUGH CAPACITY

The continuous kVA capacity for each transformer will be specified on the inquiry or purchase order, and is to be rated at a 65° C rise above ambient.

5.0 DIMENSIONS

5.1 All bushing arrangements and dimensions shall be in accordance with ANSI C57.12.38-2014 for the Type 2 arrangement with 8.3 kV high voltage connectors. The compartment and door must be arranged to provide free access to and clear space for the removal of the primary separable connectors, primary fuses, and the secondary cables.

5.2 The dimensions of transformers shall not exceed the following. Height is maximum height above the pad. Width and depth are overall footprint dimensions (excluding cooling fins, radiators, and other appurtenances that do not contact the pad).

	Height	Width	Depth
25 through 75 kVA	26"	34"	35"
100 kVA	32"	36"	40"
167 kVA	32"	36"	47"

6.0 FUSES

6.1 Fuses are to be provided in the transformer, connected between the looped primary system and the transformer windings. The transformer

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 16200 – Single phase pad mounted transformer, Dead front

must be shipped with the fuses installed ready for operation. The fusing shall consist of an externally removable under oil expulsion fuse in series with an internal oil immersed partial range current limiting fuse. The current limiting fuse shall be connected to the primary feed-through bus such that there are a minimum of unprotected leads and connections within the transformer. The current limiting fuse must be on the source side of the expulsion fuse. The manufacturer must verify that the two fuses are sized such that the expulsion fuse will blow and the internal current limiting fuse will not be damaged (and will not require any testing or checking) for any possible secondary fault external to the transformer tank; and that the internal fuse will clear any fault above the interrupting rating of the weak link fuse in a time that will prevent excessive arcing or pressure buildup within the transformer tank.

- 6.2 The weak link fuse holder shall be the Cooper Power Systems flapper design bayonet holder, catalog number 4000361C99FV.
- 6.3 The current limiting fuse shall be either a Cooper Power Systems Type ELSP or a ABB/Hi-Tech Trans-Guard fuse rated at 8.3 kV and sized as described in paragraph 6.1. Fuse manufacturer's recommendations shall be followed for all aspects of the fuse application.
- 6.3 A weak link fuse shall be installed in each bayonet holder as follows.

<u>Transformer Size, kVA</u>	Bayonet Expulsion Fuse
	<u>Cooper</u>
25	4000358C05
37.5	4000358C08
50	4000358C08
75	4000358C10
100	4000358C10
167	4000358C12

7.0 BUSHINGS AND TERMINALS

- 7.1 The transformer shall include two primary bushing wells that are externally clamped to the tank. The bushing wells shall conform to IEEE Std 386-2016, with the interface conforming to Fig. 3 of the referenced standard. All bushing wells shall have a replaceable copper stud.
- 7.2 The low voltage bushings (including the neutral bushing) shall be externally clamped to the tank. Low voltage terminals shall be threaded tinned copper studs in accordance with Figure 7 of IEEE C57.12.38-2014, with a copper alloy or bronze contact nut installed on each stud.
- 7.3 The high voltage neutral shall be securely grounded to the tank internally. This connection shall be independent of all other connections. The low voltage neutral shall have a removable ground strap connected to a tank ground pad.

8.0 CORE AND COIL ASSEMBLY

The final core and coil assembly shall result in a rigid assembly that will maintain full mechanical, electrical, and dimensional stability under fault conditions.

9.0 SWITCHES

No loop feed or on-off switches are to be provided in the transformer.

10.0 CONSTRUCTION

- 10.1 The manufacturer shall provide a high quality coating system in compliance with ANSI C57.12.28-2014. The top coat color shall be Munsell 7GY3.29/1.5 padmount green.
- 10.2 A combination automatic and manual pressure relief valve shall be furnished in the termination compartment. Manual operation of the valve shall not require a special tool unique to the valve.

WEBSTER CITY
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Material Procurement Contract
Section 16200 – Single phase pad mounted transformer, Dead front

- 10.3 The enclosure must comply with IEEE Std C57.12.28-2014. The door shall be pad lockable, and must also be secured by a penta-head latch that is only accessible after removing the pad lock. The penta-head lock assembly must be easily operable, with sufficient length of bolt threads and sufficient free movement in the floating captive female threads to allow the doors to be closed, latched, and locked when subject to normal mis-alignment due to settling or shifting of the transformer or transformer pad.
- 10.4 The transformers must meet the sound levels specified in NEMA TR1-2013 (R2019).
- 10.5 The nameplate must not be mounted on a removable part. In addition to the information required by the ANSI standards, the nameplate shall include the following information.
- a. month and year of manufacture (special date codes are not acceptable)
 - b. statement that the tank is factory filled with dielectric fluid having less than 1 ppm of PCB
- 10.6 A drip shield shall be placed under the bayonet fuse holder to divert any fluid seepage resulting from removal of the fuse elements away from the high voltage bushings and connected cables.
- 10.7 Two hold down clips shall be provided with each transformer.
- 10.8 The manufacturer shall provide and install decals as follows. Decals must be sufficiently durable to remain legible for the life of the transformer, and shall meet all applicable requirements of the latest edition of NEMA 260 and UL 969.
- a. A non-PCB decal on the exterior of the enclosure. The decal shall be a minimum of 1" x 2" indicating "No PCBs" or "Non PCB" in blue letters on white background
 - b. Not Used.
 - c. A danger label in accordance with Fig. 4-2 of NEMA 260-1996 in the cable termination compartment of the transformer, at a location that will be clearly visible when the compartment door is open.
 - d. Purchaser will furnish and install a custom Warning Label on the outside of the enclosure.

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Material Procurement Contract
Section 16200 – Single phase pad mounted transformer, Dead front

11.0 DIELECTRIC FLUID

All transformers are to be shipped filled with Type I or Type II insulating oil meeting all applicable requirements of ASTM D3487 (latest edition), with a minimum breakdown value of 28 kV per ASTM D1816 and a PCB content of less than 1 ppm.

12.0 EFFICIENCY

Transformer must meet the DOE efficiency requirements for liquid filled distribution transformers as published in 10 CFR 431, Subpart K.

13.0 IMPEDANCE

The percent impedance voltage shall be between 2% and 4%.

14.0 TESTS

14.1 Each transformer shall be individually tested for actual no load and load losses, percent impedance, exciting current at 100% of rated voltage, and turns ratio. Test values for no load and load loss measurements shall be corrected to 85° C. Certified reports of actual test data (including certification that transformer meets the specified efficiency requirements) shall be prepared and submitted to Webster City Municipal Utilities.

14.2 The vendor shall supply verifications that the transformer design has passed the short circuit criteria in IEEE C57.12.00-2015.

15.0 DRAWINGS

Drawings shall be furnished with each transformer purchased. The drawings are to be provided as soon as possible after receipt of purchase order, and must show the dimensions, weights, accessories, and nameplate information for the transformer, including the manufacturer, type, rating, and catalog number of the bayonet fuse holder, expulsion fuse, and current limiting fuse.

WEBSTER CITY
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Material Procurement Contract
Section 16200 – Single phase pad mounted transformer, Dead front

16.0 QUOTES

16.1 The following information is to be provided with each quote.

- a. Total purchase price for each unit
- b. Outline drawing showing overall dimensions and bushing locations
- c. Estimated delivery lead time
- d. Guaranteed no-load and load losses
- e. Estimated percent impedance
- f. Any exceptions to these specifications

End of Specification

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 16300 –Pad mounted switchgear, Dead front

1.0 SCOPE

Switchgear covered by this specification shall be designed and manufactured as a fully assembled, factory tested and operationally checked, self contained unit for mounting on a box pad in an outdoor location. It must conform to all applicable IEEE and NEMA standards, and to the specific ratings and requirements included in this specification. Dead front bushings and bushing wells must conform to IEEE Std 386-2016.

2.0 VOLTAGE

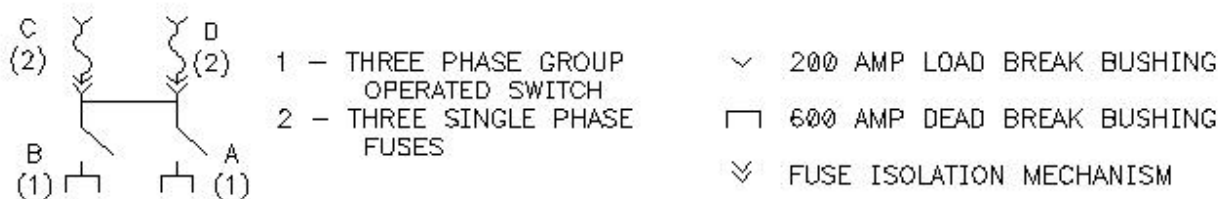
14.4 kV for use on a 13,200 Grd Y / 7,620 volt 3 phase, 4 wire system with a solidly grounded neutral, 95 kV BIL.

3.0 CURRENT

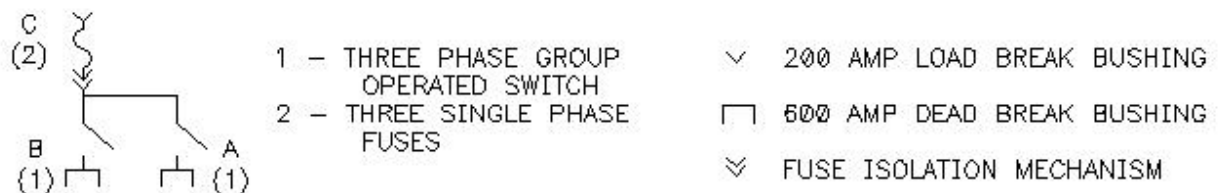
- 3.1 600 amperes minimum continuous and load break on the switch bays, 200 amperes minimum continuous on the fuse bays, 600 amperes minimum continuous on the main bus.
- 3.2 14,000 amperes RMS symmetrical minimum momentary and fault interrupting for all fuses.
- 3.3 20,000 amperes RMS symmetrical minimum momentary and 3 time fault close-in for all switches.

4.0 CONFIGURATION

The switchgear shall consist of four bays arranged as shown in the following one-line diagrams.



Item ID 56300



Item ID 56302

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 16300 –Pad mounted switchgear, Dead front

5.0 INTERLOCKS

No interlocks are to be furnished or installed, other than the fuse/cable interlock to prevent opening a fuse door while a cable is connected.

6.0 GROUND BUS

A suitably rated ground bus shall be provided, including ground pads for the connection of cable neutrals in each bay.

7.0 SECURITY AND ENCLOSURE FINISH

- 7.1 All cabinet doors and access doors for switch operating handles must be pad lockable. In addition, all doors that provide access to energized parts must be secured by a penta-head bolt latch that is only accessible after removing the pad lock.
- 7.2 Operating handles for group operated switches shall not be exposed.
- 7.3 Enclosure fabrication, security provisions, and outer finish are to comply with IEEE C57.12.28-2014. The color shall be Munsell 7GY3.29/1.5 green.
- 7.4 No live parts are to be exposed during normal operations, except during the operations required prior to replacing a fuse, and then only during the transition between normal operation and having the fuse exposed for replacement.

8.0 LIFTING PROVISIONS

Lifting provisions shall be provided. Blind, threaded holes shall be permanently welded to the enclosure at appropriate locations for the attachment of lifting plates. The lifting plates are to be furnished and assembled to the switchgear.

9.0 FUSING

The switchgear must accommodate S & C Electric Co. type SMU-20 fuse units rated 14.4 kV in all fuse compartments. All required fuse mountings (fuse live parts, including fuse end fittings) are to be provided with the switchgear. Fuse refill units will be supplied by the purchaser. Each fuse compartment shall include one set of three single phase loadbreak fuse mountings that will accept the specified fuse refill units and provide the required single phase load break and fault-close rating.

Fuse mountings shall be enclosed in an inner steel compartment. Each fuse mounting shall be an integral part of a fuse handling mechanism that does not allow access to the fuse until the elbow cable terminator associated with that fuse has been disconnected and transferred to a parking stand. When operated to the disconnected position, the fuse must be totally isolated from all live parts and separated from the live bus by either an insulating or a grounded metal barrier. All openings that allow access to live parts must be covered by the fuse mechanism in both the open and closed positions.

WEBSTER CITY
2022 Electrical Underground Conversion Project
Material Procurement Contract
Section 16300 –Pad mounted switchgear, Dead front

10.0 FUSE TOOL

A tool for removing fuse units, designed for attachment to a standard hot stick, is to be provided with each switchgear purchased. A storage space for this tool shall be provided within the switchgear enclosure.

11.0 NAMEPLATE

A circuit diagram of the complete switchgear shall be located in a clearly visible space, either inside or outside the switchgear enclosure. In addition, a nameplate shall be provided indicating the manufacturer, catalog number, model number, and electrical ratings.

12.0 LABELS

The inside of each cabinet door shall be provided with a label complying with Fig. 4-2 of NEMA 260-1996. Purchaser will install custom Warning Labels on the outside of all doors.

13.0 TERMINATIONS

Each switch compartment is to be provided with a set of three (3) 600 amp bushings conforming to Interface 11 of IEEE Std 386-2016. Bushings must include a removable threaded stud.

Each single phase fuse must have an integral 200 amp bushing well conforming to Interface 3 of IEEE Std 386-2016.

14.0 DRAWINGS

Drawings are to be provided as soon as possible after receipt of purchase order, and must show the dimensions (including pad mounting dimensions), weights, accessories, and nameplate information for the switchgear.

15.0 QUOTES

The following information is to be provided with the quote.

- a. Total purchase price for the unit
- b. Outline drawing showing overall dimensions
- c. Estimated delivery lead time
- d. Descriptive bulletin describing all switchgear features and including a description, drawings, and photos of the switch details, fuse mountings and load break device, barriers, and termination space.
- e. Any exceptions to these specifications

End of Specification



MEMORANDUM

TO: Mayor and Council

FROM : Matt Alcazar, Engineering Tech/Project Coordinator
Biridiana Bishop, Assistant City Manager
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

RE: Adopt a Resolution Setting a Public Hearing for the Boone River Trail Concrete Panel Replacement Project

SUMMARY: The agreement was executed with MIDAS for them to provide administrative services of the City's CDBG Reuse Plan and funds outline that the cost to provide these services shall not exceed \$70,000.00. Despite these expenses, the City has an outstanding balance of \$47,540.66 that is seeking to use to replace damaged concrete panels along the Boone River Trail. The Boone River Trail Panel Replacement Project specifications are completed and the project is ready to send out for bids. The project will consist of new concrete trail pavement.

PREVIOUS COUNCIL ACTION: City Council approved the use of CDBG RLF monies on June 18, 2018. On June 18, 2018, the City Council also approved an agreement with MIDAS Council of Governments to provide administrative services associated with the grant administration. On June 20, 2022 the City Council adopted a resolution amending the City's CDBG Reuse Plan.

BACKGROUND/DISCUSSION: The Boone River Trail is in need of concrete panel replacement. City staff inquired about utilizing the funds to assist with rehabilitation of the Boone River Trail. IEDA confirmed that although this is not something they would typically fund, the activity is an eligible activity.

MIDAS has performed the required evaluation to determine the potential affect that the project activity would have on the floodplain and wetland. They have completed the early notice and public review period for this project and received no comments. The CDBG funds are not sufficient to cover all required panel replacement. The estimated total costs of the project are \$64,025.00. The City would need to contribute approximately \$16,484.34 towards the project.

The Boone River Trail Concrete Panel Replacement project is found at three locations on a 5.7 mile concrete trail located in Webster City that sits along the Boone River. The trail begins at Des Moines Street and connects to Briggs Woods Park with a small gap on Ohio Street along the City's Wastewater

Treatment Plant. The project includes removal of existing concrete, surface adjustment to meet grade, 3" compactable material for pit run, 4" PCC concrete for trail tying into existing panels and surface restoration including seeding at three (3) locations:

- Location 1: 151 Lineal Feet
- Location 2: 39.58 Lineal Feet
- Location 3: 12 Lineal Feet

The proposed project schedule is as follows:

- September 6: City Council sets bid date/time and public hearing date/time
- September 7: Publish Notice to Bidders
- September 14: Publish Notice of Public Hearing
- September 21 at 3:00 p.m.: Conduct the bid lettings
- October 3 at 6:05 p.m.: Conduct the public hearing and award contracts and authorize execution of contracts
- November 30, 2022: Scheduled completion date. Liquidated damages are \$250.00 per day

FINANCIAL IMPLICATIONS: The project would be funded with remaining CDBG RLF funds and request additional funds as needed based on the awarded bid to the three areas approved in the plans and specifications. No monies are formally allocated in the FY 22-23 budget and a budget amendment would be necessary to cover remaining dollars.

RECOMMENDATION: City Staff recommends the City Council adopt a resolution setting a public hearing for the Boone River Trail Concrete Panel Replacement Project.

RESOLUTION NO. 2022 - ____

**PROVIDE FOR NOTICE OF HEARING ON PROPOSED PLANS AND SPECIFICATIONS
AND PROPOSED FORM OF CONTRACT AND ESTIMATE OF COST FOR CONSTRUCTION OF
BOONE RIVER TRAIL PANEL REPLACEMENT 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 Boone River Trail Panel Replacement Project, (and is sometimes 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, it is necessary to fix a time and place of public hearing on the proposed plans, specifications and form of contract and estimate of cost for the Project and to advertise for sealed bids for the Project;

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

Section 1. The detailed plans and specifications, notice of hearing and estimate of cost referred to in the preamble hereof be and the same are hereby approved.

Section 2. The Project is necessary and desirable for the City, and it is in the best interests of the City to proceed toward the construction of the Project.

Section 3. The amount of the bid security to accompany each bid is hereby fixed at 5% of the amount of the proposal.

Section 4. Sealed proposals will be received by the City Clerk of Webster City, at the Council Chambers of the City Council, in the City Hall of said City, until 3:00 p.m. on the 21st day of September, 2022, for the Boone River Trail Panel Replacement Project, as described in the plans and specifications therefor now on file in the office of the City Clerk. Proposals will be opened by City Staff appointed by the City Council as provided by Section 384.101, Code of Iowa.

Section 5. The 3rd day of October, 2022, at 6:05 o'clock p.m. at the City Hall, Webster City, Iowa, is hereby fixed as the time and place of hearing on the proposed plans, specifications, form of contract and estimate of cost for the Project, and also as the time and place of considering bids previously received by the City Clerk in connection therewith.

Section 6. The City Clerk is hereby authorized and directed to give notice of the aforementioned hearing and letting by publication of such notices in a newspaper of general circulation in the City, which publication shall be made not less than four nor more than twenty days prior to the time of the said hearing, all in conformity with Chapters 362, 384, and 26 of the Code of Iowa. The said notice shall be in the form substantially as attached to this resolution.

Section 7. All provisions set out in the following form of notice are hereby recognized and prescribed by this Council and all resolutions or orders or parts thereof, to the extent the same may be in conflict herewith, are hereby repealed.

Passed and approved this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

NOTICE OF HEARING

NOTICE OF PUBLIC HEARING ON PROPOSED PLANS, SPECIFICATIONS, FORM
OF CONTRACT AND ESTIMATE OF COST FOR:

BOONE RIVER TRAIL CONCRETE PANEL REPLACEMENT PROJECT
JURISDICTION OF CITY OF WEBSTER CITY,
IOWA PUBLIC IMPROVEMENT PROJECT

Public Notice is hereby given that a public hearing will be held by the City of Webster City, Iowa on the proposed Contract Documents (plans, specifications, and form of contract) and estimated total cost for the Boone River Trail Concrete Panel Replacement Project at its meeting at 6:05 P.M. on the October 3, 2022, in said City Council Chambers, Webster City City Hall, 400 Second Street, Webster City, Iowa 50595.

The Boone River Trail Concrete Panel Replacement project is found at three locations on a 5.7 mile concrete trail located in Webster City that sits along the Boone River. The trail begins at Des Moines Street and connects to Briggs Woods Park with a small gap on Ohio Street along the City's Wastewater Treatment Plant. The project includes removal of existing concrete, surface adjustment to meet grade, 3" compactable material for pit run, 4" PCC concrete for trail tying into existing panels and surface restoration including seeding at three (3) locations:

Location 1: 151 Lineal Feet

Location 2: 39.58 Lineal Feet

Location 3: 12 Lineal Feet

At said hearing, the City Council will consider the proposed plans, specifications, form of contract and estimate of cost for said project, the same now being on file in the office of the City Clerk, reference to which is made for a more detailed and complete description of the proposed improvements, and at said time and place the said Council will also receive and consider any comments/objections to said plans, specifications and form of contract or to the estimated cost of said improvements made by any interested party.

The City of Webster City does hereby reserve the right to reject any or all bids, to waive informalities, and to enter into such contract, or contracts, as it shall deem to be in the best interest of the City.

This Notice is given by authority of the City Council of the City of Webster City, Iowa.

Dated at Webster City, Iowa this 6th day of September, 2022

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Published in the FREEMAN JOURNAL on the ____ day of September, 2022

NOTICE TO BIDDERS

BOONE RIVER TRAIL CONCRETE PANEL REPLACEMENT PROJECT NO. 9-22-005

Public Hearing on Proposed Plans, Specifications, Contract and Estimated Costs

Notice is hereby given that a public hearing will be held by the City of Webster City, Iowa on the proposed plans, specifications, form of contract and estimate of cost for the **Boone River Trail Concrete Panel Replacement Project** at its meeting at 6:05 p.m. on the 3rd day of October 2022, in said City Council Chambers, Webster City City Hall, 400 Second Street, Webster City, Iowa 50595.

Time and Place for Filing Sealed Proposals

Sealed proposals, subject to the conditions contained herein, will be received at the office of the City Clerk in City Hall, 400 Second Street, Webster City, Iowa, 50595, until 3:00 p.m. according to the clock in said City Council Chambers on the 21st day of September, 2022.

Construction of **Boone River Trail Concrete Panel Replacement Project**, as hereinafter described in general and as described in detail in the plans and specifications now on file in the office of the City Clerk, Webster City, Iowa.

Time and Place Sealed Proposals will be Opened and Considered

Sealed Proposals received will be opened, read aloud and tabulated at 3:05 p.m. according to the clock in said City Council Chambers on the 21st day of September, 2022. Bids will be considered by the City Council at its meeting on the 3rd day of October, 2022. The City Council may award a contract at said meeting, or at such other time and place as shall then be announced. Prior thereto, at said time specified above, in the City Council Chambers at Webster City Hall, a hearing will be held on the proposed plans, specifications, form of contract, and estimate of cost for said improvements, and at said hearing any interested person may appear and file objections thereto.

Contract Documents

Plans and specifications governing the construction of the proposed improvements have been prepared by the City's Engineering Tech/Project Coordinator, which plans and specifications and the proceedings of the Owner referring to and defining said proposed improvements are hereby made a part of the Notice by reference, and the proposed contract shall be executed in compliance therewith. A copy of said plans, specifications and form of contract is now on file in the office of the City Clerk and may be examined at Webster City City Hall, 400 Second Street, Webster City, Iowa 50595.

An electronic copy of the Contract Documents is available by contacting Matt Alcazar, Project Coordinator/Engineering Tech at malcazar@webstercity.com for no cost. Paper copies of the contract documents are available upon request.

General Nature of the Public Improvement

BOONE RIVER TRAIL CONCRETE PANEL REPLACEMENT

The Boone River Trail Concrete Panel Replacement project is found at three locations on a 5.7 mile concrete trail located in Webster City that sits along the Boone River. The trail begins at Des Moines Street and connects to Briggs Woods Park with a small gap on Ohio Street along the City's Wastewater Treatment Plant. The project includes removal of existing concrete, surface adjustment to meet grade, 3" compactable material for pit run, 4" PCC concrete for trail tying into existing panels and surface restoration including seeding at three (3) locations:

Location 1: 151 Lineal Feet

Location 2: 39.58 Lineal Feet

Location 3: 12 Lineal Feet

Bid Security

The bid security must be in the minimum amount of 5 percent (5%) of the total bid amount including. Bid security shall be in the form of a cashier's check or a certified check, drawn on an FDIC insured bank in Iowa or drawn on an FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States; or a bid bond executed by a corporation authorized to contract as a surety in Iowa or satisfactory to the Jurisdiction. The bid bond must be submitted on the enclosed Bid Bond form as no other bid bond forms are acceptable. All signatures on the Bid Bond must be original signatures in ink; facsimile (fax) of any signature or use of an electronic signature on the Bid Bond is not acceptable. Bid security other than said Bid Bond shall be made payable to City of Webster City, Iowa. "Miscellaneous Bank Checks," and personal checks, as well as "Money Orders" and "Traveler's Checks" issued by persons, firms, or corporations licensed under Chapter 533C of the Iowa Code, are not acceptable bid security.

The bid security shall be made payable to the City Clerk of the City of Webster City, Iowa.

The bid security must not contain any conditions either in body or as an endorsement thereon. The bid security shall be forfeited to the City as liquidated damages in the event the successful bidder fails or refuses to enter into contract within ten (10) days after the award of contract and post bond satisfactory to the City insuring the faithful fulfillment of the contract and the maintenance of said work, if required, pursuant to the provisions of this notice and the other contract documents.

Performance, Payment and Maintenance Bond

Each successful Bidder will be required to furnish a corporate Surety Bond in an amount equal to one hundred percent (100%) of its Contract price. Said Bond shall be issued by a responsible Surety approved by the City of Webster City and shall guarantee the faithful performance of the Contract and the terms and conditions therein contained and shall guarantee the prompt payment of all material and labor, and protect and save harmless the City of Webster City from claims and damages of any kind caused by the operations of the Contract and shall also guarantee the maintenance of the improvement caused by failures in materials and construction for a period of two (2) years from and after acceptance of the Contract.

Davis-Bacon Wage Rate Compliance

Davis-Bacon wage rates apply to this Contract and all sub-contracts. The wage rate determination is included in these Specifications.

Title VI Compliance

The City of Webster City, Iowa, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, age, or disability in consideration for an award.

Community Development Block Grant Section 3 Compliance

The following (referred to as the section 3 clause) is included in this Notice to comply with CDBG requirements:

- A. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or

other impediment that would prevent them from complying with the part 135 regulations.

- C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- G. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

Completion of Work

The Notice to Proceed is anticipated to be issued after satisfactory review of executed bonds, insurance and contract. Each work area shall be diligently worked to completion. Work may be suspended during periods of inactivity between locations. The project is anticipated to be completed by November 30, 2022.

The Contractor shall fully complete the project within 30 working days. Full completion includes having all pavement and surface restoration and ALL work areas open to use by the public. Work areas, once commenced shall be diligently worked to completion. Working days may be suspended by the Resident Engineer when work has been completed at any work location such that the area is open to pedestrian traffic. Should the Contractor fail to fully complete the work within the time allotted, liquidated damages of \$250 per working day shall be applied for each calendar day until the work is fully complete.

The City of Webster City does hereby reserve the right to reject any or all bids, waive informalities and to enter into such contract, or contracts, as it deems to be in the best interest of the City.

The Notice is given by authority of the City Council of the City of Webster City, Iowa.

Dated at Webster City, Iowa this 6th day of September, 2022

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Posted on City of Webster City website on the ____ day of September, 2022



MEMORANDUM

TO: Mayor and City Council

FROM: Biridiana Bishop, Assistant City Manager
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

RE: Adopt a Resolution Setting a Public Hearing to Submit a Community Development Block Grant (CDBG) Application, to the Iowa Economic Development Authority to Request Funding for the 2022 Sanitary Sewer Rehabilitation Project

SUMMARY: City staff has been working to identify funding opportunities that can supplement existing capital improvement needs throughout the community. The city currently has \$650,000.00 budgeted for sanitary sewer spot repairs and slip lining to rehabilitate the sanitary sewer collection system. In order to maximize these dollars, staff is proposing the city pursue a Community Development Block Grant to complete necessary repairs and slip lining throughout the system.

PREVIOUS COUNCIL ACTION: The Council approved an agreement with Snyder & Associates to complete the engineering report needed for the CDBG Water and Sewer Grant Application and for MIDAS to complete the application on August 1, 2022.

The Council has seen this as part of the 5-year CIP in the FY 22-23 Budget adoption and adopted the 2022 Goal Setting Report noting they would like to pursue a strategic plan on how to address replacement of aging infrastructure.

BACKGROUND/DISCUSSION: Communities with populations less than 50,000 and that are at least 51% low-to-moderate income are eligible to apply for federal funds available through the Community Development Block Grant (CDBG) program. Approximately \$7 million are available on an annual basis for the State of Iowa to use towards Water and Sewer projects. The CDBG program is a competitive program administered through the Iowa Economic Development Authority (IEDA) that offers grants to assist cities with water and sewer infrastructure improvements. Webster City is eligible to request up to \$600,000.00. In order to receive maximum points for the local match section, the City needs to put in 55% of the project cost. If awarded the grant, the project would be subject to federal requirements such as Davis Bacon, an environmental review, and Section 3.

As part of the plan to address aging sanitary sewer infrastructure, staff has been performing Cured-In-Place-Pipe (CIPP) lining projects in conjunction with various road improvement projects. In an effort to maximize and speed up extending the useful life of the current sewer collection system, staff would like to pursue a sewer repair and CIPP lining project that would cover a larger portion of the community.

The exact size of the project scope is unknown at this time and will be determined once the engineer has reviewed all City information tied to the sewer collection system.

CIPP Lining is an affordable and non-invasive way of extending the useful life of deteriorated sewer pipe. CIPP Lining is a method where a felt liner is filled with resin, inserted into an existing pipe and cured inside the existing pipe. It is a method that has been used since the 1980s to minimize root intrusion, reduce infiltration, help with pipe joints that are offset and help give deteriorated pipe new life. This method can add up to 50 years of additional life to the pipe if properly maintained. The City currently has a maintenance plan in place for the collection system and anticipates benefiting from the anticipated additional years.



Photo Credit: rjngroup.com

There is no guarantee the City would be awarded a grant; however, the City would still benefit from having an engineering report and assessment completed that denotes improvements needed in the system for future planning. The grant application is due October 1st by 11:59 pm.

FINANCIAL IMPLICATIONS: The City Capital Improvement Plan for FY 22-23 budgeted \$650,000.00 to complete sanitary sewer spot repairs and slip lining. This allocation would pay for the engineering report and associated professional services needed to move the project forward.

Staff is recommending a 55% local match to obtain the maximum points possible for the local match section. The City is eligible to request up to \$600,000.00 in funding. If awarded the grant, this opportunity would offset costs to a project the city intends to pursue, providing the opportunity to complete a larger amount of necessary improvements throughout the community.

RECOMMENDATION: Staff recommends the City Council adopt a resolution to set the public hearing required as part of the grant application.

RESOLUTION NO. 2022 - ____

PROVIDE FOR NOTICE OF HEARING ON PROPOSAL TO SUBMIT A COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) APPLICATION, TO THE IOWA ECONOMIC DEVELOPMENT AUTHORITY TO REQUEST FUNDING FOR THE 2022 SANITARY SEWER REHABILITATION PROJECT

WHEREAS, the City Council of the City of Webster City, Iowa, has determined that it is necessary and desirable that a sanitary sewer rehabilitation project be done and is pursuing a Community Development Block Grant to complete said improvements; and

WHEREAS, it is necessary to fix a time and place of public hearing on the proposed Community Development Block Grant Application, to the Iowa Economic Development Authority to request funding for the 2022 Sanitary Sewer Rehabilitation Project; and

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

Section 1. Said notice shall state that a public hearing will be held at 6:05 p.m. on September 19, 2022, at which time information on the proposed application will be provided and the notice shall be published in the manner specified by law.

Passed and approved this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST: _____
Karyl K. Bonjour, City Clerk

NOTICE OF PUBLIC HEARING

NOTICE OF PUBLIC HEARING ON THE SUBMITTAL OF A GRANT APPLICATION TO THE COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

Pursuant to the requirements of Section 508 of the Housing and Community Development Act of 1987, as amended, public notice is hereby given that a public hearing will be held by the City of Webster City, Iowa on 09/19/2022 at 6:05 p.m. in the City Council Chambers at City Hall, 400 Second Street, Webster City, Iowa. The purpose of the hearing will be to discuss the submittal of a Community Development Block Grant application to request funding for the Sanitary Sewer Rehab Project. The project is being funded in part through a Community Development Block Grant provided by the Iowa Economic Development Authority and the City of Webster City.

If special accommodations are needed for persons with disabilities, those with hearing impairments, or those in need of translation from English, those individuals should contact Karyl Bonjour at 515-832-9141, at 24 hours in advance of the hearing date to allow for necessary arrangements. Questions or written comments may also be submitted to Karyl Bonjour, karyl_bonjour@webstercity.com until September 19, 2022 at 4 p.m.

This Notice is given by authority of the City Council of the City of Webster City, Iowa.

Dated at Webster City, Iowa this 6th day of September, 2022

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Published in the FREEMAN JOURNAL on the ____ day of September, 2022



MEMORANDUM

TO: Mayor and City Council

FROM: Biridiana Bishop, Assistant City Manager
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

RE: Adopt a Resolution Adopting Amendment No. 1 to the City's Portion of the 2019-2024 Hamilton County, Iowa Multi-Jurisdictional Hazard Mitigation Plan

SUMMARY: The City previously adopted the 2019-2024 Hamilton County, Iowa Multi-Jurisdictional Hazard Mitigation Plan. Staff is recommending an amendment to the plan that includes critical facility relocation and permanent generators for back up power supply at all three sewer lift stations.

PREVIOUS COUNCIL ACTION: On August 5, 2019, the City adopted the 2019-2024 Hamilton County, Iowa Multi-Jurisdictional Hazard Mitigation Plan.

BACKGROUND/DISCUSSION:

City staff is currently working to identify alternate sources of funding for the Wastewater Treatment Facility project. Because the Water Treatment Plant is also located near a floodplain, we are proposing to add an additional mitigation action item tied to the water treatment plant.

As part of the goal to identify and pursue grant opportunities for the construction of the new wastewater treatment facility and other critical infrastructure, staff is requesting an amendment that includes the following mitigation actions to assist with pursuit of grant funding:

- Amend Mitigation Action 1.7 noting purchase of a large portable generator and modifying to read, "Install permanent generators at all sewer lift stations."
- Include Mitigation Action 1.17: Construct a New Wastewater Treatment Facility Outside of Floodplain.
- Include Mitigation Action 1.18: Review and Assess Water Treatment Plant Proximity to Floodplain

States, Counties and Cities must have a formally adopted hazard mitigation plan that notes mitigation actions they will take to reduce risk of damage to public infrastructure and critical facilities if they are pursuing FEMA grant opportunities. By incorporating the recommended mitigation actions, the City is in a better position as it pursues FEMA grant opportunities to help fund necessary infrastructure improvements that mitigate the impacts of extreme natural hazard events. Staff is seeking the amendments in order to strengthen the City's position and chance of obtaining grant monies to cover costs associated with sewer lift station back up generators and the construction of the new Wastewater Treatment Facility.

FINANCIAL IMPLICATIONS: No financial implications with amending the plan.

RECOMMENDATION: Staff recommends the City Council adopt a resolution adopting Amendment No. 1 to the City's portion of the 2019-2024 Hamilton County, Iowa Multi-Jurisdictional Hazard Mitigation Plan.

RESOLUTION NO. 2022 –

**RESOLUTION ADOPTING AMENDMENT NO. 1 TO THE CITY’S PORTION OF THE
2019-2024 HAMILTON COUNTY, IOWA MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**

WHEREAS, the City of Webster City, Iowa is a duly organized municipality within Hamilton County;
and

WHEREAS, the City of Webster City regularly considers mitigation actions to reduce the loss of life
and damage to property within corporate limits; and

WHEREAS, the City recognizes a need for additional mitigation measures based on the existing
threat of flooding around critical facilities and severe weather that can cause extensive power outages;
and

WHEREAS, if not addressed, the community may be at increased vulnerability to floods, severe
weather or tornados; and

WHEREAS, the City of Webster City seeks to amend the City’s portion of the Plan to incorporate
replacement or mitigation of critical facilities vulnerability to flooding and permanent backup power
supply for sewer lift stations; and

WHEREAS, the City will continue to use the Plan as guidance regarding future mitigation actions
against extreme natural hazard events; and

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

SECTION 1: Adopts Amendment No. 1 to the City’s portion of the 2019-2024 Hamilton County, Iowa
Hazard Mitigation Plan as reflected in Exhibit “A”

Passed and adopted this 6th of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Exhibit A: Amendment No. 1
City of Webster City Mitigation Action Amendments

Webster City

Goal 1: Protect the people, property and critical facilities of Webster City

Mitigation Action 1.1: Encourage weather radios for indoor use

Plan for implementation and administration:	The City will encourage citizens to purchase and use weather radios to assure residents are aware and prepared for approaching hazards through either a newsletter or pamphlet sent out with utility billing
Hazards Addressed:	Severe Winter Storms, Tornadoes, Windstorms
Responsible Party/Dept.:	City of Webster City
Partners:	Hamilton County EMA, citizens
Potential Funding Source:	No Cost
Estimated cost:	Minimal
Benefits (loss avoided):	Prepares residents for approaching hazards with adequate warning time
Mitigation Measure Category:	Education and Awareness Programs
Estimated Start Date:	Ongoing (annually)
Target Completion Date:	Ongoing (annually)

Mitigation Action 1.2: Encourage residents to sign up for emergency text messages

Plan for implementation and administration:	The City will encourage residents to sign up for emergency text messages to ensure residents are alerted of approaching hazards and can alert others too through either a newsletter or pamphlet sent out with utility billing
Hazards Addressed:	Severe Winter Storms, Tornadoes, Windstorms
Responsible Party/Dept.:	City of Webster City
Partners:	Hamilton County EMA, residents
Potential Funding Source:	City Budget
Estimated cost:	Minimal
Benefits (loss avoided):	Prepares residents for approaching hazards with adequate warning time
Mitigation Measure Category:	Education and Awareness Programs
Estimated Start Date:	Ongoing (annually)
Target Completion Date:	Ongoing (annually)

Mitigation Action 1.3: Educate the public on potential hazards

Plan for implementation and administration:	The City will educate residents on potential hazards, what to do in the event of one and what resources are available before/during/after an event through pamphlets, newsletters, lectures, etc. to ensure residents are prepared
Hazards Addressed:	Extreme Heat, Hazardous Material Incident, Infrastructure Failure, Severe Winter Storms, Thunderstorms/Lightning/Hail, Tornadoes, Windstorms
Responsible Party/Dept.:	City of Webster City
Partners:	Hamilton County EMA, residents
Potential Funding Source:	City Budget
Estimated cost:	Minimal
Benefits (loss avoided):	Increases awareness of what hazards can affect Webster City and where to go should a hazard occur
Mitigation Measure Category:	Education and Awareness Programs
Estimated Start Date:	Ongoing (annually)
Target Completion Date:	Ongoing (annually)

Mitigation Action 1.4: Set up protocol for a call center/develop an Emergency Operations Center (EOC)

Plan for implementation and administration:	The City will set up a protocol for forming a call center during hazardous events to ensure that family members can be contacted after a hazardous event strikes
Hazards Addressed:	Terrorism, Tornadoes
Responsible Party/Dept.:	City of Webster City
Partners:	Hamilton County EMA
Potential Funding Source:	City Budget, HMGP
Estimated cost:	Minimal
Benefits (loss avoided):	Establishes equipment and a location to set up a call center to use during emergencies, mass casualties, etc.
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	Ongoing
Target Completion Date:	2022

Mitigation Action 1.5: Develop a response plan for the aftermath of hazardous events

Plan for implementation and administration:	The City will develop a response plan for the aftermath of hazardous events to ensure that recovery is quick and efficient
Hazards Addressed:	Flash Flooding, Infrastructure Failure, Severe Winter Storms, Tornadoes, Transportation Incidents
Responsible Party/Dept.:	City of Webster City
Partners:	Hamilton County EMA
Potential Funding Source:	City Budget, County Budget, HMGP
Estimated cost:	Minimal
Benefits (loss avoided):	The response plan will outline a step-by-step process to handle the aftermath of hazardous events in a quick and efficient way
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	Ongoing
Target Completion Date:	2020

Mitigation Action 1.6: Bury powerlines

Plan for implementation and administration:	The City will bury powerlines to reduce the amount of power outages due to downed tree limbs along with the costs to repair them
Hazards Addressed:	Infrastructure Failure, Thunderstorms/Lightning/Hail, Tornadoes, Windstorms
Responsible Party/Dept.:	Line Department
Partners:	Utility Companies
Potential Funding Source:	Electric Utility Funds, utility companies
Estimated cost:	High
Benefits (loss avoided):	Eliminates power outages due to severe weather
Mitigation Measure Category:	Structure and Infrastructure Projects
Estimated Start Date:	2025
Target Completion Date:	2030

Mitigation Action 1.7: ~~Purchase a large portable generator~~Install permanent generators at all sewer lift stations.

Plan for implementation and administration:	The City will purchase a large portable generator to use where it is needed and <u>install permanent generators at all sewer lift stations to create a permanent backup power supply</u> during power outages caused by hazardous events
Hazards Addressed:	Extreme Heat, Hazardous Material Incident, Infrastructure Failure, Severe Winter Storms, Thunderstorms/Lightning/Hail, Tornadoes, Windstorms
Responsible Party/Dept.:	Wastewater and Line Department
Partners:	Hamilton County EMA
Potential Funding Source:	Electric Utility Funds, HMGP
Estimated cost:	Low
Benefits (loss avoided):	Ensures that critical facilities (fire department, water/sewer infrastructure, community shelters, etc.) can continue to serve residents during power outages
Mitigation Measure Category:	Structure and Infrastructure Projects
Estimated Start Date:	2020
Target Completion Date:	2020

Mitigation Action 1.8: Continue tree management

Plan for implementation and administration:	The City will continue to trim trees to reduce the amount of power outages due to downed tree limbs during severe weather
Hazards Addressed:	Infrastructure Failure, Thunderstorms/Lightning/Hail, Tornadoes, Windstorms
Responsible Party/Dept.:	Line Department
Partners:	Residents
Potential Funding Source:	No cost
Estimated cost:	Minimal
Benefits (loss avoided):	Prevents power outages due to downed tree limbs caused by severe weather
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	Ongoing (as needed)
Target Completion Date:	Ongoing (as needed)

Mitigation Action 1.9: Develop a Continuity of Operations plan

Plan for implementation and administration:	The City will develop a Continuity of Operations plan for both the city and businesses to ensure that day-to-day operations will not be interrupted due to hazardous events
Hazards Addressed:	Flash Flooding, Hazardous Material Incident, River Flooding, Severe Winter Storms
Responsible Party/Dept.:	City Manager
Partners:	Local businesses
Potential Funding Source:	City Budget, HMGP
Estimated cost:	Minimal
Benefits (loss avoided):	Enables day-to-day operations to continue amid hazardous events
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	Ongoing
Target Completion Date:	2020

Mitigation Action 1.10: Encourage family and traveler emergency preparedness

Plan for implementation and administration:	The City will encourage families and travelers to be prepared to reduce the amount of injuries and health risks that can occur when stranded during a severe winter storm
Hazards Addressed:	Severe Winter Storm
Responsible Party/Dept.:	City of Webster City
Partners:	Hamilton County EMA, Hamilton County Public Health, residents/travelers
Potential Funding Source:	City Budget
Estimated cost:	Minimal
Benefits (loss avoided):	Helps protect residents and travelers from the dangers associated with severe winter storms, such as being stranded in homes or vehicles
Mitigation Measure Category:	Education and Awareness Programs
Estimated Start Date:	Ongoing (annually)
Target Completion Date:	Ongoing (annually)

Mitigation Action 1.11: Continue participating in the National Flood Insurance Program (NFIP)

Plan for implementation and administration:	The City will continue to participate in the NFIP to ensure that the city is insured in the event of property damage due to river flooding
Hazards Addressed:	River Flooding
Responsible Party/Dept.:	City of Webster City
Partners:	FEMA
Potential Funding Source:	City Budget
Estimated cost:	Minimal
Benefits (loss avoided):	Protects/insures city infrastructure from flood damage
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	Ongoing (annually)
Target Completion Date:	Ongoing (annually)

Mitigation Action 1.12: Continue to enforce zoning and building ordinances

Plan for implementation and administration:	The City will continue to enforce current zoning and building codes to mitigate structural fires and other building deficiencies to prevent injuries and fatalities
Hazards Addressed:	Infrastructure Failure
Responsible Party/Dept.:	Building Inspector
Partners:	Fire Department
Potential Funding Source:	No cost
Estimated cost:	Minimal
Benefits (loss avoided):	Prevents injuries or deaths associated with structural fires and other building deficiencies
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	Ongoing (annually)
Target Completion Date:	Ongoing (annually)

Mitigation Action 1.13: Enforce the floodplain ordinances and update them as needed

Plan for implementation and administration:	The City will enforce the existing floodplain ordinance and update it as needed to ensure construction is prohibited in floodplain areas to avoid property damage due to river flooding
Hazards Addressed:	River Flooding
Responsible Party/Dept.:	City Manager
Partners:	None
Potential Funding Source:	No cost
Estimated cost:	Minimal
Benefits (loss avoided):	Prohibits construction/rehabilitation of structures in the floodplain
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	Ongoing (annually)
Target Completion Date:	Ongoing (annually)

Mitigation Action 1.14: Develop an evacuation plan

Plan for implementation and administration:	The City will develop an evacuation plan to ensure that residents can evacuate the city quickly in the event of a major hazardous material incident
Hazards Addressed:	Hazardous Material Incident
Responsible Party/Dept.:	City of Webster City
Partners:	Hamilton County EMA, Secondary Roads
Potential Funding Source:	City Budget, County Budget
Estimated cost:	Minimal
Benefits (loss avoided):	Establishes a quick and effective route out of Webster City to prevent injuries, illnesses or fatalities that can occur from a hazardous material incident
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	Ongoing
Target Completion Date:	2021

Mitigation Action 1.15: Promote immunizations against communicable diseases

Plan for implementation and administration:	The City will promote immunizations against communicable diseases to prevent the start and/or spread of human diseases
Hazards Addressed:	Human Disease
Responsible Party/Dept.:	City of Webster City
Partners:	Van Diest Medical Center, Hamilton County Public Health
Potential Funding Source:	City Budget, County Budget, Van Diest Medical Center
Estimated cost:	Minimal
Benefits (loss avoided):	Prevents the start and/or spread of common human diseases
Mitigation Measure Category:	Education and Awareness Programs
Estimated Start Date:	Ongoing (annually)
Target Completion Date:	Ongoing (annually)

Mitigation Action 1.16: Develop a mass casualty plan

Plan for implementation and administration:	The City will develop a mass casualty plan that would lay out the steps to deal with such an event so the community can respond quickly, efficiently and safely
Hazards Addressed:	Human Disease, Transportation Incident
Responsible Party/Dept.:	City of Webster City
Partners:	Hamilton County EMA, Van Diest Medical Center
Potential Funding Source:	City Budget, County Budget, Van Diest Medical Center
Estimated cost:	Minimal
Benefits (loss avoided):	Enables emergency responders and medical personnel to respond to mass casualty events in a quick, efficient and safe manner
Mitigation Measure Category:	Local Plans and Regulations
Estimated Start Date:	2022
Target Completion Date:	2024

Mitigation Action 1.17: Construct a New Wastewater Treatment Facility Outside of Floodplain

Plan for implementation and administration:	The City will construct a new wastewater treatment facility at a site that is not located in the floodplain.
Hazards Addressed:	River Flooding
Responsible Party/Dept.:	City of Webster City
Partners:	Iowa DNR, EPA
Potential Funding Source:	BRIC, HMGP, City Budget
Estimated cost:	High
Benefits (loss avoided):	Establishes a location that will prevent damage and destruction to critical infrastructure and services. Reduces nitrogen and phosphorus discharged to river.
Mitigation Measure Category:	Structure and Infrastructure Projects
Estimated Start Date:	2023
Target Completion Date:	2025

Mitigation Action 1.18: Review and Assess Water Treatment Plant Proximity to Floodplain

Plan for implementation and administration:	The City will review and assess the water treatment plant's vulnerability due to proximity to the floodplain and pursue appropriate action to mitigate plant's vulnerability to flood impacts.
Hazards Addressed:	River Flooding
Responsible Party/Dept.:	City of Webster City
Partners:	Iowa DNR, EPA
Potential Funding Source:	HMGP, City Budget
Estimated cost:	High
Benefits (loss avoided):	Establishes a plan to reduce the water treatment plant's vulnerability to damages from flooding.
Mitigation Measure Category:	Structure and Infrastructure Projects
Estimated Start Date:	2023
Target Completion Date:	2025

Webster City Mitigation Action Prioritization

Mitigation Action 1.16: Develop a mass casualty plan

(1) Mitigation Action 1.2: Encourage residents to sign up for emergency text messages

(1) Mitigation Action 1.17: Construct a New Wastewater Treatment Facility Outside of Floodplain

(1) Mitigation Action 1.18: Review and Assess Water Treatment Plant Proximity to Floodplain

(2) Mitigation Action 1.1: Encourage weather radios for indoor use

(3) Mitigation Action 1.3: Educate the public on potential hazards

(3) Mitigation Action 1.10: Encourage family and traveler emergency preparedness

(3) Mitigation Action 1.4: Set up a protocol for a call center/develop an Emergency Operations Center (EOC)

(3) Mitigation Action 1.5: Develop a response plan for the aftermath of hazardous events

(3) Mitigation Action 1.8: Continue tree management

(3) Mitigation Action 1.11: Continue participating in the National Flood Insurance Program (NFIP)

(3) Mitigation Action 1.12: Continue to enforce zoning and building ordinances

(3) Mitigation Action 1.13: Enforce the floodplain ordinances and update them as needed

(3) Mitigation Action 1.14: Develop an evacuation plan

(4) Mitigation Action 1.16: Develop a mass casualty plan

(4) Mitigation Action 1.6: Bury powerlines

(4) Mitigation Action 1.7: ~~Purchase a large portable generator~~ Install permanent generators at all sewer lift stations.

(4) Mitigation Action 1.9: Develop a Continuity of Operations plan

(5) Mitigation Action 1.15: Promote immunizations against communicable diseases

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RESOLUTION NO. 2019 - 140

**AUTHORIZING THE WEBSTER CITY HAZARD MITIGATION PLAN FOR
THE CITY OF WEBSTER CITY, IOWA, TO BECOME PART OF
THE HAMILTON COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.**

WHEREAS, the City Council of Webster City adopted the 2010 Webster City Hazard Mitigation Plan February 15, 2010, updated April 16, 2012 and August 5, 2013; and

WHEREAS, the City Council of Webster City, desires to include the Webster City Hazard Mitigation Plan as part of the Hamilton County Multi-Jurisdictional Hazard Mitigation Plan; and,

WHEREAS, the City Council of Webster City authorizes being part of the Hamilton County Multi-Jurisdictional Hazard Mitigation Plan; and,

WHEREAS, the City Council of Webster City, authorizes the development of the City's portion of the Hamilton County Multi-Jurisdictional Hazard Mitigation Plan for the City of Webster City, Iowa; and,

WHEREAS, this plan will be the guidance regarding future mitigation actions; and,

WHEREAS, the plan has been reviewed by City staff members and the City Council,

NOW THEREFORE BE IT RESOLVED, that the City Council of Webster City hereby authorizes the Webster City Hazard Mitigation Plan be part of the Hamilton County Multi-Jurisdiction Hazard Mitigation Plan.

Passed and adopted this 5th day of August, 2019.



John Hawkins, Mayor

ATTEST:



Karyl Bonjour, City Clerk



MEMORANDUM

TO: Mayor and City Council

FROM: Biridiana Bishop, Assistant City Manager
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

RE: Adopt a Resolution Designating the Assistant City Manager to be the Authorized Representative for the Water and Waste Disposal Loan and Grant Program in Iowa Administered by the USDA to Determine Grant Eligibility for the New Wastewater Treatment Facility Project

SUMMARY:

The City is in the planning and design phase of the new Wastewater Treatment Facility Project. In order to fund this project, city staff is working with representatives from several state and federal programs to identify the best financing opportunity. One of these programs is the Water and Waste Disposal Loan & Grant Program in Iowa administered by the USDA (U.S. Department of Agriculture).

PREVIOUS COUNCIL ACTION: A study session was held on August 17, 2022 to review financing options with the City Council and Planning and Zoning Commission.

BACKGROUND/DISCUSSION:

City staff is currently working to identify alternate sources of funding for the Wastewater Treatment Facility project. One of these programs is the Water and Waste Disposal Loan & Grant Program in Iowa administered by the USDA. In order to determine the City's grant eligibility through this program, the City must submit a formal application to the USDA. In order to do this, the city must designate an authorized representative.

As the authorized representative, the Assistant City Manager will be the authorized point of contact to answer questions and complete and submit the loan and grant application. The designation will also authorize the Assistant City Manager to assign new users access to the system and sign necessary certifications. Staff will continue working with the City's municipal advisor, PFM to determine the best funding option to finance the construction of the Wastewater Treatment Plant project. Once grant eligibility and potential has been identified with each program, staff will bring this information back to the City Council and seek authorization for formal authority to pursue the best funding option identified. Programs currently under consideration and review include:

- Water and Waste Disposal Loan & Grant Program
- State Revolving Loan Fund
- Water Treatment Financial Assistance Program

- Building Resilient Infrastructure and Communities Program

FINANCIAL IMPLICATIONS: No financial implications with providing authorization to seek grant eligibility.

RECOMMENDATION: Staff recommends the City Council adopt a resolution authorizing the Assistant City Manager to be the authorized representative for the Water and Waste Disposal Loan & Grant Program in Iowa administered by the USDA to determine grant eligibility for the new Wastewater Treatment Facility Project.

RESOLUTION NO. 2022 –

**RESOLUTION DESIGNATING THE ASSISTANT CITY MANAGER TO BE THE
AUTHORIZED REPRESENTATIVE FOR THE WATER AND WASTE DISPOSAL LOAN & GRANT PROGRAM
IN IOWA ADMINISTERED BY THE USDA**

WHEREAS, the City of Webster City owns and operates a publicly owned treatment works (POTW);
and

WHEREAS, the City of Webster City is seeking to identify financing options to fund the
construction of a new Wastewater Treatment Facility; and

WHEREAS, the Water and Waste Disposal Loan & Grant Program provides funding for clean and
reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water
drainage to households and businesses in eligible areas; and

WHEREAS, the City wishes to identify its eligibility for the Water and Waste Disposal Loan and
Grant Program; and

WHEREAS, the City of Webster City wishes to designate the Assistant City Manager as the
authorized representative by assigning the Representative-Signature-Certify security role on behalf of the
City of Webster City; and

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

SECTION 1: Designates Biridiana Bishop, the City of Webster City's Assistant City Manager, as the assigned
Representative-Signature-Certify security role on behalf of the City who shall be responsible for,
entering/updating an application, providing signatures, authorizing certifications, and submitting the
application for consideration and assigning access to new users in USDA's RD Apply Online Application
System.

Passed and adopted this 6th of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Water & Waste Disposal Loan & Grant Program

What does this program do?

This program provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.

Who may apply?

This program assists qualified applicants who are not otherwise able to obtain commercial credit on reasonable terms. Eligible applicants include:

- **Most state and local governmental entities**
- **Private nonprofits**
- **Federally recognized Tribes**

What is an eligible area?

Areas that may be served include:

- Rural areas and towns with populations of 10,000 or less – check eligible addresses
- Tribal lands in rural areas
- Colonias

What kinds of funding are available?

Long-term, low-interest loans. If funds are available, a grant may be combined with a loan if necessary to keep user costs reasonable

How may the funds be used?

Funds may be used to finance the acquisition, construction, or improvement of:

- Drinking water sourcing, treatment, storage, and distribution
- Sewer collection, transmission, treatment, and disposal
- Solid waste collection, disposal, and closure
- Storm water collection, transmission, and disposal

In some cases, funding may also be available for related activities such as:

- Legal and engineering fees
- Land acquisition, water and land rights, permits, and equipment
- Start-up operations and maintenance

- Interest incurred during construction
- Purchase of facilities to improve service or prevent loss of service
- Other costs determined to be necessary for completion of the project
- See 7 CFR Part 1780.7 and 1780.9 for a complete list

What is the loan term and rate?

The loan term is up to a 40-year payback period, based on the useful life of the facilities financed with a fixed interest rate. The interest rate is based on the need for the project and the median household income of the area to be served. Contact us for details and current interest rates applicable for your project.

Are there additional requirements?

- Borrowers must have the legal authority to construct, operate, and maintain the proposed services or facilities.
- All facilities receiving federal financing must be used for a public purpose.
- Partnerships with other federal, state, local, private, and nonprofit entities that offer financial assistance are encouraged.
- Projects must be financially sustainable.

How do we get started?

Applications are accepted year round and may be filed electronically using [RD Apply](#). The RD Apply Customer Help Guide is provided to help you get started and work through the application process. Applications are also accepted through your [local RD office](#). Program resources are available online (i.e., forms, guidance, certifications, etc.).

Who can answer questions?

Contact the local representative who serves your area. Participating nonprofits in your area may also offer assistance and training.

What governs this program?

- Basic Program – [7 CFR, Part 1780](#)
- Loan Servicing – [7 CFR, Part 1782](#)
- Section 306 of the Consolidated Farm and Rural Development Act

Why does USDA Rural Development do this?

This program helps very small, financially distressed rural communities extend and improve water and waste treatment facilities that serve local households and businesses. Good practices can save tax dollars, improve the natural environment, and help manufacturers and businesses to locate or expand operations.

NOTE: Because citations and other information may be subject to change, please always consult the program instructions listed in the section above titled “*What Governs This Program?*” You may also contact [your local office](#) for assistance. You will find additional forms, resources, and program information at [rd.usda.gov](#). *USDA is an equal opportunity provider, employer, and lender.*



Biridiana Bishop <bibishop@webstercity.com>

RE: [External Email]USDA RDAApply

1 message

Sandstrom, Preston - RD, State Office <preston.sandstrom@usda.gov>

Mon, Aug 22, 2022 at 1:47 PM

To: Biridiana Bishop <bibishop@webstercity.com>

Cc: Jon Burmeister <burmeisterj@pfm.com>

Good afternoon Biridiana,

Thank you for reaching out.

Yes, I think entering the information in RDAApply (as a formal application) is the best course of action at this time in order to officially calculate a funding mix.

The official PER could be submitted later (electronic version directly to Rural Development), but there are some essential figures from the PER needed for the calculation.

1. Total project cost
2. Short lived assets of the system
3. Engineering fees (including basic design, construction administration and resident inspector services)
4. O&M on the entire wastewater system enterprise after construction

The link and directions to RDAApply can be found at the link below under the "To Apply" tab.

[Water & Waste Disposal Loan & Grant Program in Iowa | Rural Development \(usda.gov\)](#)

If you have any questions, please don't hesitate to reach out.

Have a great day.

Sincerely,

Preston Sandstrom |Community Programs Specialist
Rural Development
U.S. Department of Agriculture
[1301 6th Ave. N Suite 1|Humboldt, IA 50548](#)
Ph. 515-332-4411 x6027|Fax. 855-251-2245
www.rd.usda.gov/ia | "Together, America Prospers"

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From: Biridiana Bishop <bibishop@webstercity.com>
Sent: Monday, August 22, 2022 12:45 PM
To: Sandstrom, Preston - RD, State Office <preston.sandstrom@usda.gov>
Subject: [External Email]USDA RDApply

[External Email]

If this message comes from an **unexpected sender** or references a **vague/unexpected topic**;
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Good morning Preston,

Do I need to proceed with a formal application in order to determine the City's grant eligibility? If so, would it be okay to complete most of the information with the exception of the PER? We would like to understand what grant eligibility we would have before proceeding with the PER.

Please advise.

Thank you for all of your help!

--

Biridiana Bishop

Assistant City Manager



400 2nd Street

Webster City, IA 50595

P. (515)832-9151

bibishop@webstercity.com

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MEMORANDUM

TO: Mayor and City Council

FROM: Biridiana Bishop, Assistant City Manager
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

RE: Adopt a Resolution Accepting Work and Authorizing Final Payment to Peterson Construction for the Water Treatment Plant Aerator Support Structure Repair Project

SUMMARY: The Water Treatment Plant Aerator Support Structure required repairs and repair work has been completed. The project is ready for closeout.

PREVIOUS COUNCIL ACTION: On November 15, 2021, City Council set Public Hearing for the project. On December 20, 2021, City Council held a public hearing and adopted resolutions approving and confirming plans and awarding contract to Peterson Construction.

BACKGROUND/DISCUSSION:

The Water Treatment Plant Aerator Support Structure required repair work has been completed and is ready for close out. On November 15, 2021, the City Council set a public hearing for the project. The engineer's opinion of probable cost total was \$43,495.00. The breakdown against the actual costs is noted below. The total cost for construction was \$23,973.00. This cost includes a \$673.00 change order that included an additional steel plate added to a beam that was needed.

	Opinion of Probable Cost	Actual Expenses
Construction	\$26,000.00 + \$4,000.00 contingency = \$30,000.00	\$23,973.00
Engineering	\$13,495.00 (does not include inspection work)	\$15,013.75 (includes inspection work)
Total	\$43,495.00	\$38,986.75 (Pending a few more hours of engineering tied to closeout)

Attached to this memo is the engineer's letter of recommendation to closeout the project. All work was completed per contract documents and has been deemed complete and acceptable.

FINANCIAL IMPLICATIONS: The Water Fund will cover the costs associated with the project.

RECOMMENDATION: Staff recommends the City Council adopt a resolution accepting work and authorizing final payment to Peterson Construction for the Water Treatment Plant Aerator Support Structure Repair project.

RESOLUTION NO. 2022 –

**RESOLUTION ACCEPTING THE
WATER TREATMENT PLANT AERATOR STRUCTURE SUPPORT REPAIR PROJECT
AND AUTHORIZING FINAL PAYOUT TO PETERSON CONSTRUCTION**

WHEREAS, on December 20, 2021 the City of Webster City did enter into a contract with Peterson Construction to perform repair work needed for the Water Treatment Plant Aerator Structure Support Repair Project; and

WHEREAS, the support structure required an additional plate on a beam, totaling \$673.00; and

WHEREAS, by virtue of such changes, the following revisions were made in the contract price:

Original Contract Price:	\$23,300.00
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Change Order #1:	\$ 673.00
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Revised Contract Price	\$23,973.00
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WHEREAS, the City of Webster City has only received one invoice from Peterson Construction for the entire revised contract price.

WHEREAS, the City of Webster City has a final payment of \$23,973.00 due to Peterson Construction.

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

SECTION 1: Authorizes a final payment of \$23,973.00 to Peterson Construction and accepts the work performed under the Water Treatment Plant Aerator Structure Support Repair Project.

Passed and adopted this 6th of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Exhibit "A"

Invoice #1



August 25, 2022

Biridiana Bishop
City of Webster City
400 East Second Street
Webster City, Iowa 50595

RE: WATER TREATMENT PLANT AERATOR SUPPORT STRUCTURE REPAIR
CLOSEOUT RECOMMENDATION LETTER

Dear Biridiana:

Invoice 6094 is the only and final invoice for this project. All work has been completed per the contract documents, and we are recommending acceptance of the project. Upon City Council's acceptance of the project, the project total amount of \$23,973.00 should be paid.

Once approved, please send one copy to the contractor, and send one copy to my attention at Shuck-Britson. If you have any questions or comments on this pay application please feel free to contact me at your convenience. Thank you.

Sincerely,

SHUCK-BRITSON, INC.

A handwritten signature in blue ink that reads 'Bryan D. McCombs'.

Bryan D. McCombs, P.E.

cc: Matt Alcazar



PETERSON CONSTRUCTION

1929 West Second St.
Webster City, Iowa 50595
Phone: 515-832-1216
Fax: 515-832-3782

6094

invoice

TO

City of Webster City
P O Box 217
Webster City Ia 50595-0217

DATE August 23, 2022

CUSTOMER ORDER NO

ATTENTION

RE:

TERMS

DATE	DESCRIPTION	DEBIT	CREDIT	BALANCE
	Webster City WTP Aerator Support Structure			
	Contract amount	23,300.00		
	Change Order #1 - Steel to beam web	673.00		
	Total amount due			\$23,973.00
	THANK YOU!			



MEMORANDUM

TO: Mayor and City Council

FROM: Brandon Bahrenfuss, Street Supervisor
Biridiana Bishop, Assistant City Manager
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

RE: Adopt a Resolution Authorizing the Mayor to Accept the Proposal from Karl Chevrolet for a 2022 Work Truck with Utility Box and Truck Equipment to Add Strobe Lights, Shovel Rack, and Wrench Rack

SUMMARY: Last fall the Street Department Supervisor approached council for authorization to seek bids and proceed if bids came back under \$50,500.00 for a 2022 Chevrolet work truck with utility box. After getting authorization from council, staff received information days later that all orders for 2022 fleet work trucks were closed. Street Department Supervisor has been in frequent contact with Dennis Rudolph (Government Fleet/Karl Chevrolet) regarding 2023 orders opening up. Unfortunately, fleet truck orders for 2023 kept getting pushed back month after month due to supply chain issues. When Chevrolet finally opened up their fleet truck orders this May, it was for less than 24 hours and nobody knew about it. Staff is being informed that Chevrolet fleet truck (2024) ordering will not open up until June of 2023 with a build date of October 2023. All of these dates are subject to change based on supply chain, parts availability, and labor force.

PREVIOUS COUNCIL ACTION: City Council has seen this in the 2021-2022 Capital Equipment Budget. Council authorized staff September 20, 2021 to seek bids and proceed with purchase if bids came back under \$50,500.00.

BACKGROUND/DISCUSSION: After receiving authorization from council to seek bids and proceed if bids come back under \$50,500.00 staff has been hard at work trying to find a truck. Factors out of staffs control such as supply chain issues and parts availability are just some of the reasons Chevrolet has cut back on production. Staff has been advised by Chevrolet and Dennis Rudolph that a time frame on ordering a truck is uncertain, budget numbers are up in the air, and the chances of getting a truck when ordered is not a guarantee.

With all that being said, City staff was made aware of a 2022 Chevrolet Work Truck with a Monroe Utility Box on the lot at Karl Chevrolet in Webster City. This work truck with utility box is very close to what the street department spec'd and took to council on September 20, 2021. Below is how they compare:

Specifications taken to council:

1 Ton Work Truck
-Max payload 4,391 lbs.
-Max trailering 14,500 lbs.
-GVWR 11,400 lbs.
Double Cab
Silver Ice in Color
18-inch Wheels
Did not spec heated Mirrors
Knapheide Steel Service Body
Strobe Lights
Shovel Rack
Wrench Rack

Truck Proposed:

¾ Ton Work Truck (\$1,200.00 difference)
-Max payload 3,862 lbs.
-Max Trailering 14,500 lbs.
-GVRW 10,650 lbs.
Crew Cab (\$1,800.00 difference)
White in Color
17-inch Wheels
Heated Mirrors
Monroe Steel Service Body
Need purchased through Truck Equipment
Need purchased through Truck Equipment
Need purchased through Truck Equipment

Street Department supervisor has reached out to multiple mechanics and other government entities concerning the truck proposed. Since both trucks have the same max trailering weight, the only difference was max payload. Staff feels the max payload of the ¾ ton work truck would be sufficient in all daily operations at the Street Department.

Staff recommends we purchase the truck proposed from Karl Chevrolet for the following reasons:

1. Availability-finding a truck this close to our specification has been virtually impossible, staff feels this truck is one we should not pass up
2. Timeline-we have been advised by Chevrolet that the next chance at ordering a truck will be June of 2023 with a build date of October. Take ownership by early 2024.
3. Uncertainty-Nobody can guarantee us that supply chain issues will get better, prices have already increased by 15% in the last year (what will it be next year)
4. Right Place Right Time-staff recommends to cut our losses and move forward. Right now, purchasing fleet work trucks are tough and the future is very unpredictable. The circumstances aren't what we would like however in this situation it is in our best interest to move forward with a ¾ ton work truck.

Karl Chevrolet submitted a purchase proposal of \$52,485.00 for the 2022 Work Truck with Utility Box. The truck would then need to be sent to Truck Equipment in Des Moines where strobe lights, shovel rack, and wrench rack would be installed for \$5,290.28, making the total cost for the truck \$57,775.28.

FINANCIAL IMPLICATIONS: The City budgeted \$50,500.00 in the 2021-2022 CEP to purchase a work truck with utility box. This proposal by Karl Chevrolet and Truck Equipment will exceed the budget by \$7,275.28. Additional monies needed to complete the purchase will come from the Capital Equipment Budget.

RECOMMENDATION: Staff recommends the City Council adopt a resolution authorizing the Mayor to accept the proposal from Karl Chevrolet for a 2022 Work Truck with Utility Box and Truck Equipment to add Strobe Lights, Shovel Rack, and Wrench Rack for \$57,775.28.





Truck below is a visual of what the truck we spec'd would look like compared to what is proposed





CHEVROLET

2022 SILVERADO 2500 CREW CAB WT 4WD

EXTERIOR: SUMMIT WHITE
INTERIOR: JET BLACK

ENGINE: 6.6L V8 GASOLINE
TRANS: 6-SPEED AUTO

Visit us at www.chevy.com

STANDARD EQUIPMENT

ITEMS FEATURED BELOW ARE INCLUDED AT NO EXTRA CHARGE IN THE STANDARD VEHICLE PRICE SHOWN

OWNER BENEFITS

- 3 YEAR / 36,000 MILE* BUMPER-TO-BUMPER LIMITED WARRANTY
- 5 YEAR / 60,000 MILE* POWERTRAIN LIMITED WARRANTY, ROADSIDE ASSISTANCE & COURTESY TRANSPORTATION
- FIRST MAINTENANCE VISIT
- WHICHEVER COMES FIRST SEE CHEVROLET.COM OR DEALER FOR TERMS, DETAILS & LIMITS

SAFETY & SECURITY

- TEEN DRIVER MODE

PERFORMANCE & MECHANICAL

- AUTO LOCKING REAR DIFF
- ELECTRONIC TRANSFER CASE
- INDEPENDENT FRONT SUSPENSION
- MULTI-LEAF REAR SPRING SUSP

- STABILITRAK W/ TRAILER SWAY CONTROL & HILL START ASSIST
- ALL-SEASON TIRES

CONNECTIVITY & TECHNOLOGY

- CHEVROLET INFOTAINMENT 3 7" DIAG COLOR TOUCHSCREEN
- ADDITIONAL FEATURES FOR COMPATIBLE PHONES INCLUDE: BLUETOOTH AUDIO STREAMING VOICE COMMAND PASSTHROUGH TO PHONE, WIRED ANDROID AUTO & WIRED APPLE CARPLAY CAPABLE
- USB PORTS
- DRIVER INFORMATION CENTER
- REAR SEAT REMINDER

INTERIOR

- AIR CONDITIONING
- POWER WINDOWS
- FRONT 40/20/40 BENCH SEATS W/ COVERED ARMREST STORAGE
- 60/40 REAR FOLDING BENCH SEAT
- POWER DOOR LOCKS

EXTERIOR

- HALOGEN REFLECTOR HEADLAMPS
- FRONT RECOVERY HOOKS

MANUFACTURER'S SUGGESTED RETAIL PRICE

STANDARD VEHICLE PRICE \$46,700.00

OPTIONS & PRICING

OPTIONS INSTALLED BY THE MANUFACTURER (MAY REPLACE STANDARD EQUIPMENT SHOWN)

WT CONVENIENCE PACKAGE	825.00
• REMOTE KEYLESS ENTRY	
• DEEP-TINTED GLASS	
• REAR WINDOW DEFOGGER	
• CRUISE CONTROL	
TRAILERING MIRRORS - HEATED,	720.00
POWER-ADJUSTABLE, AUTO-DIMMING	
W/ TURN INDICATORS	
ALL SEASON TIRE, SPARE	380.00
SNOW PLOW PREP/CAMPER PACKAGE	300.00
• 220 AMP ALTERNATOR	
• INCREASED GAWR	

• SKID PLATES	
• ROOF EMERGENCY LIGHT	
PROVISIONS W/ PASS THROUGH	
TRAILER BRAKE CONTROLLER	275.00
ONSTAR (R) SERVICES &	175.00
WI-FI (R) HOTSPOT CAPABLE;	
SEE ONSTAR.COM FOR TERMS	
120V IP POWER OUTLET	150.00
UPFITTER SWITCH KIT (5)	150.00
(CUSTOMER RESPONSIBLE FOR	
INSTALLATION)	
ENGINE BLOCK HEATER	100.00
SIRIUSXM RADIO CAPABLE,	100.00
TRIAL INCLUDED WITH	
SUBSCRIPTION SOLD SEPARATELY	
CHROME BUMPERS	100.00
REAR CAMERA KIT	73.00
INCOMPLETE VEHICLE	.00
LABEL FOR GM CONTENT ONLY-SEE	
DEALER ABOUT NON GM CONTENT	
PICKUP BOX DELETE:	-1,155.00
DELETES PICKUP BOX,	
REAR VISION CAMERA AND OTHER	

STANDARD EQUIPMENT	
REAR AXLE: 3.73 RATIO	INC.
GVWR: 10,650 LBS. (4,831 KG)	INC.
17" PAINTED STEEL WHEELS	INC.

TOTAL OPTIONS	\$2,193.00
TOTAL VEHICLE & OPTIONS	\$48,893.00
DESTINATION CHARGE	1,795.00

TOTAL VEHICLE PRICE* \$50,688.00

EPA Fuel Economy and Environment

Vehicle Addendum

Stock #21214

2022 Chevrolet Silverado 2500HD

VIN: 1GB4YLE75NF339850

2022 Chevrolet Silverado 2500HD MSRP: \$50,688

Monroe Body

98" S-SERIES, STEEL SERVICEPRO BODY - STEEL UNDERSTRUCTURE - 48.5" LOADSPACE - A60 GALVANNEALED DIAMOND PLATE FLOOR - 18 GA OUTER DOOR SKIN, DOUBLE PANEL DOOR CONSTRUCTION - STAINLESS STEEL ROTARY PADDLE LATCHES & BOLT-ON DOOR HINGES - NITROGEN GAS STRUT DOOR HOLDERS - AUTOMOTIVE BUBBLE TYPE & MECHANICAL DOOR SEALS - ADJUSTABLE COMPARTMENT TRAYS/SHELVES - (1) SHELF IN EACH FRONT, HORIZONTAL & REAR COMPARTMENTS - KNEE BRACED SLAM ACTION TAILGATE - SEAMLESS WHEELHOUSE PANEL WITH POLY CARBONATE FENDER FLARES - ACRYLIC E-COAT IMMERSION PRIMER SYSTEM & POWDER COATED - STEPMATE BUMPER SYSTEM WITH INTEGRATED STEPS AND GRAB HANDLES - (1) PAIR ALL-IN-ONE LED STOP/TURN/TAILO/BACKUP LIGHTS RECESSED IN BUMPER PREMIER PACKAGE - MANUAL MASTERLOCKS - L.E.D. COMPARTMENT LIGHTING - 2-1/2" RECEIVER HITCH WITH 2" INSERT - 7-WAY RV-STYLE TRAILER RECEPTACLE

\$ 11,682

TOTAL MSRP: \$62,370

Karl Chevrolet Purchase Proposal

1705 2ND STREET WEBSTER CITY, IA 50595 - PH (515)832-6638 - FAX (515)964-0845 - www.karlchevrolet.com

Buyer 1 (As it will appear on the title):

Buyer 2:

CITY OF WEBSTER CITY

400 2ND STREET PO BOX 217

WEBSTER CITY, IA 50595

County HAMILTON

Deal #: 50649

Cust #: 16356

County

SS#

DOB 01/01/2022

(H) (515) 832-9141

(W) (515) 832-9141

(C)

Email KARYL_BONJOUR@WEBSTERCITY.C

SS#

DOB

(H)

(W)

(C)

Email

Deal Date: 08/15/2022

Print Time: 01:22pm

Salesperson: MICHAEL ALVIN CARTER

Manager: MARK A WITTRY

Trade Information:

Yr **Make** **Model** **VIN**

	Retail (1)	Retail (2)	
Stock Number	BKJSPK	BKJSPK	Summer Late
Year	2022	2022	18 mo Later
Make	CHEVROLET	CHEVROLET	
Model	SILVERADO 2500HD	SILVERADO 2500HD	
Style	4WD CREW CAB 172"...	4WD CREW CAB 172"...	15% increase last yr
Total Value Price	\$ 52,485.00	\$ 52,485.00	
Accessories	+	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
Trade Value	-	0.00	0.00
Trade Difference (TTLDF)	=	52,485.00	52,485.00
Trade Payoff	+	0.00	0.00
Down Payment	-	0.00	0.00
Term		1	1
Mileage Program		N/A	N/A
Payment	\$	56127	\$ 56127

Amount of deposit toward this vehicle purchase \$

NOTICE OF SALESPERSON AUTHORITY:

This proposal is not valid unless signed and accepted by a Sales Manager or an Officer of the Dealership.
* All Pricing and payments are subject to credit approval.

Buyer Signature: _____ **Date:** 08/15/2022

Accepted By: _____

55,524.28



QUOTE

Quote ID: Q15350 Rev: 0

Quote Date: 8/15/2022
Quote Valid Until: 8/22/2022

P.O. Box 3265
Des Moines, IA 50316
Phone: (515) 266-5189 Toll Free: (800) 373-2887 Fax: (515) 266-7878

Page 1 of 1

Customer: 70060

Webster City, City Of
Accounts Payable
Po Box 217
Webster City, IA 50595

Contact: Brandon
Phone: (515) 832-9123
Fax:

Salesperson: Pete Hill

Make:	Chevrolet	Model:	3500	Year:	2020	Single/Dual:	Single
Cab Type:		Wheelbase:	0	Cab-to-Axle:	56	VIN:	

FURNISH AND INSTALL:

RHINO LINED - CARGO AREA AND TAILGATE
LED COMPARTMENT LIGHTS - 6 COMPARTMENTS
4) 8200S-A-AMBER LED 2 STROBES MOUNTED ON GRILL & 2 ON REAR
1) 454101HL-25 FEDERAL SIGNAL MINI BAR STROBE ON WHELEN NO DRILL BRACKET ON CAB
CUSTOM SHOVEL BASKET WITH PVC TUBE ON DRIVERS SIDE COMPARTMENT TOP
CUSTOM WRENCH RACK ON THE CURB SIDE COMPARTMENT TOP

Sub Total:	\$5,290.28
Discount:	
Sales Tax:	\$0.00
Grand Total:	\$5,290.28

Customer must fill out the information below before the order can be processed...

Accepted by:	
Date:	
P.O. Number:	

* Terms are Due Upon Receipt unless prior credit arrangements are made at the time of order.

* Please note if chassis is furnished, it is as a convenience and terms are Net Due on Receipt of Chassis.

www.truckequipmentinc.com

QUALITY PRODUCTS - DEPENDABLE SERVICE

info@truckequipmentinc.com

RESOLUTION NO. 2022 -

**RESOLUTION AUTHORIZING THE MAYOR TO ACCEPT THE PROPOSAL FROM
KARL CHEVROLET FOR A 2022 WORK TRUCK WITH UTILITY BOX
AND TRUCK EQUIPMENT TO ADD STROBE LIGHTS, SHOVEL RACK, AND WRENCH RACK**

WHEREAS, the City of Webster City is in need of a work truck with utility box; and

WHEREAS, the City of Webster City has been in contact with Chevrolet and Chevrolet dealerships on the shortage of fleet work trucks and the estimated timeline of ordering and delivery; and

WHEREAS, the City of Webster City will purchase a work truck with utility box that best suits the needs of the Webster City Street Department and its daily operations; and

WHEREAS, the City of Webster City will purchase a 2022 Chevrolet ¾ ton work truck with utility box from Karl Chevrolet and accept the proposal from Truck Equipment for the installation of Strobe Lights, Shovel Rack, and Wrench Rack; and

WHEREAS, the City of Webster City understands the proposal from Karl Chevrolet and Truck Equipment came in over budget; however, staff feels it is in the cities best interest to proceed with the purchase due to the shortage of work trucks and the uncertainty of supply chain issues; and

WHEREAS, the City of Webster City wishes to accept the proposal for Karl Chevrolet and Truck Equipment for \$57,775.28; and

WHEREAS, the City of Webster City will utilize the services of Karl Chevrolet and Truck Equipment, to perform said services based on prices noted in the attached as Exhibit "A";

WHEREAS, said agreement for 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 Mayor to sign and execute the Proposal with Karl Chevrolet and Truck Equipment.

Passed and adopted this 6th day of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Exhibit "A"

Karl Chevrolet and Truck Equipment Bid Proposal

BID FOR 2022

Chevrolet

Work Truck



Brandon Bahrenfuss
Webster City Street Department
Shop 515-832-9123

Specification Guidelines
2022 1 Ton 4x4 HD Cab Chassis

2022 Chevrolet Silverado 3500 HD 4x4 WT Single Rear Wheel	_____
Exterior Silver Ice in Color	_____
Double Cab, Long Bed	_____
Box Delete	_____
Rear Bumper Delete	_____
6.6L V8 Direct Injection with Variable Valve Timing Gas Engine 6-Speed	_____
Heavy Duty	_____
Cab to Axel 55.2	_____
Electronically Controlled Automatic Transmission	_____
Interior Jet-Black Vinyl Seat Trim	_____
Remote Keyless Entry	_____
Cruise Control	_____
Tinted Glass	_____
Rear Window Defogger	_____
Power Windows	_____
Power Door Locks	_____
Chrome Front Bumper	_____
18" Steel Wheels	_____
18" LT 275/70R18E All Terrain, Black wall Tires	_____
3.73 Rear Axle Ratio	_____
Integrated Trailer Brake Controller	_____
Trailer Wiring provisions for pulling trailers	_____
RV 7 Way Trailer Plug on rear of truck	_____
220 Amp Alternator	_____

Best Battery Available for Cold Start	_____
Fuel Tank Capacity Please List	_____
GPM (Highway and City)	_____
Towing Capacity	_____
Camper Mirrors	_____
Daytime running Lights	_____
Auto Head Lights On/Off	_____
Chevrolet Infotainment 3 System with Color Touchscreen	_____
40/20/40 Split-Bench Seat	_____
All-Weather Floor Liners	_____
Upfitter Switches for Accessories to Service Box	_____
Bluetooth	_____

Delivery Date Once Bid is Awarded	_____
-----------------------------------	-------

Please List Any Additional Options that we should Consider:

Warranty

Basic_____

Powertrain_____

Corrosion _____

Roadside Assistance_____

The City of Webster City reserves the right to waive compliance on minor technicalities on this specification; to reject any or all bids and to accept any bid which, in the opinion of the City, is in the best interest of the City.

If vendor is unable to deliver the completed unit with-in 30 days of original delivery date the City of Webster City reserves the right to cancel our order with no fees or penalty to the City of Webster City. Confirm install date to City of Webster City when PO is issued.

For more information please give me a call at 515-832-1620 or email at bbahrenfuss@webstercity.com.

TRADE IN _____

TOTAL PURCHASE PRICE _____

Bidders Signature _____

Dealer Name _____

Sales Rep Name _____

Address _____

City _____

State _____

Zip Code _____

Phone Numbers _____

BID FOR 2021

Utility Truck

Box



Brandon Bahrenfuss
Webster City Street Department
Shop 515-832-9123

Specification

Specification Guidelines

Utility Box with Racks for 1 Ton 2022 Chevrolet chassis

Knapheide 696-2 Standard Steel Service Body	_____
Lined Box (Walls, Floor, Bulkhead Wall, and Inside of Tailgate)	_____
97.25" Length	_____
40" Height	_____
14.5" Deep Compartments	_____
49" Floor	_____
White in Color	_____
LED Light Package	_____
Roughly 56" cab to axle	_____
Stainless Hinges, Latches, and Hardware	_____
LED Compartment Lights using Factory Upfitter Switches	_____
78" Wide Galva-Grip Bumper with Hitch Recess	_____
14,500 lb. Towing Reese Hitch	_____
Safety Chain Rings-Near Recess in Bumper	_____
Lined Bumper	_____
Class V Receiver Hitch with 7 Way Flat Trailer Plug (14,500 lbs.)	_____
Drivers Side Front Door: Pull out tool drawers top to bottom	_____
Drivers Side Middle Door: Pull out tool draws top to bottom	_____
Driver Side Back Door: Adjustable shelves with Removable Dividers	_____
Street Side Front Door: Adjustable Shelves with Removable Dividers	_____
Street Side Middle Door: 18 drawer small parts cabinet	_____
Street Side Back Door: Adjustable Shelves with Removable Dividers	_____
Rigid Spring Door Stops on all four Vertical Doors	_____

Both Center Drop Down Doors have Chains to Prevent Doors from

Opening all the way (Door drops to 90 Degree Angle)

LED Flashing light Installed in the front Head Light

LED Flashing Light on Each Side of Rear Box

Aluminum Fuel Fill Plate

Gas Fill Left Side

License Plate Bracket with Light

Drill Free Cab Mounted with 24" LED Flashing Light Bar



Aluminum Shovel Rack with Sign Conduit (PVC) Attachment





Description of Shovel Rack:

Full Length of the box

Rear height shovel box: 8 inches

Height of Bracket to hold PVC: 20 ½ inches

Cap on front and Cap with hinge on Rear of PVC

Front height shovel rack: 5 inches

Size of PVC (road work signs): 6 inches

Aluminum mesh on the bottom

Aluminum Wrench Rack to Replicate one seen in Pictures Below

Description of Wrench Rack:

Height of front and rear Racks: 30 inches

Gap between each wrench: 2 inches

Height from box to wrench dividers: 7 ½ inches

Width of Rack: 14 ¾ inches

Dividers on front and rear only

Height from box to top bracket: 21 inches

SEE US FOR DETAILS ON BOTH CUSTOM RACKS







Warranty_____

Please List Any Additional Options that we should Consider:

Delivery Date Once Bid is Awarded

The City of Webster City reserves the right to waive compliance on minor technicalities on this specification; to reject any or all bids: and to accept any bid which, in the opinion of the City, is in the best interest of the City.

For more information, please call
Brandon Bahrenfuss at 515-832-9123
Webster City Street Department
100 East Ohio Street
Webster City, Iowa 50595
bbahrenfuss@webstercity.com

**TOTAL PURCHASE PRICE INCLUDING INSTALLATION & DELIVERY TO
WEBSTER CITY, IOWA**

\$ _____

Bidder's Signature

Dealer Name _____

Sales Rep Name _____

Address _____

City _____

State _____ Zip Code _____

Phone _____ Fax _____

E-Mail address _____

Karl Chevrolet Purchase Proposal

1705 2ND STREET WEBSTER CITY, IA 50595 - PH (515)832-6638 - FAX (515)964-0845 - www.karlchevrolet.com

Buyer 1 (As it will appear on the title):

Buyer 2:

CITY OF WEBSTER CITY

400 2ND STREET PO BOX 217

WEBSTER CITY, IA 50595

County HAMILTON

County

Deal #: 50649

Cust #: 16356

SS#

DOB 01/01/2022

SS#

DOB

Deal Date: 08/15/2022

Print Time: 01:22pm

(H) (515) 832-9141

(W) (515) 832-9141

(C)

Email KARYL_BONJOUR@WEBSTERCITY.C

(H)

(W)

(C)

Email

Salesperson: MICHAEL ALVIN CARTER

Manager: MARK A WITTRY

Trade Information:

Yr Make Model VIN

	Retail (1)	Retail (2)	
Stock Number	BKJSPK	BKJSPK	Summer Late
Year	2022	2022	18 mo Later
Make	CHEVROLET	CHEVROLET	
Model	SILVERADO 2500HD	SILVERADO 2500HD	
Style	4WD CREW CAB 172"...	4WD CREW CAB 172"...	15% increase last yr
Total Value Price	\$ 52,485.00	\$ 52,485.00	
Accessories	+	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
	-	0.00	0.00
Trade Value	-	0.00	0.00
Trade Difference (TTLDf)	=	52,485.00	52,485.00
Trade Payoff	+	0.00	0.00
Down Payment	-	0.00	0.00
Term		1	1
Mileage Program		N/A	N/A
Payment	\$	56127	\$ 56127

Amount of deposit toward this vehicle purchase \$

NOTICE OF SALESPERSON AUTHORITY:

This proposal is not valid unless signed and accepted by a Sales Manager or an Officer of the Dealership.
* All Pricing and payments are subject to credit approval.

Buyer Signature: Date: 08/15/2022

Accepted By:



QUOTE

Quote ID: Q15350 Rev: 0

Quote Date: 8/15/2022

Quote Valid Until: 8/22/2022

Page 1 of 1

P.O. Box 3265
Des Moines, IA 50316
Phone: (515) 266-5189 Toll Free: (800) 373-2887 Fax: (515) 266-7878

Customer: 70060

Webster City, City Of
Accounts Payable
Po Box 217
Webster City, IA 50595

Contact: Brandon

Phone: (515) 832-9123

Fax:

Salesperson: Pete Hill

Make:	Chevrolet	Model:	3500	Year:	2020	Single/Dual:	Single
Cab Type:		Wheelbase:	0	Cab-to-Axle:	56	VIN:	

FURNISH AND INSTALL:

RHINO LINED - CARGO AREA AND TAILGATE
LED COMPARTMENT LIGHTS - 6 COMPARTMENTS
4) 8200S-A AMBER LED 2 STROBES MOUNTED ON GRILL & 2 ON REAR
1) 454101HL-25 FEDERAL SIGNAL MINI BAR STROBE ON WHELEN NO DRILL BRACKET ON CAB
CUSTOM SHOVEL BASKET WITH PVC TUBE ON DRIVERS SIDE COMPARTMENT TOP
CUSTOM WRENCH RACK ON THE CURB SIDE COMPARTMENT TOP

Sub Total:	\$5,290.28
Discount:	
Sales Tax:	\$0.00
Grand Total:	\$5,290.28

Customer must fill out the information below before the order can be processed...

Accepted by:	
Date:	
P.O. Number:	

* Terms are Due Upon Receipt unless prior credit arrangements are made at the time of order.

* Please note if chassis is furnished, it is as a convenience and terms are Net Due on Receipt of Chassis.



MEMORANDUM

TO: Mayor and City Council

FROM: Biridiana Bishop, Assistant City Manager
Daniel Ortiz-Hernandez, City Manager

DATE: September 6, 2022

RE: Adopt a Resolution Accepting and Adopting the August 2022 Wastewater Treatment Facility Improvements Facility Plan Prepared by Bolton & Menk, Inc. and Authorizing the Submittal of the Facility Plan to the Iowa Department of Natural Resources

SUMMARY:

The City is in the planning and design phase of the new Wastewater Treatment Facility Project. In order to move this project to the construction phase, there are several steps that need to happen. One of them is the formal submittal of the new wastewater treatment plant facility plan to the Iowa Department of Natural Resources (IDNR). The facility plan has been developed by consulting engineer, Bolton and Menk, Inc. and is ready for submittal. The information included in the facility plan is the information that was shared with City Council and Planning and Zoning Commission at the study session held August 17, 2022.

PREVIOUS COUNCIL ACTION: Council entered into an agreement with Bolton & Menk, Inc. for engineering services associated with the Wastewater Treatment Facility Improvement Project on December 16, 2019.

A study session was held on August 17, 2022 to review details and information of the new Wastewater Treatment Plant with the City Council and Planning and Zoning Commission.

BACKGROUND/DISCUSSION: The City has been working towards the upgrade and replacement of its aging Wastewater Treatment Facility since 2019. The new plant is required because of the current plant's age, the City's inability to expand plant capacity at its current location, and the addition of a treatment processes that meet the new DNR Nitrogen and Phosphorus Reduction Strategy. The current plant raw wastewater loading exceeds the plant rated design capacity. The City currently has no capacity to entertain any new industrial businesses requiring access to discharge. The existing wastewater treatment plant trickling filter and rotating biological contactor (RBC) process is also inadequate for removing nitrogen and phosphorus; therefore, expanding the RBC process is not feasible as it will not meet Department of Natural Resources (DNR) requirements to remove nitrogen and phosphorus. The City will need to move towards an activated sludge process to ensure compliance with DNR requirements.

In order to proceed towards construction, the City must accept and adopt a facility plan and submit this to the Iowa DNR for review. City staff is recommending the City Council adopt a resolution that accepts and adopts the Facility Plan, authorizes the City Manager to be the signing authority for DNR construction and related permit applications, and authorizes the submittal of the facility plan to the DNR.

FINANCIAL IMPLICATIONS: The professional services tied to development and submittal of the facility plan will be paid for with the Sewer Fund.

RECOMMENDATION: Staff recommends the City Council adopt a resolution designating the City Manager as the authorized signatory for the construction permit and related applications to the DNR and also accepting the facility plan and authorizing the submittal of the plan to the DNR.

RESOLUTION NO. 2022 –

**RESOLUTION OF THE CITY COUNCIL OF WEBSTER CITY ACCEPTING AND ADOPTING THE
AUGUST 2022 WASTEWATER TREATMENT FACILITY IMPROVEMENTS FACILITY PLAN
PREPARED BY BOLTON & MENK, INC. AND AUTHORIZING THE SUBMITTAL OF THE FACILITY PLAN
TO THE IOWA DEPARTMENT OF NATURAL RESOURCES**

WHEREAS, the City of Webster City owns and operates a publicly owned treatment works (POTW); and

WHEREAS, the City of Webster City is in the planning and design phase of the Wastewater Treatment Facility Improvements project and seeks to proceed into the construction phase of the project; and

WHEREAS, the Iowa Department of Natural Resources (IDNR) requires the City obtain a construction permit to construct the Wastewater Treatment Facility Improvements Project; and

WHEREAS, the City must submit a Facility Plan for the project as part of the IDNR construction permit review process; and

WHEREAS, the City wishes to formally accept and adopt the August 2022 Wastewater Treatment Facility Improvements - Facility Plan prepared by consulting engineer, Bolton & Menk, Inc.; and

WHEREAS, the City of Webster City wishes to designate the City Manager as the signing authority for permit applications; and

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

SECTION 1: Designates Daniel Ortiz-Hernandez, the City of Webster City's City Manager, as the signing authority for construction permit and related applications to the Iowa Department of Natural Resources.

SECTION 2: Accepts and Adopts the recommendations noted in the August 2022 Wastewater Treatment Facility Improvements Facility Plan prepared by Bolton & Menk, Inc.

SECTION 3: Authorizes the submittal of the August 2022 Wastewater Treatment Facility Improvements Facility Plan prepared by Bolton & Menk, Inc. to the Iowa Department of Natural Resources.

Passed and adopted this 6th of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk

Facility Plan

Wastewater Treatment Facility Improvements

City of Webster City
August 31, 2022

Prepared by:

Bolton & Menk, Inc.
1519 Baltimore Drive
Ames, IA 50010
P: (515) 233-6100
F: (515) 233-4430



Real People. Real Solutions.

Certification


Facility Plan Report

For

Wastewater Treatment Facility Improvements

City of Webster City
Webster City, Iowa
A21.119239

August 31, 2022

	I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.	
	 (Signature)	<u>8/31/22</u> (Date)
	Printed or typed name: <u>Andrew D. Sindt, P.E.</u>	
	My license renewal date is <u>December 31, 2023</u>	
	Pages or sheets covered by this seal: <u>All</u>	

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EXECUTIVE SUMMARY

The City of Webster City owns and operates a wastewater treatment facility that was originally built in 1939 with five significant upgrades over the past 83 years. The facility utilizes a fixed film technology where bacteria grow on rock and plastic media that is in contact with wastewater to break it down for discharging to the stream. The facility's aging infrastructure, obsolete equipment, and tight space constraints of the existing treatment plant site will require significant improvements to maintain compliance with Iowa DNR and US EPA regulations. New requirements in the recently renewed NPDES discharge permit include compliance with the Iowa Nutrient Reduction Strategy for removal of total nitrogen and phosphorus. In addition, the current facility is operating above rated capacity. Expected growth of the City and industrial users requires an increase in plant capacity. The City of Webster City completed this evaluation of alternatives for wastewater treatment facility improvements to meet the needs of the community over the next 20 years.

Modifications to the existing system were evaluated and found to be not economically feasible. The existing fixed-film process is not capable of significant total nitrogen and phosphorus removal as required by the Iowa Nutrient Reduction Strategy. Additionally, the existing treatment facility is at the end of its useful life and a major renovation is required. The existing plant site's limited size and close proximity to housing and the flood plain make expansion at the current plant location not feasible.

The recommended alternative is construction of a new extended aeration activated sludge plant with biological nitrogen and phosphorus removal at a site previously purchased by the City south of town. Extended aeration activated sludge is a robust treatment process with proven success achieving low ammonia and total nitrogen discharge concentrations. Biological phosphorus removal reduces dependence on chemical addition for phosphorus removal. Proposed improvements include construction of the following:

- Renovation of the east lift station
- Renovation of preliminary treatment, main lift station (raw lift station), and operations building at existing plant
- Construction of a forcemain from the existing plant to the proposed plant site
- Preliminary treatment facilities at grade
- Wet weather flow equalization basin
- Two aeration basin treatment trains
- Three clarifiers
- One RAS fermenter
- Two control structures
- Rapid mix tank
- UV disinfection
- Operations building
- Rotary drum thickener
- Sludge press building

- Sludge dewatering press
- Dewatered sludge storage
- Demolish unused structures at existing plant site including primary clarifiers, trickling filter, RBC's, anaerobic digesters, sludge storage tank, and chlorine disinfection.

Treatment capacity allocation requests were provided by industrial users for design year 2025 and 2030. Industrial users cannot project their production rates and wastewater quantities beyond 5 to 10 years. A design period of 20 years was used for residential and commercial loadings for design year 2040. Treatment plant design capacity includes 25% reserve capacity for industrial growth as approved by City Council on October 4, 2021.

The capital cost opinion for these improvements is \$78.4 million and the projected increase in operation maintenance and replacement (OM&R) costs is \$381,000. Financing the proposed wastewater treatment facility will require very significant increases in sewer user rates. The City and consultant Public Financial Management are evaluating financing options with the Iowa State Revolving Fund (SRF) and USDA Rural Development to fund the project.

I. INTRODUCTION

A. Purpose

This report provides the City of Webster City, Iowa with recommendations for wastewater treatment facility (WWTF) improvements to address future effluent requirements, meet NPDES Permit requirements, increased operating capacity, and to implement a user friendly treatment process and operating system. Recommendations are based on input from the City staff, a visual inspection of the infrastructure, and an evaluation of facility requirements in accordance with the current recommended practices. City officials may use the information included in this report to make an informed decision on improvements to be implemented at the Webster City WWTF. This report is being completed in compliance with the City's NPDES Permit issued in October 2021 (Appendix A), including requirements for nutrient removal.

B. Background

The Webster City WWTF was originally constructed in 1939 as a primary treatment facility with primary clarifiers and anaerobic sludge digestion. A trickling filter was added in 1962. Several modifications were made in 1977 including grit removal, clarifiers, RBC's, chlorine disinfection, and another anaerobic digester. Other upgrades were completed in 1995, 1999, and 2017. The treatment facility receives raw wastewater from residents of Webster City and from three significant industrial users (SIU's): Mary Ann's Specialty Foods, Inc., Mertz Engineering, Inc., and Webster City Custom Meats, Inc. The City also has agreements to receive wastewater from a truck wash facility owned by Cactus Family Farms, LLC and an aquaculture operation, NaturalShrimp.

There are several issues with the current wastewater treatment facility equipment which will be developed further in the Existing Conditions section of the report. A brief list of these issues include outdated and obsolete control panels and motor control centers, no SCADA controls system, as well as increasing maintenance and repairs required for existing equipment, piping and structures, and digester and sludge storage tank issues. The treatment facility is operating above rated capacity. Additionally, the City's NPDES discharge permit includes a construction schedule for nutrient removal improvements by March 1, 202 .

C. Report Organization

To adequately address the major issues, the report is organized into 6 sections. Section II provides a review of the current and future design conditions; Section III describes the existing facilities; Section IV includes a review of the Iowa Nutrient Reduction Strategy and analyzes alternative treatment processes with cost opinions; Section V provides recommendations and an overview of implementation; and the report conclusions are provided in Section VI.

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II. DESIGN CONDITIONS

A. Planning Period

Wastewater treatment facilities are typically designed based on a 20-year planning period, as it is generally not feasible to make frequent changes in the capacity of a wastewater treatment facility. The design loads were initially developed in 2020 and revised in 2022. A design year of 2040 is used for this evaluation for residential and commercial loadings. The industrial users cannot project their production rates and wastewater discharge quantities beyond five to ten years. Reserve capacity of 25% of the total plant design loading is included as directed by City Council October 4, 2021. Projected wastewater flows and loadings are determined using a combination of population projections by City staff and expected commercial and industrial growth.

B. Population Projections

The design population was developed by City Manager Daniel Ortiz-Hernandez. The details of the City staff population projections are included as Appendix C.

The current (July 2015) population is 7,814. The design population is based on development of approximately 550 acres of land for residential purposes within the next 25 years. The City projects addition of approximately 1,650 housing units. Based on an average household size of 2.3, the projected increase in population over the next 20 years is 3,795. The total projected design year 2040 population is 11,609, a 49% increase from the current population.

C. Design Loads

The design loads are based on historical raw wastewater monitoring data, projected population, and requested treatment capacity allocations from the industrial users.

1. Residential and Commercial Design Loads

The residential and commercial design load is based on the calculated per capita loads from historical monitoring data for the period January 2012 thru December 2019. The historical residential and commercial CBOD, TSS, and TKN loads are estimated by subtracting the industrial loads from the total plant influent loads. Monthly average monitoring report data are used in these calculations. The data are attached as Appendix B.

The average day residential and commercial CBOD, TSS, and TKN design loads are based on the average calculated per capita loads attributed to residential and commercial users over the period January 2012 thru December 2019. See Appendix B for calculated historical residential and commercial loading data.

The maximum day residential and commercial design loads are based on the 90th percentile historical calculated per capita loads. The residential and commercial design flowrate is based on the average calculated per capita flow attributed to residential and commercial users (92 gal/c/d) during December 2013, a period of very low precipitation and low inflow and infiltration flow.

Design organic loads are expressed in terms of CBOD. CBOD (rather than BOD) is the appropriate parameter for the design of biological wastewater treatment facilities. In addition, most of the historical monitoring data at this facility are CBOD. IDNR revised raw wastewater monitoring requirements from CBOD to BOD and is currently

reviewing treatment process design on the basis of BOD rather than CBOD loading. DNR staff can assume for the purposes of process review and design organic loading that the BOD load is equivalent to the CBOD load for this facility.

The total plant influent less industrial contributor CBOD data are quite variable and appear to be not representative of typical per capita CBOD generation rates. The average calculated per capita CBOD contribution from residential and commercial users was 0.35 lbs CBOD/c/d, much greater than typical design loads observed at other cities and greater than IDNR design standard values. Similarly, the calculated per capita TSS and TKN values are greater than typical of other municipal treatment facilities. The reasons for these high per capita pollutant generation rates were not identified.

Tables 2.1 and 2.2 are summaries of the average and maximum day residential and commercial user design loads.

Table 2.1: Residential and Commercial User <u>Average Day</u> Design Loads			
Parameter	Typical Per Capita Contribution	Design Per Capita Contribution	Design Value
Population			11,609
Flow	100 gal/c/d	92 gal/c/d	1.068 MGD
CBOD	0.17 lbs/c/d	0.35 lbs/c/d	4,063 lbs/d
TSS	0.22 lbs/c/d	0.46 lbs/c/d	5,340 lbs/d
TKN	0.032 lbs/c/d	0.042 lbs/c/d	488 lbs/d

Table 2.2: Residential and Commercial User <u>Maximum Day</u> Design Loads		
Parameter	Design Per Capita Contribution	Design Value
Population		11,609
Flow	92 gal/c/d	1.068 MGD
CBOD	0.47 lbs/c/d	5,456 lbs/d
TSS	0.72 lbs/c/d	8,358 lbs/d
TKN	0.055 lbs/c/d	639 lbs/d

2. Industrial Contributor Design Loads

The three industrial users with significant flows and organic loads, Cactus Family Farms (truck wash), Mary Ann's Specialty Foods, and Webster City Custom Meats, submitted treatment plant capacity allocation requests in 2019 and 2020. Mary Ann's Specialty Foods submitted a revised capacity allocation request in October 2020 in anticipation of a production increase. The industrial treatment capacity allocation requests and Wastewater Services Agreements are included in Appendix E.

Mertz Engineering, Inc. is an EPA Metal Finishing Categorical User and has insignificant hydraulic and organic loading. The DNR Treatment agreement forms are included in Appendix E. The industrial users will execute new Treatment Agreements after the design flows and loads are finalized prior to the Construction Permit Application submittal.

Webster City Custom Meats and Mary Ann's Specialty Foods have Wastewater Treatment Agreements (DNR Form 542-3221). Cactus Family Farms and NaturalShrimp do not have DNR Treatment Agreement forms. The City and Cactus Family Farms entered into a February 29, 2020 Agreement that established discharge limits. A new industrial user, NaturalShrimp, an aquaculture operation entered into a February 19, 2021 Wastewater Services Agreement.

Table 2.3 is a summary of the current and proposed Treatment Agreement Limits.

Electrolux, a large home appliance manufacturer and significant industrial sewer user (0.50 MGD and 400 lbs BOD/d max. discharge limit), ceased operations in 2011. The Electrolux treatment capacity was reallocated to the other significant industrial users.

An aquaculture operation, VeroBlue Farms, started negotiations for wastewater treatment services in early 2016. The firm started operations in March 2017 and discharged wastewater to the City of Webster City. For several months the City and VeroBlue Farms were negotiating a long-term Agreement for Wastewater Treatment Services, including participation in the proposed treatment facility improvement project. VeroBlue had a very significant design wastewater flow and load that would result in a much larger City treatment facility design capacity. The VeroBlue design loads under this maximum load scenario were 0.240 MGD and 5,064 lbs CBOD/d. Negotiations terminated when VeroBlue Farms filed for bankruptcy on September 21, 2018, but then negotiations resumed in 2019 with potential new management after the bankruptcy.

VeroBlue Farms has now ceased operations. The long-term negotiations with VeroBlue Farms resulted in a three year delay in the City's wastewater treatment facility planning process.

A new aquaculture operation NaturalShrimp is currently operating a commercial shrimp production operation in the former VeroBlue facility.

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Table 2.3: Current and Proposed Treatment Agreement Limits								
Contributor	Flow, MGD				CBOD, lbs/d			
	Avg.		Max.		Avg.		Max.	
	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed
Cactus Family Farms	0.008417	0.0125	0.015	0.021	120	256	160	435
Mary Ann's Specialty Foods	0.080	0.100	0.110	0.140	300	600	400	900
Webster City Custom Meats	0.080	0.070	0.110	0.110	600	500	900	1,000
NaturalShrimp	0.024	0.024	0.024	0.024	166	166	208	208
Total Industrial Load	0.192	0.207	0.259	0.295	1,186	1,522	1,668	2,543
	TSS, lbs/d				TKN, lbs/d			
	Avg.		Max.		Avg.		Max.	
	Current	Proposed	Current	Proposed	Current	Proposed	Current	Proposed
Cactus Family Farms	120	338	150	576	15	28	19	47
Mary Ann's Specialty Foods	150	200	250	300	30	60	40	80
Webster City Custom Meats	200	100	300	250	60	40	80	80
NaturalShrimp	100	100	150	150	18	18	20	20
Total Industrial Load	570	738	850	1,276	123	146	159	227

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3.Reverse Osmosis Water Treatment Reject Water

The City may replace its lime/soda ash potable water treatment process with a reverse osmosis (RO) treatment process in the near future. The reject stream from the RO process will be discharged to the sanitary sewer. This will increase the hydraulic loading on the wastewater treatment facility.

The design hydraulic loads from the future RO water treatment process are:

0.217 MGD average RO reject waste

0.400 MGD maximum day RO reject waste

4.Inflow and Infiltration

The City of Webster City has been implementing an inflow and infiltration (I/I) reduction program of collection system improvements. The City is also enforcing its foundation drain and sump pump ordinance. Even though the City has made collection system improvements for I/I reduction, the reported peak wet weather influent flowrates as illustrated in Appendix B Figure B.3 have not decreased during the past ten years.

The City continues to evaluate opportunities for peak flow reduction with collection system improvements for I/I reduction. The treatment facility design flows are based on the current estimated I/I flows.

The design monthly average wet weather I/I flowrate is calculated as the difference in the monthly average flowrates, excluding industrial flow, between the minimum average dry weather month and maximum wet weather month of record during the period January 2012 thru December 2019. The monitoring data are included in Appendix B.

Average Dry Weather Flow (December 2013):

0.771	MGD	Average City Plant Influent
<u>-0.052</u>	MGD	Average Industrial Discharge
0.719	MGD	Residential/Commercial Users

Average Wet Weather Flow (September 2018 – Peak Month):

3.439	MGD	Average City Plant Influent
<u>-0.123</u>	MGD	Average Industrial Discharge
3.316	MGD	Residential/Commercial Plus I/I

Average Wet Weather I/I:

3.316	MGD	Residential/Commercial Plus I/I AWW Flow (September 2018)
<u>-0.719</u>	MGD	Residential/Commercial ADW Flow (December 2013)
2.597	MGD	Average Wet Weather I/I Flow

The average wet weather I/I design flow excluding allowance for industrial reserve capacity is 2.597 MGD.

The design maximum wet weather I/I flow is calculated on the basis of the maximum day influent flow of record during the period January 2013 through December 2019. The maximum flow occurred on July 22, 2010. The maximum day wet weather I/I is calculated:

7.887	MGD	Max. Day City Plant Influent (October 9, 2018)
<u>-0.089</u>	MGD	Industrial Flow (October 9, 2018)
7.798	MGD	Residential/Commercial + I/I
<u>-0.719</u>	MGD	Residential/Commercial ADW Flow (December 2013)
7.079	MGD	MWW I/I Flow

The maximum day wet weather I/I design flow excluding industrial reserve capacity is 7.079 MGD.

5. Diurnal Flow Variations

The diurnal flow variation is estimated using the IDNR design standards peaking factors for typical municipal wastewater treatment facilities. A peak hour to maximum day residential sewage flow factor of 2.0 is used in the peak hour design flow derivation.

The peak hour residential/commercial and industrial design flowrate is calculated:

1.068	MGD	Max. Day Residential/Commercial Design Flow
0.295	MGD	Max. Day Industrial User Discharge Limits
<u>+0.400</u>	MGD	Max. Day RO Reject Design Flow
1.763	MGD	Max. Day Residential/Commercial plus Industrial Flow
<u>x 2.0</u>		Peaking Factor – peak hour : average day
3.526	MGD	Peak Hourly Residential/Commercial plus Industrial Flow

The peak hourly residential/commercial plus industrial design flow excluding industrial reserve capacity and including future RO reject wastewater is 3.526 MGD.

6. Peak Hour Wet Weather Design Flow

The peak hour wet weather (PHWW) design flow is based on the peak day I/I from historical data and adding the peak hour Residential/Commercial plus Industrial design flow including future RO reject wastewater.

The PHWW design flow is calculated:

3.526	MGD	Peak Hourly Residential/Commercial plus Industrial Design Flow plus RO reject water
1.175		25% Industrial Reserve
<u>+7.079</u>	MGD	MWW I/I Design Flow
11.780	MGD	PHWW Design Flow

The PHWW design flow is 11.780 MGD. This PHWW design flow is applicable to the raw wastewater lift station, forcemain, and treatment facility headworks design. Peak wet weather flow equalization will be provided. The activated sludge treatment facility will be designed on the basis of partial stormwater flow equalization.

7. Reserve Treatment Capacity

The City completed a formal Asset Management Plan for the wastewater treatment facility in 2008. The City Council and City staff included the requirement for a 25% treatment facility design reserve capacity to accommodate industrial growth as a Level of Service. The City Council subsequently confirmed this design requirement at a September 16, 2016 City Council Meeting.

The City Council revised the reserve capacity allocation from 25% as stated in the 2008 Asset Management Plan to 10% at an August 1, 2017 City Council Workshop due to potential issues with SRF financing of reserve capacity. DNR staff indicated that SRF financing may not be used for financing treatment capacity allocations for “speculative growth”. Although there are no known formal rules regarding the allowable allowances for “speculative” growth in the SRF financing program, DNR staff subsequently indicated in 2021 that 25% allowance for industrial growth is reasonable and should be eligible for SRF financing. USDA Rural Development staff also indicated that 25% reserve capacity would be eligible for USDA financing.

The City Council reviewed the reserve capacity concept on October 4, 2021 and revised the design capacity to provide 25% of the total plant capacity as reserve capacity. The treatment facility design capacity includes 25% reserve capacity for industrial growth.

8. Design Flowrates

The design flowrates are based on the residential and commercial flowrates plus future water treatment plant RO reject, industrial design flowrates, industrial reserve capacity and I/I flowrates. Table 2.4 is a summary of the design flowrates.

Table 2.4: Design Flowrate Summary			
Contributor	ADW MGD	AWW MGD	MWW MGD
Residential and Commercial	1.068	1.068	1.068
RO Reject	0.217	0.217	0.400
Industrial	<u>0.207</u>	<u>0.207</u>	<u>0.295</u>
Subtotal	1.492	1.492	1.763
25% Reserve Industrial Growth	<u>0.497</u>	<u>0.497</u>	<u>0.588</u>
Subtotal	1.989	1.989	2.351
I/I	<u>0</u>	<u>2.597</u>	<u>7.079</u>
Total Design Flow	1.989	4.586	9.430

Notes:

ADW refers to Average Dry Weather design flowrate

AWW refers to Average Wet Weather design flowrate

MWW refers to Maximum (day) Wet Weather design flowrate

PHWW refers to the Peak Hour Wet Weather design flowrate = 11.780 MGD

9. Flow Equalization

The City has a significant inflow and infiltration issue. The design MWW flowrate (9.430 MGD) is 4.7 times the ADW flowrate (1.989 MGD). The AWW design flowrate (4.586 MGD) is 2.3 times the ADW flowrate.

Use of a short term, peak wet weather flow equalization basin can significantly reduce the treatment facility cost. With the use of a peak wet weather flow equalization

basin, the treatment facility can be designed on the basis of average wet weather (AWW) design flows rather than the maximum day wet weather (MWW) or peak hourly wet weather (PHWW) flowrate. This reduces the sizes of all plant components that are designed on the basis of hydraulic loading including clarifiers, disinfection equipment, pumps, and piping.

The daily influent flow data (ref. Appendix B, Figure B.1) indicate the very high peak flows are relatively short duration of less than six days.

The wet weather flow equalization basin evaluation details are included in Appendix F. The basin volume is based on evaluation of three wet weather periods over the eight year period 2012 thru 2019. The following wet weather periods were evaluated in detail:

April – June 2013

September – October 2018

March – June 2019

Reported daily plant influent flow data were used in the evaluation of a hypothetical flow equalization basin. The MWW design flowrate for the wastewater treatment facility design is increased from 4.586 MGD (AWW) to 4.986 MGD for reducing the required equalization basin volume. This 0.500 MGD (11%) increase in MWW plant design flow rate results in a significant reduction in the flow equalization basin volume.

The equalization basin volume is evaluated with the following approach as detailed in Appendix F:

1. Daily influent flows during the period January 2012 thru December 2019 are used in the evaluation.
2. Maximum plant influent flowrate for evaluation using the 2012 – 2019 data is set equal to the maximum month historical flow or historical maximum AWW flow (September 2018 = 3.439 MGD) plus 0.500 MGD additional flow for reduction in required equalization basin volume. Total maximum day flow to the plant in the model is 3.939 MGD (Plant would have operated at the historical maximum AWW flow plus 0.50 MGD during peak flow).
3. Daily flow from the collection system in excess of the 3.939 MGD maximum day plant influent flow is routed to the flow equalization basin.
4. During periods when the influent flow from the collection system is less than the 3.939 MGD maximum plant influent flow, wastewater is drawn from the equalization basin to maintain 3.939 maximum day flow to the treatment plant until the equalization basin is empty.
5. The total volume in storage is calculated for each day by adding the volume added to storage (or subtracting volume drawn from storage) to the previous day storage volume.
6. The minimum required storage volume is the maximum volume in storage during the period of data analysis.

Graphs of influent flow, flows diverted to equalization basin, equalization basin storage volume, and flows from equalization basin to the treatment facility are illustrated graphically and in tabular format in Appendix F.

The evaluation indicates that the following minimum equalization basin volumes would be required to limit the hydraulic load in the treatment facility to the AWW flow plus 0.500 MGD excess wet weather flow for these extreme wet weather periods.

10.2 MG	April – June 2013
11.1 MG	September – October 2018
6.1 MG	March – June 2019

A 12 MG wet weather flow equalization basin is proposed. The MWW design flow with flow equalization for the new treatment facility is the AWW design flow (4.586 MGD) plus 0.500 MGD excess wet weather flow, or 5.086 MGD.

10. Phosphorus Design Load

The phosphorus design load is based on historical reported plant influent phosphorus loads for the period April 2016 thru December 2019. Historical phosphorus load data are included in Appendix B. As illustrated in Figures B.10 and B.11, the phosphorus load is highly variable. The design phosphorus load is based on 97 lbs/d historical average plus 49% for the design population increase. The average design phosphorus load is 145 lbs/d.

The maximum day phosphorus load is based on the historical ratio of 95th percentile maximum day load (226 lbs/d) to average day load (97 lbs/d), or 2.3 times the design average load. The maximum day design phosphorus load is 334 lbs/d.

11. Total Design Loads

The design loads as developed in the previous sections are summarized in Table 2.5. These design loads are also presented in IDNR Schedule G – Treatment Project Design Data and the Waste Allocation Load request in Appendix D. DNR letter of approval for these design loads is also included in Appendix D.

Table 2.5: Design Load Summary				
Parameters	AWW ¹		MWW ²	
	Value	Percent	Value	Percent
Flow, MGD				
Residential/Commercial	1.068	23%	1.068	11%
RO Reject – Future	0.217	5%	0.400	4%
Industrial- Allocated	0.207	4%	0.295	3%
Industrial - Unallocated	0.497	11%	0.588	6%
Inflow and Infiltration	<u>2.597</u>	57%	<u>7.079</u>	76%
Total	4.586		9.430	
MWW Plant Design Flow, MGD ³				
AWW Design Flow			4.586	
+ MWW Design Flow in excess of AWW			<u>0.500</u>	
Total Plant MWW Design Flow			5.086	
CBOD, lbs/d				
Residential/Commercial	4,063	55%	5,456	51%
Industrial- Allocated	1,522	20%	2,543	24%
Industrial - Unallocated	<u>1,861</u>	25%	<u>2,666</u>	25%
Total	7,446		10,665	
TSS, lbs/d				
Residential/Commercial	5,340	66%	8,358	65%
Industrial- Allocated	738	9%	1,276	10%
Industrial - Unallocated	<u>2,026</u>	25%	<u>3,211</u>	25%
Total	8,104		12,845	
TKN, lbs/d				
Residential/Commercial	488	58%	639	55%
Industrial- Allocated	146	17%	227	20%
Industrial - Unallocated	<u>211</u>	25%	<u>289</u>	25%
Total	845		1,155	
P, lbs/d				
Total	145		334	

ADW flow = 1.989 MGD

PHWW flow = 11.780 MGD

Notes:

1. AWW (Average Wet Weather) flows and loads are the maximum monthly average design flows and loads.
2. MWW (Maximum Wet Weather) flows and loads are maximum day design flows and loads.
3. MWW Plant Design Flow is based on partial equalization of MWW flow from the collection system in a stormwater equalization basin. The plant will be designed for a maximum day flow equal to the 4.586 MGD AWW design flow plus 0.500 MGD MWW flow in excess of the AWW design flow.

The design loads are quite conservative due to the following factors:

1. Per capita CBOD and TSS loads based on several years of plant influent monitoring data are significantly greater than national averages and DNR design standards.
2. It is assumed that maximum loads from residential/commercial users and all industrial users occur on the same day.

A wet weather flow equalization basin will be provided. The design flow rates are applicable to the hydraulic design of the flowing wastewater treatment facility components:

PHWW Flow (11.780 MGD)

- Raw sewage lift station
- Lift station forcemain to plant
- Headworks (screening and grit removal)

MWW Plant Design Flow (AWW Flow plus 0.500 MGD) (5.086 MGD)

- Biological secondary and tertiary treatment process design
- Disinfection
- Biological treatment facility process piping
- Outfall pipe to river

The discharge permit limits will be based on the MWW plant design flow (AWW design flow plus 0.500 MGD due to partial flow equalization with the stormwater flow equalization basin.

The current and future design loads are summarized in Table 2.6. The proposed AWW design flow is 41% greater than the current plant rated capacity. The proposed AWW design CBOD load is 79% greater than the current rated plant capacity.

The proposed treatment facility MWW design flow that is based on partial storm flow equalization (AWW design flow plus 0.500 MGD excess) is 18% less than the current rated plant capacity.

The historical reported actual loads and future design loads are summarized in Table 2.7. The proposed AWW design flow is 36% greater than the historical reported maximum monthly average actual flows. The proposed AWW design CBOD load is 58% greater than the historical reported maximum monthly average actual CBOD loads.

Table 2.6: Current and Future Design Load Summary						
Parameters	AWW			MWW		
	Current Design Load ¹	Future Design Load	Percent Increase	Current Design Load ¹	Future Design Load	Percent Increase
Population	11,000	11,609	6%			
Flow, MGD						
Residential/Commercial	0.930	1.068	15%	1.560	1.068	-32%
RO Reject – Future	--	0.217	--	--	0.400	--
Industrial	0.630	0.704	12%	0.740	0.883	19%
Inflow and Infiltration	<u>1.700</u>	<u>2.597</u>	53%	<u>3.700</u>	<u>7.079</u>	91%
Total	3.260	4.586	41%	6.000	9.430	57%
MWW Plant Design Flow ³						
Total MWW Plant Design	--	--	--	6.000	5.086	-18%
CBOD, lbs/d						
Residential/Commercial	1,722	4,063	136%	1,722	5,456	217%
Industrial	<u>2,428</u>	<u>3,383</u>	39%	<u>2,428</u>	<u>5,209</u>	115%
Total	4,150	7,446	79%	4,150	10,665	157%
TKN, lbs/d						
Residential/Commercial	259	488	88%	259	639	147%
Industrial	<u>141</u>	<u>357</u>	153%	<u>141</u>	<u>516</u>	266%
Total	400	845	111%	400	1,155	188%

Notes:

1. Current Design Loads are based on the September 23, 1999 IDNR Schedule G – Treatment Project Design Data.
2. There are no TSS design loads stated in the September 23, 1999 IDNR Schedule G.
3. MWW Plant Design Flow refers to the maximum wet weather design flow to the treatment facility with partial stormwater flow equalization.

Table 2.7: Historical Actual and Future Design Load Summary

Parameters	AWW			MWW		
	Historical Load	Future Design Load	Percent Increase	Historical Load	Future Design Load	Percent Increase
Population	7,814	11,609	49%			
Flow, MGD						
Residential/Commercial	0.711 ²	1.068	50%	0.711	1.068	50%
RO Reject - Future	--	0.217	--	--	0.400	--
Industrial	0.332	0.704	112%	0.493 ⁷	0.833	69%
Inflow and Infiltration	2.514	<u>2.597</u>	3%	7.079 ⁵	<u>7.079</u>	0%
Total ¹	3.382 ³	4.586	36%	5.344	9.430	76%
Maximum Day of Record				7.887	9.430	20%
CBOD, lbs/d						
Residential/Commercial ⁶	2,735	4,063	49%	3,673	5,456	48%
Industrial	1,062	<u>3,383</u>	218%	1,931	5,209	170%
Total ¹	4,721 ³	7,446	58%	6,509	10,665	64%
TSS, lbs/d						
Residential/Commercial ⁶	3,594	5,340	49%	5,626	8,358	49%
Industrial	559 ⁴	<u>2,764</u>	395%	1,039	<u>4,487</u>	331%
Total ¹	8,788 ³	8,104	-8%	9,661	12,845	33%
TKN, lbs/d						
Residential/Commercial ⁶	328	488	49%	430	639	49%
Industrial	203	<u>357</u>	-20%	383	<u>516</u>	35%
Total ¹	574 ³	845	47%	845	1,155	37%

Notes:

1. Historical total AWW Flows and loads, except as noted, are based on 99th percentile reported monthly average influent monitoring data for the period 2017-2019.
2. Historical Residential/Commercial AWW Flow is based on Residential/Commercial ADW Flow (December 2013).
3. Total Historical AWW Flows and Loads are not equal to the sum of Flows and Loads for Residential/Commercial plus Industrial Flows and Loads because the peak loads from user classes may not occur during the same time period.
4. Historical AWW Industrial User TSS Load is based on 95th percentile data for 2017-2019 due to outlier data in 99th percentile calculation.
5. Historical Inflow and Infiltration for MWW is based on calculations in Section 2.3.4.
6. Historical Residential and Commercial Loads are based on the 2013-2019 estimated per capita loads and 7,814 population:

AWW per capita loads (50th Percentile of Monthly Average)

0.35 lbs CBOD/c/d

0.46 lbs TSS/c/d

0.042 lbs TKN/c/d

MWW per capita loads (90th Percentile of Monthly Average)

0.47 lbs CBOD/c/d

0.72 lbs TSS/c/d

0.055 lbs TKN/c/d

7. Historical Industrial User MWW Flow is based on 95th percentile of 2017-2019 daily maximum values from monthly reporting data due to impact of VeroBlue flow on daily data and 99th percentile data.

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III. EXISTING WASTEWATER FACILITIES

A. Facility History

The wastewater treatment facility was constructed under several major projects from 1939 through 1999. Most of the process equipment and mechanical equipment was replaced during the 1995 and 1999 plant improvement projects.

The plant is a biological treatment facility with primary clarification for raw solids removal and anaerobic digestion with the following major components:

- aerated grit removal
- raw lift pumps (4)
- primary clarifiers (3)
- trickling filter
- intermediate lift pumps (3)
- rotating biological contactors (RBCs) (20)
- final clarifiers (2)
- chlorine disinfection
- sodium metabisulfite dechlorination
- anaerobic biosolids digesters (2)
- biosolids storage tank
- liquid biosolids land application

The plant was constructed and improved in several stages. The following is a summary of the existing facility construction dates:

- 1939 Original Plant Construction
 - operations building
 - Primary Clarifier No. 1 (north) tank
 - primary anaerobic biosolids digester tank
 - intermediate lift wet well
- 1962 Trickling Filter Expansion
 - trickling filter tank and media
 - Primary Clarifier No. 2 (south) tank
- 1977 Tertiary Treatment, Disinfection, and Sludge Treatment Expansion
 - aerated grit removal tanks
 - raw wet well
 - Primary Clarifier No. 3 (west) tank
 - RBC biological treatment tanks
 - final clarifier tanks

- chlorine contact basin and building
- outfall pipe to river
- secondary anaerobic biosolids digester
- electrical control panels
- 1995 Phase I Plant Improvements
 - intermediate lift pumps
 - trickling filter recirculation piping
 - RBC covers (demolish RBC building)
 - RBC equipment (12 of 20 units)
- 1999 Phase II Plant Improvements
 - raw lift pumps
 - maintenance garage
 - biosolids storage tank
 - RBC equipment (8 of 20 units)
 - RBC and final clarifier diversion structure (peak flow split)
 - primary sludge pumps and piping
 - primary clarifier equipment
 - trickling filter distributor
 - final clarifier equipment
 - primary anaerobic digester cover
 - secondary anaerobic digester cover
 - HVAC equipment – all buildings
 - biosolids storage tank
 - biosolids treatment equipment and pumps
 - biosolids treatment piping
 - biosolids treatment control system
 - biosolids treatment boilers
 - biogas piping and waste gas burner
 - process area lighting fixtures and wiring
 - chemical feed equipment
 - roofing system – all buildings
 - masonry tuck pointing (partial) all buildings
- 2016-17 Renovation Project
 - replace primary digester cover
 - replace primary digester mixing system

- renovate Primary Clarifier No. 1 tank

Table 3.1 is a summary of the construction dates and ages of the significant assets.

Table 3.1 – Wastewater Treatment Facility – Summary of Significant Asset Ages		
Component	Construction Date	Age Years
Operations Building	1939	83
Primary Clarifier No. 1 Tank	1939	83
Primary Digester Tank	1939	83
Intermediate Wet Well	1939	83
Trickling Filter Tank and Media	1962	60
Primary Clarifier No. 2 Tank	1962	60
Raw Wet Well and Grit Removal	1977	45
Primary Clarifier No. 3 Tank	1977	45
RBC Tanks	1977	45
Final Clarifier Tanks	1977	45
Chlorine Contact Tank	1977	45
Secondary Digester Tank	1977	45
Electrical Equipment	1977	45
Intermediate Lift Pumps and Piping	1995	27
RBC Covers	1995	27
RBC Equipment (12 of 20 Units)	1995	27
Raw Lift Pumps and Piping	1999	23
Biosolids Storage Tank	1999	23
RBC Equipment (8 of 20 Units)	1999	23
Primary Clarifier Equipment	1999	23
Primary Sludge Pumps and Piping	1999	23
Trickling Filter Distributor	1999	23
Final Clarifier Equipment	1999	23
Digester Covers and Equipment	1999	23
Chemical Feed Equipment	1999	23
Roofing Systems	1999	23
HVAC Equipment	1999	23
Process Area Electrical and Lighting	1999	23
Primary Digester Cover Replacement	2017	5
Primary Digester Mixing System	2017	5
Primary Clarifier No. 1 Tank Renovation	2017	5

Figure 3.1 is a diagram of the existing plant processes. The plant is designed for carbon (BOD), suspended solids, and ammonia removal but does not include provisions for total nitrogen and total phosphorus removal.

Figure 3.2 is an aerial photograph of the existing treatment facility.

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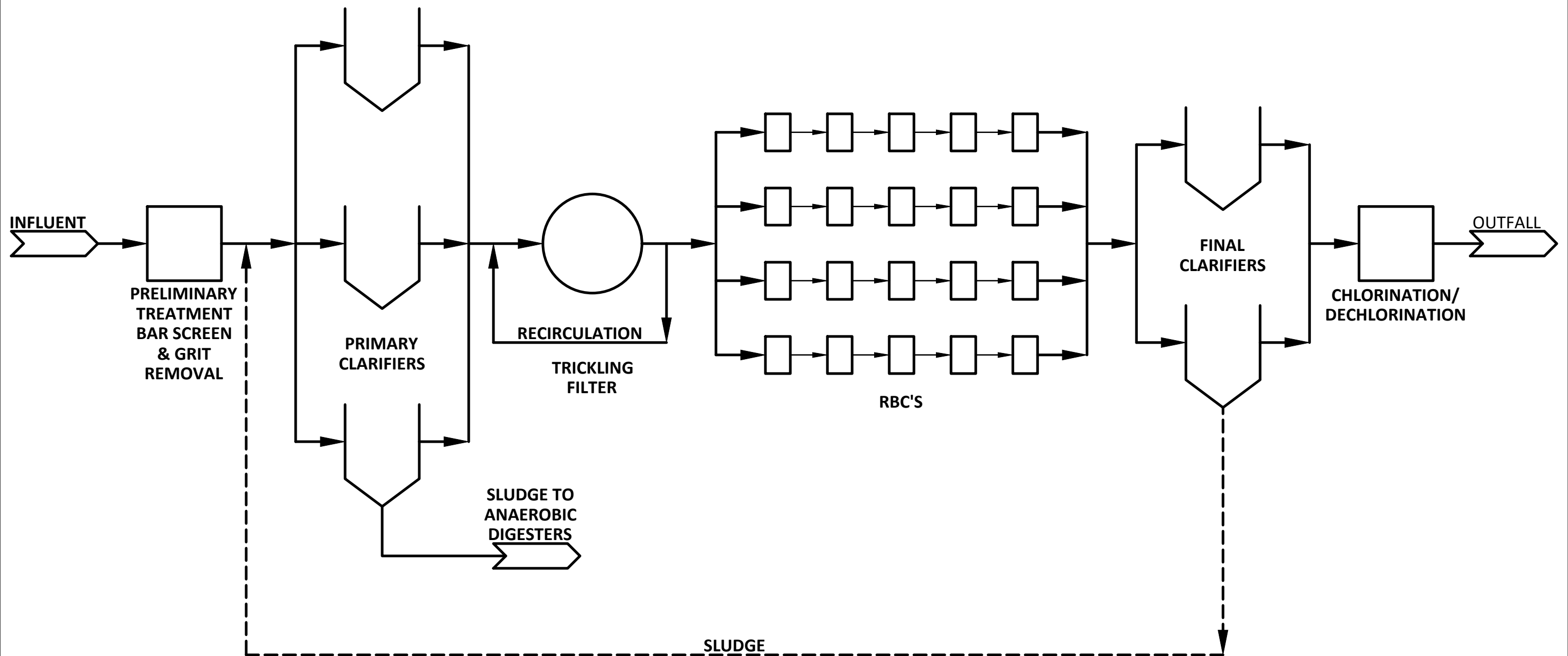


Figure 3.1 - Existing WWTF Process
Webster City WWTF Improvements
Facility Plan - August 2022

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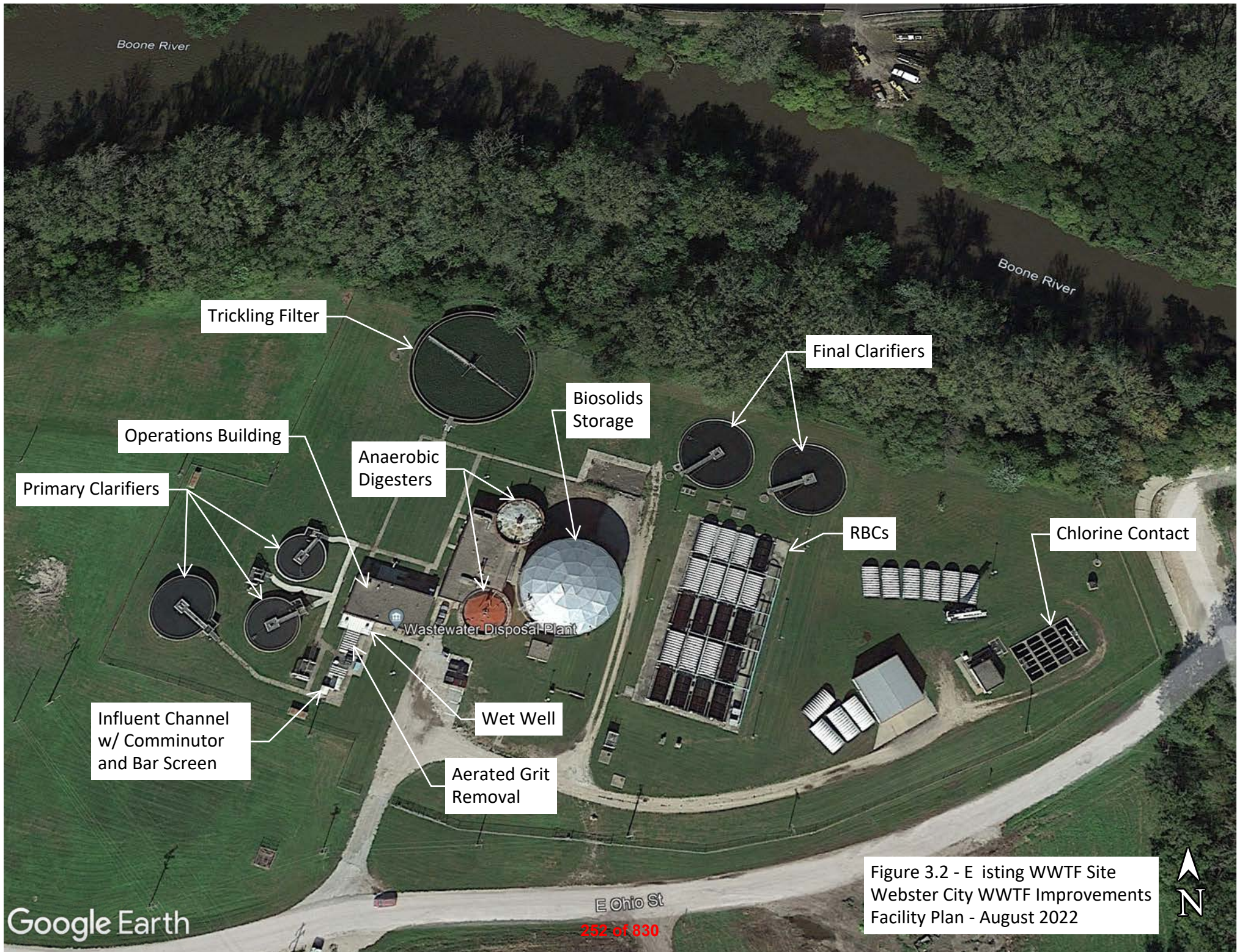


Figure 3.2 - Existing WWTF Site
Webster City WWTF Improvements
Facility Plan - August 2022

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The rated plant capacity and historical actual loading summary is presented in Table 3.2. Historical loadings exceeded plant rated capacity indicating the existing facility is operating above its rated design capacity and an increase in treatment plant capacity is required. Influent and effluent monitoring data are included as Appendix B.

Table 3.2 – Rated Plant Capacity and Historical Actual Loading Summary

Parameter	Current Rated Capacity ¹	Historical Load ²
Flow		
Average Dry Weather	1.5 MGD	
Average Wet Weather	3.3 MGD	3.82 MGD
Maximum Wet Weather	6.0 MGD	9.43 MGD
Peak Hourly	6.7 MGD	
Carbonaceous Biochemical Oxygen Demand (CBOD)		
Average	4,150 lbs/d	4,721 lbs/d
Maximum	4,150 lbs/d	6,509 lbs/d
Total Kjeldahl Nitrogen (TKN)		
Average	364 lbs/d	544 lbs/d
Maximum	400 lbs/d	845 lbs/d

Note:

1. Rated Capacity as per April 20, 1999 IDNR Construction Permit application – Schedule G
2. Refer to Table 2.7 for additional information

B. NPDES Discharge Permit

The current NPDES discharge permit was issued October 2021. A copy of the permit is provided in Appendix A. The plant has two outfall locations; Outfall 001 Oxbow Lake and Outfall 003 Boone River. The plant discharges to the oxbow lake for improved water quality in the oxbow lake. The oxbow lake is used for recreation and the 7B Ranch community event facility. The plant typically discharges to Outfall 001 Oxbow Lake. Discharge limits are summarized in Table 3.3. The following revisions were made in the permit issued October 2021:

- Iowa Nutrient Reduction Strategy construction schedule added.
- More stringent ammonia limits
- Total zinc limits were removed
- Total silver limits were removed

Table 3.3 – Webster City WWTF NPDES Discharge Limits¹

Parameter	Outfall 001 Oxbow	Outfall 003 River
Carbonaceous Biochemical Oxygen Demand (CBOD)		
7-day avg. conc.	40 mg/L	40 mg/L
30-day avg. conc.	25 mg/L	25 mg/L
7-day avg. mass	1,101 lbs/d	1,101 lbs/d
30-day avg. mass	688 lbs/d	688 lbs/d
Total Suspended Solids		
7-day avg. conc.	45 mg/L	45 mg/L
30-day avg. conc.	30 mg/L	30 mg/L
7-day avg. mass	1,238 lbs/d	1,238 lbs/d
30-day avg. mass	826 lbs/d	826 lbs/d
Nitrate Nitrogen		
30-day avg. mass	760 lbs/d	760 lbs/d
Daily max. mass	1,244 lbs/d	1,244 lbs/d
Ammonia Nitrogen (Seasonal Limits)		
30-day avg. conc.	1.0 – 4.0 mg/L	2.0 – 9.4 mg/L
Daily max. conc.	14.2 – 17.6 mg/L	12.2 – 16.6 mg/L
30-day avg. mass	26 – 109 lbs/d	53 – 246 lbs/d
Daily max. mass	391 – 484 lbs/d	179 – 448 lbs/d
Total Cadmium		
30-day avg. conc.	0.0004523 mg/L	0.0006277 mg/L
Daily max. conc.	0.004316 mg/L	0.004474 mg/L
30-day avg. mass	0.01245 lbs/d	0.01464 lbs/d
Daily max. mass	0.1188 lbs/d	0.1208 lbs/d
Total Residual Chlorine		
30-day avg. conc.	0.008 mg/L	0.012 mg/L
Daily max. conc.	0.019 mg/L	0.020 mg/L
30-day avg. mass	0.216 lbs/d	0.274 lbs/d
Daily max. mass	0.523 lbs/d	0.536 lbs/d
Total Copper		
30-day avg. conc.	0.01687 mg/L	0.02177 mg/L
Daily Max. conc.	0.02690 mg/L	0.02773 mg/L
30-day avg. mass	0.4642 lbs/d	0.5256 lbs/d
Daily max. mass	0.7403 lbs/d	0.7507 lbs/d
Ceriodaphnia & Pimephales Acute Toxicity		
Daily max.	No Toxicity	No Toxicity
Dissolved Oxygen		
Daily min.	5.0 mg/L	4.3 mg/L
pH		
Daily max.	9.0 SU	9.0 SU
Daily min.	6.5 SU	6.5 SU
Fecal Coliform (Seasonal)		
Geometric Mean	630 MPN/100 mL	126 MPN/100 mL

Note:

1. Discharge limits are as per NPDES permit number 4063001, issued October 1, 2021

The Webster City WWTF incurred the following exceedances of NPDES permit limits over the review period of March 2016 through December 2020.

- August, September, October 2016 – TSS maximum concentration.
- November 2016 – TSS average and maximum concentration, Copper concentration and mass
- March 2017 – pH maximum limit.
- May 2017 – Copper concentration and mass.
- October, August 2017 – E. Coli geometric mean.
- October 2018 – E. Coli geometric mean, Total Residual Chlorine
- November 2018 – Total Residual Chlorine
- February 2021 – Ammonia Nitrogen Average and Maximum Concentration

IDNR wastewater facility inspection reports from August 2017, July 2019, and March 2021 are provided in Appendix H for reference.

C. Industrial Users Discharge Monitoring

Webster City Custom Meats and Mary Ann's Specialty Foods had periodic violations of treatment agreement limits over the review period. Both industries have requested increases in their discharge limits. The following is a brief summary of Treatment Agreement violations over the review period March 2016 through December 2020:

- Webster City Custom Meats
 - Several violations of treatment agreement limits over the review period including: Flow, BOD, TSS, TKN, O&G, and pH.
 - February 2020 – Webster City Custom Meats – Notice of Violation issued for treatment agreement limit violations.
 - August 2022 – Notice of Violation issued for treatment agreement limit violations during the months of January, February, March and June 2022.
- Mary Ann's Specialty Foods
 - Several violations of treatment agreement limits over the review period including: Flow, BOD, TSS, TKN, O&G, and pH.
 - November 2020 – Letter of Noncompliance issued for treatment agreement limit violations.
 - August 2022 – Notice of Violation issued for treatment agreement limit violations during the months of January, February, March, April, May and June 2022.

D. Proposed Discharge Limits

DNR completed waste load allocations (WLA) for DNR approved (Schedule G 5-23-22) design flows and loads in July and August 2022. Three discharge locations were considered:

- Proposed Outfall 001 Boone River downstream of Ditch 166.
- Proposed Outfall 002 Oxbow Lake (location of existing Outfall 001).
- Proposed Outfall 003 Boone River upstream of Ditch 166.

Table 3.4 is a summary of WLA preliminary discharge limits. Outfall 001 Boone River downstream of Ditch 166 generally has the least stringent limits because this location has the highest background flow for mixing and dilution of the treatment plant effluent. This report assumes Outfall 001 will be the primary discharge point. Refer to Figure 5.1 for outfall locations.

Table 3.4 – Webster City WLA Discharge Limits¹

Parameter	Outfall 001 River Downstream	Outfall 002 Oxbow	Outfall 003 River Upstream
Nitrate Nitrogen			
30-day avg. mass	760 lbs/d	760 lbs/d	760 lbs/d
Daily max. mass	1,244 lbs/d	1,244 lbs/d	1,244 lbs/d
Ammonia Nitrogen (Seasonal Limits)			
30-day avg. conc.	3.1 - 12.7 mg/L	1.0 - 4.0 mg/L	1.4 - 5.8 mg/L
Daily max. conc.	15.0 - 18.3 mg/L	14.2 - 17.6 mg/L	14.4 - 17.8 mg/L
30-day avg. mass	71.8 - 296.9 lbs/d	36.5 - 151.1 lbs/d	44.1 - 182.4 lbs/d
Daily max. mass	556.3 - 686.0 lbs/d	543.0 - 672.5 lbs/d	546.2 - 676.6 lbs/d
Total Cadmium			
30-day avg. conc.	0.003237 mg/L	0.002171 mg/L	0.002427 mg/L
Daily max. conc.	0.01059 mg/L	0.01014 mg/L	0.01023 mg/L
30-day avg. mass	0.1015 lbs/d	0.08303 lbs/d	0.08802 lbs/d
Daily max. mass	0.3952 lbs/d	0.3877 lbs/d	0.3893 lbs/d
Total Copper			
30-day avg. conc.	0.04111 mg/L	0.02754 mg/L	0.03082 mg/L
Daily Max. conc.	0.04773 mg/L	0.04570 mg/L	0.04613 mg/L
30-day avg. mass	1.289 lbs/d	1.053 lbs/d	1.118 lbs/d
Daily max. mass	1.782 lbs/d	1.748 lbs/d	1.755 lbs/d
Ceriodaphnia & Pimephales Acute Toxicity			
Daily max.	No Toxicity	No Toxicity	No Toxicity
Dissolved Oxygen			
Daily min.	4.2 mg/L	5.0 mg/L	4.3 mg/L
pH			
Daily max.	14.0 SU	14.0 SU	14.0 SU
Daily min.	6.5 SU	6.5 SU	6.5 SU
Fecal Coliform (Seasonal)			
Geometric Mean	127 MPN/100 mL	126 MPN/100 mL	126 MPN/100 mL
Chloride			
30-day avg. conc.	629 mg/L	437 mg/L	480 mg/L
Daily Max. conc.	735 mg/L	706 mg/L	712 mg/L
30-day avg. mass	19,940 lbs/d	12,728 lbs/d	17,471 lbs/d
Daily max. mass	27,489 lbs/d	27,004 lbs/d	27,107 lbs/d
Sulfate			
30-day avg. conc.	2,142 mg/L	2,000 mg/L	2,073 mg/L
Daily Max. conc.	2,142 mg/L	2,054 mg/L	2,073 mg/L
30-day avg. mass	80,028 lbs/d	76,494 lbs/d	78,882 lbs/d
Daily max. mass	80,028 lbs/d	78,572 lbs/d	78,882 lbs/d

Note:

1. Discharge limits are as per DNR Wasteload Allocation Calculations and Notes, July 29 and August 11.

E. Process Description

Wastewater generated throughout the City of Webster City is conveyed to the treatment facility through a 36-inch gravity interceptor sewer line. Raw influent wastewater is received at the treatment facility approximately 20 feet below grade, where preliminary treatment is accomplished. Preliminary treatment includes comminutor, coarse bar screen and aerated grit removal. After preliminary treatment, raw lift pumps transfer the water up to the primary clarifiers for removal of settleable solids, ahead of the trickling filter. A portion of the influent CBOD and TKN load is removed with the primary solids. Primary sludge is pumped to the anaerobic digesters.

Wastewater flows from the primary clarifiers to the intermediate lift station where the water is pumped to the top of the trickling filter. A portion of the trickling filter effluent is directed back to the intermediate lift station for recirculation.

Wastewater flows from the trickling filter to the RBC's. CBOD is further removed and TKN is converted to nitrate through the RBC's. The flow continues to the final clarifiers for suspended solids removal and then to the chlorine contact basin for disinfection. After disinfection plant effluent is discharged to an unnamed creek to the Oxbow Lake (primary) or to the Boone River (alternate).

Sludge is pumped from the primary and final clarifiers to the anaerobic digesters. Anaerobic digested sludge is transferred to the biosolids storage tank where is held until land application.

F. Evaluation of Facilities

In general, the Webster City WWTF buildings appear to be in good condition, a testament to the maintenance and upkeep of the facility over its life. However, most of the mechanical components of the facility are at the ends of their useful lives and require replacement. Details regarding the system components are discussed below.

1. East Lift Station

East Lift Station pumps are located in a steel dry well next to the precast concrete wet well. The steel dry well is failing and needs to be replaced or demolished and submersible pumps installed in the wet well. The City has noted grease buildup in this wet well. Recommend grease cleaning design features be evaluated with new improvements. Recommend standby power be installed and consider locating pump power and control panels in a small building enclosure for weather protection.



East Lift Station

2. Preliminary Treatment

Preliminary treatment is accomplished in a covered pit, approximately 20 feet below grade at the influent gravity sewer elevation. Preliminary treatment components include bar screen, comminutors, aerated grit removal. Access to the preliminary treatment area is by a stair. Screenings must be manually transported up the stairs for disposal. The equipment has reached the end of it's useful life and needs to be replaced, however it appears the concrete structure is in good shape and could be used as the lift station to the new site south of town.



Aerated Grit Chamber, Wet Well and Operations Building

Proposed improvements require wastewater to be pumped about 1.5 miles from the existing plant site to the new site south of town. It is important that screenings and grit be removed from the wastewater prior to pumping to reduce maintenance requirements for the 1.5 mile forcemain. Recommend installation of a mechanically cleaned screen with discharge of screenings to a new dumpster storage building located at grade. Recommend aerated grit removal chamber be renovated and cover over wet well be replaced.



Influent Channel and Comminutor

G. Main Lift Station (Raw Lift Station)

Main lift pumps are located in the Operations Building dry well constructed in 1939. The building and below grade structure appear to be in good shape. Recommend detailed review of building and structure during design phase to determine suitability for 30 year (minimum) use. Consider taking core samples inside the wet well to gauge concrete integrity. Recommend a new lab and office space be provided at the new treatment plant site south of town to provide facilities close to the new treatment process. Recommend replacing existing lift pumps, piping and valves with new equipment sized for proposed design flows and total dynamic head required to pump water to new site. The facility currently operates with power feed from two sources to satisfy requirements for power redundancy. The City indicated they would prefer to install a standby generator for future operations so that the facility will have power if something disrupts power to both transmission lines. Recommend installing standby generator for main lift station. Recommend replacing ventilation equipment and installing dehumidifiers in dry well to reduce corrosion.



Main Lift Pumps at Operations Building

H. Primary Clarifiers

The primary clarifiers were constructed in 1939, 1962, and 1977. The primary clarifiers were rebuilt in 2017 and are in good condition. The future treatment process will likely not include primary clarification as the carbon removed in primary clarification will be needed in the secondary treatment process for total nitrogen and total phosphorus removal.



Primary Clarifier

I. Trickling Filter

The trickling filter was originally constructed in 1962 and was last renovated in 1999. The City has had maintenance problems with the distributor arm freezing and becoming inoperable in the winter. The future treatment system will likely not require the use of a trickling filter for CBOD removal. If primary clarifiers are not used, utilizing this fixed film process is not advised in the future. Recommend the trickling filter be demolished.



Trickling Filter

J. RBCs

The RBCs were constructed in 1977 and have reached end of their life. There are four trains of 5 RBC units each for a total of 20 units. The RBC's have had several maintenance issues recently and City staff have struggled to keep enough units in operation to handle plant loadings.

The RBCs have served the City of Webster City well over the past 35 years, however similar to primary clarifiers and trickling filters, RBCs do not fit well with biological nitrogen and phosphorus removal processes. Recommend the RBC's be demolished and replaced with activated sludge process.



RBC

K. Final Clarifiers

Both of the concrete clarifier structures were constructed in 1977 and mechanisms replaced in 1999. The units cannot be reused if the treatment process is moved to the new site south of town. Recommend the structures be demolished. The City may extend the Boone River bike trail through this area after the trickling filter and final clarifiers are demolished.



Final Clarifier

L. Chlorine Contact Basin

The chlorine contact basin was constructed in 1977. The proposed outfall to the Boone River is located about 1.5 miles south of the existing chlorine contact basin, near the new treatment plant site. It is not economically feasible to pump water from the new site to the existing chlorine contact basin for disinfection prior to discharge. Recommend the chlorine contact basin be demolished and new disinfection treatment be constructed at the new wastewater site.

M. Anaerobic Digesters

The primary and secondary anaerobic digesters were constructed in 1939 and 1977. Equipment was updated 1999 and is now 23 years old and has reached the end of its useful life. The digesters will not be used for future treatment process because primary clarifiers will not be used. Recommend the digester tanks and equipment be demolished. New aerobic digesters are planned to be constructed at the new wastewater plant site south of town.



An anaerobic Digester (near) Biosolid Storage Tank (far)

N. Biosolids Storage Tank

The biosolids storage tank is an above grade bolted steel tank that was constructed in 1999. The City has had trouble pumping heavy solids out of the tank and fully pumping the tank down. There will likely not be a future need for the tank at the existing plant site. Alternative uses for the tank could be explored during design of the proposed improvements. Recommend reviewing feasibility of disassembling, moving, and reconstructing the tank at the new site with tank contractors during design phase.

O. Need for Improvements

The need for improvements to Webster City's existing wastewater treatment system is derived from the aging infrastructure (most components have been in service for more than 20 years), the need for increased treatment capacity, and the inability of the current process to meet future TN and TP limits as part of Iowa's Nutrient Reduction Strategy.

I . A TERNATIVE DESIGN CONCEPTS AND COST ANALYSIS

A. Iowa Nutrient Reduction Strategy

In May 2013, the Iowa Nutrient Reduction Strategy was established to reduce nutrients (nitrogen and phosphorus) delivered to Iowa waterways and the Gulf of Mexico. Evaluation of treatment facility modifications for TN and TP removal is required for all publicly owned treatment works (POTWs) with greater than 1.0 MGD average wet weather design flows. NPDES permits will be amended to include construction schedules for implementing nutrient reduction technologies. The nutrient reduction evaluations will be based on a goal of achieving annual average mass limits equivalent to effluent concentrations of 10 mg/L TN and 1 mg/L TP for plants that treat normal domestic strength sewage. The treatment goals for plants that treat sewage with a significant amount of high strength industrial wastewater are 66% TN and 75% TP removal.

Webster City completed an evaluation of nutrient reduction as required by the Iowa Nutrient Reduction Strategy and submitted the report to DNR in February 2018. The existing fixed film biological treatment process cannot be economically modified for significant TN reduction. The proposed new treatment facility will include TN and TP removal processes with a goal of achieving annual average mass discharge limits equivalent to 66% TN reduction and 75% TP reduction.

The discharge permit limits will be established by DNR after a six month process startup and optimization followed by a twelve month performance evaluation period. DNR will amend the NPDES discharge permit after the performance evaluation period with the addition of average annual TN and TP mass discharge limits that are based on the demonstrated plant performance.

B. General Treatment Alternatives

There are several treatment process alternatives that are given consideration when determining effective wastewater treatment improvements. For Webster City, these general alternative solutions include: 1) rehabilitation and/or expansion of existing attached growth treatment process and 2) construction of a new suspended growth activated sludge process. All alternatives discussed herein include the following improvements:

- Upgrading the existing main lift station screening, grit removal and pump capacity to handle future peak flows.
- Construction of forcemain to new site south of town.
- Construction of new treatment facility south of town including 12 MG wet weather flow equalization.

Rehabilitation and expansion of existing treatment processes is not a viable option due to the limited ability of fixed film treatment processes such as trickling filters and RBC's to remove TN and consistently meet stringent ammonia discharge limits. The trickling filter and RBC's could be used as part of a future activated sludge system for CBOD removal, however, using attached growth process ahead of activated sludge will create carbon deficient environment and supplemental carbon source will be required for denitrification. Because of this, the fixed film processes are not recommended to be reused in future improvements. Another contributing factor making rehabilitation and expansion of the existing site not feasible is the inadequacy of space for expansion. As discussed in Section II, total plant CBOD loading is increasing 157 percent and TKN loading is increasing 188

percent. These significant increases in loading combined with additional treatment requirements result in greater room required for the future treatment facility. The existing plant site is constrained by the floodplain and proximity to residences.

The other general alternative is to construct a new mechanical facility that is specifically designed to meet the City's future treatment needs. The new facility would utilize proven technologies to achieve biological nitrogen and biological or chemical phosphorus removal. After the facility is constructed, feasible effluent limits for TN and TP would be determined twelve months after the treatment process is optimized and evaluated for nutrient removal performance. The facility would be constructed on property owned by the City south of Highway 20. Components of the existing treatment facility, including grit removal and raw pumping station, would be evaluated for use in the proposed facility.

The next part of this Section provides a discussion of potential treatment options for Webster City's wastewater system improvements. The objectives of this discussion are to 1) identify potential treatment options and 2) select alternatives for further evaluation.

C. Discussion of Treatment Options

Webster City must construct a new treatment process to meet future effluent discharge limits. Several different technologies may be considered for meeting the discharge limits. The following paragraphs discuss an exhaustive list of these options. While many are not feasible, this section is included to provide an overview of all systems considered.

1. Non-Mechanical Treatment Facility

a Aerated Lagoon System

An aerated lagoon system is designed to reduce the solids and biochemical oxygen demand of the wastewater through settling and decomposition by the bacteria living in the system. These systems can be designed as continuous discharge or controlled discharge. At a minimum, these systems consist of two or more aerated cells (of equal size) and one quiescent cell that provides 2 days of storage. Depending on the strength of influent wastewater, cell requirements may increase in number and size. Seasonal ice cover and sludge accumulation also factor into the sizing of aerated lagoon systems. Lagoon depth must be at least 5 feet, but are typically in the 10-15 feet range.

There are several disadvantages to using a lagoon system to treat Webster City's wastewater. Webster City's existing treatment facility does not include any lagoons so all lagoon construction would be new construction. Significant land area (greater than 700 acres) would be required for a lagoon system.

Aerated lagoon systems are not reliable for ammonia removal in cold weather conditions due to the relatively long hydraulic residence time and reduced nitrification rates at water temperatures below 50 deg. F.

As outlined in Section IVA, Major Facility's (greater than 1 MGD) must comply with the Nutrient Reduction Strategy as required by the facility's NPDES permit. Aerated lagoon systems are not capable of significant total nitrogen removal or biological phosphorus removal. Aerated lagoon system for Webster City would not be approved by IDNR as an accepted treatment technology. The aerated lagoon process was eliminated from further consideration for these reasons.

b) Constructed Wetlands

Constructed wetlands may be used to treat relatively low flow and low strength waste streams. The flows and loads for Webster City, which includes multiple significant industrial users, are much greater than what can be feasibly treated by a constructed wetlands treatment system. Additionally, constructed wetlands have consistently failed in northern climates due to freezing. For these reasons, constructed wetlands were eliminated from further consideration.

2. Mechanical Wastewater Treatment Facility

Mechanical wastewater treatment systems utilize a combination of physical, biological, and chemical processes to achieve treatment objectives. Mechanical facilities may include a combination of the following treatment components: preliminary treatment, primary treatment, secondary treatment, tertiary treatment, disinfection, and biosolids handling and disposal. The purpose and function of each of these components is described below:

- *Preliminary Treatment* – Involves the removal of constituents that can clog or damage equipment and interfere with downstream processes. These constituents may include inorganic solids such as rags, paper, wood, and garbage, as well as oil and grease. General technologies utilized include screening and grit removal devices.
- *Primary Treatment* – Involves the physical separation of suspended solids utilizing clarifier technology. This separation reduces solids not removed in preliminary processes, as well as removal of a portion of influent biochemical oxygen demand (BOD) that is associated with the organic solids removed in the primary treatment process.
- *Secondary Treatment* – Involves the removal or reduction of contaminants that are not removed during primary treatment. This can be done through a combination of biological, physical, and chemical processes. Biological treatment involves the oxidation of pollutants such as organics and nitrogen through bacterial metabolism. Biological processes are often combined with physical processes such as clarification or membrane filtration to retain bacteria and remove suspended solids from the waste stream. Chemicals are commonly added to optimize the process or to help remove pollutants such as phosphorus. A wide variety of secondary treatment processes are utilized in the wastewater industry. Raw wastewater characteristics and flow rates dictate which processes are necessary.
- *Tertiary Treatment* – Involves the use of advanced wastewater treatment technologies to further remove pollutants from wastewater. Tertiary treatment technologies include tertiary sand filtration, ion exchange, carbon adsorption, and membrane processes. Tertiary treatment is required for plants with very stringent total suspended solids, CBOD, TN and TP discharge limits. Tertiary treatment may also be required for removal of specific contaminants such as organic contaminants that are not removed in conventional biological secondary treatment or heavy metals.
- *Disinfection* – Involves the destruction or inactivation of waterborne pathogens prior to discharging effluent to receiving waters for the purpose of minimizing public health threats. Disinfection can be done both chemically

and physically. Chemical disinfection most commonly includes the use of chlorine-based products to destroy pathogens. Physical disinfection most commonly includes the use of ultraviolet irradiation (UV) to inactivate the pathogens' ability to replicate.

- *Biosolids Handling and Disposal* – Involves the processing, storage, and disposal of biosolids generated at a wastewater treatment facility. Biosolids are derived from excess growth and subsequent disposal of bacteria and other microorganisms in the biological treatment process, as well as solids collected in the primary treatment process. Biosolids are collected and further stabilized through biological processes and stored/dewatered over the year to increase solids concentration. Depending on the degree of stabilization, biosolids are most commonly disposed through land application.

In most domestic wastewater treatment applications, biological secondary treatment is the key component in the process. Biological treatment generally utilizes either suspended growth or attached growth processes. In suspended growth systems, microorganisms responsible for the oxidation of pollutants are suspended in the wastewater through mixing and aeration. In attached growth systems, the microorganisms become attached to a media where they are exposed to organic matter as wastewater flows by the media. There are also hybrid systems which utilize a combination of suspended growth and attached growth processes. Table 4.1 summarizes commonly used biological secondary treatment processes.

Table 4.1: Mechanical Wastewater Treatment Processes	
Type	List of Processes
Suspended Growth	<ul style="list-style-type: none"> - Extended Aeration Activated Sludge - Oxidation Ditch - Sequencing Batch Reactor (SBR) - Membrane Bioreactor (MBR)
Attached Growth	<ul style="list-style-type: none"> - Trickling Filter (Existing) - Rotating Biological Contactor (RBC) (Existing)
Combination	<ul style="list-style-type: none"> - Biological Aerated Filter (BAF) - Integrated Fixed-Film Activated Sludge (IFAS)

Important criteria for selecting a treatment process are as follows:

- Ability of process to meet effluent quality requirements
- System reliability and resiliency
- Ability of process to maintain performance during hydraulic fluctuations
- System expandability to meet future capacity requirements
- System adaptability to meet future effluent quality requirements
- Non-proprietary technology, if possible
- Capital costs
- Operation and maintenance costs (O&M)

The following paragraphs summarize many of the treatment processes listed in Table 4.1.

a) Extended Aeration Activated Sludge

Extended aeration activated sludge process utilizes an aeration system to provide dissolved oxygen for biological metabolism and mixing for suspended growth. Air is supplied from positive-displacement or centrifugal blowers and is dispersed in the aeration basins via a network of fine-pore diffusers that maximize oxygen transfer and provide mixing. In a typical activated sludge process, incoming wastewater undergoes screening and grit removal prior to aeration. From the aeration basins, wastewater is conveyed to the final clarifiers where solids and biomass are settled out and either recirculated back into the aeration basins or wasted to the biosolids processing system. Clarified effluent travels over the weirs and is conveyed to the disinfection system.

Extended aeration, which is a modification of conventional activated sludge treatment, eliminates the need for a primary clarifier and utilizes a larger aeration basin and longer solids retention. Extended aeration is known to produce high quality effluent and is a widely used, reliable technology. In addition, extended aeration systems are adaptable to achieve nutrient removal and produce a low level of sludge in comparison to the conventional activated sludge process. For these reasons, *extended aeration should be considered for the Webster City wastewater system improvements.*

b) Oxidation Ditch

The oxidation ditch process is a variation of the activated sludge process. The oxidation ditch process typically includes coarse screening, grit removal, one or more closed loop aerated channels for biological treatment, secondary clarification, and disinfection. Their closed-loop configuration are often called “racetrack type” reactors, as wastewater travels in a circle until it is released from the reactor and travels to the secondary clarifiers. Long solids retention times (SRTs) associated with oxidation ditch system allow for a high degree of nitrification. An oxidation ditch system can be operated to achieve partial denitrification with the addition of an anoxic tank and proper recirculation, however TN removal can be difficult to control. Biological phosphorus removal is also possible with the addition of an anaerobic tank prior to the ditch. Key advantages include: low sludge production due to long solids retention times; adaptability to achieve nutrient removal; and common wall construction of racetrack tank design. Disadvantages include: potential freezing problems and loss of nitrification in cold weather with surface aerators; relatively high maintenance requirements; less redundancy provided in typical designs as compared to extended aeration activated sludge; more difficult to control process compared to other activated sludge options; limited control and flow metering of recirculation streams; and the system is considered proprietary so limited equipment options are available. The oxidation ditch process has several drawbacks compared to extended aeration activated sludge but oxidation ditches have gained popularity in recent years primarily due to claimed economic advantages. Due to these reasons, *the oxidation ditch process should be considered for the Webster City wastewater treatment facility improvements.*

c) Sequencing Batch Reactor (SBR)

Sequencing batch reactors (SBRs) are an activated sludge-based technology which

incorporates the aeration, anaerobic/anoxic, sedimentation, and decant functions in a single five-stage batch reactor process. The five stages are as follows: fill, react, settle, decant, and idle. In order to provide continuous treatment, three reactors (minimum) are utilized with the capability to meet design capacity requirements with one reactor out of service. Flow equalization is typically provided to handle peak wet weather flows and reduce reactor basin sizes. Advantages include potential reduced area required for process tanks and potential for lower capital costs due to construction of fewer concrete structures, namely clarifiers. Disadvantages include higher operational complexity and controls, higher operation and maintenance costs, reliability concerns and limited nutrient removal capabilities, large reactor tank volume required. SBRs are not capable of reliably achieving the same level of nutrient removal as other extended aeration activated sludge processes, since the anoxic and anaerobic conditions are not controllable.

Enhanced biological phosphorus removal is difficult to achieve in a batch process tank because an anaerobic environment must be provided for phosphorus accumulating organisms (PAO) to gain a competitive advantage and proliferate as described in Section IV.D.1. If nitrate is present in the anaerobic step of a sequencing batch reactor, PAO growth will be inhibited by denitrifying organisms. If PAO growth is inhibited, biological phosphorus removal will be reduced.

The ability to correct operational issues, such as poor settleability of solids, is also greatly reduced in a SBR because multiple processes occur in the same tank. A conventional activated sludge system utilizes separate tanks for bioreactors and sedimentation basins which, among other things, allows the operator to treat wastewater with chemical addition and polymer prior to the sedimentation step at the clarifiers. The use of one tank for multiple processes also increases the negative effects of taking one SBR tank offline because in that one tank, the plant is losing treatment capacity for hydraulic and pollutant loading for anaerobic, anoxic, aerobic and sedimentation tanks.

Due to the operational complexity and significant reliability concerns, which are not offset by significant cost savings, *the SBR process has been eliminated from further consideration.*

d) Membrane Bioreactor (MBR)

Membrane bioreactors (MBRs) utilize the extended aeration activated sludge treatment process. However, the major difference is that final clarifiers are replaced with micro- or ultrafiltration membranes for physical solids separation. The use of membranes for solids separation is advantageous in that system performance is not dependent on sludge settling characteristics, which can be problematic in conventional systems. Also, membranes remove virtually 100% of solids from the treated effluent and retain all biomass in the biological system. This allows the system to run at higher solids concentration and significantly longer SRTs without a reduction in performance – effectively reducing reactor size requirements and minimizing solids production.

Despite smaller land area requirements, membranes are expensive and need frequent replacement every 3 to 5 years. Capital costs are similar or slightly higher compared to conventional systems, but life-cycle costs are known to be higher due to membrane replacement. More importantly, operation and maintenance costs are much higher due to fouling control and chemical cleaning requirements. Fouling control can be

difficult to manage since filterability is highly dependent on wastewater characteristics – especially temperature.

Although MBR systems are known to produce extremely high effluent quality, other activated sludge based systems can produce high effluent quality at a lower operating cost. MBR systems are most commonly used in low flow systems that have both space restrictions and require extremely high effluent quality. Webster City's situation is fairly conventional and does not fall under any of these requirements; *therefore, an MBR treatment system has been eliminated from further consideration.*

e) Biological Aerated Filter (BAF)

Biological aerated filters (BAF) are a combination system in which wastewater flows upward through tanks that contain media. The media is tightly packed and provides a surface for biofilm to attach. Air is added to the bottom of the cell to provide oxygen for bacterial metabolism. Suspended and attached growth biomass provide higher efficiency treatment and reduce the required tank volume as compared to conventional activated sludge. The wastewater flows through the media and out of the tanks over baffles. The upward flow of wastewater provides filtering, as well as removal of microorganisms, therefore reducing or eliminating the need for clarification.

The combination of increased treatment efficiency and reduced tank sizes along with the elimination of secondary clarification significantly reduce land area required to construct a treatment facility. However, BAF treatment facility capital costs are significantly higher than conventional activated sludge due to the following reasons:

- BAF facilities are enclosed in one large building. This requires a large building with increased mechanical, electrical, and plumbing costs as well increased utility and operations and maintenance costs over the life of the facility.
- BAF facilities use tertiary filtration instead of sedimentation type clarifier tanks. This reduces land requirements and improves effluent quality but increases capital costs for equipment and facilities.

A typical BAF treatment system includes fine screening, grit removal, primary flocculation and clarification, biological aerated filtration, and disinfection. Advantages include the elimination of secondary clarification, minimal space requirements, and capacity to handle wide flow ranges and temperature variations. Disadvantages include increased operational complexity, increased preventative maintenance, and higher capital costs.

In this case, increased capital, operation, and maintenance costs are not offset by the advantages of space reduction. Webster City is not constrained by land requirements for facility expansion or for biosolids land application. Therefore, the *BAF system has been eliminated from further consideration.*

f) Integrated Fixed-Film Activated Sludge (IFAS)/Moving Bed Bioreactor (MBBR)

Integrated Fixed-Film Activated Sludge (IFAS) and is a hybrid type system that mixes components from conventional activated sludge and BAF systems. Similar to a BAF, the IFAS system uses a combination of suspended and attached growth with diffused aeration to provide oxygen to the process. The primary difference is the IFAS system relies on conventional sedimentation in a separate basin instead of upflow filtering in the treatment cell for final clarification. IFAS systems are typically implemented as

retrofits of existing activated sludge facilities because the attached and suspended growth combination provides increased treatment efficiency so that treatment capacity is increased without increasing tank volume. Also, loadings to the secondary clarifiers are typically unchanged so no upgrades are required for settling with increased treatment capacity. An activated sludge facility retrofit typically involves installing media in the aeration basins and screens at the basin outlets to retain the media. For greenfield projects, IFAS require reduced area for siting a plant as compared to conventional activated sludge systems because of the increased treatment efficiency from attached and suspended growth biomass. A typical IFAS system includes fine screening, grit removal, primary clarification, IFAS, secondary clarification, and disinfection.

Moving Bed Biofilm Reactor (MBBR) is similar to the IFAS system with treatment provided by attached growth on synthetic media with diffused air aeration provided. However, the MBBR does not include a return activated sludge RAS recirculation line from the clarifiers to the bioreactor so it does not have the suspended growth the IFAS and conventional activated sludge has. The advantage to an MBBR system is a reduced area required for bioreactors.

Webster City does not have an activated sludge system to retrofit with IFAS and the city is not limited by tight land constraints for future plant construction. The benefits provided by the IFAS and MBBR systems do not suit the needs of Webster City so the additional costs cannot be justified. Therefore, *IFAS and MBBR systems have been eliminated from further consideration.*

3. Biosolids Handling and Disposal

a) Mechanical Treatment Facilities

Mechanical treatment facilities generate excess biosolids that must be removed from the system. Biosolids are derived from two primary sources: 1) excess biological growth wasted from the biological treatment process and 2) influent solids captured in primary/secondary treatment. Proper handling and disposal of biosolids is an important aspect of wastewater treatment. A method that is economical and acceptable to human health, the environment, and aesthetically must be selected.

The most practiced disposal method for rural communities like Webster City is land application, which the City currently practices. Biosolids storage can be a major cost and economic handling and storage must be considered. Increasing the solids content of the sludge is a cost effective way to help process, store and dispose of the solids. Biosolids from the activated sludge process would be thickened to about 4.5% total solids (TS) in a rotary drum thickener and pumped to an aerated digester for stabilization.

The aerated digester is a covered tank with a coarse-bubble aeration system for mixing and odor reduction. Digester volume will be adequate to store 60 days of sludge at 4.5% TS at AWW design conditions. Piping and valves could be installed in the digester to decant supernatant from the tanks if the process is using chemical phosphorus removal. Supernatant would be recycled back to the aeration basins – effectively concentrating the biosolids in the tank. Increasing solids concentration reduces storage volume and associated land disposal costs.

Decant cannot be returned to the treatment process unless chemicals are added to the digesters for precipitation of phosphorus if biological phosphorus removal is being utilized because the PAOs will release phosphorus in the digester. The decant water

from a biological phosphorus removal process contains a concentrated stream phosphorus that will flow through the treatment process and be discharged to the receiving stream unless an aluminum or iron compound is fed to the digesters prior to decanting.

The biosolids could be further dewatered to 20 to 25% TS by use of a mechanical screw press or rotary press following the aerated digesters. The pressed cake material is difficult to pump and is typically handled as a dry material and stockpiled. The supernatant from the press is returned to the aeration basins for treatment and eventual discharge to the river. Pressing the sludge greatly reduces the volume required for 360-day storage and the amount of water hauled for biosolids disposal. The increase in CBOD, TSS and TKN design loadings and the addition of total phosphorus discharge limits will result in a significant increase in annual biosolids production. Dewatering of the biosolids to 20 to 25% TS appears to provide an economic and operational advantage. Farmers prefer dewatered biosolids for land application.

If biosolids are not dewatered, biosolids are pumped from aerated digester to a storage tank with a 180-day minimum capacity at 4.5% TS at AWW design flow. At the end of the storage period, the sludge is applied to agricultural land according to U.S. EPA guidelines. The concrete storage tanks will contain mixers to keep the solids homogenous during application.

The City could contract with a licensed applicator for sludge hauling and land application, or provide equipment and training for their wastewater operators to handle the process. Nutrients in the sludge would be available for plant growth and humus in the sludge acts as a soil conditioner. Application to agricultural land would occur during periods when crops are not growing or on property that is temporarily out of crop production. The City currently works with a land application contractor for disposal of biosolids on nearby agricultural fields.

The facility would test for fecal coliform to meet the pathogen reduction requirements prior to land application. The vector attraction reduction would be expected to be met by injection of the solids, or if injection was not available, testing the oxygen uptake rate. The storage tank would be designed to allow lime treatment of the solids if the above method did not work, or if bulking of the solids were required for exceedance of the metal ceiling limits.

b) Other Biosolids Technologies

An alternative to aerated digestion would be consideration of other biosolids technologies. After reviewing options for increased biosolids treatment to reach an EPA Class A product, the increased expense was not justifiable since the City is surrounded by agricultural options for disposal.

D. Alternatives Considered

A discussion of potential wastewater system improvement alternatives was conducted in Section IV.B of this report. Based on these discussions and knowledge of Webster City's treatment needs, the following extended aeration activated sludge alternatives that include nutrient removal will be considered in detail throughout the rest of this report:

Alternative No. 1 - University of Capetown (UCT) Process

Alternative No. 2 - Modified Ludzack-Ettinger (MLE) Process

Alternative No. 3 - Oxidation Ditch w/ Biological Nutrient Removal

Note: Each of these alternatives includes upgrading the existing raw lift station, as well as renovating the preliminary treatment process at the existing plant site.

1. Alternative No. 1 – Extended Aeration UCT Process

This alternative involves the construction of a new extended aeration treatment facility that utilizes the principles of the activated sludge process for biological nutrient removal referred to as the University of Cape Town (UCT) process. The UCT process achieves biological nitrogen and phosphorus removal with the use of anaerobic, anoxic, and aerobic treatment tanks. The facility would be designed to achieve biological nutrient removal and to treat 20-year projected flows and loadings as specified in Section II and continuously discharge effluent to the Boone River at proposed Outfall 001, just downstream of Drainage Ditch No. 166. Figure 4.1 shows the proposed process flow diagram for this alternative.

Construction of the extended aeration treatment facility includes the following major process components:

- Renovate Raw Waste Lift Station at Existing Plant Site:
 - Install mechanical bar screen in existing channel with screenings discharge at grade.
 - Demolish existing comminutors.
 - Renovate existing aerated grit removal system.
 - Replace existing lift pumps with dry pit submersible wastewater pumps sized to pump all wastewater to the proposed treatment plant site.
- Wet Weather Flow Equalization Lagoon:
 - 14 million gallon operating capacity.
 - Magnetic flow meter for flow measurement in and out.
 - Synthetic liner.
 - Pumped return to head of treatment process.
- Preliminary Treatment Building:
 - Mechanical fine screen
 - Vortex grit removal and classifier
 - Equipment located at grade for ease in maintenance and material (screenings and grit) removal.
 - Magnetic flowmeter for flow measurement
- Operations Building:
 - Aeration blowers
 - Clarifier RAS/WAS/Scum pumps and associated piping and valves
 - Rotary drum thickener for sludge thickening

- Digester transfer pumps
- Chemical feed pumps and storage
- Electrical and controls
- Process operations lab, office, meeting room, and restrooms
- Aeration basin treatment train – Two complete trains for redundancy.
 - Anaerobic/Anoxic Control Structure
 - Provides even flow split to the two treatment trains.
 - RAS & MLR may be sent to either the anoxic tank (normal operation) or anaerobic tank.
 - Anaerobic tank
 - Two (2) tanks at 145,000 gallons each for 290,000 gallons total capacity
 - 18-foot side water depth
 - Jet mixing system
 - Anoxic tank
 - Two (2) tanks at 250,000 gallons each for 500,000 gallons total capacity
 - 17-foot side water depth
 - Jet mixing system
 - Anoxic liquor return pump
 - Baffle wall tank
 - Aeration basin control structure
 - Provides even flow split between two (2) aeration basins
 - Magnesium hydroxide feed location (if required due to alkalinity constraints)
 - Aeration tanks
 - Two (2) tanks at 1.3 MG each for 2.6 MG total capacity
 - 16-foot side water depth
 - Fine bubble diffused aeration
 - Jet mix aeration for last baffled section for enhanced DO control
 - Mixed liquor return pump
 - Baffle wall tank
- Rapid mix tank
 - Mechanical mixer
 - Chemical addition for phosphorous removal (backup to

- biological phosphorus removal)
 - Polymer addition
- Clarifier control structure
- Final clarifiers
 - Three (3) tanks at 68-foot diameter
 - 14-foot side water depth
- Fermentation Tank
 - 460,000 gallon capacity
 - Provide fermentation for 10-20% RAS and 0-10% raw waste at nutrient removal flow rate of 2.3 MGD for enhanced biological phosphorus removal.
- UV disinfection
- Magnetic flow meter or Parshall flume for effluent flow monitoring
- Reaeration basin
 - Fine bubble diffused aeration
 - Provided to meet effluent DO limit
- Discharge at proposed Outfall 001
- RDT Holding Tank
 - One (1) tank at 270,000 gallon capacity located ahead of rotary drum thickener.
 - Reduce thickener hours of operation to plant staffing hours.
 - Insulated bolted steel or concrete tank
 - Covered to prevent excessive heat loss.
- Rotary Drum Thickener
 - Waste Activated Sludge (WAS) Thickening from less than 1% to 4.5%
 - 300 GPM at 0.6% solids
 - Located at Operations Building or Press Building
 - Reduce required digester volume and aeration capacity
- Aerobic Digester
 - Two (2) tanks at 395,000 gallons each for 790,000 gallons total capacity.
 - 60-days retention time and 15 deg. C at 4.5% TS at AWW design load (EPA Appendix B to Part 503)
 - 55-foot diameter
 - 22-foot side water depth.

- Coarse bubble aeration for mixing and oxygen transfer
- Press Holding Tank
 - 80,000 gallons for one week storage to provide consistent feed stock to sludge press
 - Bolted steel or concrete tank.
- Press Building
 - Sludge dewatering press to increase solids content from 4.5% to 20%.
 - Polymer feed and storage
 - Located next to Cake Storage Building for conveyance of cake by belt or screw conveyor.
 - Liquid biosolids loadout option to bypass press
- Cake Storage Building
 - 365-days storage of dewatered cake biosolids
 - Approximate building dimensions 110-feet x 200-feet x 10-feet stacking height.

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A detailed process design summary is included in Appendix J. The following is a description of the individual treatment components included in this alternative:

Raw Lift Station – The existing raw lift station would be renovated to pump influent wastewater from the gravity collection system approximately 20-feet below grade at the existing treatment plant site to the Preliminary Treatment Building for screening and grit removal at the proposed treatment plant site approximately 1.5 miles south. A mechanical bar screen would be installed in the existing influent channel to remove large debris prior to pumping. The existing aerated grit removal system would be renovated and remain in service. It is critical that large solids and heavy grit are removed from the wastewater prior to pumping to prevent possible solids accumulation and related maintenance issues in the 1.5 miles of force main piping. Screenings and grit discharge is planned to be at grade for ease of operations and maintenance. A building would be constructed near the existing influent channel to house a screenings washer compactor and dumpster.

It is likely that two submersible pumps sizes would be provided to cover wider range of flows, a smaller pump to handle typical daily influent flow and a larger pump to handle wet weather or peak day flows. Pumps would be sized to handle the PHWW flow with multiple pumps in operation at one time. Dry pit submersible pumps would be provided with redundancy due to the critical nature of their operation. The lift station discharge piping would include a magnetic flowmeter or Parshall flume for influent flow monitoring. Two forcemain pipes would be provided to cover a wider range of flowrates while still maintaining 1-2 ft/sec velocity at ADW flow to help prevent solids from settling out in the piping. Multiple forcemain pipes would also provide redundancy for the most common flow conditions, ADW and AWW.

Wet Weather Flow EQ Lagoon – As discussed in Section II, the City has a significant inflow and infiltration issue with MWW flow at 4.7 times the ADW flow and PHWW flow at 5.9 times ADW flow. The raw waste pumps and force main would be sized to pump the PHWW flow from the existing plant site to the EQ Lagoon at the proposed treatment plant site. All flow greater than 5.086 MGD (3,531 GPM) would be diverted to the EQ Lagoon for storage. Stored water would be pumped back to the head of the plant for treatment and discharge when influent flows decrease to less than 5.086 MGD. Piping to and from the lagoon would have flow meters for flow monitoring.

A preliminary Geotechnical report for forcemain, lagoon, and treatment plant construction is located in Appendix K. Borings SB-15, 16 are in the area of the proposed EQ lagoon and indicate bedrock is approximately 23-24' below grade. Iowa DNR 18C.3.6.2 indicates a separation of 10 feet between the pond bottom and bedrock formations is recommended with a minimum separation of 4 feet required. Based on these the requirements, the bottom of the lagoon could be at least 13' below existing grade. Plan to include a synthetic liner due to relatively shallow bedrock in the area.

Preliminary Treatment – Preliminary treatment consists of mechanical screening and grit removal. The screening system includes a mechanical screen and a manually-cleaned screen (or option for second automated screen) located in a separate channel or a back-up. After the screening system, wastewater flows to a vortex grit removal chamber to remove sand and grit. Grit is passed through a classifier and disposed of in a dumpster. These processes are to be located together in a preliminary treatment building at grade for ease of access for operations and maintenance, within the proposed facility location shown on Figure 5.3. The building is also separated to

properly handle the corrosive nature of raw sewage thru ventilation, material selection, and coatings.

Anaerobic, Anoxic, and Aeration Basins – After preliminary treatment, water flows by gravity to the anaerobic tank. Biological phosphorus removal is accomplished by wasting mixed liquor that contains biomass with a very high phosphorus content. PAOs release phosphorus in the anaerobic tank and uptake (store) phosphorus in the aerobic tank. The anaerobic environment is important to biological phosphorus removal because it provides a selective advantage for phosphorus accumulating organisms (PAOs) to grow at a greater rate while the growth of other bacteria is inhibited due to the absence of nitrate and oxygen. Another benefit of the absence of nitrate and oxygen is the formation of readily biodegradable substrates such as volatile fatty acids through the fermentation process that are stored and used exclusively by the PAOs throughout the anoxic and aerobic processes. Nitrate and dissolved oxygen in the anaerobic basin inhibit the biological phosphorus removal process.

A RAS fermenter basin is included for the generation of volatile acids from a blend of RAS and raw wastewater. The use of RAS fermentation has proven beneficial for biological phosphorus removal processes.

Return activated sludge (RAS) from the clarifiers and mixed liquor return (MLR) from the aeration basins are pumped to an anoxic basin located downstream of the anaerobic basin. Nitrate is removed in the anoxic basin. Anoxic mixed liquor is pumped from the anoxic basin to the anaerobic basin to provide needed biomass that contains very low or no nitrate.

After the anoxic tank, wastewater flows by gravity to the aeration basin control structure. The control structure provides an even flow split between the two aeration basin treatment trains.

Biological nitrogen removal is accomplished by nitrification in the aerobic tank and denitrification in the anoxic tank. Nitrification is the conversion of ammonia (NH_3) or ammonium (NH_4^+) to nitrate (NO_3^-). Denitrification is the conversion of nitrate to nitrogen gas (N_2), which is released to the atmosphere, and the nitrogen is effectively removed from the wastewater stream.

Nitrate produced in the aerobic zone is returned to the anoxic zone by the mixed liquor return pump and by the RAS from the clarifiers. A portion of the influent CBOD is consumed by the bacteria during denitrification. As previously mentioned, RAS is returned from the clarifiers to the start of the anoxic zone to ensure that nitrate is not introduced to the anaerobic zone where it would interfere with the biological phosphorus removal process. The ability to send RAS and MLR to the anaerobic tank may be included as a secondary option (convert anaerobic tank to anoxic).

The final step in the biological treatment basins is the aerobic tank or aeration basin. The aerobic tank provides an oxygen rich conditions that allows the nitrification process to thrive. The aeration basins provide an optimal environment for aerobic organisms to grow and metabolize incoming organics and ammonia. The PAOs uptake phosphorus in the aeration basins using stored substrate from the anaerobic process.

The extended aeration system uses fine-bubble diffusers to transfer dissolved oxygen into the wastewater (generally ≥ 2 mg/L). Turbulence generated by the diffused air system also provides sufficient mixing for proper contact between organics/nutrients and the bacteria living in the system. Air is supplied by blowers located in the

operations building. The aeration basins are sized to limit oxygen uptake rate to 40 mg/L/hr and mixed liquor suspended solids to 5,000 mg/L and maintain at least 18 hours hydraulic residence time (HRT) in the basin. Solids are retained in the system for about 20 to 25 days, which decreases excess biomass production compared to conventional systems and reduces the size of the biosolids handling facilities. The recycle rates from the anoxic to anaerobic basins and the aerobic to anoxic basins are typically 3 to 4 times the influent flow. This results in approximately 75% TP and TN removal efficiency.

A supplemental alkalinity source may be required based on influent loadings and recycle flowrates. Nitrification consumes approximately 7 grams of alkalinity as CaCO₃ per gram of ammonia-N converted to nitrate. Denitrification produces approximately 3.5 grams of alkalinity as CaCO₃ per gram nitrate-N reduced to nitrogen gas. If required, magnesium hydroxide may be added at the aeration basin control structure.

The system has two treatment trains for anaerobic and anoxic basins that split to two aeration basins. This allows the number of anaerobic and anoxic basin trains online to be operated separate from the aeration basins. One train of the anaerobic and anoxic tanks may be removed from service for repairs or maintenance and denitrification will be maintained by the remaining train. Redundancy in anoxic basins allows the plant RAS flow rate to be reduced from 150% of influent flow to 100% of influent flow by DNR design variance request. The reduction in RAS flow rate results in significant savings in pumps, piping, valves, and clarifier tank sizing.

TN and TP discharge limits will be on an annual mass basis so recirculation rates will be based on Nutrient Removal flow rate of 2.5 MGD. The anaerobic and anoxic tanks are equipped with jet mixing system to ensure completely-mixed conditions. The aeration basins are designed to operate in parallel, allowing one basin to be taken offline for maintenance or during low loading conditions. Each aeration basin train consists of a series of baffled tanks to limit hydraulic short circuiting. The last baffled section will have jet mix aeration for enhanced DO control. Effluent from the extended aeration system flows next to a rapid mix basin and clarifier control structure before continuing to the clarifiers.

Rapid Mix Basin – The rapid mix basin provides a location for chemical addition with mechanical mixing ahead of the clarifiers. Inhibited settling due to process upsets, industrial loads and other factors can be corrected by polymer addition to enhance floc formation and settling characteristics. The UCT process is designed to use biological phosphorous removal to meet potential future total phosphorous discharge limits, however chemical phosphorus feed equipment should be included as a backup to the biological process. Metal salts may be added at the rapid mix tank on a temporary basis to meet discharge limits. It is prudent practice to provide a backup to the biological process in the event of plant upsets or other operational issues. See note in Biosolids Handling and Storage section regarding increased sludge production for chemical phosphorus removal.

Final Clarification – Final clarifiers will be designed to meet solids separation and thickening requirements. The clarifiers are circular suction-type, with a rotating suction header and skimmer installed at the bottom of the clarifier to uniformly remove settled sludge. This mechanism includes a surface skimmer to remove floating scum. Scum is discharged to a manhole and eventually pumped to the biosolids handling and storage system. As previously mentioned, return activated

sludge (RAS) is recirculated back to the anoxic tank by RAS pumps. As excess biomass accumulates in the system through biological growth, a proportional amount of solids needs to be wasted each day in order to maintain a steady-state system. This portion of the solids is termed waste activated sludge (WAS) and, through the operation of WAS pumps, the solids are periodically wasted to the biosolids handling and storage system.

Redundant final clarifier structures are necessary in case one clarifier is down for repairs or maintenance. The clarifiers are designed to meet IDNR design standards for the following maximum conditions:

- 1,000 gal./d/s.f. hydraulic loading rate at AWW + 0.5 MGD flow (peak mechanical plant influent flow condition)
- 30 lbs TSS/d/s.f. solids loading rate at AWW flow plus 100% RAS recirculation

Clarifiers are sized to treat 75% of the design conditions with the largest unit offline in accordance with IDNR design standards. Each final clarifier is 68 feet in diameter to satisfy these design requirements. Side water depth of 14 feet is used to provide adequate depth for settling additional solids generated by chemical phosphorus removal, should chemical phosphorus removal be required in the future.

Disinfection – Clarified effluent from the final clarifiers would be conveyed to a disinfection system before final discharge into the West Branch of the Floyd River. Two widely-used and effective disinfection options should be considered: chlorine-based disinfection and UV disinfection. Advantages and disadvantages of each disinfection option are summarized below:

Chlorine Gas Disinfection

Advantages:

- Overall cost effective
- Proven and robust technology
- Lower electrical costs

Disadvantages:

- Potentially hazardous
- Chemical costs
- Required limits for total residual chlorine (TRC) and potential compliance issues
- Requires larger contact basin than UV
- Regulatory requirements for bulk storage of gas cylinders

UV Disinfection

Advantages:

- Potentially safer method of disinfection
- No limits for TRC
- Minimal space requirements
- No chemical costs
- Operators typically prefer this option

Disadvantages:

- Potentially higher capital costs
- Energy costs
- Replacement costs
- Reduced effectiveness in turbid or high TSS effluent

Both systems are capable of achieving permit limits for E. Coli. A major advantage of selecting a UV disinfection system is the elimination of permit limits for TRC. UV also eliminates potential hazards associated with pressurized chlorine gas cylinders. However, long-term maintenance costs would likely be higher when considering replacement costs for lamps (4-5 years), quartz sleeves (5-8 years), and ballasts (10-15

years). Chlorine gas disinfection may have higher operations costs due to bulk storage regulatory requirements as well as ongoing monitoring and compliance with TRC limits.

Due to the non-monetary benefits of UV disinfection and operator preference, the cost analysis in Section IV.D and in Appendix I considers only UV disinfection for all proposed improvement alternatives.

Biosolids Handling and Storage – Due to long solids retention time, extended aeration systems produce a relatively low amount of excess biosolids in comparison to other conventional activated sludge systems. This is due to increased oxidation and decay of active biomass.

Phosphorus from the PAOs is released during digestion. Therefore, thickening and dewatering digested biosolids would lead to return of soluble phosphorus to the activated sludge process with the decant water. The biosolids must be thickened prior to digestion. A rotary drum thickener, with chemical addition, will increase solids content of the sludge from less than 1% to an estimated 4.5% TS. The solids content needs to be increased in order to reduce the required digester tank volume. Filtrate water from the thickener is returned to the aeration basin control structure and sludge is pumped to the aerobic digester. There is typically about 5% of the TS wasted each day that will recirculate back to the aeration basin in the filtrate water. This carry-over will be accounted for in the sludge wasting rates and the rotary drum thickener sizing.

The aerobic digester is a covered tank with coarse bubble diffusers for aerobic stabilization and mixing. Air would be supplied from positive displacement blowers located in the operations building. The tank will have adequate volume for 60-day retention time at design AWW flow and load sludge production rates to comply with EPA part 503 rules for stabilizing biosolids. After digestion, biosolids are pumped once or twice a week to a batch tank located ahead of the sludge presses for dewatering or to the liquid sludge loadout for land application.

The batch tank is a well mixed tank to provide the press with a more consistent feed stock and improve press performance and consistency. The sludge presses, with chemical addition, will increase solids content of the sludge from about 4.5% to an estimated 18-20% TS. The solids content needs to be increased to reduce the biosolids storage volume required and amount of water hauled for biosolids land application. Similar to the RDT, filtrate water from the press is returned to the aeration basin control structure. Metal salt addition is required at the press batch tank to tie-up soluble phosphorus released by PAOs in the aerobic digesters and prevent the soluble phosphorus from re-entering the activated sludge treatment process through the press filtrate. There is typically about 5% of the TS pressed each day that will recirculate back to the aeration basin in the filtrate water. The pressed material acts more like a solid material than liquid and is commonly referred to as cake or cake solids. The cake will be conveyed from the press to a covered bunker storage structure located adjacent to the press building by belt or screw conveyors. The cake material will need to be stacked in the storage building with an end loader a few times per week.

The covered bunker will be sized for 365-days storage at AWW loadings. The cake would be loaded into trucks once or twice a year and hauled off site for land application.

It is important to note that chemical phosphorus feed equipment for the rapid mix tank is provided in this alternative as a temporary backup to the biological process only. Chemical phosphorus removal produces additional sludge in proportion to the mass of phosphorus removed. The UCT alternatives in this report are not sized to handle chemical phosphorus removal sludge production rates. For more information on chemical phosphorus removal see sub-section included in Alternative No. 2.

Outfall Piping – A new outfall pipe to Boone River will be constructed for discharge of final effluent. The discharge point will be located just downstream of Ditch No. 166 on the south side of the treatment plant site. Consideration may be given to returning part or all of the plant effluent flow the ox bow lake located next to the existing treatment plant during final design. Waste load allocations for both discharge points were obtained for purposes of this facility plan and are included in Appendix G for reference.

2. Alternative No. 2 – Extended Aeration MLE Process

Alternative No. 2 is the construction of a new extended aeration treatment facility based on the Modified Ludzack-Ettinger (MLE) activated sludge process for biological nitrogen removal and chemical addition for phosphorus removal. Similar to Alternative No. 1, the facility would be designed to achieve nutrient removal and treat 20-year projected AWW flows and loadings as specified in Section II. The treatment plant would be continuous discharge to the Boone River at new Outfall 001. Figure 4.2 shows the proposed process flow diagram for this alternative.

Construction of the extended aeration treatment facility includes the following major process components:

- The following items are the same as Alternative No. 1, refer to part IV.D.1 for more information.
 - Renovate raw waste lift station at existing plant site.
 - Wet Weather Flow Equalization Lagoon.
 - Preliminary Treatment Building.
 - Operations Building.
- Aeration basin treatment train – Two complete trains for redundancy.
 - Anoxic Control Structure – Provides even flow split between two treatment trains.
 - Anoxic tank
 - Two (2) tanks at 325,000 gallons each for 650,000 gallons total capacity
 - 17-foot side water depth
 - Jet mixing system
 - Anoxic liquor return pump
 - Baffle wall tank
 - Aeration basin control structure
 - Provides even flow split between two (2) aeration basins

- Magnesium hydroxide feed location (if required due to alkalinity constraints)
 - Aeration tanks
 - Two (2) tanks at 1.3 MG each for 2.6 MG total capacity
 - 16-foot side water depth
 - Fine bubble diffused aeration
 - Jet mix aeration for last baffled section for enhanced DO control
 - Mixed liquor return pump
 - Baffle wall tank
- The following items are the same as Alternative No. 1, refer to part IV.D.1 for more information.
 - Rapid mix tank
 - Only method for enhanced phosphorus removal for this process.
 - Mechanical mixer
 - Chemical addition for phosphorous removal
 - Polymer addition
 - Clarifier control structure
 - Three (3) final clarifiers
 - 74-foot diameter – Larger diameter required due to increased mixed liquor concentration compared to Alternative No. 1.
 - UV disinfection
 - Magnetic flow meter or Parshall flume for effluent flow monitoring
 - Reaeration basin
 - Discharge at proposed Outfall 001
 - RDT Holding Tank
 - One (1) tank at 242,000 gallon capacity located ahead of rotary drum thickener.
- Rotary Drum Thickener
 - Waste Activated Sludge (WAS) Thickening from less than 1% to 4.5%
 - 270 GPM at 0.9% solids
- Aerobic Digester
 - Two (2) tanks at 390,000 gallons each for 780,000 gallons total capacity.

- 60-days retention time and 15 deg. C at 4.5% TS at AWW design load (EPA Appendix B to Part 503)
- 55-foot diameter
- 22-foot side water depth.
- Coarse bubble aeration for mixing and oxygen transfer
- Press Holding Tank
 - 105,000 gallons for one week storage to provide consistent feed stock to sludge press
- Press Building
- Cake Storage Building
 - Approximate building dimensions 120-feet x 225-feet x 10-feet stacking height.

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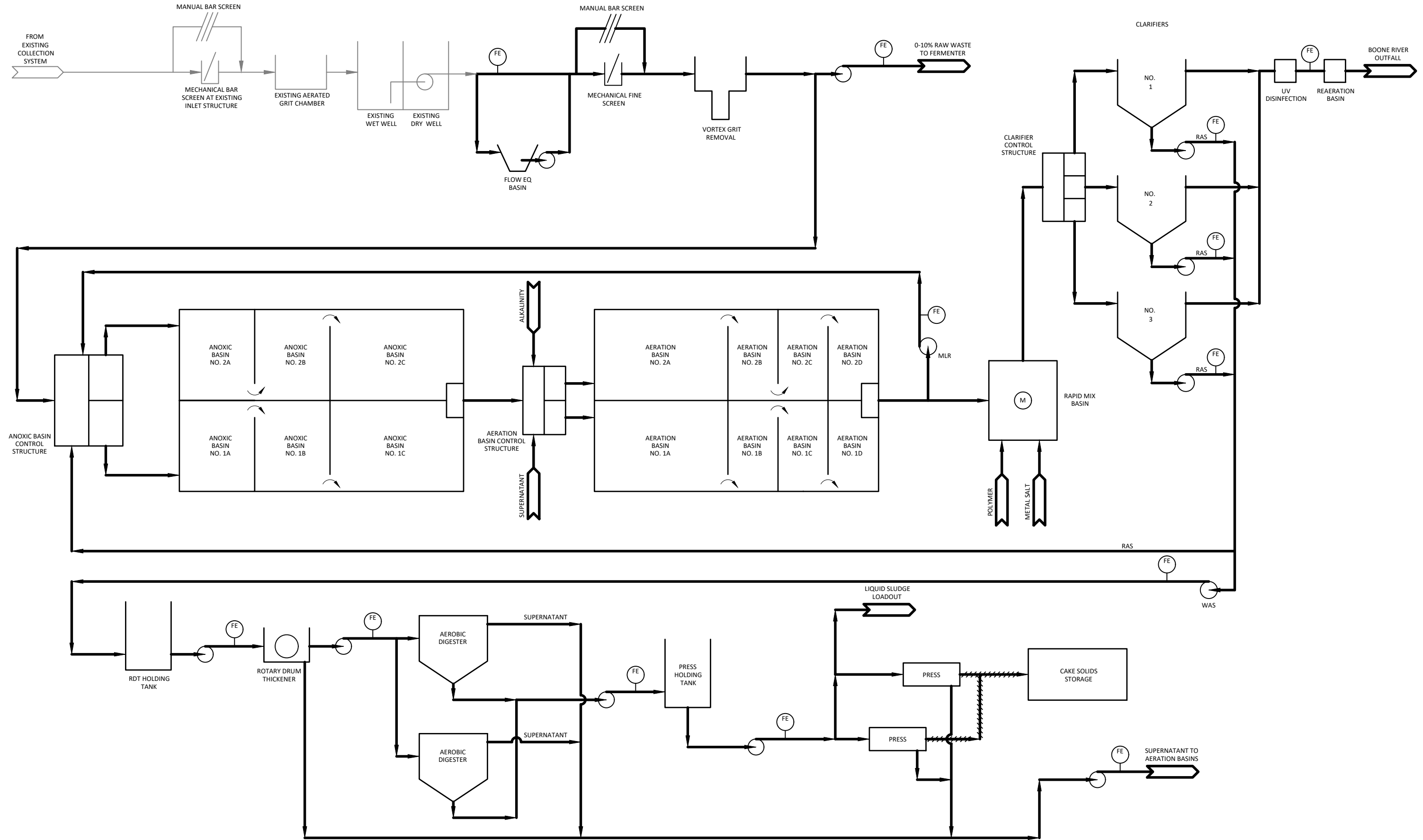


Figure 4.2
WEBSTER CITY, IOWA
WASTEWATER FACILITY PLAN
ALTERNATE NO. 2 - MLE PROCESS

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A detailed design summary is included in Appendix J. The following is a description of the individual treatment components included in this alternative:

Raw Lift Station – The raw lift station at the existing plant site would be constructed as described in Alternative No. 1.

Wet Weather EQ Lagoon – Wet Weather EQ Lagoon would be constructed as described in Alternative No. 1.

Preliminary Treatment – Preliminary treatment would be constructed as described in Alternative No. 1.

Aeration Basins – After preliminary treatment, raw wastewater flows by gravity to the anoxic basin control structure. The control structure provides an even flow split between the two anoxic basin treatment trains. A similar structure is also located ahead of the aeration basins. Decant water from sludge handling processes is re-introduced at the aeration basin control structure. Clarifier RAS is pumped back to the anoxic basin control structure.

Similar to the UCT process, TN removal is accomplished through nitrification in the aerobic tank and denitrification in the anoxic tank. Influent ammonia is oxidized to nitrate in the aerobic tank and nitrate rich mixed liquor is returned to the anoxic tank by a mixed liquor return pump. Nitrate rich RAS from the clarifiers is also returned to the anoxic tank. In the anoxic tank, influent raw wastewater CBOD is used by denitrifying bacteria to convert nitrate produced in the aerobic cell to nitrogen gas. CBOD remaining after the anoxic tank is consumed in the aerobic tank. A return to influent flow ratio of 3:1 is typically used for 75% TN removal. As with the UCT process, the anoxic tank is located before the aerobic tank. .

Also similar to the UCT process, the MLE process may require alkalinity supplement which can be added if required. The MLE process has two treatment trains so that one train may be taken offline for maintenance.

The primary difference between the UCT and MLE processes is the method for phosphorus removal. The UCT process utilizes biological nutrient removal with an anaerobic tank to select for PAOs. The MLE process relies on chemical addition ahead of the clarifiers to tie-up the phosphorus and remove it from the wastewater stream through sludge wasting. Chemical phosphorus removal has significant impacts on sludge production as discussed in the Biosolids Handling and Disposal section below.

Effluent from the extended aeration system flows next to a rapid mix basin and clarifier control structure before continuing on to the clarifiers.

Rapid Mix Basin – The rapid mix basin provides a location for chemical addition with mechanical mixing ahead of the clarifiers. Ferric chloride or aluminum sulfate (alum) may be added here to carry out chemical phosphorus removal. Also, as with Alternative No. 1, polymer may be added here to help settle solids in the clarifiers. Inhibited settling due to process upsets, fluctuating industrial loads and other factors can be corrected by polymer addition to enhance floc formation and settling characteristics.

Final Clarification – Final clarifiers will be designed to meet solids separation and thickening requirements as described for Alternative No. 1.

Disinfection – Clarifier effluent is conveyed to a disinfection system before final discharge to Boone River. See Alternative No. 1 for disinfection system discussion.

Biosolids Handling and Storage – Extended aeration systems produce a relatively low amount of excess biosolids in comparison to other conventional activated sludge systems, however chemical phosphorus removal significantly increases daily waste solids quantities. A key advantage for chemical phosphorus removal compared to biological phosphorus removal is the chemical addition precipitates soluble phosphorus and the phosphorus remains in solid form for eventual removal through biosolids disposal. The rate of sludge production from chemical phosphorus removal is a function of phosphorus loading and subsequent chemical dosage for effective phosphorus precipitation and removal. Note that the sludge production rate could change significantly if influent phosphorus loadings change.

A rotary drum thickener, with chemical addition, will be used to increase solids content of the sludge from around 1% to 4.5% as described in the previous alternatives. The solids content needs to be increased in order to reduce the required digester and storage tank volumes. Filtrate water from the thickener is returned to the aeration basin control structure and thickened sludge is pumped to the aerobic digester.

The aerobic digester is a covered tank with coarse bubble diffusers for aerobic stabilization and mixing. The tank will have adequate volume for 60-day retention time at design AWW flow and load sludge production rates to comply with EPA part 503 rules for stabilizing biosolids. The digester will have decant piping and valves to draw-off clear supernatant and return the water to the aeration basins for treatment and discharge. As discussed in Alternative No. 1, biological phosphorus removal relies on PAOs to accumulate phosphorus and when the organisms die in the digester, the phosphorus is released back into the water. Phosphorus in chemical phosphorus removal remains tied-up in the chemical floc in the digester so decant water will not contain a concentrated portion of phosphorus. About 40% of the volatile solids in the digester are destroyed so the corresponding volume of water may be decanted off tank, resulting in a significant reduction in sludge storage volume required. As a result, even though Alternative No. 2 MLE process sludge production is about 22% greater than Alternative No. 1 UCT process, Alternative No. 2 requires nearly the same volume for aerobic digester. After digestion, biosolids are pumped to a press batch tank once or twice a week similar to Alternative No. 1.

Metal salt addition at the press batch tank will be reduced for Alternative No. 2 as compared to Alternative No. 1 because the phosphorus has already been tied up by chemical addition at the rapid mix tank. Alternative No. 2 will require about 30% more storage for dewatered cake as compared to Alternative No. 1 UCT process due to additional sludge production from chemical phosphorus removal. The city should monitor biosolids production related to chemical phosphorus removal. Additional biosolids storage capacity may be required if sludge production rates due to chemical phosphorus removal are greater than anticipated.

The city should plan to increase biosolids storage capacity in the future if industrial loads increase significantly from current levels. 365-day storage capacity for dewatered sludge at AWW design flow was included in this analysis. Once or twice per year, the stabilized biosolids would be loaded into trucks and hauled offsite for land application.

Chemical Phosphorus Removal – In order to satisfy Iowa Nutrient Reduction Strategy requirements, the proposed treatment facility would be equipped to perform chemical phosphorus removal with addition of metal salts to Control Structure No. 2

prior to the final clarifiers (see Figure 4.2). Ferric chloride and aluminum sulfate (alum) are the most common metal salts used to remove phosphorus from effluent wastewater. Alum would be used at the facility due to potential issues with chloride discharge limits compliance. When added to wastewater, both of these metal salts form inorganic coagulants that promote flocculation and subsequent adsorption of soluble phosphate. Phosphate is then settled out with the sludge flocs in the final clarifiers – effectively being removed from the treated effluent. The addition of metal salts has the ability to achieve TP effluent concentrations of <1.0 mg/L. Tertiary filters may be required if more stringent TP limits are imposed in the future.

Outfall Piping – Refer to Alternative No. 1 for discussion of outfall piping.

3. Alternative No. 3 – Oxidation Ditch

Alternative No. 3 is the construction of a new oxidation ditch treatment facility based on the Sanitaire Bioloop® process for biological nitrogen removal and chemical addition for phosphorus removal. Similar to Alternatives No. 1 & 2, the facility would be designed to achieve nutrient removal and treat 20-year projected AWW flows and loadings as specified in Section 2. The treatment plant would be continuous discharge to the Boone River at new Outfall 001. Figure 4.3 shows the proposed process flow diagram for this alternative.

Construction of the oxidation ditch treatment facility includes the following major process components:

- The following items are the same as Alternative No. 1, refer Alternative No. 1 for more information.
 - Renovate raw waste lift station at existing plant site.
 - Wet Weather Flow Equalization Lagoon.
 - Preliminary Treatment Building.
 - Operations Building.
- Oxidation ditch treatment train – Based on preliminary information provided by Electric Pump (Sanitaire). One train of two ditches in series with the ability to remove one ditch from service for maintenance or repairs.
 - Anaerobic tank
 - One (1) tank at 464,000 gallons total capacity
 - 18-foot side water depth
 - Submersible mixers
 - Pre-anoxic tank
 - One (1) tank at 156,000 gallons total capacity
 - 18-foot side water depth
 - Submersible mixers
 - Oxidation ditch control structure
 - Typical operation is one (1) train of two (2) oxidation ditches series

- Provides ability to step feed pre-anoxic effluent to either ditch or to completely bypass flow around one ditch for maintenance or repairs.
 - Magnesium hydroxide feed location (if required due to alkalinity constraints)
 - Oxidation ditches
 - Two (2) tanks at 2.26 MG each for 4.52 MG total capacity
 - 18-foot side water depth
 - Fine bubble diffused aeration grids in aerobic zones
 - Anoxic zones provided in ditch for nitrogen removal.
 - Submersible mixers
 - Mixed liquor return accomplished by current from submersible mixers.
 - Baffle wall tank
- The following items are the same as Alternative No. 1, refer Alternative No. 1 for more information.
 - Rapid mix tank
 - Only method for enhanced phosphorus removal for this process.
 - Mechanical mixer
 - Chemical addition for phosphorous removal
 - Polymer addition
 - Clarifier control structure
 - Three (3) final clarifiers
 - 78-foot diameter – Larger diameter required due to increased mixed liquor concentration compared to Alternative No. 1. RAS rate of 150% assumed because redundancy is not provided for nutrient removal basins.
 - UV disinfection
 - Magnetic flow meter or Parshall flume for effluent flow monitoring
 - Reaeration basin
 - Discharge at proposed Outfall 001
 - RDT Holding Tank
 - One (1) tank at 315,000 gallon capacity located ahead of rotary drum thickener.
 -

- Rotary Drum Thickener
 - Waste Activated Sludge (WAS) Thickening from less than 1% to 4.5%
 - 350 GPM at 0.78% solids
- Aerobic Digester
 - Two (2) tanks at 442,00 gallons each for 884,000 gallons total capacity.
 - 60-days retention time and 15 deg. C at 4.5% TS at AWW design load (EPA Appendix B to Part 503)
 - 60-foot diameter
 - 22-foot side water depth.
 - Coarse bubble aeration for mixing and oxygen transfer
 - Press Holding Tank
 - 116,000 gallons for one week storage to provide consistent feed stock to sludge press
 - Press Building
 - Cake Storage Building
 - Approximate building dimensions 130-feet x 240-feet x 10-feet stacking height.

A detailed design summary and process description provided by Sanitaire is included in Appendix J.

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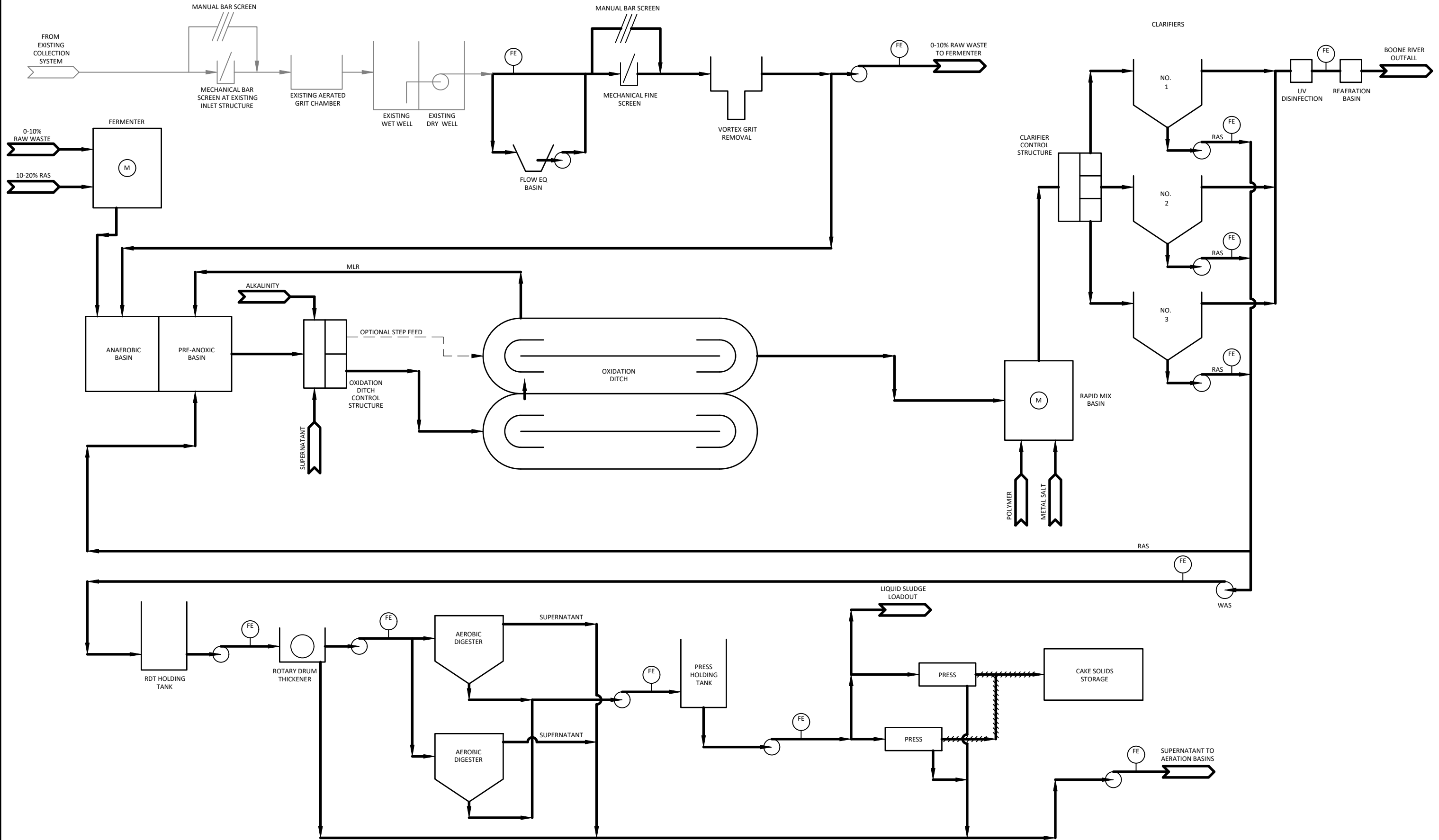


Figure 4.3
WEBSTER CITY, IOWA
WASTEWATER FACILITY PLAN
ALTERNATE NO. 3 - OXIDATION DITCH

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E. Financial Considerations

1. General

Published and unpublished data on costs for similar types of construction projects were used to prepare the opinion of costs presented herein. Annual inflation rates for this type of construction have ranged from approximately 5 to 40 percent in recent years, with higher inflation rates since the end of 2020. The cost opinions presented herein are intended for use as guidelines in the decision making process. The accuracy of these cost opinions should be considered within +/-30% of the actual project costs. Once preparation of final drawings and specifications is underway, the cost opinions would be refined.

2. Capital Cost Opinion

The opinion of probable cost for the Alternatives is presented in Table 4.2.

Preliminary cost for engineering, construction oversight, administration, and legal are included. Cost opinion details are included in Appendix I.

Table 4.2: Webster City Facility Plan Opinion of Probable Cost for WWTF Improvements

Ite	Altern tive No. 1 – UCT	Altern tive No. 2 – M E	Altern tive No. 3 – Ox. Ditch
General Conditions (3-5% of Construction Subtotal)	\$2,700,000	\$2,700,000	\$3,000,000
East ift Station Renovation	\$610,000	\$610,000	\$610,000
Forcemain	\$3,680,000	\$3,680,000	\$3,680,000
Wet Weather Storage Lagoon	\$900,000	\$900,000	\$900,000
Site Wor	\$3,900,000	\$3,900,000	\$4,300,000
Cast in Place Concrete	\$12,765,000	\$12,565,000	\$15,310,000
Buildings - Precast Concrete	\$1,720,000	\$1,785,000	\$1,815,000
Architectural (Roofs, Carpentry, Doors, Misc. Metal	\$1,520,000	\$1,540,000	\$1,540,000
Pre-Engineered Metal Building - Dewatered Sludge Storage	\$465,000	\$600,000	\$700,000
Painting	\$800,000	\$800,000	\$780,000
Equipment	\$7,260,000	\$7,345,000	\$7,390,000
Equipment Installation	\$1,460,000	\$1,470,000	\$1,480,000
Piping, Fittings and Installation	\$7,500,000	\$7,350,000	\$7,000,000
Valves and Gates	\$1,200,000	\$1,150,000	\$1,000,000
Outfall Piping and Protection	\$250,000	\$250,000	\$250,000
Plumbing	\$500,000	\$700,000	\$500,000
HVAC	\$1,000,000	\$1,100,000	\$1,100,000
Electrical & Controls	\$7,600,000	\$7,500,000	\$7,200,000
Construction Contract Allowances	<u>\$1,000,000</u>	<u>\$1,000,000</u>	<u>\$1,000,000</u>
Subtotal	\$56,830,000	\$56,945,000	\$58,555,000
Contingency (20%)	<u>\$11,366,000</u>	<u>\$11,318,000</u>	<u>\$11,700,000</u>
Con truction Subtotal	\$68,196,000	\$68,263,000	\$70,255,000
Legal/Engineering/Financing/Administration (15%)	<u>\$10,230,000</u>	<u>\$10,187,000</u>	<u>\$10,600,000</u>
TOTAL	<u>\$78,426,000</u>	<u>\$78,450,000</u>	<u>\$80,855,000</u>

3. Cost Evaluation

Cost differences between Alternative 1 and 2 nearly offset each other for a total project cost that are very similar. Alternative 3 has a higher project cost due to increased tank sizes for the oxidation ditches, greater return activated sludge flowrate required and greater waste sludge production rate. The cost difference between Alternatives 1, 2 and Alternative 3 is approximately \$2.4 million.

For Alternative 1, biosolids production rates and storage requirements would be monitored and expanded if in the future if conditions require additional capacity.

4. Operations, Maintenance, and Replacements Costs (OM&R)

Operation and maintenance costs can have a significant effect on the overall cost of wastewater treatment. Major components of the O&M costs include employee salaries and benefits, administration, chemicals, utilities, and other non-capital related expenditures. Additional cash reserves must also be budgeted for short-lived assets that require replacement within a 15 year time frame. Short-lived assets may include pumps, chemical feed equipment, and other equipment that may require replacement within the design life of the system. A breakdown of estimated short-lived asset reserve costs for each alternative is presented in Table 4.3.

Table 4.3: Short-Lived Asset Reserve

Item	Useful Life	Alternative No. 1		Alternative No. 2		Alternative No. 3	
		Total	Annual	Total	Annual	Total	Annual
Lift Station							
Pump Rebuild	15	\$300,000	\$20,000	\$300,000	\$20,000	\$300,000	\$20,000
Pretreatment System							
Screen Rebuild	15	\$50,000	\$3,333	\$50,000	\$3,333	\$50,000	\$3,333
Grit Removal Rebuild	15	\$30,000	\$2,000	\$30,000	\$2,000	\$30,000	\$2,000
Biological Treatment							
Air Diffusers Replacement	5	\$50,000	\$10,000	\$50,000	\$10,000	\$25,000	\$5,000
Submersible Pumps Rebuild	15	\$300,000	\$20,000	\$250,000	\$16,667	\$50,000	\$3,333
Submersible Mixers Replacement	5	\$20,000	\$4,000	\$0	\$0	\$100,000	\$20,000
Aeration Blowers Rebuild	15	\$200,000	\$13,333	\$200,000	\$13,333	\$200,000	\$13,333
Sludge Process							
RAS Pumps Rebuild	15	\$100,000	\$6,667	\$125,000	\$8,333	\$125,000	\$8,333
WAS Pump Rebuild	15	\$10,000	\$667	\$10,000	\$667	\$10,000	\$667
Scum Pump Rebuild	15	\$10,000	\$667	\$10,000	\$667	\$10,000	\$667
Sludge Pumps Rebuild	15	\$100,000	\$6,667	\$125,000	\$8,333	\$125,000	\$8,333
RDT Rebuild	15	\$30,000	\$2,000	\$35,000	\$2,333	\$35,000	\$2,333
Sludge Press Rebuild	15	\$150,000	\$10,000	\$200,000	\$13,333	\$200,000	\$13,333
Conveyors Rebuild	10	\$100,000	\$10,000	\$120,000	\$12,000	\$120,000	\$12,000
Digester Blowers Rebuild	15	\$150,000	\$10,000	\$200,000	\$13,333	\$250,000	\$16,667
Chemical Feed System							
Metal Salt Replacement	15	\$75,000	\$5,000	\$150,000	\$10,000	\$125,000	\$8,333
Miscellaneous							
Samplers	15	\$30,000	\$2,000	\$25,000	\$1,667	\$25,000	\$1,667
HVAC Rebuild/Replacement	10	\$300,000	\$30,000	\$300,000	\$30,000	\$300,000	\$30,000
Total Annual Budgeted Cost			\$156,333		\$166,000		\$169,333

The incremental costs are the increases in annual costs from the City's current FY 2023-2024 budget. Incremental OM&R costs for each alternative are presented in Table 4.4. The greatest difference between the alternatives is the chemical costs associated with phosphorus removal required for Alternative No. 2.

Table 4.4: Incremental Annual OM&R Costs Over Current Plant Budget Costs			
Item	Alt. No. 1	Alt. No. 2	Alt. No. 3
Salaries & Benefits	\$79,000	\$79,000	\$79,000
Utilities	\$188,000	\$184,000	\$178,000
Chemicals, Supplies & Misc.	\$59,000	\$181,000	\$144,000
Maintenance & Replacement	\$56,000	\$54,000	\$50,000
Total OM&R Increase	\$381,000	\$498,000	\$451,000

5. Annual Project Costs

Determination of annual project costs is a useful measure to compare multiple alternatives on a financial basis. Annual project cost is the sum of the anticipated OM&R cost and the annualized capital costs. Annualized capital costs represent the yearly sum of money needed to finance a capital expenditure over a specified period and interest rate (i.e. capital recovery).

The City is considering alternative sources of debt financing. The evaluation is based on a USDA RD loan (40 years, 2.63% interest) as suggested to the City by PFM, public financial advisors. Table 4.5 is a summary of the projected annual costs for the wastewater treatment facility and collection system. The projected operating costs are based on the City's FY 2023-2024 budget and adjusted for increased costs associated with the purposed wastewater treatment facility.

Table 4.5: Wastewater Collection and Treatment Annual Expenses (Based on Alt. 1 – UCT Process)	
Item	Value
Wastewater Treatment Plant	
Labor plus Fringe Benefits	508,000
Power	369,000
Chemicals	210,000
Other Expenses	<u>174,000</u>
Total Plant O&M Expenses	\$1,261,000
Collection System O&M	248,000
City Department Support Services	342,000
Franchise Fee – Transfer Out	<u>114,000</u>
Total Operating Expenses	\$1,965,000
Capital and Maintenance Payments	535,000
Debt Service ^{1, 2, 3}	\$3,592,000
Total Annual OM&R, Capital Projects, and Debt Services	\$6,092,000

Note:

1. Debt service cost is based on \$79.85 million principal, 2.63%, 40-year term USDA loan
2. Debt service cost includes \$365,000 per year short-lived assets and debt service reserve fund cash requirements for first ten years of the loan (as required by USDA)
3. Debt service costs were developed by PFM, public financial advisors

6. Impact to Sewer Costs

The capital costs associated with constructing a new treatment facility will have a significant impact on the annual wastewater treatment operating budget as indicated in Table 4.5. The current FY 2021- FY 2022 sewer user revenue was \$1,924,000, significantly less than the \$6,092,000 projected annual costs indicated in Table 4.5.

The City is evaluating alternative financing terms and sewer user rate structures. The City recently implemented an \$11 per month capital surcharge for all sewer users and a 2% increase in sewer user rates. A preliminary evaluation by PFM, public finance advisors, indicates the following monthly sewer user bills for a 4,500 gallons per month user:

Current: \$63 per month

Projected: \$149 per month

The projected rates are very high. The City and its financial advisors are evaluating potential sources of grants including a Community Development Block Grant, and USDA Rural Development grants.

The user rate structures, including industrial user rates and surcharge rates will be developed as the financing details are evaluated.

F. Summary of Advantages and Disadvantages

1. Alternative No. 1 – Extended Aeration – CT Process

a Advantages

- Less expensive treatment alternative than Alternatives 2 and 3 for capital and OM&R expenses.
- Extended aeration activated sludge process is a robust treatment technology for achieving low ammonia discharge limits.
- Designed for biological phosphorus removal which reduces tank size requirements for aeration basins, aerobic digester, and biosolids storage as compared to Alternatives 2 and 3. (Chemical addition provided as temporary backup).
- Provides high level of operator control.
- Design provides redundancy in the treatment process and allows for flexibility for future expansion.

b) Disadvantages

- Biological phosphorus removal can have variable results depending on flows, loadings, and wastewater characteristics. However, it is important to note that chemical phosphorus removal is included as a temporary backup option to the biological process for Alternative 1.
- Alternative 1 requires an additional recycle pump and piping for anoxic liquor return.
- Some chemical addition will likely be required to capture soluble phosphorus in the biosolids process due to phosphorus release by the PAOs in an anaerobic environment.

2. Alternative No. 2 – Extended Aeration MLE Process

a) Advantages

- Chemical phosphorus removal is a robust process that is not dependent on biological activity. Biological phosphorus removal can be upset by temperature, influent loading fluctuations, toxicity, etc.
- Extended aeration activated sludge process is a robust treatment technology for achieving low ammonia discharge limits
- Reduced number of return pumps and control structures required compared to Alternative 1.

b) Disadvantages

- Higher capital and OM&R costs than Alternative 1.
- Increased aeration basin size required to maintain mixed liquor concentration of less than 5,000 mg/L due to solids produced from chemical phosphorus removal.
- Increased digester and biosolids storage capacity required due to solids generated from chemical phosphorus removal.

3. Alternative No. 3 – Oxidation Ditch

a) Advantages

- Reduced amount of fine bubble aeration equipment required.
- Submersible mixers typically require less energy than jet mix systems.
- High recirculation rates possible due to race track flow path which allows many passes through aerobic and anoxic zones for nitrification and denitrification.
- Reduced number of pumps required for internal recirculation streams.

b) Disadvantages

- Higher capital and OM&R costs than Alternative 1 and 2.
- Vendor design results in a large package of equipment and limits the number equipment suppliers able to bid project.
- No flow meters provided internal recirculation streams.
- Reduced operator process control compared to Alternatives 1 and 2.
- Increased basin sizes compared to Alternative 1 and 2 (per vendor preliminary design).
- Increased digester and biosolids storage capacity required due to solids generated from chemical phosphorus removal.

V. RECOMMENDATIONS AND FINANCING OPTIONS

A. General

Previous sections of this report evaluated three main alternatives for wastewater system improvements for the City of Webster City. This section will review these main alternatives and provide a recommendation for wastewater system improvements based on both quantitative and qualitative factors, including financial considerations, reliability, expandability, and operation and maintenance considerations. Financing options and a proposed implementation schedule are also discussed.

B. Decision Matrix

Table 5.1 presents a decision matrix for the three wastewater system improvement alternatives discussed in Section 4. The criteria considered in the decision matrix are based on both monetary and non-monetary factors.

Table 5.1: Decision Matrix			
Item	Alt. No. 1	Alt. No. 2	Alt. No. 3
Land Requirement	20 acres	20 acres	20 acres
Overall Ability to meet Improvements Needs	Excellent	Excellent	Good
Expandability Potential	Excellent	Excellent	Good
Ability to meet <i>Current</i> Discharge Limits	Excellent	Excellent	Good
Ability to meet <i>Future</i> Discharge Limits	Excellent	Excellent	Average
Estimated Capital Costs	\$78,426,000	\$78,450,000	\$80,855,000
Estimated Change OM&R Costs	\$381,000	\$49 ,000	\$451,000

Both alternatives 1 and 2 would work well for meeting the future treatment needs of Webster City. Alternative No. 3 has lower ratings due to reduced operator control over the process, reduced redundancy, and higher capital cost.

C. Recommended Alternative

The recommended alternative for wastewater treatment system improvements is Alternative No. 1 – Extended Aeration CT Process. This alternative was found to be the most cost-effective solution to meet all improvement needs and to achieve current and future discharge limits.

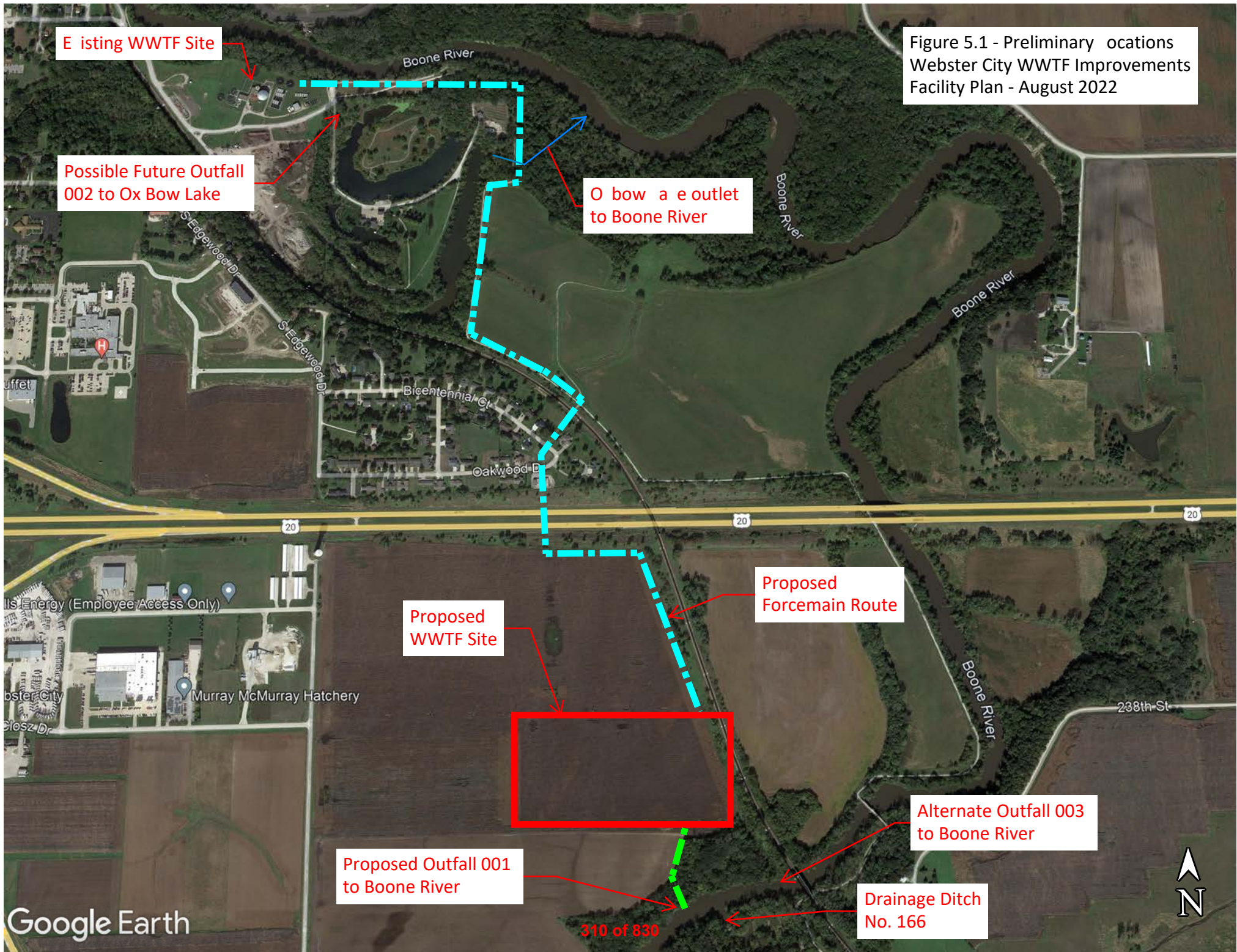
Key highlights and advantages of the recommended alternative are as follows:

- Extended aeration activated sludge is a widely-used and reliable treatment technology for achieving low ammonia discharge limits
- Treatment process provides operator with greater control of treatment performance compared to other systems such as oxidation ditch and SBR
- No premium costs associated with building a facility with a small footprint, treatment process is well-tailored to the needs of Webster City
- Ability to achieve TN and TP removal goals as set forth by the Iowa Nutrient Reduction Strategy
- Designed to allow for expansion to handle flows and loadings beyond 20-year design period or accommodate new industrial loads in the future
- UV disinfection eliminates chemical costs, potential hazards associated with chlorine

gas storage, and discharge limits for total residual chlorine

An overall preliminary location plan for proposed improvements is presented in Figure 5.1. A preliminary site plan of the proposed improvements relative to the existing facility is presented in Figure 5.2. A preliminary site plan for the proposed facility is presented in Figure 5.3. The site arrangement utilizes land previously acquired by the City on the south side of town. DNR Schedule F Treatment Project Site Selection was submitted for review July 2022. The new treatment facility would be constructed while the existing facility remained in service. Improvements at the existing main lift station would be completed in phases to allow continuous operation of the facility. After the new activated sludge facility is online, the existing treatment facility except for the main lift station and control building would be demolished.

The City is in negotiations with the landowner along the forcemain route for easement. The City has purchased a lot on the corner of Oakwood Drive and Bicentennial Court for use in routing the forcemain through this area. A recent study of the City's power grid recommended decommissioning the Passwaters Substation on Oakwood Drive. The City has entered into an agreement with a consultant to design a new substation on the south side of Highway 20 that will replace Passwaters in 2024. Plan to use the Passwaters Substation lot as a bore pit for the wastewater forcemains crossing Highway 20.



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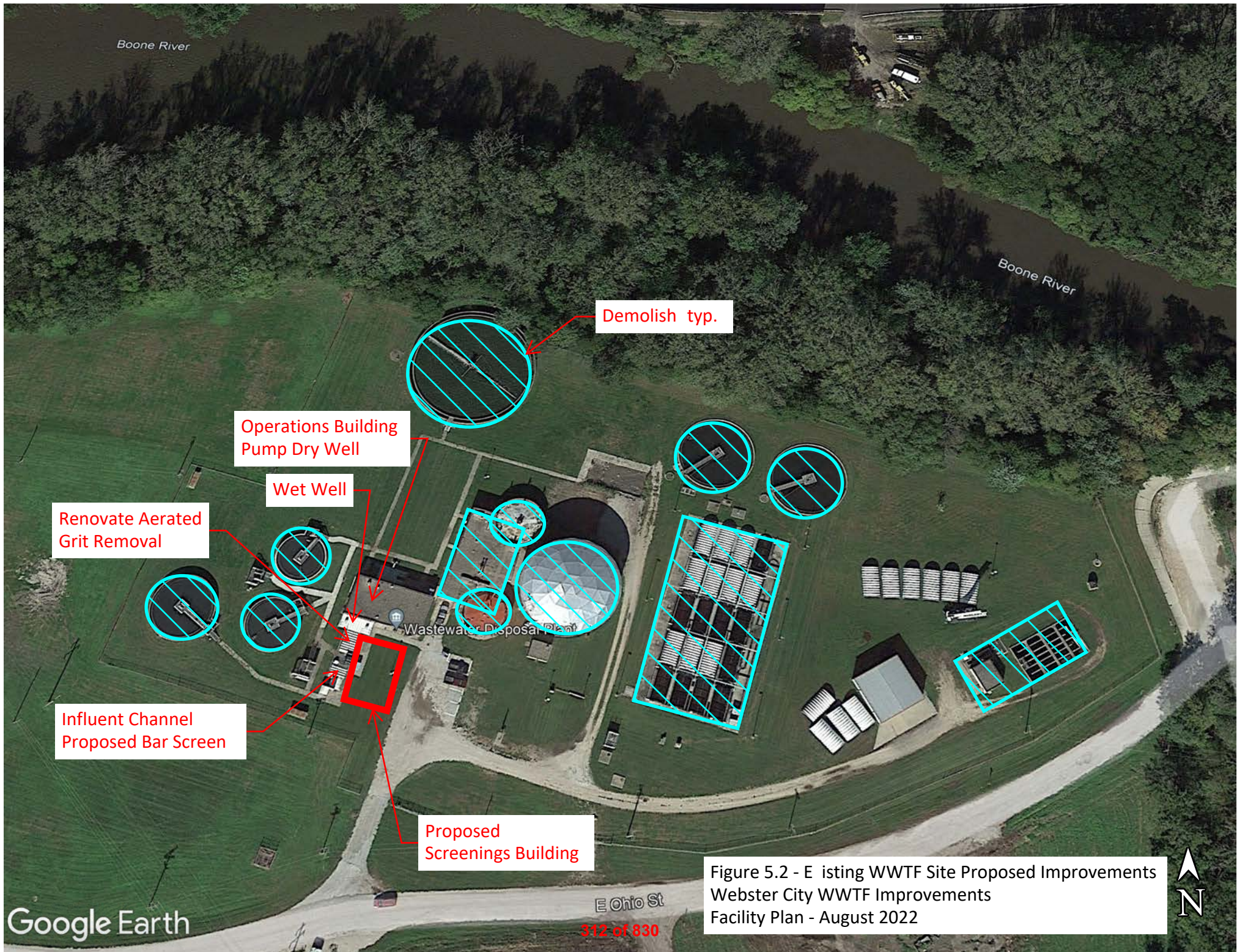
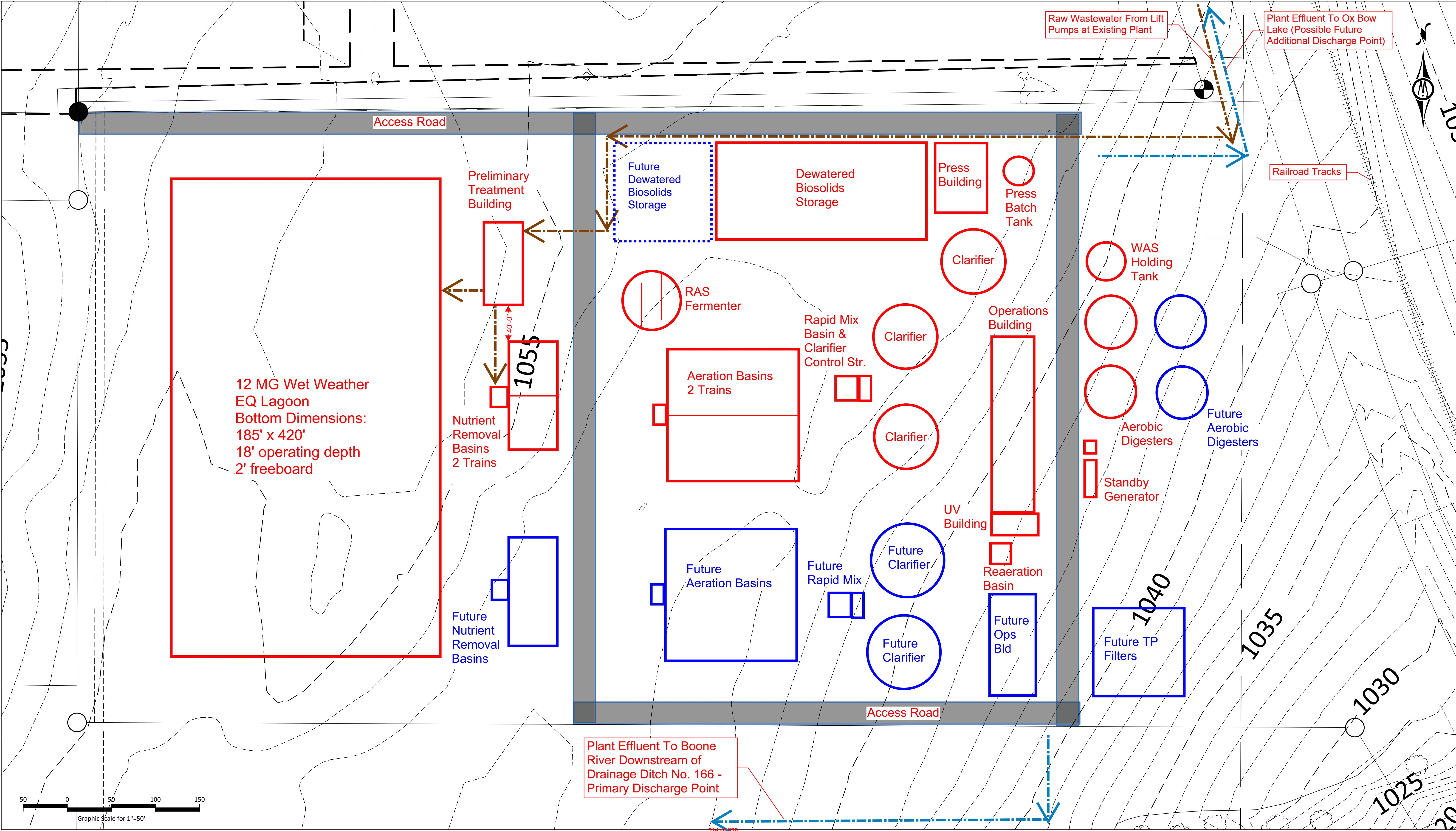


Figure 5.2 - Existing WWTF Site Proposed Improvements
Webster City WWTF Improvements
Facility Plan - August 2022

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D. Financing Options

There are several funding options the City of Webster City can explore to help finance these improvements. It is recommended that the City work with their financial advisor to determine the best financing package available. Below is a listing of some of the options.

1. Bonding

The City could sell general obligation, local improvement, or revenue bonds in order to raise the capital costs to improve the treatment facility. The proceeds of the bonds would need to be repaid, either through property taxes, assessments, or user charges to the system.

2. Assessment

A portion of the capital costs of the project can be assessed to local property owners under Iowa Code Section 384.7, or taxes may be levied to establish a debt service fund under Iowa Code Section 384.4. These funds could help offset some monthly increases in user fees and permit use of general obligation bonding.

3. Rural Development Loans

The City may be eligible to secure a loan or grant through the USDA Office of Rural Development to help finance wastewater system improvements. Repayment could be through an increase in local property tax rates, user fees, or assessments. A portion of the project costs may be eligible for grant funding as a part of this program depending on the economic status of the residents in the City.

In order to be considered for Rural Development monies, a Preliminary Engineering Report (PER) and Environmental Report (ER) must be completed and submitted to RD for their review and approval. Upon approval, RD would allocate a low-interest fixed-rate loan and/or grant used to help finance the project. Current loan terms up to 40 years are available. Depending on economic status, grants are available for up to 75% of the project cost.

Rural Development uses an Equivalent Dwelling Unit (EDU) calculation for assisting in determining the amount and type of funding for which a community is eligible. The preliminary EDU calculations for the City of Webster City indicate that the project may not be eligible for grant funding, due to the large percentage of design capacity allocated to industrial users but loan financing would still be available based on the median household income (MHI) of the residents in Webster City. Although a 40-year loan term is favorable from an annual cost basis, wastewater facilities typically require a significant upgrade after 20 years. Since the life expectancy of the facility is shorter than the loan term, it is generally not advisable to consider paying for wastewater treatment facilities with this method (i.e. the City would be in perpetual debt).

4. Clean Water State Revolving Fund (SRF) (through IFA & IDNR)

The loan program was created under the Clean Water State Revolving Fund (CWSRF) provisions in the Federal Clean Water Act to provide financial assistance for water pollution control projects. Iowa's revolving loan program provides loans to municipalities for planning, design, and construction of wastewater treatment projects. The IDNR administers the environmental and permitting aspects to prepare projects for financing, while the Iowa Finance Authority (IFA) provides loan approvals and disbursements. To be eligible for funding, the City must submit this facility plan to the IDNR for approval and complete an Intended Use Plan (IUP) application to

request inclusion on the IUP list. Once an applicant is on the list, they are eligible to apply for a SRF loan.

The standard loan terms for all applicants is a 20 year loan period at an interest rate of 2%. SRF also offers extended loan terms of 30 years at 3% interest (disadvantaged and non-disadvantaged applicant). Applicants must be determined to be disadvantaged based on criteria in Iowa Code Section 455B.199B, Disadvantaged Communities Variance, as amended by Senate File 407 on April 28, 2011. Determining factors include MHI, annual water and sewer rates as percentage of MHI, number of families below poverty level, per capita outstanding debt as percentage of MHI, and cost effectiveness of the project. The Iowa Finance Authority utilizes these criteria to determine qualifying interest rates. Terms for disadvantaged qualification are currently under review. It is unknown at this time if Webster City would qualify as disadvantaged. SRF also has a Sponsored Project program. The Sponsored Projects program is a competitive application program that has been implemented through the Clean Water State Revolving Fund (CWSRF), a loan program for construction of water quality facilities and practices. On a typical CWSRF loan, the utility borrows principal and repays principal plus interest and fees. On a CWSRF loan with a sponsored project, the utility borrows for both the wastewater improvement project and the sponsored project; however, through an overall interest rate reduction, the utility's rate payers do not pay any more than they would have for just the wastewater improvements. Instead, two water quality projects are completed for the cost of one. The project is a "water resource restoration" project, typically associated with improving storm water quality in the watershed of the wastewater treatment facility. DNR temporarily suspended Sponsored Project applications in 2022. It is anticipated that the application process will start up again in 2023 or 2024, possibly with revised terms and conditions.

5. Community Development Block Grants (CDBG)

The Community Development Block Grant (CDBG) Program is administered through the Iowa Economic Development Authority in order to provide federal grants from the U.S. Department of Housing and Urban Development (HUD) to local units of government on a competitive basis for a variety of community development projects. Eligible applicants include cities and townships with populations under 50,000 and all counties.

In order to be eligible for grant funding, the proposed project must meet one of the three national objectives:

- A minimum of 51% of those benefitting from the proposed project must be considered low or medium income (LMI) in accordance with the U.S. Department of Housing and Urban Development (HUD). A survey of at least 300 households must be completed in order to make this assessment.
- Help eliminate slum and blight conditions
- Help eliminate urgent threats to public health or safety

In addition, the proposed project activities must be eligible for funding, project needs must be documented, and the general public must be involved in the application preparation.

Under this program, Community Development Block grants are available for wastewater treatment projects, including collection systems and treatment plans;

fresh water projects, including wells, water towers, and distribution systems; storm sewer projects; flood control projects; and occasionally street projects. The amount of grant monies allocated is dependent on the availability of other sources of financing.

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VI. CONCLUSIONS AND RECOMMENDATIONS

A. General

Recommended wastewater system improvements for the City of Webster City include renovation of the existing main lift station and construction of an extended aeration activated sludge treatment facility with biological nitrogen and phosphorus removal (UCT Process) at design loadings outlined in Section II (Alternative 1). Details for these proposed improvements are discussed thoroughly in Sections IV and V of this Facility Plan.

The proposed improvements will provide a robust and proven treatment technology for meeting ammonia discharge limits, and will also comply with the Iowa Nutrient Reduction Strategy guidelines for TN and TP removal. Proposed improvements will provide enhanced operational control and performance over the existing fixed film system. The extended aeration activated sludge with biological nitrogen and phosphorus removal process is feasible and can be completed by traditional construction methods.

After submittal of this Facility Plan to the Iowa Department of Natural Resources (IDNR), the City should move forward with preparation of construction plans and specifications in order to maintain schedule and meet nutrient reduction goals. The City will submit a request for NPDES amendment to the nutrient reduction construction schedule after the project schedule is finalized. The City must also evaluate available funding options as discussed in Section V.D of this report. Depending on which funding option is selected, Bolton & Menk will work with the City's financial advisor and bond council in securing these funds. Table 6.1 is a preliminary schedule for design and construction of improvements:

Table 6.1: Preliminary Project Implementation Schedule	
Item	Date
Submit Facility Plan & IUP Application	September 2022
Project Placed on IUP List	December 2022
DNR Approve Facility Plan	January 2023
Submit Construction Permit Application	June 2023
Receive Bids	September 2023
DNR Issue Construction Permit	September 2023
Start Construction	October 2023
Complete Construction	October 2025*

Note:

*current completion date for Nutrient Reduction Construction Schedule per NPDES Permit is March 1, 2024. The City will submit a request for NPDES amendment to the nutrient reduction construction schedule after the project schedule is finalized.

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Appendix A: NPDES Discharge Permit



September 7, 2021

TIM DANIELSON, WASTEWATER SUPERINTENDENT
CITY OF WEBSTER CITY
PO BOX 217
WEBSTER CITY, IA 50595-0217

RE: NPDES Final Permit #4063001

Dear Mr. Danielson:

Enclosed is the final NPDES permit that authorizes the discharge of wastewater from the City of Webster City's wastewater treatment facility. This final permit is the same as the draft permit sent on July 21, 2021. The issuance date of this permit is October 1, 2021; please become familiar with all limits and requirements in the enclosed final permit.

The facility will be required to use new discharge monitoring report (DMR) forms once a final permit is issued. Electronic DMR forms are available from your regional Field Office. Please contact Jacob Donaghy at 641-424-4073 (Field Office 2) or jacob.donaghy@dnr.iowa.gov for more information.

If you have any questions, please contact me at 515-725-1235 or at ryan.olive@dnr.iowa.gov.

Sincerely,

Ryan Olive

Digitally signed by
Ryan Olive
Date: 2021.09.07
13:35:41 -05'00'

Ryan Olive
NPDES Section

Enclosures

IOWA DEPARTMENT OF NATURAL RESOURCES
National Pollutant Discharge Elimination System (NPDES) Permit

OWNER NAME & ADDRESS

CITY OF WEBSTER CITY
P.O. BOX 217
WEBSTER CITY, IA 50595-0217

FACILITY NAME & ADDRESS

WEBSTER CITY, CITY OF STP
101 EAST OHIO STREET
WEBSTER CITY, IA 50595-0217

Section 6, T88N, R25W
Hamilton County

IOWA NPDES PERMIT NUMBER: 4063001
DATE OF ISSUANCE: 10/01/2021
DATE OF EXPIRATION: 09/30/2026

**YOU ARE REQUIRED TO FILE FOR RENEWAL
OF THIS PERMIT BY:** 04/03/2026
EPA NUMBER: IA0036625

This permit is issued pursuant to the authority of section 402(b) of the Clean Water Act (33 U.S.C. 1342(b)), Iowa Code section 455B.174, and rule 567-64.3, Iowa Administrative Code. You are authorized to operate the disposal system and to discharge the pollutants specified in this permit in accordance with the effluent limitations, monitoring requirements and other terms set forth in this permit.

You may appeal any condition of this permit by filing a written notice of appeal and request for administrative hearing with the director of the department within 30 days of permit issuance.

Any existing, unexpired Iowa operation permit or Iowa NPDES permit previously issued by the department for the facility identified above is revoked by the issuance of this permit. This provision does not apply to any authorization to discharge under the terms and conditions of a general permit issued by the department or to any permit issued exclusively for the discharge of stormwater.

FOR THE DEPARTMENT OF NATURAL RESOURCES

By Ryan Olive Digitally signed by Ryan Olive
Date: 2021.09.07 13:34:08
+05'00'

Ryan Olive
NPDES Section, Environmental Services Division

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall No.: 001 DISCHARGE FROM TRICKLING FILTER/ROTATING BIOLOGICAL CONTACTOR WASTEWATER TREATMENT FACILITY

Receiving Stream: UNNAMED CREEK

Route of Flow: UNNAMED CREEK TO AN OXBOW LAKE

Class A2 waters are secondary contact recreational use waters in which recreational or other uses may result in contact with the water that is either incidental or accidental. During the recreational use, the probability of ingesting appreciable quantities of water is minimal. Class A2 uses include fishing, commercial and recreational boating, any limited contact incidental to shoreline activities and activities in which users do not swim or float in the water body while on a boating activity.

Waters designated Class B(WW2) are those in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.

Outfall No.: 003 DISCHARGE FROM TRICKLING FILTER/ROTATING BIOLOGICAL CONTACTOR WASTEWATER TREATMENT FACILITY

Receiving Stream: BOONE RIVER

Route of Flow: BOONE RIVER

Class A1 waters are primary contact recreational use waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risks of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing.

Waters designated Class B(WW1) are those in which temperature, flow and other habitat characteristics are suitable to maintain warm water game fish populations along with a resident aquatic community that includes a variety of native nongame fish and invertebrates species. These waters generally include border rivers, large interior rivers, and the lower segments of medium-size tributary streams.

Waters designated Class HH are those in which fish are routinely harvested for human consumption or waters both designated as a drinking water supply and in which fish are routinely harvested for human consumption.

Bypasses from any portion of a treatment facility or from a sanitary sewer collection system designed to carry only sewage are prohibited.

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Effluent Limitations:

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

001 DISCHARGE FROM TRICKLING FILTER/ROTATING BIOLOGICAL CONTACTOR WASTEWATER TREATMENT FACILITY

Outfall: 001 Effective Dates: 10/01/2021 to 09/30/2026

<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limits</u>	
CBOD5			85% Removal Required	
	Yearly	7 Day Average	40 MG/L	1,101 LBS/DAY
	Yearly	30 Day Average	25 MG/L	688 LBS/DAY
TOTAL SUSPENDED SOLIDS			85% Removal Required	
	Yearly	7 Day Average	45 MG/L	1,238 LBS/DAY
	Yearly	30 Day Average	30 MG/L	826 LBS/DAY
AMMONIA NITROGEN (N)				
	JAN	30 Day Average	3.4 MG/L	94 LBS/DAY
	JAN	Daily Maximum	15.2 MG/L	418 LBS/DAY
	FEB	30 Day Average	4.0 MG/L	109 LBS/DAY
	FEB	Daily Maximum	14.2 MG/L	391 LBS/DAY
	MAR	30 Day Average	3.4 MG/L	94 LBS/DAY
	MAR	Daily Maximum	14.7 MG/L	404 LBS/DAY
	APR	30 Day Average	1.5 MG/L	42 LBS/DAY
	APR	Daily Maximum	15.7 MG/L	432 LBS/DAY
	MAY	30 Day Average	1.7 MG/L	48 LBS/DAY
	MAY	Daily Maximum	15.2 MG/L	418 LBS/DAY
	JUN	30 Day Average	1.3 MG/L	36 LBS/DAY

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall: 001 Effective Dates: 10/01/2021 to 09/30/2026

<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limits</u>
AMMONIA NITROGEN (N)			
	JUN	Daily Maximum	14.4 MG/L 397 LBS/DAY
	JUL	30 Day Average	1.0 MG/L 28 LBS/DAY
	JUL	Daily Maximum	17.6 MG/L 484 LBS/DAY
	AUG	30 Day Average	1.0 MG/L 26 LBS/DAY
	AUG	Daily Maximum	16.2 MG/L 447 LBS/DAY
	SEP	30 Day Average	1.1 MG/L 29 LBS/DAY
	SEP	Daily Maximum	16.5 MG/L 454 LBS/DAY
	OCT	30 Day Average	1.6 MG/L 43 LBS/DAY
	OCT	Daily Maximum	15.7 MG/L 432 LBS/DAY
	NOV	30 Day Average	2.3 MG/L 64 LBS/DAY
	NOV	Daily Maximum	14.7 MG/L 404 LBS/DAY
	DEC	30 Day Average	2.5 MG/L 68 LBS/DAY
	DEC	Daily Maximum	16.0 MG/L 439 LBS/DAY
CADMIUM, TOTAL (AS CD)			
	Yearly	30 Day Average	0.0004523 MG/L 0.01245 LBS/DAY
	Yearly	Daily Maximum	0.004316 MG/L 0.1188 LBS/DAY
CHLORINE, TOTAL RESIDUAL			
	Yearly	30 Day Average	0.008 MG/L 0.216 LBS/DAY
	Yearly	Daily Maximum	0.019 MG/L 0.523 LBS/DAY
NITRATE NITROGEN (AS N)			
	Yearly	30 Day Average	760 LBS/DAY
	Yearly	Daily Maximum	1,244 LBS/DAY

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall: 001 Effective Dates: 10/01/2021 to 09/30/2026

<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limits</u>
COPPER, TOTAL (AS CU)			
	Yearly	30 Day Average	0.01687 MG/L 0.4642 LBS/DAY
	Yearly	Daily Maximum	0.02690 MG/L 0.7403 LBS/DAY
ACUTE TOXICITY, CERIODAPHNIA			
	Yearly	Daily Maximum	1 NO TOXICITY
ACUTE TOXICITY, PIMEPHALES			
	Yearly	Daily Maximum	1 NO TOXICITY
DISSOLVED OXYGEN			
	Yearly	Daily Minimum	5.0 MG/L
PH			
	Yearly	Daily Maximum	9.0 STD UNITS
	Yearly	Daily Minimum	6.5 STD UNITS
E. COLI			
	MAR	Geometric Mean	630 #/100 ML
	APR	Geometric Mean	630 #/100 ML
	MAY	Geometric Mean	630 #/100 ML
	JUN	Geometric Mean	630 #/100 ML
	JUL	Geometric Mean	630 #/100 ML
	AUG	Geometric Mean	630 #/100 ML
	SEP	Geometric Mean	630 #/100 ML
	OCT	Geometric Mean	630 #/100 ML
	NOV	Geometric Mean	630 #/100 ML

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

003 DISCHARGE FROM TRICKLING FILTER/ROTATING BIOLOGICAL CONTACTOR WASTEWATER TREATMENT FACILITY

Outfall: 003 Effective Dates: 10/01/2021 to 09/30/2026

<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limits</u>	
CBOD5			85% Removal Required	
	Yearly	7 Day Average	40 MG/L	1,101 LBS/DAY
	Yearly	30 Day Average	25 MG/L	688 LBS/DAY
TOTAL SUSPENDED SOLIDS			85% Removal Required	
	Yearly	7 Day Average	45 MG/L	1,238 LBS/DAY
	Yearly	30 Day Average	30 MG/L	826 LBS/DAY
AMMONIA NITROGEN (N)				
	JAN	30 Day Average	8.2 MG/L	214 LBS/DAY
	JAN	Daily Maximum	16.1 MG/L	429 LBS/DAY
	FEB	30 Day Average	9.4 MG/L	246 LBS/DAY
	FEB	Daily Maximum	15.2 MG/L	403 LBS/DAY
	MAR	30 Day Average	4.9 MG/L	128 LBS/DAY
	MAR	Daily Maximum	15.4 MG/L	413 LBS/DAY
	APR	30 Day Average	3.6 MG/L	95 LBS/DAY
	APR	Daily Maximum	16.3 MG/L	439 LBS/DAY
	MAY	30 Day Average	3.2 MG/L	86 LBS/DAY
	MAY	Daily Maximum	15.8 MG/L	359 LBS/DAY
	JUN	30 Day Average	2.2 MG/L	59 LBS/DAY

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall: 003 Effective Dates: 10/01/2021 to 09/30/2026

Parameter	Season	Limit Type	Limits
AMMONIA NITROGEN (N)			
	JUN	Daily Maximum	15.0 MG/L 234 LBS/DAY
	JUL	30 Day Average	2.2 MG/L 58 LBS/DAY
	JUL	Daily Maximum	12.2 MG/L 179 LBS/DAY
	AUG	30 Day Average	2.0 MG/L 53 LBS/DAY
	AUG	Daily Maximum	12.9 MG/L 184 LBS/DAY
	SEP	30 Day Average	2.5 MG/L 66 LBS/DAY
	SEP	Daily Maximum	14.5 MG/L 215 LBS/DAY
	OCT	30 Day Average	3.7 MG/L 97 LBS/DAY
	OCT	Daily Maximum	16.4 MG/L 418 LBS/DAY
	NOV	30 Day Average	5.6 MG/L 146 LBS/DAY
	NOV	Daily Maximum	15.2 MG/L 411 LBS/DAY
	DEC	30 Day Average	5.9 MG/L 155 LBS/DAY
	DEC	Daily Maximum	16.6 MG/L 448 LBS/DAY
CADMIUM, TOTAL (AS CD)			
	Yearly	30 Day Average	0.0006277 MG/L 0.01464 LBS/DAY
	Yearly	Daily Maximum	0.004474 MG/L 0.1208 LBS/DAY
CHLORINE, TOTAL RESIDUAL			
	Yearly	30 Day Average	0.012 MG/L 0.274 LBS/DAY
	Yearly	Daily Maximum	0.020 MG/L 0.536 LBS/DAY
NITRATE NITROGEN (AS N)			
	Yearly	30 Day Average	760 LBS/DAY
	Yearly	Daily Maximum	1,244 LBS/DAY

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall: 003 Effective Dates: 10/01/2021 to 09/30/2026

<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limits</u>
COPPER, TOTAL (AS CU)			
	Yearly	30 Day Average	0.02177 MG/L 0.5256 LBS/DAY
	Yearly	Daily Maximum	0.02773 MG/L 0.7507 LBS/DAY
ACUTE TOXICITY, CERIODAPHNIA			
	Yearly	Daily Maximum	1 NO TOXICITY
ACUTE TOXICITY, PIMEPHALES			
	Yearly	Daily Maximum	1 NO TOXICITY
DISSOLVED OXYGEN			
	Yearly	Daily Minimum	4.3 MG/L
PH			
	Yearly	Daily Maximum	9.0 STD UNITS
	Yearly	Daily Minimum	6.5 STD UNITS
E. COLI			
	MAR	Geometric Mean	126 #/100 ML
	APR	Geometric Mean	126 #/100 ML
	MAY	Geometric Mean	126 #/100 ML
	JUN	Geometric Mean	126 #/100 ML
	JUL	Geometric Mean	126 #/100 ML
	AUG	Geometric Mean	126 #/100 ML
	SEP	Geometric Mean	126 #/100 ML
	OCT	Geometric Mean	126 #/100 ML
	NOV	Geometric Mean	126 #/100 ML

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

- (1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
- (2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
The following monitoring requirements shall be in effect from 10/01/2021 to 09/30/2026				
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	2 TIMES PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	RAW WASTE
001	NITROGEN, TOTAL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 EVERY MONTH	24 HOUR COMPOSITE	RAW WASTE
001	PH	2 TIMES PER WEEK	GRAB	RAW WASTE
001	PHOSPHORUS, TOTAL (AS P)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	TEMPERATURE	2 TIMES PER WEEK	GRAB	RAW WASTE
001	TOTAL SUSPENDED SOLIDS	2 TIMES PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	FINAL EFFLUENT
001	CBOD5	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT PRIOR TO DISINFECTION
001	TOTAL SUSPENDED SOLIDS	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT PRIOR TO DISINFECTION
001	ACUTE TOXICITY, CERIODAPHNIA	1 EVERY 12 MONTHS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	ACUTE TOXICITY, PIMEPHALES	1 EVERY 12 MONTHS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	AMMONIA NITROGEN (N)	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	CADMIUM, TOTAL (AS CD)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	CHLORIDE (AS CL)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	CHLORINE, TOTAL RESIDUAL	5 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	COPPER, TOTAL (AS CU)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	DISSOLVED OXYGEN	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	E. COLI	GEO. MEAN 1/3 MONTHS	GRAB	EFFLUENT AFTER DISINFECTION
001	NITRATE NITROGEN (AS N)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	NITROGEN, TOTAL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	PH	5 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	PHOSPHORUS, TOTAL (AS P)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	TEMPERATURE	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
The following monitoring requirements shall be in effect from 10/01/2021 to 09/30/2026				
003	BIOCHEMICAL OXYGEN DEMAND (BOD5)	2 TIMES PER WEEK	24 HOUR COMPOSITE	RAW WASTE
003	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	RAW WASTE
003	NITROGEN, TOTAL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
003	NITROGEN, TOTAL KJELDAHL (AS N)	1 EVERY MONTH	24 HOUR COMPOSITE	RAW WASTE
003	PH	2 TIMES PER WEEK	GRAB	RAW WASTE
003	PHOSPHORUS, TOTAL (AS P)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
003	TEMPERATURE	2 TIMES PER WEEK	GRAB	RAW WASTE
003	TOTAL SUSPENDED SOLIDS	2 TIMES PER WEEK	24 HOUR COMPOSITE	RAW WASTE
003	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	FINAL EFFLUENT
003	CBOD5	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT PRIOR TO DISINFECTION
003	TOTAL SUSPENDED SOLIDS	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT PRIOR TO DISINFECTION
003	ACUTE TOXICITY, CERIODAPHNIA	1 EVERY 12 MONTHS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
003	ACUTE TOXICITY, PIMEPHALES	1 EVERY 12 MONTHS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
003	AMMONIA NITROGEN (N)	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
003	CADMIUM, TOTAL (AS CD)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
003	CHLORINE, TOTAL RESIDUAL	5 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
003	COPPER, TOTAL (AS CU)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
003	DISSOLVED OXYGEN	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
003	E. COLI	GEO. MEAN 1/3 MONTHS	GRAB	EFFLUENT AFTER DISINFECTION
003	NITRATE NITROGEN (AS N)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
003	NITROGEN, TOTAL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
003	PH	5 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
003	PHOSPHORUS, TOTAL (AS P)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
003	TEMPERATURE	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Special Monitoring Requirements

Outfall #	Description
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001	NITROGEN, TOTAL (AS N)
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Total nitrogen shall be determined by testing for Total Kjeldahl Nitrogen (TKN) and nitrate + nitrite nitrogen and reporting the sum of the TKN and nitrate + nitrite results (reported as N). Nitrate + nitrite can be analyzed together or separately.

E. COLI

The limit for E. coli specified in the limit pages of this permit is a geometric mean. The disinfection season is established in the Iowa Administrative Code, Subparagraph 567 IAC 61.3(3)“a”(1), and is in effect from March 15 to November 15. Any disinfection system (chlorine, UV light, etc.) shall be operated to comply with the limit during the entire disinfection season.

The facility must collect and analyze a minimum of five samples in one calendar month during each 3-month period from March 15 to November 15. The 3-month periods are March – May, June – August, and September – November. The collection of five samples in each 3-month period will result in a minimum of 15 samples being collected during a calendar year. For example, for the first 3-month period, the operator may choose April as the calendar month to collect the 5 individual E. coli samples to determine compliance with the limits. The operator may also choose the months of March or May as well, as long as each of the 5 samples is collected during a single calendar month. The same principle applies to the other two 3-month periods during the disinfection season. The following requirements apply to the individual samples collected in one calendar month:

Samples must be spaced over one calendar month.

No more than one sample can be collected on any one day.

There must be a minimum of two days between each sample.

No more than two samples may be collected in a period of seven consecutive days.

If the effluent has been disinfected using chlorine, ultraviolet light (UV), or any other process intended to disrupt the biological integrity of the E. coli, the samples shall be analyzed using the Most Probable Number method found in Standard Method 9223B (Colilert® or Colilert-18® made by IDEXX Laboratories, Inc.). If the effluent has not been disinfected the samples may be analyzed using either the MPN method above or EPA Method 1603: Escherichia coli (E. coli) in water by membrane filtration using modified membrane-thermotolerant E. coli agar (modified mTEC) or mColiBlue-24® made by the Hach Company.

The geometric mean must be calculated using all valid sample results collected during a month. The geometric mean formula is as follows: $\text{Geometric Mean} = (\text{Sample one} * \text{Sample two} * \text{Sample three} * \text{Sample four} * \text{Sample five} \dots \text{Sample N})^{(1/N)}$, which is the Nth root of the result of the multiplication of all of the sample results where N = the number of samples. If a sample result is a less than value, the value reported by the lab without the less than sign should be used in the geometric mean calculation.

The geometric mean can be calculated in one of the following ways:

Use a scientific calculator that can calculate the powers of numbers.

Enter the samples in Microsoft Excel and use the function “GEOMEAN” to perform the calculation.

Use the geometric mean calculator on the Iowa DNR webpage at: <https://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Wastewater-Permitting/NPDES-Operator-Information/Bacteria-Sampling>

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

CHLORINE, TOTAL RESIDUAL

TRC monitoring is not required if chlorine is not being utilized at the treatment plant

METALS

Sample and analyze your final effluent for parameters listed below at the frequency of one time per week. EPA approved test methods shall be used to test at a detection level at or below the levels listed after each parameter. If a sample result is not at a detection level which is low enough to demonstrate compliance with the limit in the permit, the facility will be considered to be non-compliant with that limit.

Cadmium 0.0004523 mg/L

Copper 0.01687 mg/L

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

003 NITROGEN, TOTAL (AS N)

Total nitrogen shall be determined by testing for Total Kjeldahl Nitrogen (TKN) and nitrate + nitrite nitrogen and reporting the sum of the TKN and nitrate + nitrite results (reported as N). Nitrate + nitrite can be analyzed together or separately.

E. COLI

The limit for E. coli specified in the limit pages of this permit is a geometric mean. The disinfection season is established in the Iowa Administrative Code, Subparagraph 567 IAC 61.3(3)"a"(1), and is in effect from March 15 to November 15. Any disinfection system (chlorine, UV light, etc.) shall be operated to comply with the limit during the entire disinfection season.

The facility must collect and analyze a minimum of five samples in one calendar month during each 3-month period from March 15 to November 15. The 3-month periods are March – May, June – August, and September – November. The collection of five samples in each 3-month period will result in a minimum of 15 samples being collected during a calendar year. For example, for the first 3-month period, the operator may choose April as the calendar month to collect the 5 individual E. coli samples to determine compliance with the limits. The operator may also choose the months of March or May as well, as long as each of the 5 samples is collected during a single calendar month. The same principle applies to the other two 3-month periods during the disinfection season. The following requirements apply to the individual samples collected in one calendar month:

Samples must be spaced over one calendar month.

No more than one sample can be collected on any one day.

There must be a minimum of two days between each sample.

No more than two samples may be collected in a period of seven consecutive days.

If the effluent has been disinfected using chlorine, ultraviolet light (UV), or any other process intended to disrupt the biological integrity of the E. coli, the samples shall be analyzed using the Most Probable Number method found in Standard Method 9223B (Colilert® or Colilert-18® made by IDEXX Laboratories, Inc.). If the effluent has not been disinfected the samples may be analyzed using either the MPN method above or EPA Method 1603: Escherichia coli (E. coli) in water by membrane filtration using modified membrane-thermotolerant E. coli agar (modified mTEC) or mColiBlue-24® made by the Hach Company.

The geometric mean must be calculated using all valid sample results collected during a month. The geometric mean formula is as follows: Geometric Mean = (Sample one * Sample two * Sample three * Sample four * Sample five...Sample N)^(1/N), which is the Nth root of the result of the multiplication of all of the sample results where N = the number of samples. If a sample result is a less than value, the value reported by the lab without the less than sign should be used in the geometric mean calculation.

The geometric mean can be calculated in one of the following ways:

Use a scientific calculator that can calculate the powers of numbers.

Enter the samples in Microsoft Excel and use the function "GEOMEAN" to perform the calculation.

Use the geometric mean calculator on the Iowa DNR webpage at: <https://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Wastewater-Permitting/NPDES-Operator-Information/Bacteria-Sampling>

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

CHLORINE, TOTAL RESIDUAL

TRC monitoring is not required if chlorine is not being utilized at the treatment plant

METALS

Sample and analyze your final effluent for parameters listed below at the frequency of one time per week. EPA approved test methods shall be used to test at a detection level at or below the levels listed after each parameter. If a sample result is not at a detection level which is low enough to demonstrate compliance with the limit in the permit, the facility will be considered to be non-compliant with that limit.

Cadmium 0.0006277 mg/L

Copper 0.02177 mg/L

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Significant Industrial User Discharges:

Significant Industrial User: MARY ANN'S SPECIALTY FOODS

Outfall # Outfall Description

001 INDUSTRIAL EFFLUENT PRIOR TO DISCHARGE TO CITY SEWER.

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

MARY ANN'S SPECIALTY FOODS			
Outfall: 001 Effective Dates: 10/01/2021 to 09/30/2026			
<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limit Values</u>
FLOW			
	Yearly	30 Day Average	0.080 MGD
	Yearly	DAILY MAXIMUM	0.110 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	300 LBS/DAY
	Yearly	DAILY MAXIMUM	400 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	150 LBS/DAY
	Yearly	DAILY MAXIMUM	250 LBS/DAY
NITROGEN, TOTAL KJELDAHL (AS N)			
	Yearly	30 Day Average	30 LBS/DAY
	Yearly	DAILY MAXIMUM	40 LBS/DAY
OIL AND GREASE			
	Yearly	30 Day Average	100 MG/L
	Yearly	DAILY MAXIMUM	125 MG/L
PH			
	Yearly	DAILY MAXIMUM	11.0 STD UNITS
	Yearly	DAILY MINIMUM	6.0 STD UNITS

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

- (1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
- (2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

MARY ANN'S SPECIALTY FOODS

Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	OIL AND GREASE	1 EVERY 2 WEEKS	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 TIME PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 EVERY 2 WEEKS	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Significant Industrial User Discharges:

Significant Industrial User: WEBSTER CITY CUSTOM MEATS INC

Outfall # Outfall Description

001 INDUSTRIAL EFFLUENT PRIOR TO DISCHARGE TO CITY SEWER.

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

WEBSTER CITY CUSTOM MEATS INC			
Outfall: 001 Effective Dates: 10/01/2021 to 09/30/2026			
<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limit Values</u>
FLOW			
	Yearly	30 Day Average	0.080 MGD
	Yearly	DAILY MAXIMUM	0.110 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	600 LBS/DAY
	Yearly	DAILY MAXIMUM	900 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	200 LBS/DAY
	Yearly	DAILY MAXIMUM	300 LBS/DAY
NITROGEN, TOTAL KJELDAHL (AS N)			
	Yearly	30 Day Average	60 LBS/DAY
	Yearly	DAILY MAXIMUM	80 LBS/DAY
OIL AND GREASE			
	Yearly	30 Day Average	100 MG/L
	Yearly	DAILY MAXIMUM	125 MG/L
PH			
	Yearly	DAILY MAXIMUM	11.0 STD UNITS
	Yearly	DAILY MINIMUM	6.0 STD UNITS

Facility Name: WEBSTER CITY, CITY OF STP
Permit Number: 4063001

Monitoring and Reporting Requirements

- (a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.
- (b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

- (1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
- (2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

- (c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).
- (d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.
- (e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.
- (f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.
- (g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: WEBSTER CITY, CITY OF STP
Permit Number: 4063001

WEBSTER CITY CUSTOM MEATS INC				
Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	OIL AND GREASE	1 TIME PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 TIME PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Significant Industrial User Discharges:

Significant Industrial User: MERTZ ENGINEERING, INC.

Outfall # Outfall Description

001 METAL FINISHING WASTEWATER PRIOR TO DISCHARGE TO CITY SEWER

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

MERTZ ENGINEERING, INC.			
Outfall: 001 Effective Dates: 10/01/2021 to 09/30/2026			
<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limit Values</u>
FLOW			
	Yearly	30 Day Average	0.004 MGD
	Yearly	DAILY MAXIMUM	0.008 MGD
ZINC, TOTAL (AS ZN)			
	Yearly	30 Day Average	1.48 MG/L 0.0494 LBS/DAY
	Yearly	DAILY MAXIMUM	2.61 MG/L 0.0871 LBS/DAY
CADMIUM, TOTAL (AS CD)			
	Yearly	30 Day Average	0.07 MG/L 0.0023 LBS/DAY
	Yearly	DAILY MAXIMUM	0.11 MG/L 0.0037 LBS/DAY
CHROMIUM, TOTAL (AS CR)			
	Yearly	30 Day Average	1.71 MG/L 0.0570 LBS/DAY
	Yearly	DAILY MAXIMUM	2.77 MG/L 0.0924 LBS/DAY
CYANIDE, TOTAL (AS CN)			
	Yearly	30 Day Average	0.15 MG/L 0.0050 LBS/DAY
	Yearly	DAILY MAXIMUM	1.2 MG/L 0.0400 LBS/DAY
NICKEL, TOTAL (AS NI)			
	Yearly	30 Day Average	2.38 MG/L 0.0794 LBS/DAY
	Yearly	DAILY MAXIMUM	3.98 MG/L 0.1328 LBS/DAY

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

MERTZ ENGINEERING, INC.

Outfall: 001 Effective Dates: 10/01/2021 to 09/30/2026

<u>Parameter</u>	<u>Season</u>	<u>Limit Type</u>	<u>Limit Values</u>
COPPER, TOTAL (AS CU)			
	Yearly	30 Day Average	2.07 MG/L 0.0691 LBS/DAY
	Yearly	DAILY MAXIMUM	3.38 MG/L 0.1128 LBS/DAY
LEAD, TOTAL (AS PB)			
	Yearly	30 Day Average	0.43 MG/L 0.0143 LBS/DAY
	Yearly	DAILY MAXIMUM	0.69 MG/L 0.0230 LBS/DAY
PH			
	Yearly	DAILY MAXIMUM	11.0 STD UNITS
	Yearly	DAILY MINIMUM	6.0 STD UNITS
SILVER, TOTAL (AS AG)			
	Yearly	30 Day Average	0.24 MG/L 0.0080 LBS/DAY
	Yearly	DAILY MAXIMUM	0.43 MG/L 0.0143 LBS/DAY
TOTAL TOXIC ORGANICS			
	Yearly	DAILY MAXIMUM	2.13 MG/L 0.0711 LBS/DAY

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

- (1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
- (2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

MERTZ ENGINEERING, INC.

Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
001	CADMIUM, TOTAL (AS CD)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	CHROMIUM, TOTAL (AS CR)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	COPPER, TOTAL (AS CU)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	CYANIDE, TOTAL (AS CN)	2 PER MONTH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	LEAD, TOTAL (AS PB)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	NICKEL, TOTAL (AS NI)	2 PER MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 TIME PER WEEK	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	SILVER, TOTAL (AS AG)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL TOXIC ORGANICS	2 PER MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	ZINC, TOTAL (AS ZN)	2 PER MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall Number: 001

Ceriodaphnia and Pimephales Toxicity Effluent Testing

1. For facilities that have not been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within three (3) months of permit issuance. For facilities that have been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within twelve months (12) of the last toxicity test.
2. The test organisms that are to be used for acute toxicity testing shall be *Ceriodaphnia dubia* and *Pimephales promelas*. The acute toxicity testing procedures used to demonstrate compliance with permit limits shall be those listed in 40 CFR Part 136 and adopted by reference in rule 567 IAC 63.1(1). The method for measuring acute toxicity is specified in USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. USEPA, Office of Water, Washington, D.C., EPA 821-R-02-012.
3. The diluted effluent sample must contain a minimum of 100.00 % effluent and no more than 0.00 % of culture water.
4. One valid positive toxicity result will require, at a minimum, quarterly testing for effluent toxicity until three successive tests are determined not to be positive.
5. Two successive valid positive toxicity results or three positive results out of five successive valid effluent toxicity tests will require a toxicity reduction evaluation to be completed to eliminate the toxicity.
6. A non-toxic test result shall be indicated as a "1" on the monthly operation report. A toxic test result shall be indicated as a "2" on the monthly operation report. DNR Form 542-1381 shall also be submitted to the DNR field office along with the monthly operation report.

Ceriodaphnia and Pimephales Toxicity Effluent Limits

The maximum limit of "1" for the parameters Acute Toxicity, *Ceriodaphnia* and Acute Toxicity, *Pimephales* means no positive toxicity results.

Definition: "Positive toxicity result" means a statistical difference of mortality rate between the control and the diluted effluent sample. For more information, see USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, USEPA, Office of Water, Washington, D.C., EPA 821-R-02-012.

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Outfall Number: 003

Ceriodaphnia and Pimephales Toxicity Effluent Testing

1. For facilities that have not been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within three (3) months of permit issuance. For facilities that have been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within twelve months (12) of the last toxicity test.
2. The test organisms that are to be used for acute toxicity testing shall be *Ceriodaphnia dubia* and *Pimephales promelas*. The acute toxicity testing procedures used to demonstrate compliance with permit limits shall be those listed in 40 CFR Part 136 and adopted by reference in rule 567 IAC 63.1(1). The method for measuring acute toxicity is specified in USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. USEPA, Office of Water, Washington, D.C., EPA 821-R-02-012.
3. The diluted effluent sample must contain a minimum of 94.90 % effluent and no more than 5.10 % of culture water.
4. One valid positive toxicity result will require, at a minimum, quarterly testing for effluent toxicity until three successive tests are determined not to be positive.
5. Two successive valid positive toxicity results or three positive results out of five successive valid effluent toxicity tests will require a toxicity reduction evaluation to be completed to eliminate the toxicity.
6. A non-toxic test result shall be indicated as a "1" on the monthly operation report. A toxic test result shall be indicated as a "2" on the monthly operation report. DNR Form 542-1381 shall also be submitted to the DNR field office along with the monthly operation report.

Ceriodaphnia and Pimephales Toxicity Effluent Limits

The maximum limit of "1" for the parameters Acute Toxicity, *Ceriodaphnia* and Acute Toxicity, *Pimephales* means no positive toxicity results.

Definition: "Positive toxicity result" means a statistical difference of mortality rate between the control and the diluted effluent sample. For more information, see USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, USEPA, Office of Water, Washington, D.C., EPA 821-R-02-012.

Facility Name: WEBSTER CITY, CITY OF STP

Permit Number: 4063001

Design Capacity

Design: 1

The design capacity for the treatment works is specified in Construction Permit Number 2000-2-S, issued Tuesday, October 05, 1999. The treatment plant is designed to treat:

- * An average dry weather (ADW) flow of 1.5 Million Gallons Per Day (MGD).
- * An average wet weather (AWW) flow of 3.3 Million Gallons Per Day (MGD).
- * A maximum wet weather (MWW) flow of 6.0 Million Gallons Per Day (MGD).
- * A design 5-day biochemical oxygen demand (BOD5) load of 4,150 lbs/day.
- * A design Total Kjeldahl Nitrogen (TKN) load of 400 lbs/day.

Operator Certification Type/Grade: WW/III

Wastes in such volumes or quantities as to exceed the design capacity of the treatment works or reduce the effluent quality below that specified in the operation permit of the treatment works are considered to be a waste which interferes with the operation or performance of the treatment works and are prohibited by subrule IAC 567-62.1(7).

Facility Name: WEBSTER CITY, CITY OF STP
Permit Number: 4063001

SEWAGE SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

"Sewage sludge" is solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge does not include the grit and screenings generated during preliminary treatment.

1. The permittee shall comply with all existing Federal and State laws and regulations that apply to the use and disposal of sewage sludge and with technical standards developed pursuant to Section 405(d) of the Clean Water Act when such standards are promulgated. If an applicable numerical limit or management practice for pollutants in sewage sludge is promulgated after issuance of this permit that is more stringent than a sludge pollutant limit or management practice specified in existing Federal or State laws or regulations, this permit shall be modified, or revoked and reissued, to conform to the regulations promulgated under Section 405(d) of the Clean Water Act. The permittee shall comply with the limitation no later than the compliance deadline specified in the applicable regulations.
2. The permittee shall provide written notice to the Department of Natural Resources prior to any planned changes in sludge disposal practices.
3. Land application of sewage sludge shall be conducted in accordance with criteria established in rule IAC 567 67.1 through 67.11 (455B).

Facility Name: WEBSTER CITY, CITY OF STP
Permit Number: 4063001

MAJOR CONTRIBUTING INDUSTRIES LIMITATIONS, MONITORING AND REPORTING REQUIREMENTS

1. You are required to notify the department, in writing, of any of the following:

- (a) 180 days prior to the introduction of pollutants to your facility from a significant industrial user. A significant industrial user means an industrial user of a treatment works that:
 - (1) Discharges an average of 25,000 gallons per day or more of process wastewater excluding sanitary, noncontact cooling and boiler blowdown wastewater;
 - (2) Contributes a process waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the publicly-owned treatment works;
 - (3) Is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or
 - (4) Is designated by the department as a significant industrial user on the basis that the contributing industry, either singly or in combination with other contributing industries, has a reasonable potential for adversely affecting the operation of or effluent quality from the publicly-owned treatment works or for violating any pretreatment standards or requirements.
- (b) 60 days prior to a proposed expansion, production increase or process modification that may result in the discharge of a new pollutant or a discharge in excess of limitations stated in the existing treatment agreement.
- (c) 10 days prior to any commitment by you to accept waste from any new significant industrial user. Your written notification must include a new or revised treatment agreement in accordance with rule 64.3(5)(455B).

2. You shall require all users of your facility to comply with Sections 204(b), 307 and 308 of the Clean Water Act.

Section 204(b) requires that all users of the treatment works constructed with funds provided under Sections 201(g) or 601 of the Act to pay their proportionate share of the costs of operation, maintenance and replacement of the treatment works.

Section 307 of the Act requires users to comply with pretreatment standards promulgated by EPA for pollutants that would cause interference with the treatment process or would pass through the treatment works.

Section 308 of the Act requires users to allow access at reasonable times to state and EPA inspectors for the purpose of sampling the discharge and reviewing and copying records.

3. You shall limit and monitor pollutants for each significant industrial user as required elsewhere in this permit, and submit sample results to the department monthly. Your report shall be submitted by the fifteenth day of the following month.

Revised: June 16, 2009 CAC

Facility Name: WEBSTER CITY, CITY OF STP
Permit Number: 4063001

Nutrient Reduction Strategy Construction Schedule

Total Nitrogen and Total Phosphorus – Outfall 001 & Outfall 003

The City of Webster City shall implement the strategy recommended in the Nutrient Reduction Strategy Feasibility Report submitted on March 1, 2018 and approved by the Department on March 7, 2018 for reducing total nitrogen and total phosphorus in the final effluent. Construction of improvements shall be implemented according to the following schedule:

- Submit progress report by **March 1, 2022.**
- Submit progress report by **March 1, 2023.**
- Complete construction of improvements by **March 1, 2024.**
- Complete 6 months of treatment plant optimization for nutrient reduction by **September 1, 2024.**
- Submit one year of at least weekly total nitrogen and total phosphorus sampling data from the raw waste and final effluent by **October 1, 2025.** The report must include the results of all monitoring for total nitrogen in the raw waste and final effluent between September 1, 2024 and August 31, 2025.

Progress reports shall be submitted by the required due dates. Within fourteen (14) days following all dates of construction completion, optimization completion, and one year of monitoring, the permittee shall provide written notice of compliance with the scheduled event along with any applicable data. All written notices and progress reports shall be sent to the following addresses:

npdes.mail@dnr.iowa.gov

Subject: Nutrient Reduction Strategy (4063001)

Iowa Department of Natural Resources
Environmental Services Division
DNR Field Office 2
2300 15th Street SW
Mason City, IA 50401-5630

STANDARD CONDITIONS

1. ADMINISTRATIVE RULES

Rules of this Department that govern the operation of your facility in connection with this permit are published in Part 567 of the Iowa Administrative Code (IAC) in Chapters 60-65, 67, and 121. Reference to the term "rule" in this permit means the designated provision of Part 567 of the IAC. Reference to the term "CFR" means the Code of Federal Regulations.

2. DEFINITIONS

- (a) 7 day average means the sum of the total daily discharges by mass, volume, or concentration during a 7 consecutive day period, divided by the total number of days during the period that measurements were made. Four 7 consecutive day periods shall be used each month to calculate the 7-day average. The first 7-day period shall begin with the first day of the month.
- (b) 30 day average means the sum of the total daily discharges by mass, volume, or concentration during a calendar month, divided by the total number of days during the month that measurements were made.
- (c) Daily maximum means the total discharge by mass, volume, or concentration during a twenty-four hour period.

3. DUTY TO PROVIDE INFORMATION

You must furnish to the Director, within a reasonable time, any information the Director may request to determine compliance with this permit or determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, in accordance with 567 IAC 64.3(11)"c". You must also furnish to the Director, upon request, copies of any records required to be kept by this permit.

4. MONITORING AND RECORDS OF OPERATION

- (a) Maintenance of records. You shall retain for a minimum of three years all paper and electronic records of monitoring activities and results including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records. *{See 567 IAC 63.2(3)}*
- (b) Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years, or both. *{See 40 CFR 122.41(j)(5)}*

5. SIGNATORY REQUIREMENTS

Applications, reports or other information submitted to the Department in connection with this permit must be signed and certified in accordance with 567 IAC 64.3(8).

6. OTHER INFORMATION

Where you become aware that you failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, you must promptly submit such facts or information. Where you become aware that you failed to submit any relevant facts in the submission of in any report to the director, including records of operation, you shall promptly submit such facts or information. *{See 567 IAC 60.4(2)"a" and 567 IAC 63.7}*

7. TRANSFER OF TITLE OR OWNER ADDRESS CHANGE

If title to your facility, or any part of it, is transferred the new owner shall be subject to this permit. You are required to notify the new owner of the requirements of this permit in writing prior to any transfer of title. The Director shall be notified in writing within 30 days of the transfer. No transfer of the authorization to discharge from the facility represented by the permit shall take place prior to notifying the department of the transfer of title. Whenever the address of the owner is changed, the department shall be notified in writing within 30 days of the address change. Electronic notification is not sufficient; all title transfers or address changes must be reported to the department by mail. *{See 567 IAC 64.14}*

8. PROPER OPERATION AND MAINTENANCE

All facilities and control systems shall be operated as efficiently as possible and maintained in good working order. A sufficient number of staff, adequately trained and knowledgeable in the operation of your facility shall be retained at all times and adequate laboratory controls and appropriate quality assurance procedures shall be provided to maintain compliance with the conditions of this permit. *{See 40 CFR 122.41(e) and 567 IAC 64.7(7)"f"}*

9. PERMIT MODIFICATION, SUSPENSION OR REVOCATION

- (a) This permit may be modified, suspended, or revoked and reissued for cause including but not limited to those specified in 567 IAC 64.3(11).
- (b) This permit may be modified due to conditions or information on which this permit is based, including any new standard the department may adopt that would change the required effluent limits. *{See 567 IAC 64.3(11)}*
- (c) If a toxic pollutant is present in your discharge and more stringent standards for toxic pollutants are established under Section 307(a) of the Clean Water Act, this permit will be modified in accordance with the new standards. *{See 40 CFR 122.62(a)(6) and 567 IAC 64.7(7)"g"}*

The filing of a request for a permit modification, revocation or suspension, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

10. DUTY TO REAPPLY AND PERMIT CONTINUATION

If you wish to continue to discharge after the expiration date of this permit, you must file a complete application for reissuance at least 180 days prior to the expiration date of this permit. If a timely and sufficient application is submitted, this permit will remain in effect until the Department makes a final determination on the permit application. *{See 567 IAC 64.8(1) and Iowa Code 17A.18}*

11. DUTY TO COMPLY

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Issuance of this permit does not relieve you of the responsibility to comply with all local, state and federal laws, ordinances, regulations or other legal requirements applying to the operation of your facility. *{See 40 CFR 122.41(a) and 567 IAC 64.7(4)"e"}*

STANDARD CONDITIONS

12. DUTY TO MITIGATE

You 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. *{See 40 CFR 122.41(d) and 567 IAC 64.7(7)“i”}*

13. TWENTY-FOUR HOUR REPORTING

You shall report any noncompliance that may endanger human health or the environment, including, but not limited to, violations of maximum daily limits for any toxic pollutant (listed as toxic under 307(a)(1) of the Clean Water Act) or hazardous substance (as designated in 40 CFR Part 116 pursuant to 311 of the Clean Water Act). Information shall be provided orally within 24 hours from the time you become aware of the circumstances. A written submission that includes a description of noncompliance and its cause; the period of noncompliance including exact dates and times, whether the noncompliance has been corrected or the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent a reoccurrence of the noncompliance must be provided within 5 days of the occurrence. *{See 567 IAC 63.12}*

14. OTHER NONCOMPLIANCE

You shall report all instances of noncompliance not reported under Condition #13 at the time monitoring reports are submitted. You shall give advance notice to the appropriate regional field office of the department of any planned activity which may result in noncompliance with permit requirements. *{See 567 IAC 63.14}*

15. INSPECTION OF PREMISES, RECORDS, EQUIPMENT, METHODS AND DISCHARGES

You are required to permit authorized personnel to:

- (a) Enter upon the premises where a regulated facility or activity is located or conducted or where records are kept under conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect, at reasonable times, any facilities, equipment, practices or operations regulated or required under this permit; and
- (d) Sample or monitor, at reasonable times, to assure compliance or as otherwise authorized by the Clean Water Act.

16. FAILURE TO SUBMIT FEES

This permit may be revoked, in whole or in part, if the appropriate permit fees are not submitted within thirty (30) days of the date of notification that such fees are due. *{See 567 IAC 64.16(1)}*

17. NEED TO HALT OR REDUCE ACTIVITY

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. *{See 40 CFR 122.41(c) and 567 IAC 64.7(7)“j”}*

18. NOTICE OF CHANGED CONDITIONS

You are required to notify the director of any changes in existing conditions or information on which this permit is based. This includes, but is not limited to, the following:

- (a) If your facility is a publicly owned treatment works (POTW) or otherwise may accept waste for treatment from an indirect discharger or industrial contributor (See 567 IAC 64.3(5) for further notice requirements).
- (b) If your facility is a POTW and there is any substantial change in the volume or character of pollutants being introduced to the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit. *{See 40 CFR 122.42(b)}*
- (c) As soon as you know or have reason to believe that any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in this permit. *{See 40 CFR 122.42(a)}*
- (d) If you have begun or will begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

19. PLANNED CHANGES

The permittee shall give notice to the appropriate regional field office of the department 30 days prior to any planned physical alterations or additions to the permitted facility. Notice is required only when:

- (a) Notice has not been given to any other section of the department. (Note: Facility expansions, production increases, or process modifications which may result in new or increased discharges of pollutants must be reported to the Director in advance. If such discharges will exceed effluent limitations, your report must include an application for a new permit. If any modification of, addition to, or construction of a disposal system is to be made, you must first obtain a written permit from this Department. In addition, no construction activity that will result in disturbance of one acre or more shall be initiated without first obtaining coverage under NPDES General Permit No. 2 for “Storm water discharge associated with construction activity.”) *{See 567 IAC 64.7(7)“a” and 64.2}*
- (b) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in 567 IAC 60.2;
- (c) The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices; or
- (d) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit. *{See 567 IAC 63.13 and 63.14}*

20. USE OF CERTIFIED LABORATORIES

Analyses of wastewater, groundwater or sewage sludge that are required to be submitted to the department as a result of this permit must be performed by a laboratory certified by the State of Iowa. Routine, on-site monitoring for pH, temperature, dissolved oxygen, total residual chlorine and other pollutants that must be analyzed immediately upon sample collection, settleable solids, physical measurements, and operational monitoring tests specified in 567 IAC 63.3(4) are excluded from this requirement.

STANDARD CONDITIONS

21. BYPASSES

- (a) Definition. "Bypass" means the diversion of waste streams from any portion of a treatment facility or collection system. A bypass does not include internal operational waste stream diversions that are part of the design of the treatment facility, maintenance diversions where redundancy is provided, diversions of wastewater from one point in a collection system to another point in a collection system, or wastewater backups into buildings that are caused in the building lateral or private sewer line.
- (b) Prohibitions.
 - i. Bypasses from any portion of a treatment facility or from a sanitary sewer collection system designed to carry only sewage are prohibited.
 - ii. Bypass is prohibited and the department may not assess a civil penalty against a permittee for bypass if the permittee has complied with all of the following:
 - (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
 - (2) There were no feasible alternatives to the bypass such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (3) The permittee submitted notices as required by paragraph (d) of this section.
- (c) The Director may approve an anticipated bypass after considering its adverse effects if the Director determines that it will meet the three conditions listed above and a request for bypass has been submitted to the Department in accordance with 567 IAC 63.6(2).
- (d) Reporting bypasses. Bypasses shall be reported in accordance with 567 IAC 63.6.

22. UPSET PROVISION

- (a) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- (b) Effect of an upset. An upset constitutes an affirmative defense in an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph "c" of this condition are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

- (c) Conditions necessary for demonstration of an upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed operating logs or other relevant evidence that:
 - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated;
 - iii. The permittee submitted notice of the upset to the Department in accordance with 567 IAC 63.6(3); and
 - iv. The permittee complied with any remedial measures required in accordance with 567 IAC 63.6(6)"b".
- (d) Burden of Proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

23. PROPERTY RIGHTS

This permit does not convey any property rights of any sort or any exclusive privilege. {See 567 IAC 64.4(3) "b"}

24. EFFECT OF A PERMIT

Compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Sections 301, 302, 306, 307, 318, 403 and 405(a)-(b) of the Clean Water Act, and equivalent limitations and standards set out in 567 IAC Chapters 61 and 62. {See 567 IAC 64.4(3) "a"}

25. SEVERABILITY

The provisions of this permit are severable and if any provision or application of any provision to any circumstance is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding.

Appendix B: Monitoring Data Summary

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Table B.1 Daily Monitoring Data Summary

City of Webster City, Iowa
 2012-2019 Wastewater Monitoring Report Summary
 Daily Data

Date	By-Pass Flow	INFLUENT													
		Flow MGD	CBOD		TSS		TN		TKN		TP		Temp. deg. F	pH	Temp. deg. C
			mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d			
1-Jan-12	0.00	0.756													
2-Jan-12	0.00	0.833			308								55.4	7.5	13.0
3-Jan-12	0.00	0.876			278								57.2	7.5	14.0
4-Jan-12	0.00	0.892	376	2797	318								57.2	7.4	14.0
5-Jan-12	0.00	0.878	347	2541	310								57.2	7.7	14.0
6-Jan-12	0.00	0.844			362	2548							59.0	7.6	15.0
25-Dec-19		1.304											55	7.3	
26-Dec-19		0.858											55	7.3	
27-Dec-19		1.429					28	334	28	334	7.2	86	55	7.3	
28-Dec-19		1.937													
29-Dec-19		1.930													
30-Dec-19		1.937			60	969							55	7.6	
31-Dec-19		1.912			84	1339							54	7.5	
2017 - 2019															
Count		1094.000	292	284	311	303	156	151	152	147	156	151	779	778	
Mean		1.889	266	3,586	343	4,761	28	397	29	399	7	96	62	7.35	
Max.		7.887	710	7,096	1,546	22,625	74	1,098	98	1,092	25	291	73	8.70	
99th perc.		5.344	612	6,509	1,153	14,547	68	920	67	845	16	248	72	7.82	
95th perc.		3.881	475	5,663	782	9,661	53	657	52	613	12	162	70	7.70	
90th perc.		3.065	432	4,942	566	8,164	47	550	48	525	11	145	70	7.60	
2012 - 2019															
Count		2,919	792	784	952	940	195	190	188	183	195	190	2,072	2,076	
Mean		1.544	287	3,103	342	3,696	28	396	29	396	7	94	61	7.42	
Max.		7.887	780	15,401	2,266	22,625	74	1,098	98	1,092	25	291	77	19.00	
99th perc.		5.108	672	6,228	994	12,769	66	890	66	841	16	224	72	8.23	
95th perc.		3.110	558	5,005	672	7,580	53	672	52	648	12	165	70	7.70	
90th perc.		2.517	485	4,427	564	6,037	47	550	47	532	11	145	70	7.60	

Date	EFFLUENT															
	Flow MGD	CBOD		TSS		NH3-N		ZN		CD		Total Residual Chlorine		NO3-N		T
		mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L
1-Jan-12																
2-Jan-12				20.0	0											
3-Jan-12				18.0	0 <1		0									
4-Jan-12		14	0	15.0	0											
5-Jan-12		17	0	20.0	0 <1		0									
6-Jan-12				17.0	0											
25-Dec-19	1.511					0.05	1									
26-Dec-19	1.606															
27-Dec-19	1.674															17.6
28-Dec-19	2.194															
29-Dec-19	2.149															
30-Dec-19	2.101			15	263 <1	<										
31-Dec-19	2.012			11	185 <1	<										
2017 - 2019																
Count	1,083	298	298	308	308	99	99	31	31	14	14	528	528	35	35	155
Mean	2.02	11	178	11	182	0.62	11.9	0.046	0.69	0.0075	0.14	0.0281	0.52	7.4	111	11.3
Max.	7.89	33	1,184	37	1,052	8.07	214.3	0.314	4.80	0.0200	0.54	0.3400	7.79	13.0	250	32.0
99th perc.	5.82	25	492	29	680	6.96	141.8	0.273	4.31	0.0200	0.53	0.3100	6.12	12.7	223	28.7
95th perc.	4.13	20	362	19	462	4.76	81.5	0.129	2.04	0.0200	0.50	0.0900	1.92	12.0	157	22.0
90th perc.	3.30	17	304	16	350	2.08	32.2	0.064	0.85	0.0200	0.45	0.0500	0.98	11.0	151	17.9
2012 - 2019																
Count	2,848	800	792	944	944	184	591	40	40	15	23	1,273	1,316	54	54	194
Mean	1.58	11	#VALUE!	15	177	2.02	6.2	0.048	0.69	0.0071	0.09	0.0254	0.38	6.4	93	12.0
Max.	12.00	66	#VALUE!	92	2,930	127.73	740.4	0.314	4.80	0.0200	0.54	0.6200	7.79	13.0	250	46.5
99th perc.	5.55	24	#VALUE!	50	898	13.70	126.0	0.298	4.16	0.0200	0.53	0.2300	4.85	12.6	208	31.6
95th perc.	3.37	21	#VALUE!	30	434	9.12	24.9	0.182	3.09	0.0200	0.47	0.0840	1.25	12.0	151	22.9
90th perc.	2.67	18	#VALUE!	24	299	4.71	5.5	0.066	0.86	0.0200	0.38	0.0600	0.83	11.0	145	18.2

Date															Weather	
	N	TP		AG		Temp. deg. F	CU		Tox Cer	Tox Pim	DO	pH SU	Fecal Coliform	Temp. deg. C	Rainfall in.	Raw Sludge Gallons Pumped gpd
		lbs/d	mg/L	lbs/d	mg/L		lbs/d	mg/L					lbs/d			
1-Jan-12															0.00	6187.0
2-Jan-12						50.0						7.3		10	0.00	0.0
3-Jan-12						51.8						7.3		11	0.00	3650.0
4-Jan-12						53.6						7.2		12	0.00	6129.0
5-Jan-12						55.4						7.5		13	0.00	3587.0
6-Jan-12						55.4						7.2		13	0.00	3740.0
25-Dec-19						54					7.8	7.3				
26-Dec-19						55					8.2	7.3				
27-Dec-19	246	5.3	74			55					8.2	7.3				
28-Dec-19																
29-Dec-19																
30-Dec-19						50					8.6	7.6				
31-Dec-19						50					9.2	7.5				

2017 - 2019

Count	155	155	155	21	21	754	35	35			772	774	42			
Mean	185	5.1	79	0.0062	0.10	53	0.0151	0.24			9.5	7.6	4,931			
Max.	514	11.0	244	0.0300	0.49	73	0.1050	1.68			12.6	11.0	24,000			
99th perc.	477	10.7	203	0.0276	0.44	70	0.0904	1.47			11.5	8.7	24,000			
95th perc.	375	9.5	134	0.0179	0.27	68	0.0326	0.71			11.1	8.0	24,000			
90th perc.	309	8.1	118	0.0100	0.27	66	0.0192	0.34			10.9	7.9	20,000			

2012 - 2019

Count	194	194	194	30	30	2,035	44	44			967	2,077	70	1,129	1,363	1,550
Mean	187	5.1	77	0.0054	0.09	57	0.0159	0.24			9.5	7.5	3,915	16	0.10	4873.80
Max.	514	11.8	244	0.0300	0.49	336	0.1050	1.68			12.6	11.0	30,000	169	3.25	18900.00
99th perc.	479	11.0	193	0.0265	0.42	73	0.1041	1.46			11.5	8.0	25,860	23	1.60	9925.32
95th perc.	373	9.8	126	0.0161	0.27	72	0.0557	0.98			11.1	7.9	24,000	22	0.61	7859.75
90th perc.	292	8.1	118	0.0104	0.24	70	0.0194	0.35			10.9	7.8	16,400	21	0.30	6898.50

Date	Raw Sludge		RBC			Primary Digester				Process	Effluent	Influent	Effluent	Influent		Monthly Avg/Max TKN
	Raw Sludge Total Solids %	Raw Sludge Volatile Solids %	RBC Dissolved Oxygen mg/L	RBC pH	RBC Temp. deg. C	Primary Digester Alkalinity mg/L	Primary Digester Temp. deg. F	Primary Digester Volatile Acids mg/L	Primary Digester pH	Recycle Flow MGD	Effluent after Final Clarifier mL/L	Influent Ammonia Nitrogen mg/L	Effluent Dissolved Oxygen mg/L	Influent TKN mg/L	Influent TKN lbs/d	
1-Jan-12																
2-Jan-12	4	82.2	11	7.4	8	3,200	83.3	366.0	7	-	t		11			
3-Jan-12	4	82.4	13	7.4	8					-	t	21.6	12			
4-Jan-12			12	6.8	9	3,420	85.8	348.0	7	-	t		12			
5-Jan-12			11	7.5	10		86.0		7	-	t	22.0	11	38.1	279.0	
6-Jan-12			11	7.4	11		84.0		7	-	t		11			
25-Dec-19																
26-Dec-19																
27-Dec-19																
28-Dec-19																
29-Dec-19																
30-Dec-19																
31-Dec-19																

2017 - 2019

Count																
Mean																
Max.																
99th perc.																
95th perc.																
90th perc.																

2012 - 2019

Count	443	443	1,076	1,106	1,106	514	1,246	525	1,247	296	173	423	1,029	216	101	48
Mean	3.64	77.48	9.58	8.21	14.48	3591.40	90.02	489.09	8.12	0.34	0.01	16.12	9.09	36.44	367.32	50.73
Max.	8.19	92.79	802.00	705.00	123.00	4960.00	104.00	2220.00	605.00	1.33	0.50	36.00	12.70	109.80	1172.72	109.80
99th perc.	6.88	87.18	12.30	8.20	23.00	4794.80	99.00	1631.04	7.60	1.01	0.20	31.02	12.30	75.33	1043.93	100.21
95th perc.	4.97	85.66	11.50	7.90	22.00	4500.00	97.00	1155.20	7.30	0.61	0.00	28.83	11.60	63.88	546.76	74.59
90th perc.	4.47	84.71	10.95	7.90	21.00	4374.00	95.00	900.00	7.30	0.52	0.00	27.53	11.20	55.60	488.15	69.83

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Date	
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1-Jan-12

2-Jan-12

3-Jan-12

4-Jan-12

5-Jan-12

6-Jan-12

25-Dec-19

26-Dec-19

27-Dec-19

28-Dec-19

29-Dec-19

30-Dec-19

31-Dec-19

2017 - 2019

Count	
Mean	
Max.	
99th perc.	
95th perc.	
90th perc.	

2012 - 2019

Count	48
Mean	433.36
Max.	1172.72
99th perc.	1112.19
95th perc.	650.24
90th perc.	565.24

Not included on MOR

Date	Custom Meats										
	Flow MGD	CBOD		TSS		TKN		O & G		pH	Temp. deg. C
		mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d		
1-Jan-12	0.002										
2-Jan-12	0.002										
3-Jan-12	0.005										
4-Jan-12	0.028	329	76	35	8	42	10	7	2	6.9	18.0
5-Jan-12	0.044										
6-Jan-12	0.029										
25-Dec-19	0.006										
26-Dec-19	0.005										
27-Dec-19	0.039	860	279	96	31	35	11	16	5.1832099	8.36	
28-Dec-19	0.034										
29-Dec-19	0.001										
30-Dec-19	0.003										
31-Dec-19	0.034										

2017 - 2019

Count	1,095	168	168	168	168	168	168	168	168	161	
Mean	0.04	635	269	74	37	31	15	38	19	8.6	
Max.	0.42	6,400	1,967	400	350	204	121	581	318	13.0	
99th perc.	0.12	3,633	1,402	356	217	153	78	234	149	12.4	
95th perc.	0.10	2,013	1,015	305	166	97	62	137	69	10.6	
90th perc.	0.08	1,400	656	183	108	74	42	103	50	10.0	

2012 - 2019

Count	2,922	426	426	427	427	427	427	354	354	415	250
Mean	0.04	533	222	63	28	27	12	27	12	7.8	21
Max.	0.42	6,400	1,967	400	350	204	121	581	318	13.1	28
99th perc.	0.11	2,995	1,303	349	199	142	68	178	100	12.2	27
95th perc.	0.09	1,575	695	189	95	71	41	105	50	10.6	26
90th perc.	0.07	1,189	509	140	59	53	24	58	27	9.8	25

Does not include results when sam-
pling was completed on different days for the
industries

Date	Mary Ann's Deli Foods, Inc.											Total Industries		
	Flow MGD	CBOD		TSS		TKN		O & G		pH	Temp. deg. C	Flow MGD	CBOD lbs/d	TSS lbs/d
		mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d	mg/L	lbs/d					
1-Jan-12	0.000													
2-Jan-12	0.000													
3-Jan-12	0.012													
4-Jan-12	0.014	762	90	163	19	19	2	121	14.2	7.9	17.0	0.042	166	27
5-Jan-12	0.014													
6-Jan-12	0.012													
25-Dec-19	0.006													
26-Dec-19	0.022													
27-Dec-19	0.031	760	197	260	67	52	13	625	161.9837	6.7		0.070	476	98
28-Dec-19	0.027													
29-Dec-19	0.023													
30-Dec-19	0.030													
31-Dec-19	0.011													
2017 - 2019														
Count	1,095	167	167	167	167	167	167	167	167	164		162	162	162
Mean	0.024	821	201	145	36	67	17	55	14	7.5		0.084	477	73
Max.	0.347	3,100	3,027	1,700	810	220	304	1,436	347	11.9		0.418	3,669	846
99th perc.	0.041	2,368	670	795	216	187	50	737	178	11.6		0.152	1,931	312
95th perc.	0.036	1,670	440	401	105	150	39	164	41	10.4		0.126	1,205	223
90th perc.	0.034	1,530	334	280	59	130	31	107	25	9.4		0.115	948	163
2012 - 2019														
Count	2,921	426	426	425	424	426	426	411	411	414	249	400	399	399
Mean	0.023	747	183	202	49	59	15	130	30	7.1	20	0.081	408	78
Max.	0.347	4,690	3,027	1,700	810	286	304	3,436	851	11.9	28	0.418	3,669	846
99th perc.	0.040	2,816	745	1,081	262	224	65	1,428	339	11.6	27	0.151	1,619	291
95th perc.	0.036	1,948	478	653	163	160	40	462	112	10.3	25	0.125	1,000	224
90th perc.	0.034	1,500	358	410	107	120	29	287	69	9.2	25	0.112	766	166

pling was
e

Date	TKN lbs/d
1-Jan-12	12
2-Jan-12	
3-Jan-12	
4-Jan-12	
5-Jan-12	25
6-Jan-12	
25-Dec-19	
26-Dec-19	
27-Dec-19	
28-Dec-19	
29-Dec-19	
30-Dec-19	
31-Dec-19	
2017 - 2019	
Count	162
Mean	32
Max.	329
99th perc.	115
95th perc.	79
90th perc.	60
2012 - 2019	
Count	400
Mean	27
Max.	329
99th perc.	96
95th perc.	69
90th perc.	53

Table B.2 Monthly Monitoring Data Summary

City of Webster City
Wastewater Plant Load Summary
Monthly Data Summary

Calculated from MOR

Year	Month	Treatment Plant Influent									
		Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/day	Average TKN lbs/day	Max TP lbs/day	Average TP lbs/day
	2017-19										
	Average	3.409	1.886	5,175	3,601	8,629	4,844	523	398	138	97
	Maximum	7.887	3.439	7,096	4,848	22,625	8,813	1,092	600	291	162
	90th Perctl	7.268	3.047	6,491	4,327	13,907	7,564	795	487	198	129
	95th Perctl	7.446	3.268	6,671	4,467	15,732	8,242	840	522	232	135
	99th Pertl	7.758	3.382	7,057	4,721	20,271	8,788	1,008	574	286	156
	Minimum										
	2012-19										
	Average	2.737	1.543	4,509	3,123	6,960	3,750	480	361	138	97
	Maximum	7.887	3.439	15,401	4,848	22,625	8,813	1,173	600	291	162
	90th Perctl	6.066	2.564	6,157	4,107	12,055	5,796	657	475	197	131
	95th Perctl	7.265	2.964	6,514	4,324	14,846	6,954	837	494	226	134
	99th Pertl	7.833	3.283	7,511	4,678	21,598	8,746	1,096	541	286	156
	Minimum										

	Custom Meats Discharge								Mary Anns Discharge							
Month	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day
<u>2017-19</u>																
Average	0.082	0.041	549	265	71	35	27	13	0.040	0.023	284	189	67	32	25	15
Maximum	0.130	0.080	1,967	853	350	124	121	50	0.197	0.031	749	477	249	123	53	41
90th Perctl	0.122	0.063	1,229	580	172	95	65	30	0.042	0.028	451	309	167	56	41	25
95th Perctl	0.125	0.069	1,401	625	216	104	74	37	0.046	0.028	505	366	180	67	44	27
99th Pertl	0.130	0.079	1,772	780	304	123	110	49	0.147	0.030	707	441	232	105	51	36
Minimum																
<u>2012-19</u>																
Average	0.076	0.037	432	218	52	27	22	11	0.036	0.023	302	176	100	48	24	14
Maximum	0.139	0.080	1,967	853	350	124	121	50	0.197	0.036	1,455	687	409	172	88	45
90th Perctl	0.108	0.057	1,017	462	110	53	47	22	0.042	0.029	563	306	241	89	43	25
95th Perctl	0.123	0.066	1,157	563	138	86	64	30	0.046	0.031	710	394	257	121	53	30
99th Pertl	0.130	0.079	1,836	693	225	120	98	47	0.061	0.034	945	538	363	136	85	44
Minimum																

	Vero Blue Discharge								Total Custom Meat + Mary Anns + Vero Blue							
Month	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day
2017-19																
Average	0.266	1.417	172	84	680	301	96	32	0.281	0.152	934	503	534	242	108	47
Maximum	0.806	28.000	1,601	451	7,574	2,790	770	202	0.901	0.338	2,360	1,122	7,601	2,811	787	213
90th Perctl	0.377	0.265	336	287	923	409	260	79	0.468	0.305	1,649	743	823	443	135	71
95th Perctl	0.402	0.282	466	355	1,012	553	657	172	0.493	0.319	1,798	905	1,039	559	383	117
99th Pertl	0.721	22.179	1,374	432	6,262	2,343	747	196	0.763	0.332	2,184	1,062	5,355	2,058	750	203
Minimum																
2012-19																
Average	0.266	1.417	172	84	680	301	96	32	0.172	0.093	772	412	301	141	67	32
Maximum	0.806	28.000	1,601	451	7,574	2,790	770	202	0.901	0.338	2,426	1,122	7,601	2,811	787	213
90th Perctl	0.377	0.265	336	287	923	409	260	79	0.399	0.245	1,541	717	537	261	106	55
95th Perctl	0.402	0.282	466	355	1,012	553	657	172	0.454	0.292	1,792	878	787	383	135	63
99th Pertl	0.721	22.179	1,374	432	6,262	2,343	747	196	0.525	0.323	2,363	960	1,505	768	686	186
Minimum																

Population: 7,814

Month	Residential/Commercial Loads (Calculated)				Per Capita Res/Comm. Loads				AWW I/I Calculation			MWW I/I Calculation			
	Average Flow (Inc. I/I) MGD	Average CBOD lbs/day	Average TSS lbs/day	Average TKN lbs/day	Average Flow (Inc. I/I) gal/c/d	Average CBOD lbs/c/d	Average TSS lbs/c/d	Average TKN lbs/c/d	Average Res + I/I MGD	Average Res Dry Weather MGD	I/I Calc. MGD	Max MGD	Avg Industrial MGD	Average Res Dry Weather MGD	Max I/I
2017-19															
Average	1.734	3,099	4,602	351	222	0.40	0.59	0.045	1.734	0.719	1.015	3.409	0.152	0.719	2.537
Maximum	3.316	4,433	8,766	548	424	0.57	1.12	0.070	3.316	0.719	2.597	7.887	0.338	0.719	7.009
90th Perctl	2.845	3,768	7,474	437	364	0.48	0.96	0.056	2.845	0.719	2.126	7.268	0.305	0.719	6.426
95th Perctl	3.167	3,885	7,948	469	405	0.50	1.02	0.060	3.167	0.719	2.448	7.446	0.319	0.719	6.558
99th Perctl	3.285	4,243	8,603	526	420	0.54	1.10	0.067	3.285	0.719	2.567	7.758	0.332	0.719	6.920
Minimum	0.776														
2012-19															
Average	1.450	2,711	3,609	329	186	0.35	0.46	0.042	1.450	0.719	0.731	2.737	0.093	0.719	1.926
Maximum	3.316	4,433	8,766	548	424	0.57	1.12	0.070	3.316	0.719	2.597	7.887	0.338	0.719	7.061
90th Perctl	2.437	3,692	5,641	433	312	0.47	0.72	0.055	2.437	0.719	1.718	6.066	0.245	0.719	5.256
95th Perctl	2.715	3,798	6,913	467	347	0.49	0.88	0.060	2.715	0.719	1.996	7.265	0.292	0.719	6.395
99th Perctl	3.233	4,221	8,323	521	414	0.54	1.07	0.067	3.233	0.719	2.514	7.833	0.323	0.719	7.012
Minimum	0.719														

Table B.2 Monthly Monitoring Data Summary

City of Webster City
Wastewater Plant Load Summary
Monthly Data Summary

Calculated from MOR

Year	Month	Treatment Plant Influent									
		Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/day	Average TKN lbs/day	Max TP lbs/day	Average TP lbs/day
2012	Jan 12	0.988	0.849	3,462	2,986	5,003	3,448	320	298		
2012	Feb	1.258	0.847	6,715	2,904	8,393	3,256	429	249		
2012	Mar	1.210	1.063	4,900	4,168	6,471	4,408	653	468		
2012	Apr	1.603	1.090	6,122	2,883	21,544	4,122	1,044	496		
2012	May	2.746	1.335	4,941	3,429	9,069	3,699	632	341		
2012	Jun	1.359	0.956	3,971	3,139	5,911	3,523	339	324		
2012	Jul	1.627	0.859	5,156	2,868	5,674	3,261	537	392		
2012	Aug	1.700	0.884	3,169	2,351	16,843	3,568	347	328		
2012	Sep	1.011	0.821	3,082	2,468	6,693	2,931	355	268		
2012	Oct	1.169	0.892	5,818	3,524	4,907	3,561	522	450		
2012	Nov	0.976	0.911	5,141	4,260	5,345	3,150	400	379		
2012	Dec	0.939	0.853	5,965	3,909	4,003	2,848	501	418		
2013	Jan 13	1.066	0.799	3,257	2,902	2,992	2,516	382	346		
2013	Feb	0.994	0.822	4,856	3,835	5,268	3,322	390	353		
2013	Mar	2.040	1.097	3,931	3,274	3,795	2,871	414	305		
2013	Apr	4.966	2.106	3,861	2,525	5,053	2,652	1,173	473		
2013	May	6.542	3.273	4,504	3,106	4,387	2,740	417	319		
2013	Jun	4.684	2.225	3,083	2,238	12,423	3,780	334	288		
2013	Jul	1.830	1.193	4,102	3,238	4,385	3,408	419	356		
2013	Aug	1.029	0.851	5,336	3,719	6,445	4,237	645	487		
2013	Sep	1.123	0.795	3,010	2,315	4,037	2,386	362	330		
2013	Oct	1.416	0.802	4,048	3,469	4,869	3,008	477	402		
2013	Nov	1.057	0.812	5,863	3,660	7,121	3,135	512	394		
2013	Dec	0.851	0.771	4,304	2,970	4,948	2,818	419	319		
2014	Jan 14	0.865	0.768	4,457	2,534	3,536	2,133	395	317		
2014	Feb	0.969	0.784	3,504	2,818	4,004	2,423	377	326		
2014	Mar	1.660	0.949	3,447	2,997	4,818	3,054	585	375		
2014	Apr	1.962	1.128	6,030	3,170	6,271	2,983	334	293		
2014	May	4.967	1.652	3,143	2,113	10,522	3,364	398	265		
2014	Jun	5.900	1.876	3,620	2,287	6,987	3,492	641	282		
2014	Jul	5.900	1.801	15,401	3,548	3,279	2,275	510	298		
2014	Aug	1.523	1.062	2,667	2,244	2,908	1,870	326	276		
2014	Sep	1.533	1.276	2,607	2,285	2,244	1,789	296	250		
2014	Oct	1.811	1.378	4,243	2,721	4,970	3,144	486	317		
2014	Nov	1.201	1.062	5,675	4,669	5,300	3,769	399	368		
2014	Dec	1.415	1.115	5,882	4,084	5,521	3,498	458	407		
2015	Jan 15	1.278	1.148	2,705	2,184	5,050	2,973	305	274		
2015	Feb	1.229	1.054	2,589	2,201	5,332	3,382	355	320		
2015	Mar	1.323	1.099	2,426	2,213	3,860	2,780	373	318		

Table B.2 Monthly Monitoring Data Summary

City of Webster City
Wastewater Plant Load Summary
Monthly Data Summary

Calculated from MOR

Treatment Plant Influent											
Year	Month	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/day	Average TKN lbs/day	Max TP lbs/day	Average TP lbs/day
2015	Apr	1.866	1.426	3,472	2,326	3,193	2,289	395	288		
2015	May	2.823	2.019	2,378	2,098	5,616	2,626	469	312		
2015	Jun	2.342	1.608	2,390	1,745	4,287	2,550	504	289		
2015	Jul	1.587	1.203	3,258	2,394	12,415	5,006	391	281		
2015	Aug	7.830	2.009	2,972	2,310	3,780	2,706	414	286		
2015	Sep	3.090	1.622	3,488	2,544	4,675	3,154	407	284		
2015	Oct	1.238	1.090	3,656	2,960	6,539	4,168	419	367		
2015	Nov	2.048	1.250	3,884	3,011	8,608	4,880	456	428		
2015	Dec	6.170	2.580	2,753	1,923	3,431	2,609	372	254		
2016	Jan 16	2.513	1.786	2,976	2,193	3,364	2,014	273	230		
2016	Feb	3.060	1.910	3,322	2,590	3,789	2,797	324	268		
2016	Mar	2.581	2.003	2,517	2,417	4,869	3,078	240	222		
2016	Apr	2.311	1.656	3,356	2,265	3,235	2,235	297	267		
2016	May	2.137	1.727	2,708	2,160	3,777	2,398	412	288		
2016	Jun	2.893	1.809	4,545	2,175	2,341	1,539	314	277		
2016	Jul	2.057	1.278	2,828	2,001	7,640	3,232	312	312		
2016	Aug	3.599	1.552	2,740	2,113	12,332	3,877	471	317		
2016	Sep	6.453	2.547	3,423	2,659	5,792	2,728	839	538		
2016	Oct	2.539	1.554	4,080	3,403	6,304	3,079	539	436		
2016	Nov	1.387	1.185	3,794	3,244	5,414	3,420	661	493	167	132
2016	Dec	1.839	1.310	5,031	3,448	5,923	3,660	515	452	116	92
2017	Jan 17	1.836	1.328	4,388	2,825	4,554	3,180	582	410	110	63
2017	Feb	3.321	1.717	4,582	3,708	5,096	3,865	452	396	104	70
2017	Mar	4.122	2.646	6,566	4,321	5,432	3,385	760	490	129	94
2017	Apr	4.203	2.581	4,001	3,064	4,252	3,061	457	415	103	84
2017	May	3.975	2.378	4,244	3,340	4,894	3,359	500	389	96	80
2017	Jun	1.789	1.351	4,153	3,269	9,554	5,670	413	402	83	77
2017	Jul	1.697	1.063	6,270	3,196	7,190	3,984	454	352	111	57
2017	Aug	1.350	1.061	5,762	3,271	7,332	4,109	435	320	97	69
2017	Sep	1.277	1.051	6,111	4,486	14,570	8,743	852	600	217	114
2017	Oct	2.697	1.444	4,472	3,632	9,294	4,016	480	452	139	104
2017	Nov	1.294	1.164	5,087	4,332	5,119	4,279	612	526	95	29
2017	Dec	1.165	1.049	4,941	3,111	4,288	2,724	544	484	15	9
2018	Jan 18	1.803	1.210	4,762	3,381	6,505	3,470	436	396	20	14
2018	Feb	1.825	1.211	5,220	3,776	5,952	3,949	473	391	144	111
2018	Mar	2.791	1.753	4,739	3,678	8,740	4,378	415	317	131	111
2018	Apr	4.753	2.717	4,615	3,859	8,173	6,230	416	383	139	119
2018	May	2.823	2.160	5,122	3,371	9,663	6,192	370	348	135	126
2018	Jun	7.421	2.880	6,192	3,917	10,432	5,707	805	404	278	146

Table B.2 Monthly Monitoring Data Summary

City of Webster City
Wastewater Plant Load Summary
Monthly Data Summary

Calculated from MOR

Treatment Plant Influent											
Year	Month	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/day	Average TKN lbs/day	Max TP lbs/day	Average TP lbs/day
2018	Jul	3.646	1.841	4,736	3,387	7,980	4,680	401	353	137	106
2018	Aug	6.956	2.237	6,497	3,877	22,625	8,075	613	398	195	121
2018	Sep	5.962	3.439	6,984	4,096	11,778	7,708	611	340	196	117
2018	Oct	7.887	3.265	7,096	4,848	15,899	8,813	338	249	120	105
2018	Nov	2.259	1.736	6,406	3,944	15,677	7,421	517	410	142	106
2018	Dec	2.944	1.563	5,710	3,709	11,295	6,798	786	476	187	121
2019	Jan 19	1.850	1.386	3,561	2,659	7,788	3,899	344	301	116	82
2019	Feb	1.508	1.235	4,647	3,138	8,610	3,951	491	448	160	122
2019	Mar	7.262	2.161	5,732	4,117	10,096	5,886	392	375	119	101
2019	Apr	3.143	2.179	5,377	4,460	8,954	6,273	547	406	156	117
2019	May	7.519	3.275	3,615	2,650	4,880	3,603	379	361	118	91
2019	Jun	2.973	2.112	4,460	3,176	6,602	4,606	342	324	90	75
2019	Jul	1.886	1.384	5,957	4,119	13,245	5,206	403	339	134	99
2019	Aug	2.180	1.210	6,484	3,746	7,835	3,886	836	406	200	112
2019	Sep	2.496	1.434	3,787	2,991	4,410	2,811	372	337	140	102
2019	Oct	7.274	3.214	4,801	3,244	8,515	4,742	1,092	520	291	162
2019	Nov	2.282	1.687	4,840	3,727	6,940	3,465	479	433	165	131
2019	Dec	2.538	1.782	4,381	3,221	6,478	2,248	428	386	146	131
2017-19											
Average		3.409	1.886	5,175	3,601	8,629	4,844	523	398	138	97
Maximum		7.887	3.439	7,096	4,848	22,625	8,813	1,092	600	291	162
90th Perctl		7.268	3.047	6,491	4,327	13,907	7,564	795	487	198	129
95th Perctl		7.446	3.268	6,671	4,467	15,732	8,242	840	522	232	135
99th Perctl		7.758	3.382	7,057	4,721	20,271	8,788	1,008	574	286	156
Minimum											
2012-19											
Average		2.737	1.543	4,509	3,123	6,960	3,750	480	361	138	97
Maximum		7.887	3.439	15,401	4,848	22,625	8,813	1,173	600	291	162
90th Perctl		6.066	2.564	6,157	4,107	12,055	5,796	657	475	197	131
95th Perctl		7.265	2.964	6,514	4,324	14,846	6,954	837	494	226	134
99th Perctl		7.833	3.283	7,511	4,678	21,598	8,746	1,096	541	286	156

Month	Custom Meats Discharge								Mary Anns Discharge							
	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day
Jan 12	0.057	0.021	76	47	18	10	10	8	0.025	0.010	182	114	70	42	12	6
Feb	0.057	0.025	67	57	33	25	16	12	0.036	0.024	310	158	164	78	12	9
Mar	0.067	0.038	131	100	47	29	25	21	0.035	0.028	215	128	89	65	15	10
Apr	0.046	0.019	106	72	30	22	10	9	0.046	0.019	106	72	30	22	10	9
May	0.066	0.027	428	287	58	41	20	17	0.034	0.024	139	77	81	52	12	6
Jun	0.069	0.028	292	132	70	58	38	15	0.032	0.023	276	126	120	49	7	6
Jul	0.068	0.027	256	163	54	32	22	14	0.040	0.026	468	171	73	52	33	13
Aug	0.064	0.033	454	260	98	52	18	13	0.042	0.029	164	90	111	58	19	11
Sep	0.053	0.024	170	84	14	10	20	6	0.041	0.020	139	73	78	40	11	5
Oct	0.093	0.040	471	248	63	41	32	21	0.048	0.032	709	344	264	135	45	24
Nov	0.093	0.059	440	248	61	42	27	20	0.037	0.030	734	447	277	120	54	31
Dec	0.082	0.034	432	262	52	27	32	17	0.035	0.023	193	138	206	72	25	13
Jan 13	0.046	0.023	79	55	24	12	12	7	0.032	0.019	175	158	69	56	17	13
Feb	0.077	0.030	499	238	42	27	13	8	0.031	0.019	344	194	87	61	25	16
Mar	0.059	0.026	235	199	125	47	11	9	0.031	0.018	303	202	141	80	21	15
Apr	0.053	0.022	272	157	12	9	8	6	0.026	0.017	245	137	137	54	19	12
May	0.089	0.031	1,070	513	18	13	35	18	0.032	0.020	547	183	409	82	49	17
Jun	0.088	0.023	230	134	17	10	14	7	0.031	0.019	246	137	98	65	39	17
Jul	0.045	0.021	422	238	28	14	14	8	0.030	0.019	178	99	58	42	14	8
Aug	0.051	0.027	108	92	14	8	8	5	0.031	0.020	151	81	61	37	11	7
Sep	0.065	0.025	272	198	36	17	14	10	0.032	0.020	159	134	68	57	16	12
Oct	0.077	0.036	519	256	27	16	20	12	0.036	0.026	580	285	161	94	44	25
Nov	0.118	0.060	703	481	34	21	48	25	0.032	0.022	259	175	250	127	19	15
Dec	0.066	0.035	1,829	684	96	46	97	30	0.029	0.017	597	248	255	86	29	13
Jan 14	0.060	0.026	279	157	18	10	10	6	0.026	0.016	59	82	21	18	8	4
Feb	0.047	0.023	291	179	22	12	8	7	0.026	0.016	479	131	177	111	38	24
Mar	0.092	0.034	376	215	14	9	20	12	0.028	0.020	506	320	166	89	38	25
Apr	0.059	0.031	371	149	68	18	15	7	0.026	0.018	393	134	134	43	24	11
May	0.046	0.024	263	137	15	6	5	4	0.029	0.016	252	126	160	63	20	10
Jun	0.044	0.021	189	130	22	11	11	6	0.031	0.018	140	74	56	28	13	6
Jul	0.050	0.025	229	193	78	25	20	9	0.029	0.018	400	177	240	82	19	11
Aug	0.049	0.025	416	196	29	18	11	7	0.027	0.017	145	94	35	28	6	6
Sep	0.065	0.026	291	143	31	16	8	5	0.027	0.017	188	111	81	39	16	8
Oct	0.083	0.040	167	125	34	22	13	8	0.032	0.024	361	205	70	33	29	15
Nov	0.079	0.048	519	251	36	21	16	11	0.033	0.023	328	208	90	49	30	17
Dec	0.118	0.056	413	229	53	23	41	17	0.023	0.022	138	103	71	39	15	9
Jan 15	0.073	0.026	238	115	15	11	7	5	0.046	0.018	127	82	35	24	11	7
Feb	0.062	0.030	138	84	24	17	12	6	0.033	0.023	161	131	62	41	12	10
Mar	0.074	0.038	60	45	14	11	9	8	0.031	0.023	399	178	173	79	18	10

Month	Custom Meats Discharge								Mary Anns Discharge							
	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day
Apr	0.060	0.028	87	34	19	7	12	6	0.029	0.019	120	71	35	18	8	5
May	0.074	0.038	47	31	13	7	9	7	0.032	0.019	326	166	86	35	29	12
Jun	0.074	0.026	63	32	5	3	5	4	0.036	0.022	338	170	52	33	29	15
Jul	0.067	0.032	263	121	57	17	16	8	0.031	0.021	122	83	51	22	11	6
Aug	0.060	0.028	245	93	29	17	7	5	0.032	0.022	380	243	98	64	43	18
Sep	0.071	0.033	380	219	39	27	12	7	0.037	0.025	1,455	687	361	172	85	39
Oct	0.098	0.048	1,050	397	132	67	51	23	0.038	0.031	918	477	255	129	88	44
Nov	0.096	0.057	341	191	52	35	16	11	0.040	0.031	714	530	134	104	68	45
Dec	0.106	0.056	404	265	44	29	16	9	0.035	0.026	253	94	37	16	6	5
Jan 16	0.077	0.027	298	190	39	22	9	6	0.032	0.021	280	143	94	45	17	8
Feb	0.089	0.039	886	500	48	29	25	12	0.039	0.024	113	58	50	29	11	6
Mar	0.078	0.040	601	310	60	33	12	9	0.038	0.025	120	75	111	37	9	5
Apr	0.055	0.030	597	284	49	35	13	7	0.031	0.020	194	94	54	31	13	7
May	0.063	0.026	271	101	45	21	10	4	0.033	0.022	171	92	278	86	10	7
Jun	0.061	0.032	729	311	45	26	13	7	0.035	0.024	39	18	16	6	4	2
Jul	0.068	0.033	75	53	29	11	4	3	0.037	0.023	134	61	101	34	10	5
Aug	0.081	0.040	363	139	71	25	13	5	0.039	0.027	91	47	16	12	6	3
Sep	0.103	0.043	292	149	27	16	24	10	0.041	0.029	192	122	63	31	17	9
Oct	0.101	0.052	602	275	53	31	20	14	0.047	0.036	429	267	46	39	21	16
Nov	0.123	0.079	135	66	21	7	15	9	0.044	0.034	610	281	243	89	77	30
Dec	0.139	0.070	155	71	30	18	9	6	0.040	0.030	327	183	71	47	30	18
Jan 17	0.066	0.032	148	50	47	12	20	8	0.040	0.020	190	125	39	27	15	10
Feb	0.079	0.036	74	41	20	10	17	9	0.035	0.021	226	114	45	27	18	9
Mar	0.096	0.044	1,041	444	187	94	121	50	0.023	0.018	226	117	41	26	14	11
Apr	0.098	0.042	1,411	613	215	124	67	33	0.027	0.015	133	101	28	16	17	9
May	0.064	0.033	405	148	38	31	18	9	0.032	0.021	173	150	45	35	12	9
Jun	0.078	0.041	73	43	14	10	7	5	0.036	0.024	262	212	59	38	40	24
Jul	0.106	0.038	42	26	23	8	6	3	0.026	0.011	51	33	13	7	3	2
Aug	0.109	0.048	669	331	219	97	59	28	0.037	0.025	457	204	86	47	40	17
Sep	0.066	0.038	190	93	37	19	6	5	0.044	0.030	629	363	166	65	37	26
Oct	0.082	0.049	642	239	49	24	25	14	0.037	0.028	303	199	81	33	31	19
Nov	0.123	0.080	462	250	350	120	68	30	0.035	0.028	180	141	46	18	18	14
Dec	0.124	0.066	1,397	853	157	98	91	47	0.034	0.024	163	130	16	9	10	9
Jan 18	0.080	0.032	650	547	111	83	30	21	0.031	0.022	126	91	107	55	6	4
Feb	0.096	0.047	152	102	23	17	5	4	0.033	0.023	202	136	88	44	12	7
Mar	0.080	0.044	34	24	15	11	5	4	0.033	0.023	222	189	12	10	19	12
Apr	0.061	0.033	182	113	18	12	6	4	0.029	0.019	146	78	12	10	6	4
May	0.063	0.035	491	246	23	12	7	5	0.032	0.022	263	166	44	21	10	7
Jun	0.064	0.034	648	269	51	23	14	6	0.029	0.021	156	124	42	25	9	6

Month	Custom Meats Discharge								Mary Anns Discharge							
	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day
Jul	0.098	0.029	1,085	436	32	19	27	13	0.041	0.023	349	235	199	54	37	22
Aug	0.072	0.037	1,967	645	108	40	50	23	0.035	0.026	368	291	173	56	43	28
Sep	0.070	0.040	444	205	27	21	22	8	0.032	0.024	376	256	108	48	33	22
Oct	0.129	0.067	53	33	9	7	3	2	0.031	0.024	431	376	54	33	37	26
Nov	0.121	0.076	182	48	73	19	15	4	0.038	0.027	749	477	169	71	53	41
Dec	0.130	0.056	48	14	33	11	34	9	0.042	0.031	444	286	20	10	42	19
Jan 19	0.061	0.029	197	87	25	15	7	4	0.197	0.026	325	214	78	32	21	17
Feb	0.051	0.027	230	214	28	17	6	5	0.035	0.022	261	196	44	28	31	22
Mar	0.051	0.034	301	167	16	11	7	5	0.024	0.017	282	184	35	22	21	15
Apr	0.046	0.028	1,004	426	109	36	41	17	0.027	0.023	247	143	21	10	19	8
May	0.043	0.024	249	166	27	12	22	13	0.034	0.022	217	125	22	14	19	9
Jun	0.051	0.026	311	237	39	20	7	5	0.054	0.022	300	167	52	21	21	14
Jul	0.059	0.026	344	198	34	18	6	5	0.041	0.028	274	152	29	17	20	13
Aug	0.050	0.027	1,030	618	42	34	18	13	0.038	0.027	201	125	33	14	23	10
Sep	0.071	0.028	833	414	113	55	19	9	0.041	0.028	239	193	28	18	29	23
Oct	0.096	0.040	1,372	344	84	26	63	15	0.042	0.028	333	211	102	39	39	20
Nov	0.103	0.061	829	490	120	59	45	30	0.041	0.026	249	163	22	14	48	22
Dec	0.103	0.042	589	372	35	25	25	17	0.040	0.025	463	326	249	123	28	21
2017-19																
Average	0.082	0.041	549	265	71	35	27	13	0.040	0.023	284	189	67	32	25	15
Maximum	0.130	0.080	1,967	853	350	124	121	50	0.197	0.031	749	477	249	123	53	41
90th Perctl	0.122	0.063	1,229	580	172	95	65	30	0.042	0.028	451	309	167	56	41	25
95th Perctl	0.125	0.069	1,401	625	216	104	74	37	0.046	0.028	505	366	180	67	44	27
99th Pertl	0.130	0.079	1,772	780	304	123	110	49	0.147	0.030	707	441	232	105	51	36
Minimum																
2012-19																
Average	0.076	0.037	432	218	52	27	22	11	0.036	0.023	302	176	100	48	24	14
Maximum	0.139	0.080	1,967	853	350	124	121	50	0.197	0.036	1,455	687	409	172	88	45
90th Perctl	0.108	0.057	1,017	462	110	53	47	22	0.042	0.029	563	306	241	89	43	25
95th Perctl	0.123	0.066	1,157	563	138	86	64	30	0.046	0.031	710	394	257	121	53	30
99th Pertl	0.130	0.079	1,836	693	225	120	98	47	0.061	0.034	945	538	363	136	85	44

	Vero Blue Discharge								Total Custom Meat + Mary Anns + Vero Blue							
Month	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day
Jan 12									0.082	0.031	258	161	88	51	22	14
Feb									0.092	0.049	377	215	196	102	28	21
Mar									0.102	0.066	345	229	136	94	39	31
Apr									0.091	0.038	212	143	61	45	21	18
May									0.100	0.052	567	364	139	93	32	23
Jun									0.101	0.051	568	258	189	107	45	21
Jul									0.108	0.053	724	334	127	85	55	27
Aug									0.106	0.062	617	351	210	109	37	24
Sep									0.094	0.044	308	157	92	50	30	12
Oct									0.141	0.071	1,180	592	327	176	77	45
Nov									0.131	0.088	1,174	695	338	162	81	51
Dec									0.117	0.057	624	400	258	99	57	30
Jan 13									0.078	0.042	254	212	93	68	29	20
Feb									0.109	0.049	843	433	129	88	38	24
Mar									0.090	0.044	538	402	266	128	32	25
Apr									0.079	0.040	516	295	149	63	27	18
May									0.122	0.051	1,617	697	427	95	84	35
Jun									0.118	0.042	476	271	115	75	53	24
Jul									0.075	0.040	600	337	86	56	28	16
Aug									0.081	0.047	258	173	75	45	19	12
Sep									0.097	0.045	431	333	104	73	30	22
Oct									0.113	0.062	1,099	540	188	111	63	37
Nov									0.150	0.082	962	656	285	148	67	39
Dec									0.095	0.052	2,426	932	351	132	126	42
Jan 14									0.086	0.042	338	239	39	28	18	10
Feb									0.073	0.039	770	310	199	123	46	31
Mar									0.120	0.054	882	536	180	98	58	37
Apr									0.085	0.049	764	283	202	61	39	18
May									0.075	0.040	515	262	175	69	25	14
Jun									0.075	0.039	329	204	78	39	24	12
Jul									0.079	0.043	629	371	318	107	39	20
Aug									0.076	0.042	561	290	64	46	17	13
Sep									0.092	0.043	479	254	112	55	24	13
Oct									0.115	0.064	528	331	104	55	42	23
Nov									0.112	0.071	847	459	126	70	46	28
Dec									0.141	0.078	551	332	124	62	56	26
Jan 15									0.119	0.044	365	197	50	35	18	12
Feb									0.095	0.053	299	215	86	58	24	16
Mar									0.105	0.061	459	223	187	90	27	18

Month	Vero Blue Discharge								Total Custom Meat + Mary Anns + Vero Blue							
	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day
Apr									0.089	0.047	207	105	54	25	20	11
May									0.106	0.057	373	197	99	42	38	19
Jun									0.110	0.048	401	202	57	36	34	19
Jul									0.098	0.053	385	204	108	39	27	14
Aug									0.092	0.050	625	336	127	81	50	23
Sep									0.108	0.058	1,835	906	400	199	97	46
Oct									0.136	0.079	1,968	874	387	196	139	67
Nov									0.136	0.088	1,055	721	186	139	84	56
Dec									0.141	0.082	657	359	81	45	22	14
Jan 16									0.109	0.048	578	333	133	67	26	14
Feb									0.128	0.063	999	558	98	58	36	18
Mar									0.116	0.065	721	385	171	70	21	14
Apr									0.086	0.050	791	378	103	66	26	14
May									0.096	0.048	442	193	323	107	20	11
Jun									0.096	0.056	768	329	61	32	16	9
Jul									0.105	0.056	209	114	130	45	13	7
Aug									0.120	0.067	454	186	87	37	19	8
Sep									0.144	0.072	484	271	90	47	41	19
Oct									0.148	0.088	1,031	542	99	70	41	30
Nov									0.167	0.113	745	347	264	96	92	39
Dec									0.179	0.100	482	254	101	65	39	24
Jan 17									0.106	0.052	338	175	86	39	36	18
Feb									0.115	0.058	299	155	66	37	35	18
Mar									0.119	0.062	1,267	561	229	120	135	62
Apr	0.109	0.046	3	2	63	19	2	2	0.234	0.102	1,547	716	307	159	87	45
May	0.806	0.069	23	19	35	27	6	5	0.901	0.123	601	317	119	93	36	23
Jun	0.171	0.089	42	33	231	91	11	9	0.285	0.153	377	288	304	139	58	37
Jul	0.129	0.113	81	62	280	206	24	18	0.261	0.162	173	121	316	221	33	24
Aug	0.169	0.126	466	355	497	381	21	16	0.315	0.199	1,593	890	802	525	119	62
Sep	0.200	0.157	336	287	413	359	25	21	0.309	0.225	1,155	742	616	443	68	52
Oct	0.308	0.189	156	92	379	166	28	21	0.427	0.266	1,101	530	509	223	84	54
Nov	0.294	0.183	103	58	449	226	37	18	0.452	0.291	745	449	844	364	122	62
Dec	0.228	0.183	218	138	1,012	553	33	23	0.386	0.273	1,778	1,122	1,185	661	135	79
Jan 18	0.378	0.217	99	45	461	140	22	13	0.489	0.271	875	683	679	278	58	38
Feb	0.268	0.225	58	38	397	239	770	202	0.397	0.295	412	276	508	300	787	213
Mar	0.284	0.255	1,601	451	7,574	2,790	260	79	0.397	0.322	1,857	664	7,601	2,811	284	95
Apr	0.311	0.266	47	27	91	56	26	13	0.401	0.318	375	218	121	77	38	21
May	0.318	0.258	172	56	923	409	48	23	0.413	0.315	926	468	990	442	65	35
Jun	0.365	0.283	48	18	689	260	657	172	0.459	0.338	852	411	783	308	681	185

Month	Vero Blue Discharge								Total Custom Meat + Mary Anns + Vero Blue							
	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day	Max Flow MGD	Average Flow MGD	Max CBOD lbs/day	Average CBOD lbs/day	Max TSS lbs/day	Average TSS lbs/day	Max TKN lbs/d	Average TKN lbs/day
Jul	0.313	0.235	102	46	426	214	24	13	0.452	0.287	1,536	717	657	287	88	48
Aug	0.197	0.101	25	15	285	148	16	8	0.304	0.164	2,360	951	566	244	109	59
Sep	0.403	0.059	12	5	31	16	4	2	0.505	0.123	832	466	166	85	58	32
Oct	0.317	0.068	14	6	13	7	4	2	0.477	0.159	498	415	76	47	44	30
Nov	0.100	0.023	9	3	18	5	4	2	0.260	0.126	940	527	260	95	72	47
Dec	0.094	0.025	4	1	4	2	3	1	0.266	0.112	496	301	57	23	79	29
Jan 19									0.258	0.055	522	301	103	47	28	21
Feb	0.081	28.000							0.086	0.049	491	410	72	45	37	27
Mar									0.075	0.051	583	351	51	33	28	20
Apr									0.073	0.051	1,251	569	130	46	60	25
May									0.077	0.046	466	291	49	26	41	22
Jun									0.105	0.048	611	404	91	41	28	19
Jul									0.100	0.054	618	350	63	35	26	18
Aug									0.088	0.054	1,231	743	75	48	41	23
Sep									0.112	0.056	1,072	607	141	73	48	32
Oct									0.138	0.068	1,705	555	186	65	102	35
Nov									0.144	0.087	1,078	653	142	73	93	52
Dec									0.143	0.067	1,052	698	284	148	53	38
2017-19																
Average	0.266	1.417	172	84	680	301	96	32	0.281	0.152	934	503	534	242	108	47
Maximum	0.806	28.000	1,601	451	7,574	2,790	770	202	0.901	0.338	2,360	1,122	7,601	2,811	787	213
90th Perctl	0.377	0.265	336	287	923	409	260	79	0.468	0.305	1,649	743	823	443	135	71
95th Perctl	0.402	0.282	466	355	1,012	553	657	172	0.493	0.319	1,798	905	1,039	559	383	117
99th Pertl	0.721	22.179	1,374	432	6,262	2,343	747	196	0.763	0.332	2,184	1,062	5,355	2,058	750	203
Minimum																
2012-19																
Average	0.266	1.417	172	84	680	301	96	32	0.172	0.093	772	412	301	141	67	32
Maximum	0.806	28.000	1,601	451	7,574	2,790	770	202	0.901	0.338	2,426	1,122	7,601	2,811	787	213
90th Perctl	0.377	0.265	336	287	923	409	260	79	0.399	0.245	1,541	717	537	261	106	55
95th Perctl	0.402	0.282	466	355	1,012	553	657	172	0.454	0.292	1,792	878	787	383	135	63
99th Pertl	0.721	22.179	1,374	432	6,262	2,343	747	196	0.525	0.323	2,363	960	1,505	768	686	186

Population: 7,814

Month	Residential/Commercial Loads (Calculated)				Per Capita Res/Comm. Loads				AWW I/I Calculation			MWW I/I Calculation			
	Average Flow (Inc. I/I) MGD	Average CBOD lbs/day	Average TSS lbs/day	Average TKN lbs/day	Average Flow (Inc. I/I) gal/c/d	Average CBOD lbs/c/d	Average TSS lbs/c/d	Average TKN lbs/c/d	Average Res + I/I MGD	Average Res Dry Weather MGD	I/I Calc. MGD	Max MGD	Avg Industrial MGD	Average Res Dry Weather MGD	Max I/I
Jan 12	0.818	2,825	3,397	284	105	0.36	0.43	0.036	0.818	0.719	0.099	0.988	0.031	0.719	0.238
Feb	0.798	2,689	3,154	228	102	0.34	0.40	0.029	0.798	0.719	0.079	1.258	0.049	0.719	0.490
Mar	0.997	3,939	4,314	438	128	0.50	0.55	0.056	0.997	0.719	0.278	1.210	0.066	0.719	0.425
Apr	1.052	2,739	4,077	479	135	0.35	0.52	0.061	1.052	0.719	0.333	1.603	0.038	0.719	0.846
May	1.284	3,065	3,607	318	164	0.39	0.46	0.041	1.284	0.719	0.565	2.746	0.052	0.719	1.976
Jun	0.904	2,881	3,416	302	116	0.37	0.44	0.039	0.904	0.719	0.185	1.359	0.051	0.719	0.589
Jul	0.806	2,534	3,176	364	103	0.32	0.41	0.047	0.806	0.719	0.087	1.627	0.053	0.719	0.855
Aug	0.822	2,000	3,459	303	105	0.26	0.44	0.039	0.822	0.719	0.103	1.700	0.062	0.719	0.919
Sep	0.778	2,311	2,881	256	100	0.30	0.37	0.033	0.778	0.719	0.059	1.011	0.044	0.719	0.248
Oct	0.821	2,932	3,385	405	105	0.38	0.43	0.052	0.821	0.719	0.102	1.169	0.071	0.719	0.379
Nov	0.823	3,565	2,988	328	105	0.46	0.38	0.042	0.823	0.719	0.104	0.976	0.088	0.719	0.169
Dec	0.796	3,510	2,749	388	102	0.45	0.35	0.050	0.796	0.719	0.077	0.939	0.057	0.719	0.163
Jan 13	0.757	2,690	2,448	326	97	0.34	0.31	0.042	0.757	0.719	0.038	1.066	0.042	0.719	0.305
Feb	0.773	3,402	3,234	329	99	0.44	0.41	0.042	0.773	0.719	0.054	0.994	0.049	0.719	0.226
Mar	1.052	2,873	2,743	280	135	0.37	0.35	0.036	1.052	0.719	0.333	2.040	0.044	0.719	1.277
Apr	2.066	2,231	2,589	455	264	0.29	0.33	0.058	2.066	0.719	1.347	4.966	0.040	0.719	4.208
May	3.222	2,409	2,645	284	412	0.31	0.34	0.036	3.222	0.719	2.503	6.542	0.051	0.719	5.772
Jun	2.182	1,967	3,705	265	279	0.25	0.47	0.034	2.182	0.719	1.463	4.684	0.042	0.719	3.923
Jul	1.153	2,901	3,352	340	148	0.37	0.43	0.044	1.153	0.719	0.434	1.830	0.040	0.719	1.071
Aug	0.804	3,546	4,192	475	103	0.45	0.54	0.061	0.804	0.719	0.085	1.029	0.047	0.719	0.263
Sep	0.750	1,983	2,313	308	96	0.25	0.30	0.039	0.750	0.719	0.031	1.123	0.045	0.719	0.359
Oct	0.740	2,929	2,897	365	95	0.37	0.37	0.047	0.740	0.719	0.021	1.416	0.062	0.719	0.635
Nov	0.731	3,004	2,987	355	94	0.38	0.38	0.045	0.731	0.719	0.012	1.057	0.082	0.719	0.256
Dec	0.719	2,037	2,686	276	92	0.26	0.34	0.035	0.719	0.719	0.000	0.851	0.052	0.719	0.080
Jan 14	0.726	2,295	2,105	307	93	0.29	0.27	0.039	0.726	0.719	0.007	0.865	0.042	0.719	0.104
Feb	0.745	2,508	2,300	295	95	0.32	0.29	0.038	0.745	0.719	0.026	0.969	0.039	0.719	0.211
Mar	0.895	2,461	2,956	338	115	0.31	0.38	0.043	0.895	0.719	0.176	1.660	0.054	0.719	0.887
Apr	1.079	2,887	2,922	275	138	0.37	0.37	0.035	1.079	0.719	0.360	1.962	0.049	0.719	1.194
May	1.612	1,851	3,295	251	206	0.24	0.42	0.032	1.612	0.719	0.893	4.967	0.040	0.719	4.208
Jun	1.837	2,084	3,453	270	235	0.27	0.44	0.035	1.837	0.719	1.118	5.900	0.039	0.719	5.142
Jul	1.758	3,177	2,168	278	225	0.41	0.28	0.036	1.758	0.719	1.039	5.900	0.043	0.719	5.138
Aug	1.020	1,954	1,824	263	131	0.25	0.23	0.034	1.020	0.719	0.301	1.523	0.042	0.719	0.762
Sep	1.233	2,031	1,734	237	158	0.26	0.22	0.030	1.233	0.719	0.514	1.533	0.043	0.719	0.771
Oct	1.314	2,390	3,089	294	168	0.31	0.40	0.038	1.314	0.719	0.595	1.811	0.064	0.719	1.028
Nov	0.991	4,210	3,699	340	127	0.54	0.47	0.044	0.991	0.719	0.272	1.201	0.071	0.719	0.411
Dec	1.037	3,752	3,436	381	133	0.48	0.44	0.049	1.037	0.719	0.318	1.415	0.078	0.719	0.618
Jan 15	1.104	1,987	2,938	262	141	0.25	0.38	0.034	1.104	0.719	0.385	1.278	0.044	0.719	0.515
Feb	1.001	1,986	3,324	304	128	0.25	0.43	0.039	1.001	0.719	0.282	1.229	0.053	0.719	0.457
Mar	1.038	1,990	2,690	300	133	0.25	0.34	0.038	1.038	0.719	0.319	1.323	0.061	0.719	0.543

Population: 7,814

Month	Residential/Commercial Loads (Calculated)				Per Capita Res/Comm. Loads				AWW I/I Calculation			MWW I/I Calculation			
	Average Flow (Inc. I/I) MGD	Average CBOD lbs/day	Average TSS lbs/day	Average TKN lbs/day	Average Flow (Inc. I/I) gal/c/d	Average CBOD lbs/c/d	Average TSS lbs/c/d	Average TKN lbs/c/d	Average Res + I/I MGD	Average Res Dry Weather MGD	I/I Calc. MGD	Max MGD	Avg Industrial MGD	Average Res Dry Weather MGD	Max I/I
Apr	1.379	2,221	2,264	277	176	0.28	0.29	0.035	1.379	0.719	0.660	1.866	0.047	0.719	1.100
May	1.962	1,901	2,584	293	251	0.24	0.33	0.037	1.962	0.719	1.243	2.823	0.057	0.719	2.047
Jun	1.560	1,543	2,514	270	200	0.20	0.32	0.035	1.560	0.719	0.841	2.342	0.048	0.719	1.575
Jul	1.150	2,190	4,967	267	147	0.28	0.64	0.034	1.150	0.719	0.431	1.587	0.053	0.719	0.815
Aug	1.959	1,974	2,625	263	251	0.25	0.34	0.034	1.959	0.719	1.240	7.830	0.050	0.719	7.061
Sep	1.564	1,638	2,955	238	200	0.21	0.38	0.030	1.564	0.719	0.845	3.090	0.058	0.719	2.313
Oct	1.011	2,086	3,972	300	129	0.27	0.51	0.038	1.011	0.719	0.292	1.238	0.079	0.719	0.440
Nov	1.162	2,290	4,741	372	149	0.29	0.61	0.048	1.162	0.719	0.443	2.048	0.088	0.719	1.241
Dec	2.498	1,564	2,564	240	320	0.20	0.33	0.031	2.498	0.719	1.779	6.170	0.082	0.719	5.369
Jan 16	1.738	1,860	1,947	216	222	0.24	0.25	0.028	1.738	0.719	1.019	2.513	0.048	0.719	1.746
Feb	1.847	2,032	2,739	250	236	0.26	0.35	0.032	1.847	0.719	1.128	3.060	0.063	0.719	2.278
Mar	1.938	2,032	3,008	208	248	0.26	0.38	0.027	1.938	0.719	1.219	2.581	0.065	0.719	1.797
Apr	1.606	1,887	2,169	253	206	0.24	0.28	0.032	1.606	0.719	0.887	2.311	0.050	0.719	1.542
May	1.679	1,967	2,291	277	215	0.25	0.29	0.035	1.679	0.719	0.960	2.137	0.048	0.719	1.370
Jun	1.753	1,846	1,507	268	224	0.24	0.19	0.034	1.753	0.719	1.034	2.893	0.056	0.719	2.118
Jul	1.222	1,887	3,187	305	156	0.24	0.41	0.039	1.222	0.719	0.503	2.057	0.056	0.719	1.282
Aug	1.485	1,927	3,840	309	190	0.25	0.49	0.040	1.485	0.719	0.766	3.599	0.067	0.719	2.813
Sep	2.475	2,388	2,681	519	317	0.31	0.34	0.066	2.475	0.719	1.756	6.453	0.072	0.719	5.662
Oct	1.466	2,861	3,009	406	188	0.37	0.39	0.052	1.466	0.719	0.747	2.539	0.088	0.719	1.732
Nov	1.072	2,897	3,324	454	137	0.37	0.43	0.058	1.072	0.719	0.353	1.387	0.113	0.719	0.555
Dec	1.209	3,194	3,595	429	155	0.41	0.46	0.055	1.209	0.719	0.491	1.839	0.100	0.719	1.020
Jan 17	1.276	2,650	3,141	392	163	0.34	0.40	0.050	1.276	0.719	0.557	1.836	0.052	0.719	1.065
Feb	1.659	3,553	3,828	378	212	0.45	0.49	0.048	1.659	0.719	0.941	3.321	0.058	0.719	2.545
Mar	2.585	3,761	3,265	428	331	0.48	0.42	0.055	2.585	0.719	1.866	4.122	0.062	0.719	3.341
Apr	2.478	2,348	2,902	371	317	0.30	0.37	0.047	2.478	0.719	1.759	4.203	0.102	0.719	3.382
May	2.255	3,023	3,266	367	289	0.39	0.42	0.047	2.255	0.719	1.537	3.975	0.123	0.719	3.133
Jun	1.198	2,981	5,531	365	153	0.38	0.71	0.047	1.198	0.719	0.479	1.789	0.153	0.719	0.917
Jul	0.901	3,075	3,763	329	115	0.39	0.48	0.042	0.901	0.719	0.182	1.697	0.162	0.719	0.816
Aug	0.862	2,381	3,584	259	110	0.30	0.46	0.033	0.862	0.719	0.143	1.350	0.199	0.719	0.432
Sep	0.826	3,744	8,299	548	106	0.48	1.06	0.070	0.826	0.719	0.107	1.277	0.225	0.719	0.333
Oct	1.178	3,101	3,793	398	151	0.40	0.49	0.051	1.178	0.719	0.459	2.697	0.266	0.719	1.712
Nov	0.873	3,883	3,915	464	112	0.50	0.50	0.059	0.873	0.719	0.155	1.294	0.291	0.719	0.284
Dec	0.776	1,990	2,064	404	99	0.25	0.26	0.052	0.776	0.719	0.058	1.165	0.273	0.719	0.174
Jan 18	0.939	2,698	3,192	358	120	0.35	0.41	0.046	0.939	0.719	0.220	1.803	0.271	0.719	0.813
Feb	0.916	3,500	3,649	178	117	0.45	0.47	0.023	0.916	0.719	0.197	1.825	0.295	0.719	0.811
Mar	1.431	3,014	1,567	222	183	0.39	0.20	0.028	1.431	0.719	0.712	2.791	0.322	0.719	1.750
Apr	2.399	3,641	6,153	362	307	0.47	0.79	0.046	2.399	0.719	1.681	4.753	0.318	0.719	3.717
May	1.845	2,903	5,750	313	236	0.37	0.74	0.040	1.845	0.719	1.126	2.823	0.315	0.719	1.789
Jun	2.543	3,506	5,399	219	325	0.45	0.69	0.028	2.543	0.719	1.824	7.421	0.338	0.719	6.364

Population: 7,814

Month	Residential/Commercial Loads (Calculated)				Per Capita Res/Comm. Loads				AWW I/I Calculation			MWW I/I Calculation			
	Average Flow (Inc. I/I) MGD	Average CBOD lbs/day	Average TSS lbs/day	Average TKN lbs/day	Average Flow (Inc. I/I) gal/c/d	Average CBOD lbs/c/d	Average TSS lbs/c/d	Average TKN lbs/c/d	Average Res + I/I MGD	Average Res Dry Weather MGD	I/I Calc. MGD	Max MGD	Avg Industrial MGD	Average Res Dry Weather MGD	Max I/I
Jul	1.554	2,670	4,393	305	199	0.34	0.56	0.039	1.554	0.719	0.835	3.646	0.287	0.719	2.640
Aug	2.073	2,926	7,831	340	265	0.37	1.00	0.043	2.073	0.719	1.354	6.956	0.164	0.719	6.073
Sep	3.316	3,631	7,623	308	424	0.46	0.98	0.039	3.316	0.719	2.597	5.962	0.123	0.719	5.120
Oct	3.106	4,433	8,766	219	397	0.57	1.12	0.028	3.106	0.719	2.387	7.887	0.159	0.719	7.009
Nov	1.609	3,417	7,326	362	206	0.44	0.94	0.046	1.609	0.719	0.890	2.259	0.126	0.719	1.414
Dec	1.451	3,408	6,775	447	186	0.44	0.87	0.057	1.451	0.719	0.732	2.944	0.112	0.719	2.113
Jan 19	1.331	2,358	3,852	280	170	0.30	0.49	0.036	1.331	0.719	0.612	1.850	0.055	0.719	1.076
Feb	1.186	2,728	3,906	421	152	0.35	0.50	0.054	1.186	0.719	0.467	1.508	0.049	0.719	0.740
Mar	2.110	3,766	5,853	355	270	0.48	0.75	0.045	2.110	0.719	1.391	7.262	0.051	0.719	6.492
Apr	2.128	3,891	6,228	381	272	0.50	0.80	0.049	2.128	0.719	1.409	3.143	0.051	0.719	2.373
May	3.229	2,359	3,577	339	413	0.30	0.46	0.043	3.229	0.719	2.510	7.519	0.046	0.719	6.754
Jun	2.064	2,772	4,565	305	264	0.35	0.58	0.039	2.064	0.719	1.345	2.973	0.048	0.719	2.206
Jul	1.330	3,769	5,171	321	170	0.48	0.66	0.041	1.330	0.719	0.611	1.886	0.054	0.719	1.113
Aug	1.156	3,003	3,838	383	148	0.38	0.49	0.049	1.156	0.719	0.437	2.180	0.054	0.719	1.407
Sep	1.378	2,384	2,738	305	176	0.31	0.35	0.039	1.378	0.719	0.659	2.496	0.056	0.719	1.721
Oct	3.146	2,689	4,677	485	403	0.34	0.60	0.062	3.146	0.719	2.427	7.274	0.068	0.719	6.487
Nov	1.600	3,074	3,392	381	205	0.39	0.43	0.049	1.600	0.719	0.881	2.282	0.087	0.719	1.476
Dec	1.715	2,523	2,100	348	219	0.32	0.27	0.045	1.715	0.719	0.996	2.538	0.067	0.719	1.752
2017-19															
Average	1.734	3,099	4,602	351	222	0.40	0.59	0.045	1.734	0.719	1.015	3.409	0.152	0.719	2.537
Maximum	3.316	4,433	8,766	548	424	0.57	1.12	0.070	3.316	0.719	2.597	7.887	0.338	0.719	7.009
90th Perctl	2.845	3,768	7,474	437	364	0.48	0.96	0.056	2.845	0.719	2.126	7.268	0.305	0.719	6.426
95th Perctl	3.167	3,885	7,948	469	405	0.50	1.02	0.060	3.167	0.719	2.448	7.446	0.319	0.719	6.558
99th Pertl	3.285	4,243	8,603	526	420	0.54	1.10	0.067	3.285	0.719	2.567	7.758	0.332	0.719	6.920
Minimum	0.776														
2012-19															
Average	1.450	2,711	3,609	329	186	0.35	0.46	0.042	1.450	0.719	0.731	2.737	0.093	0.719	1.926
Maximum	3.316	4,433	8,766	548	424	0.57	1.12	0.070	3.316	0.719	2.597	7.887	0.338	0.719	7.061
90th Perctl	2.437	3,692	5,641	433	312	0.47	0.72	0.055	2.437	0.719	1.718	6.066	0.245	0.719	5.256
95th Perctl	2.715	3,798	6,913	467	347	0.49	0.88	0.060	2.715	0.719	1.996	7.265	0.292	0.719	6.395
99th Pertl	3.233	4,221	8,323	521	414	0.54	1.07	0.067	3.233	0.719	2.514	7.833	0.323	0.719	7.012

Figure B.1 Influent Flow

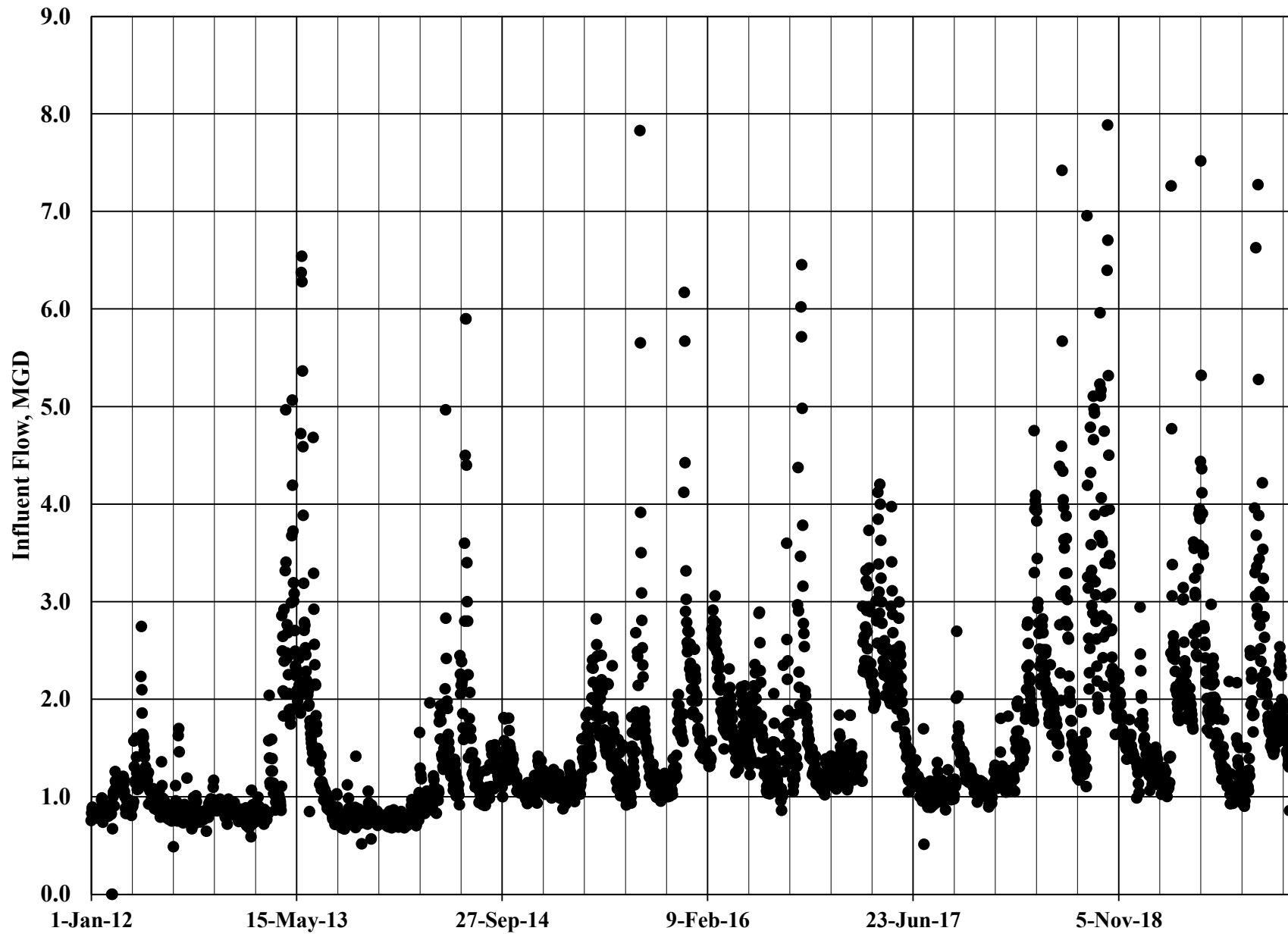


Figure B.2 Average Influent Flow

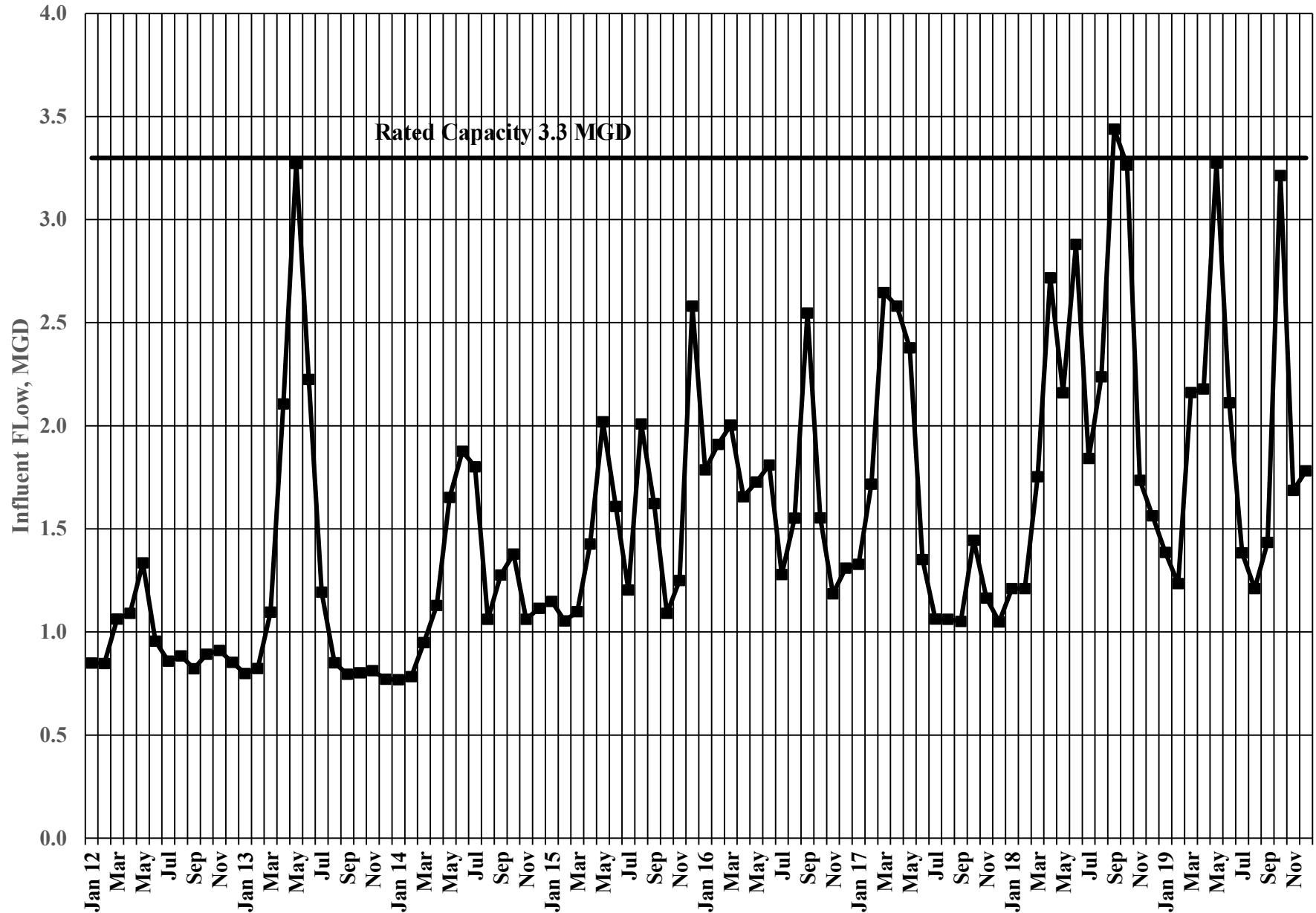


Figure B.3 Maximum Influent Flow

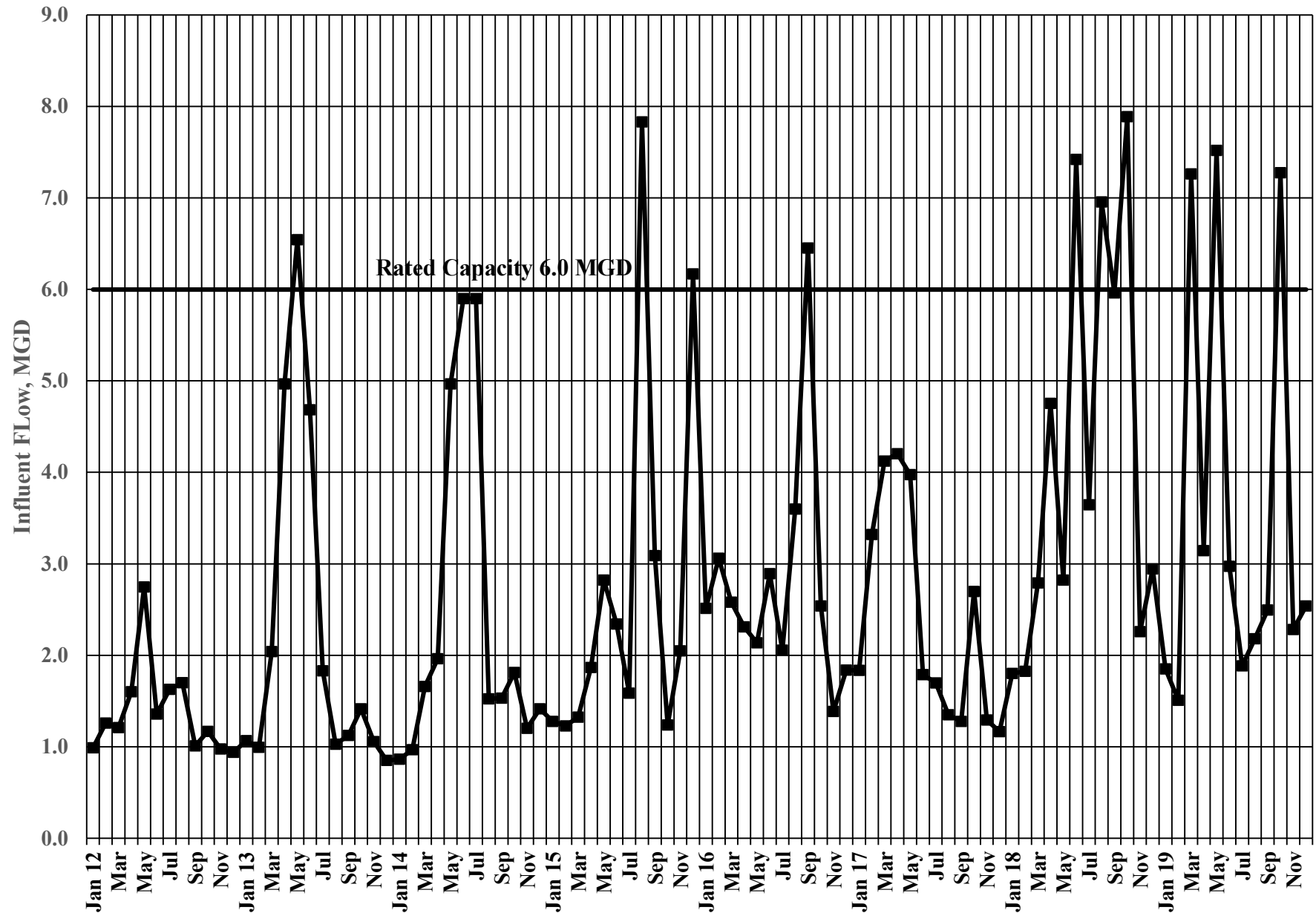


Figure B.4 Average Influent CBOD Load

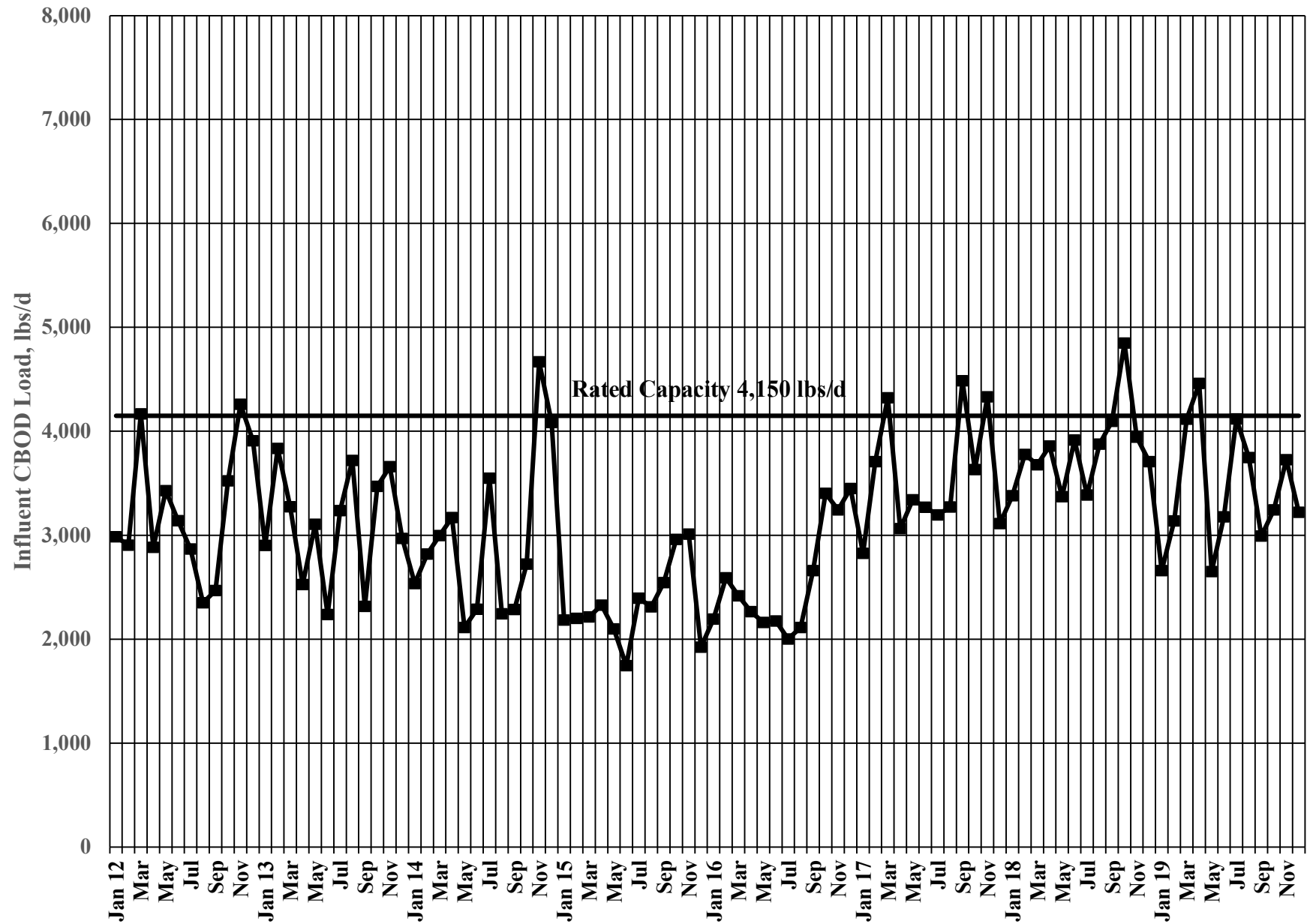


Figure B.5 Maximum Influent CBOD Load

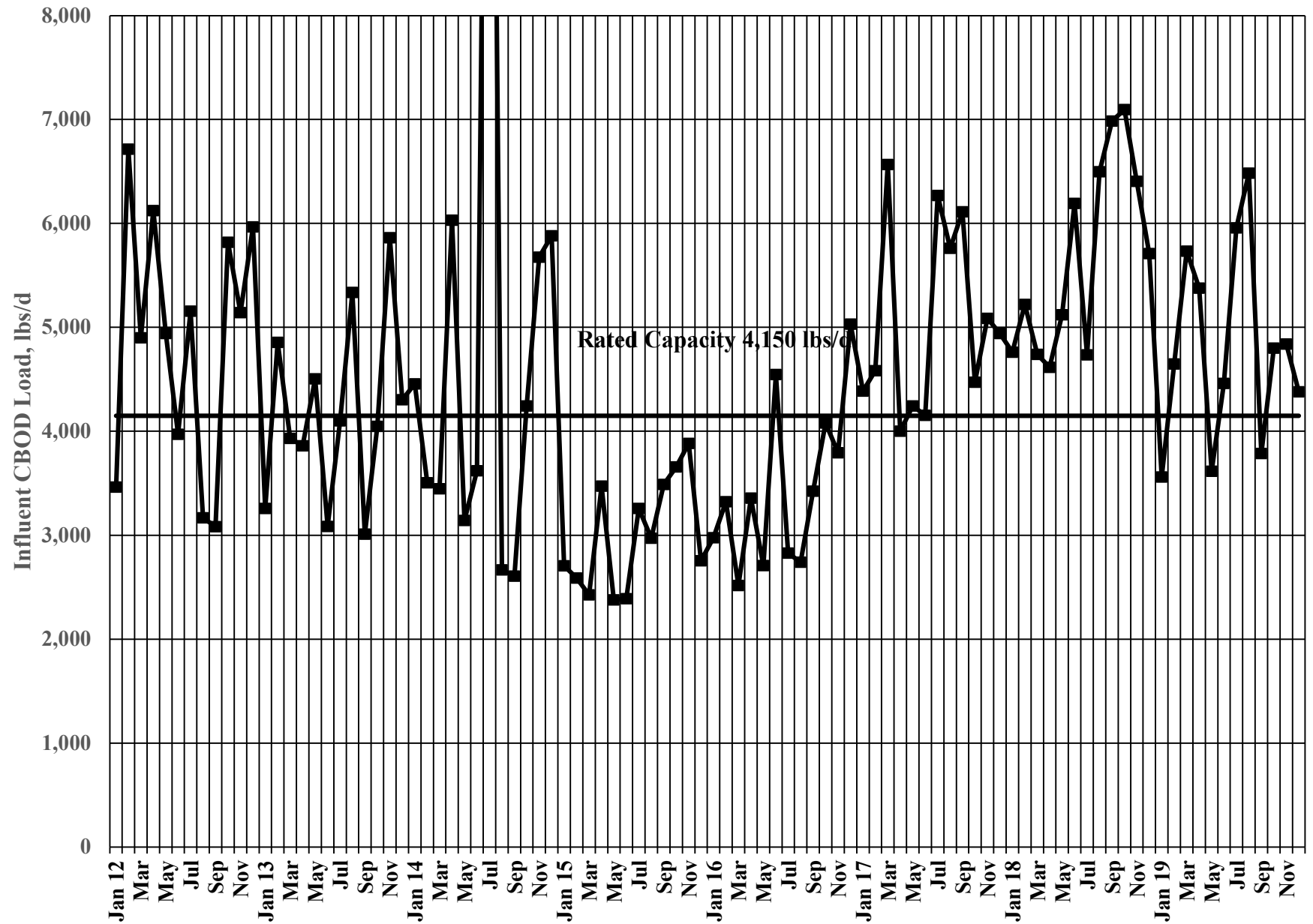


Figure B.6 Average TKN Load

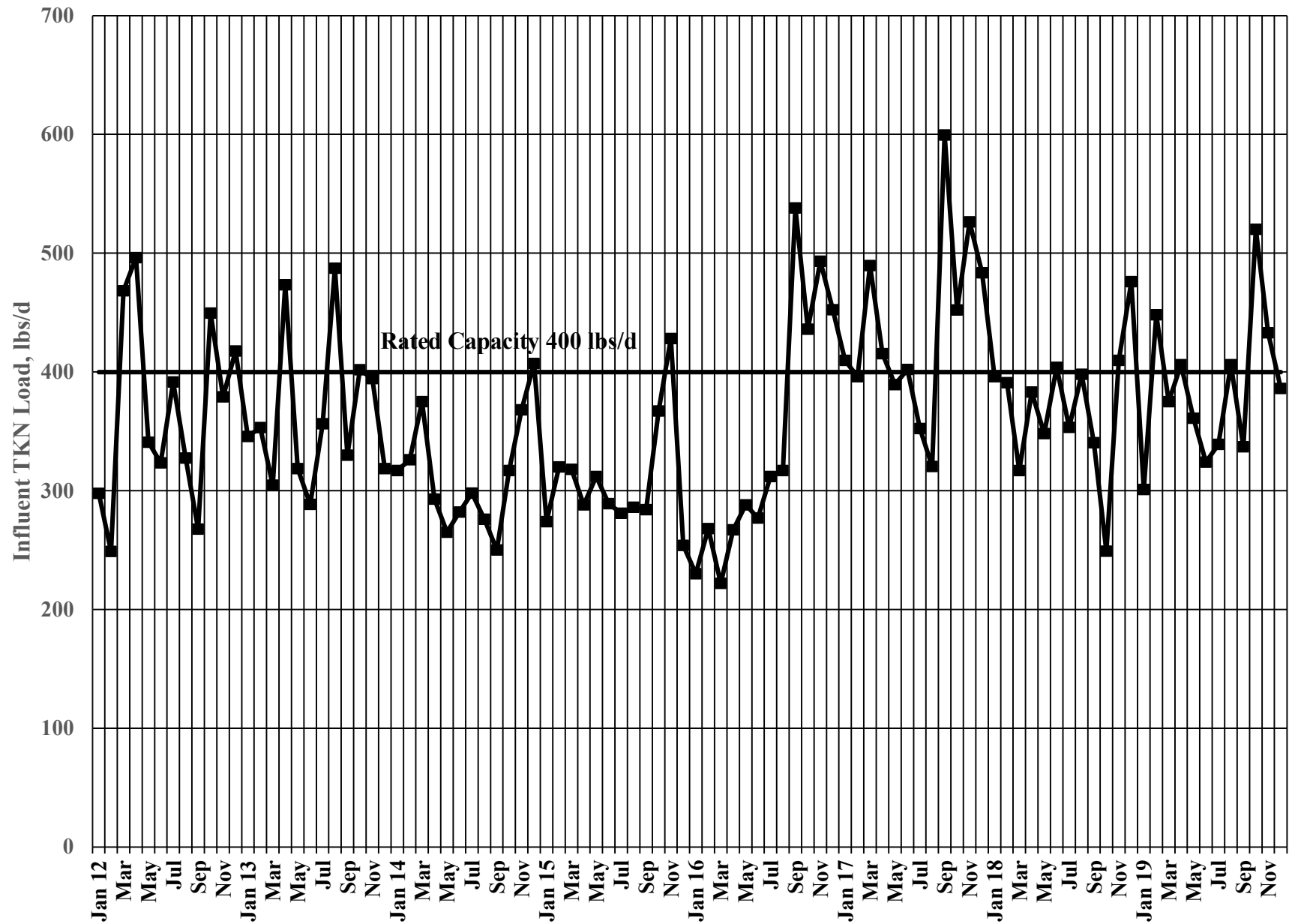


Figure B.7 Maximum TKN Load

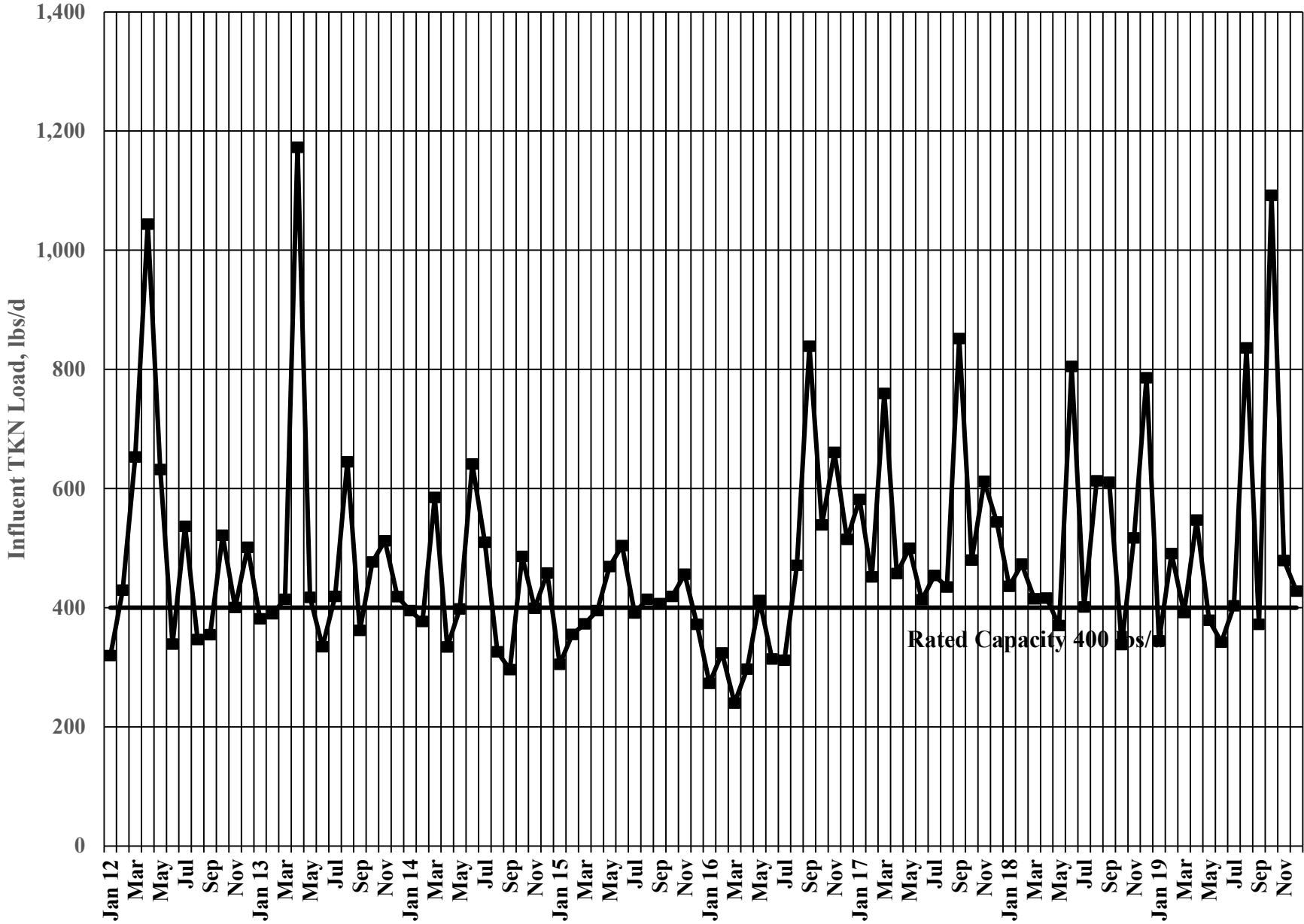


Figure B.8 Average TSS Load

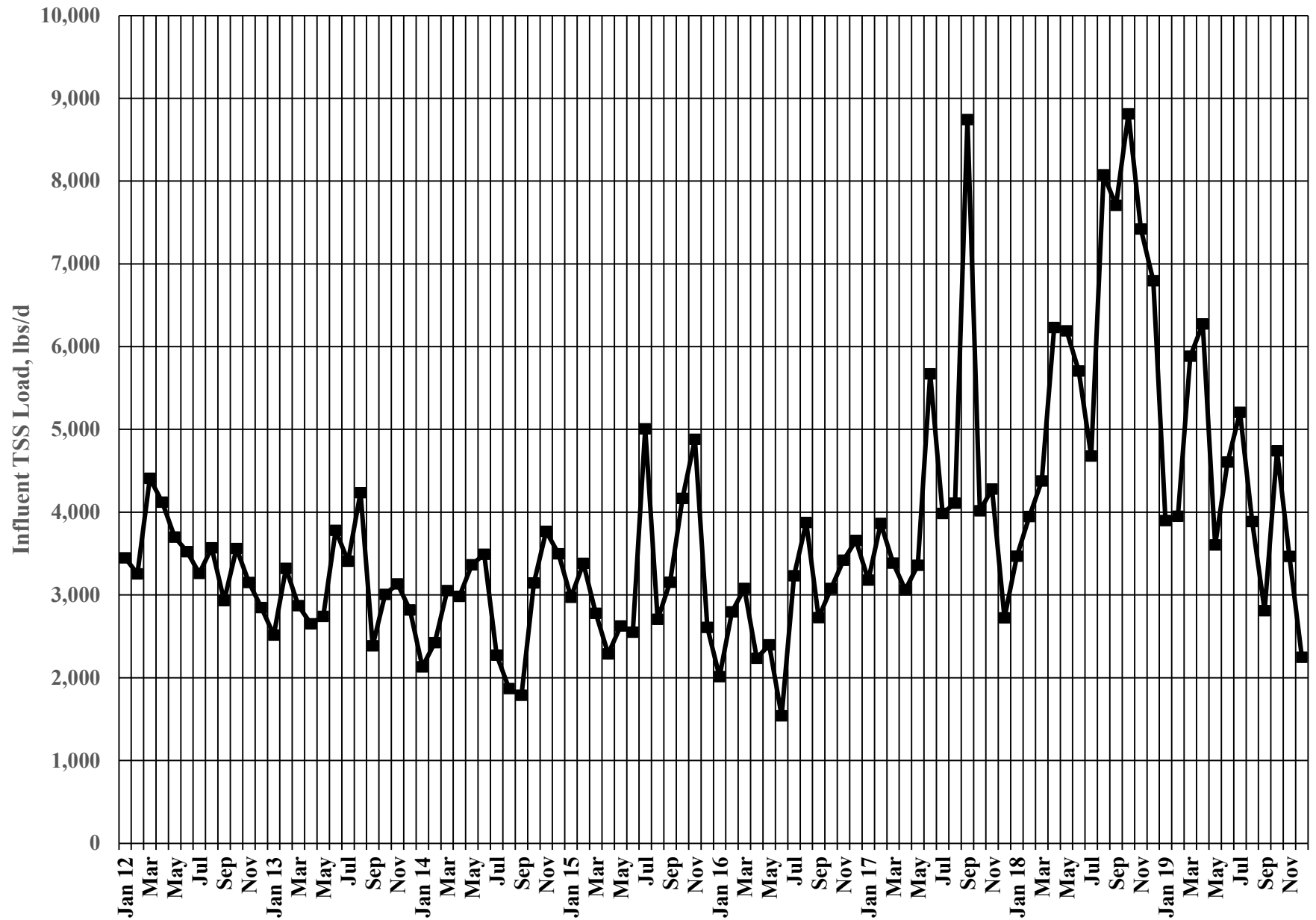


Figure B.9 Maximum TSS Load

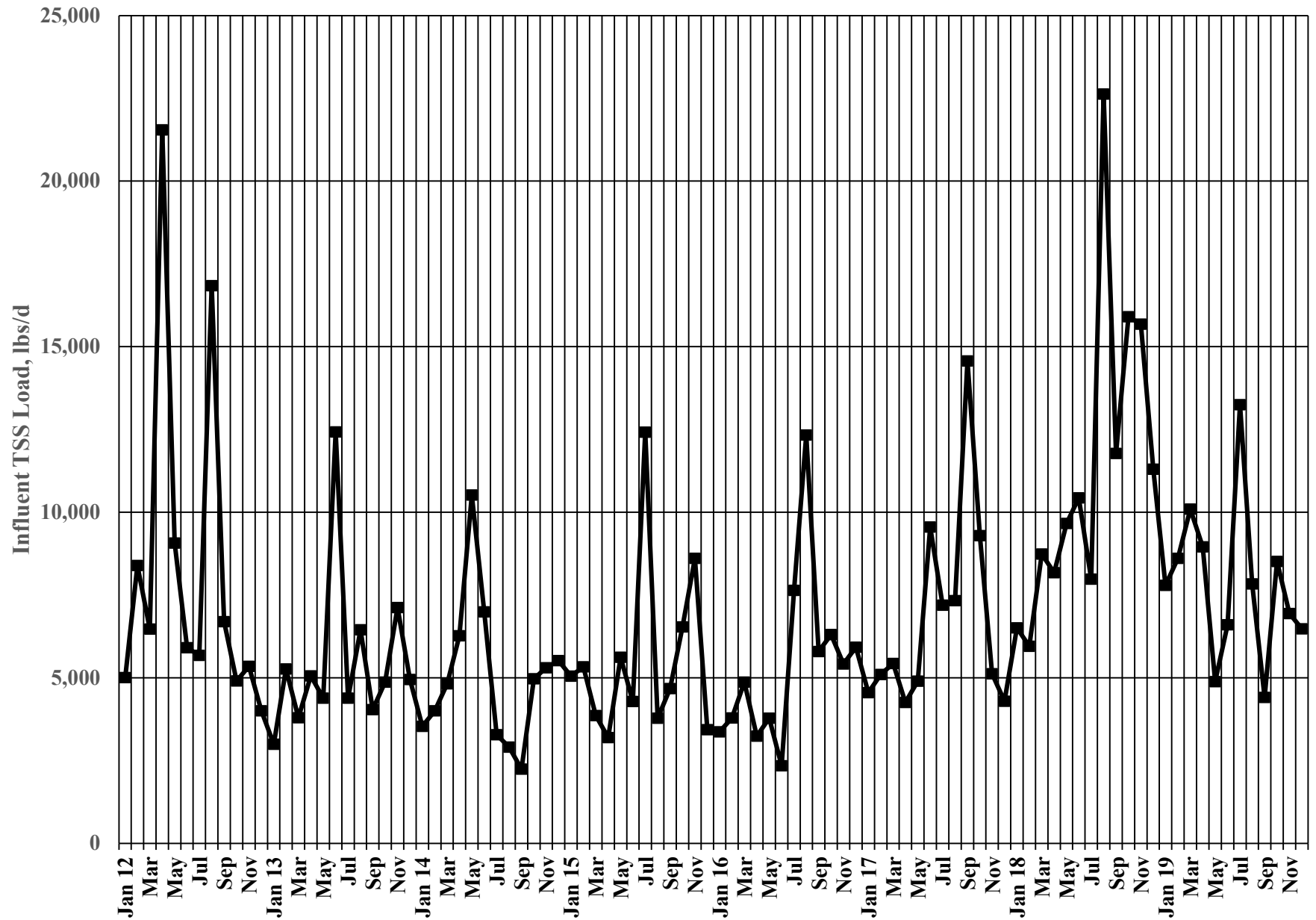


Figure B.10 Average Phosphorus Load

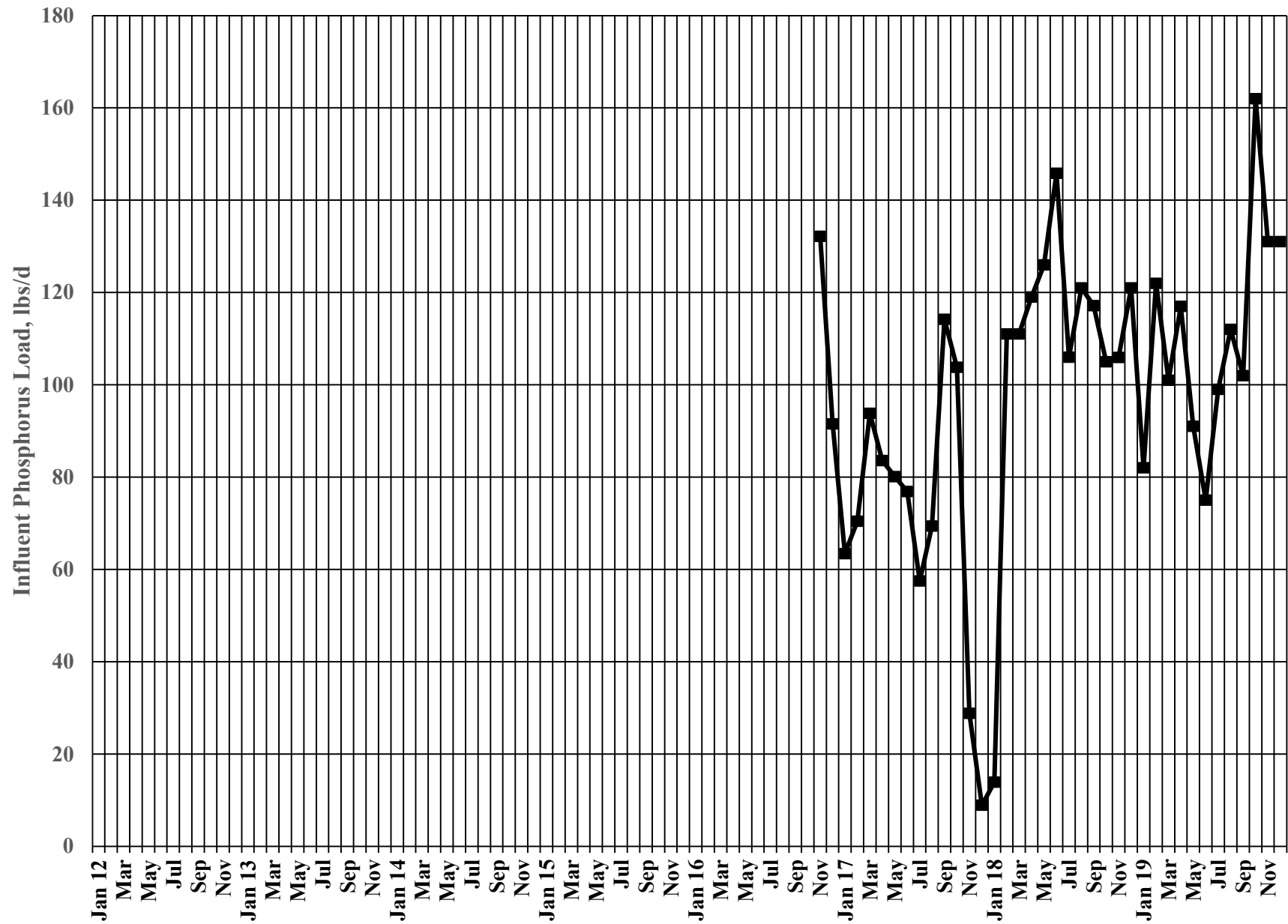


Figure B.11 Maximum Phosphorus Load

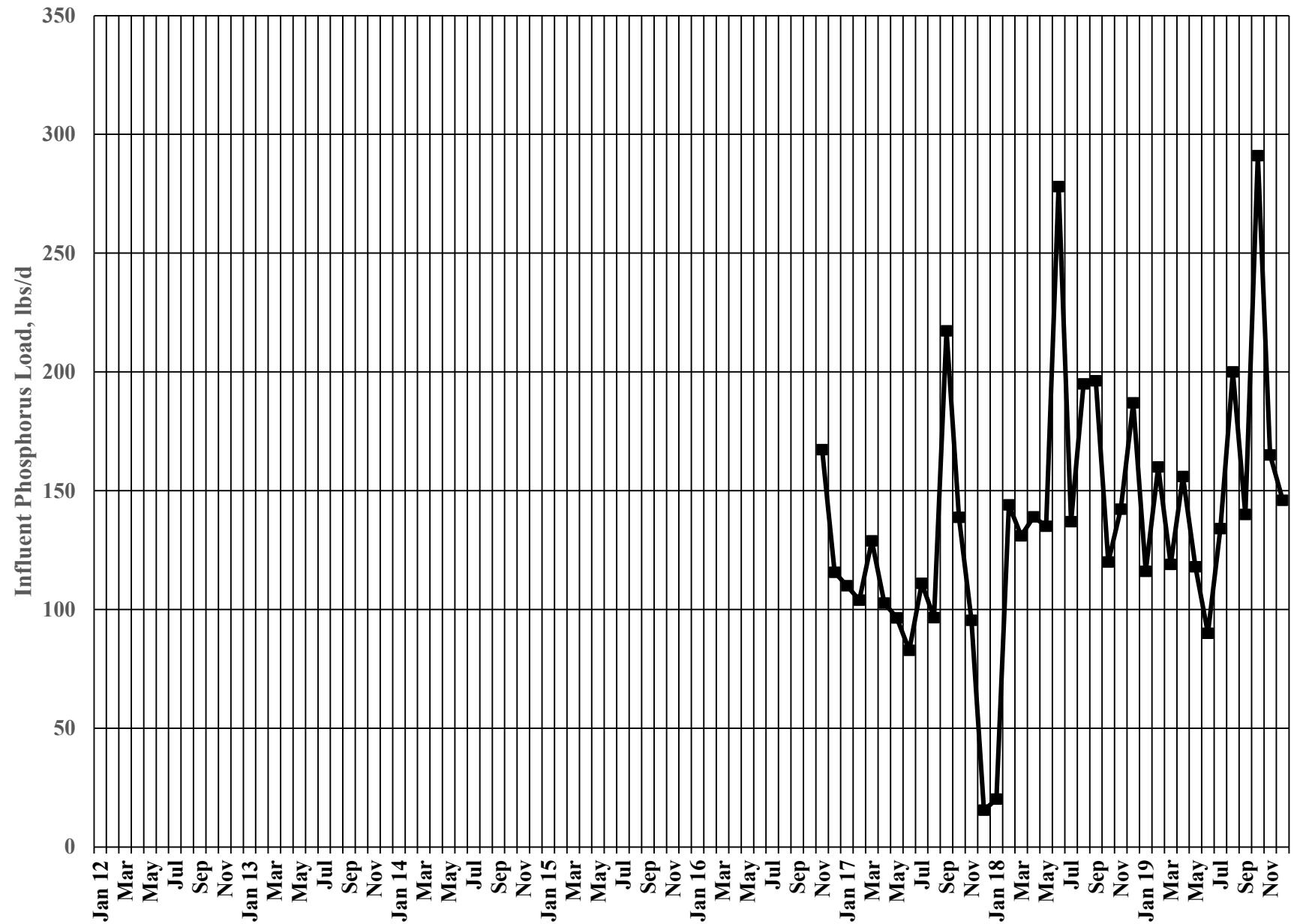


Figure B.12 Average Estimated Inflow and Infiltration Flow

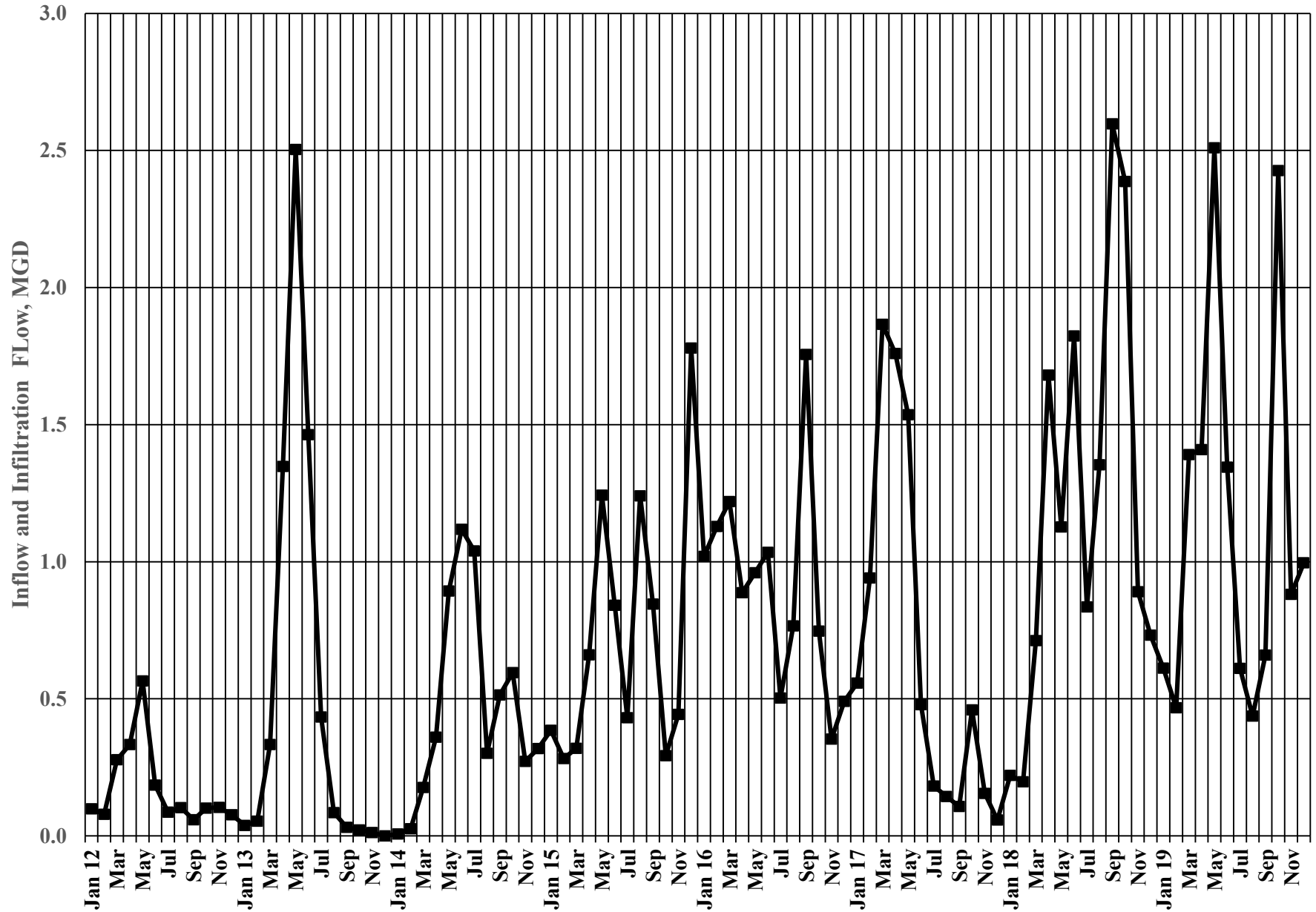


Figure B.13 Maximum Day Estimated Inflow and Infiltration Flow

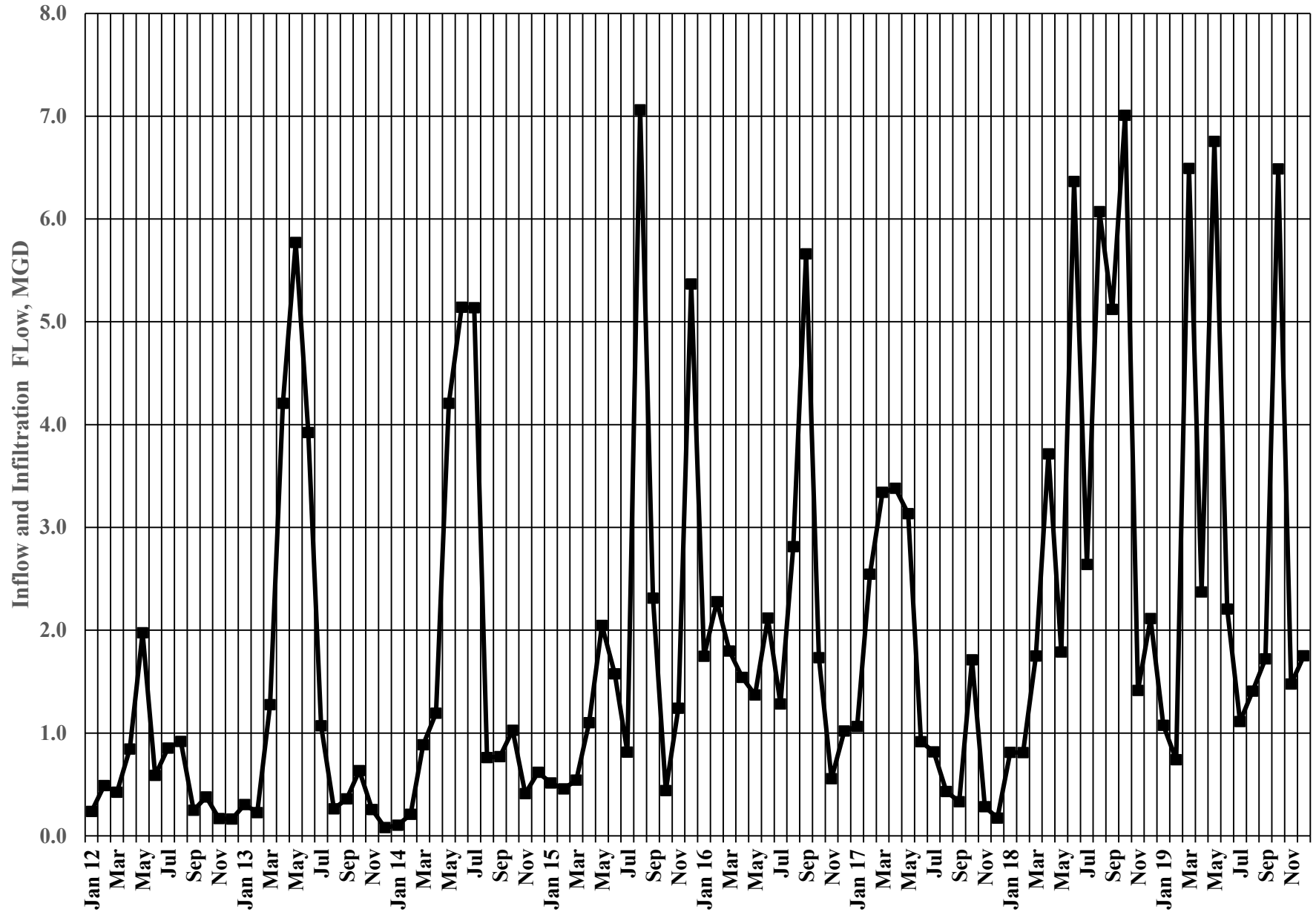


Figure B.14 Average Per Capita CBOD Load

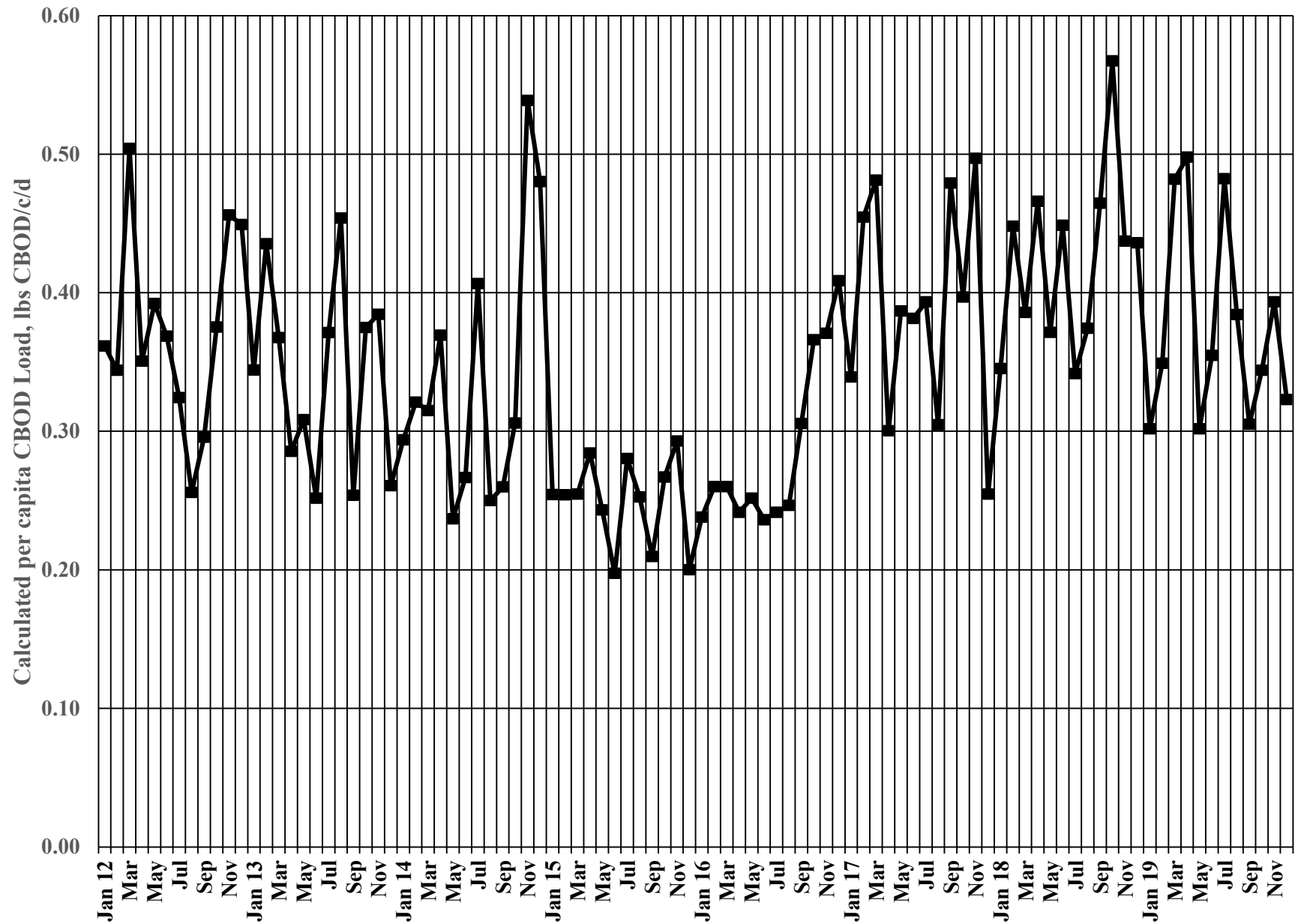


Figure B.15 Average Per Capita TSS Load

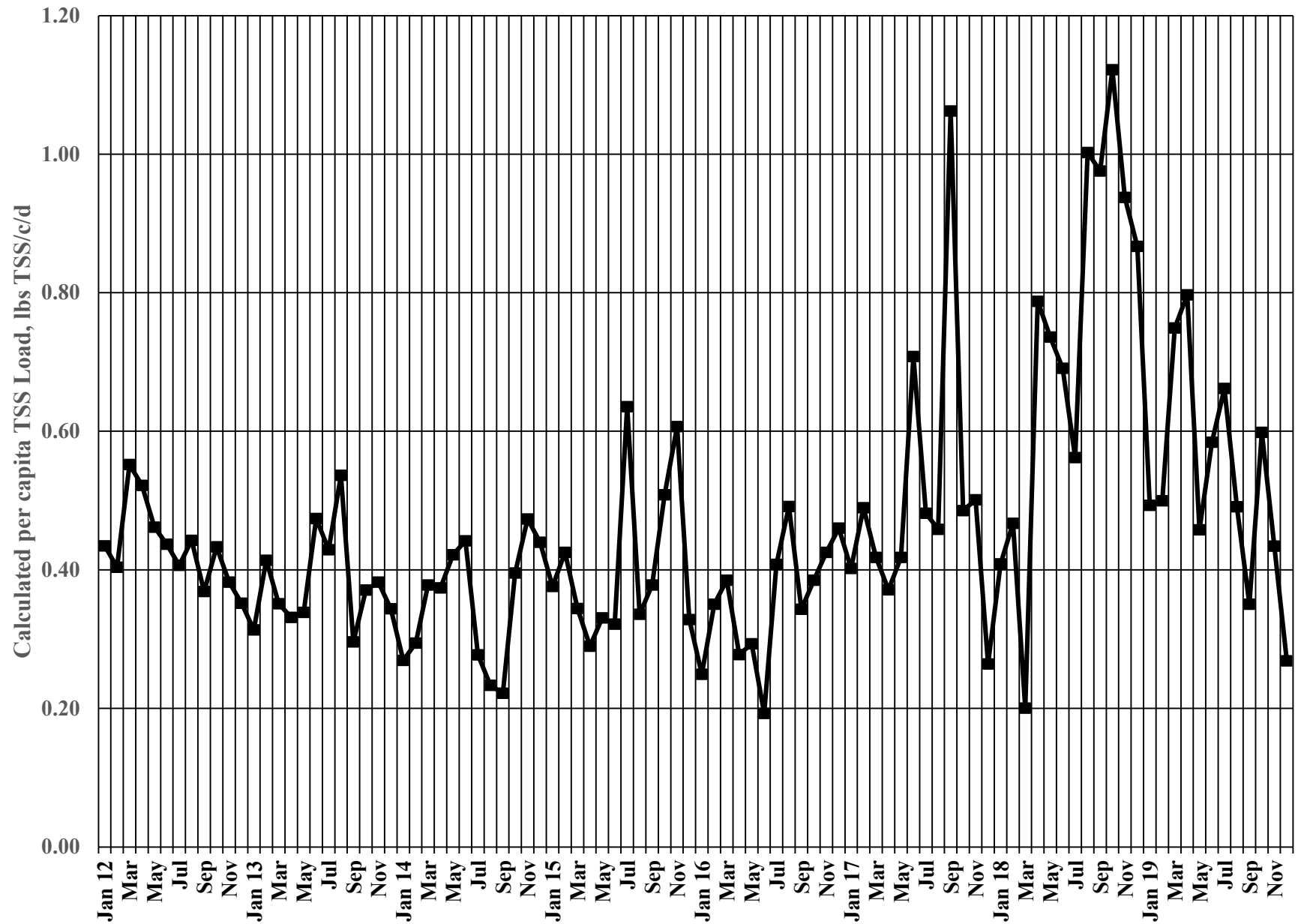


Figure B.16 Average Per Capita TKN Load

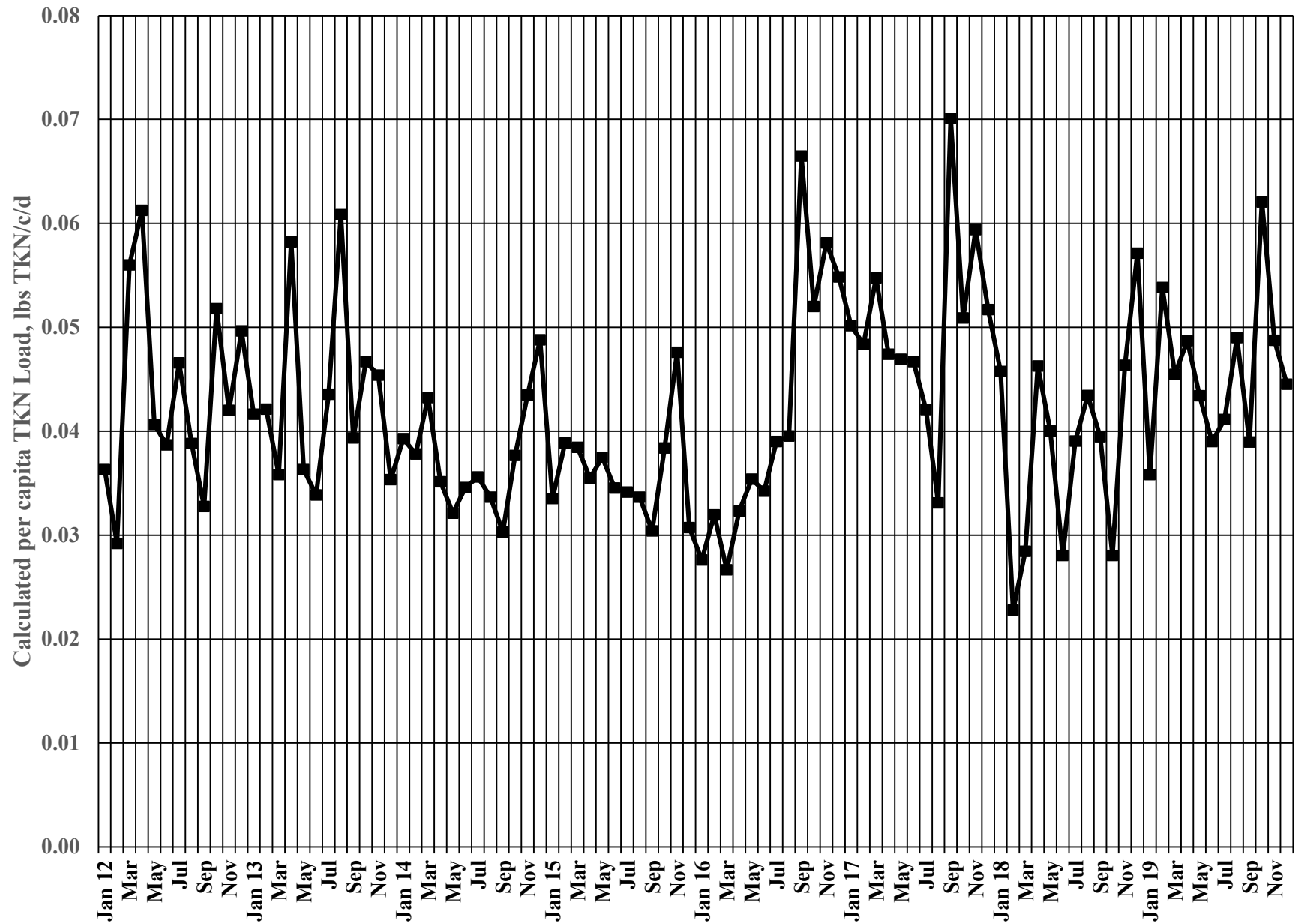


Figure B.17 Monthly Average Per Capita CBOD Load Percentile 2012 - 2020

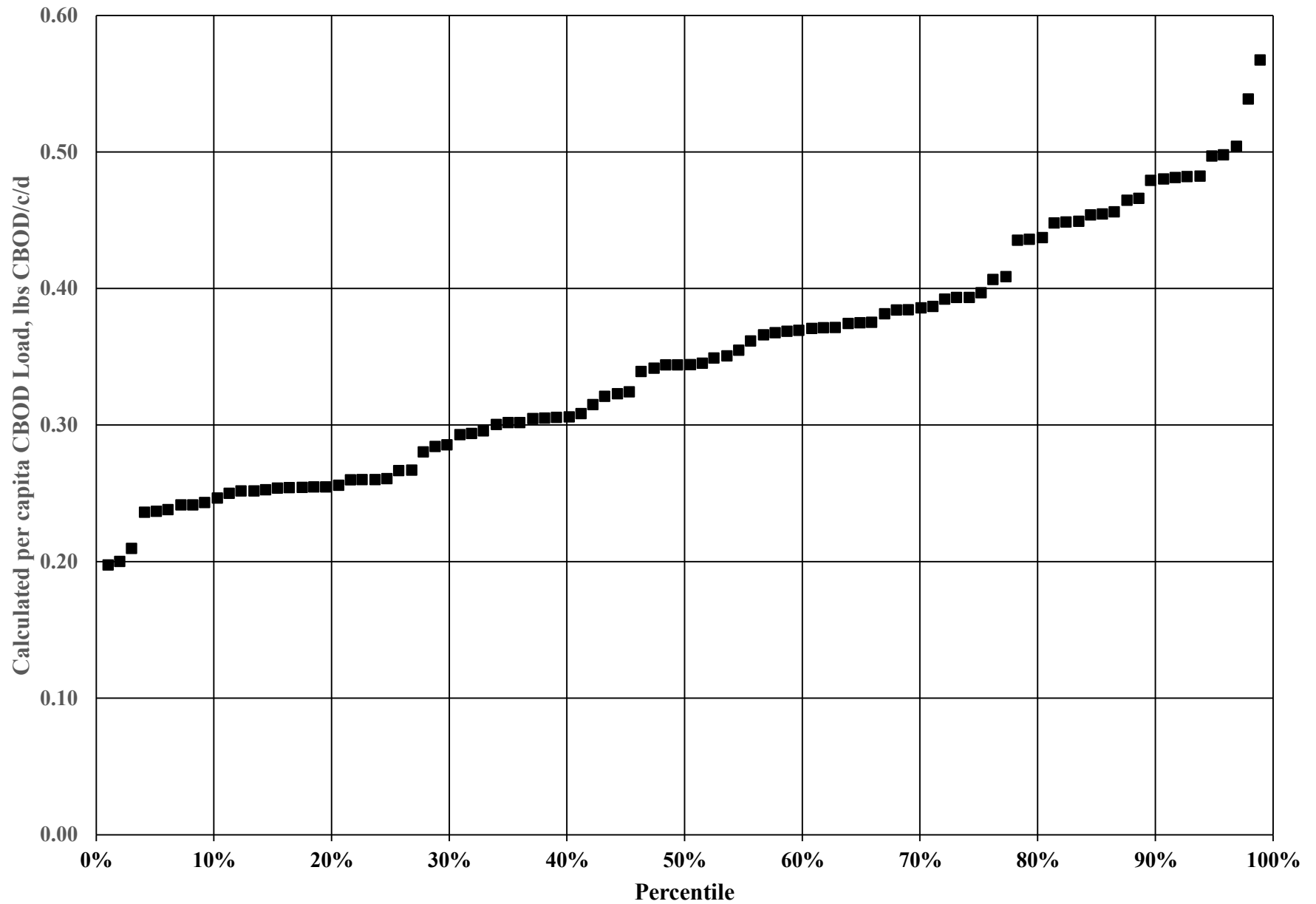


Figure B.18 Monthly Average Per Capita TSS Load Percentile 2012 - 2020

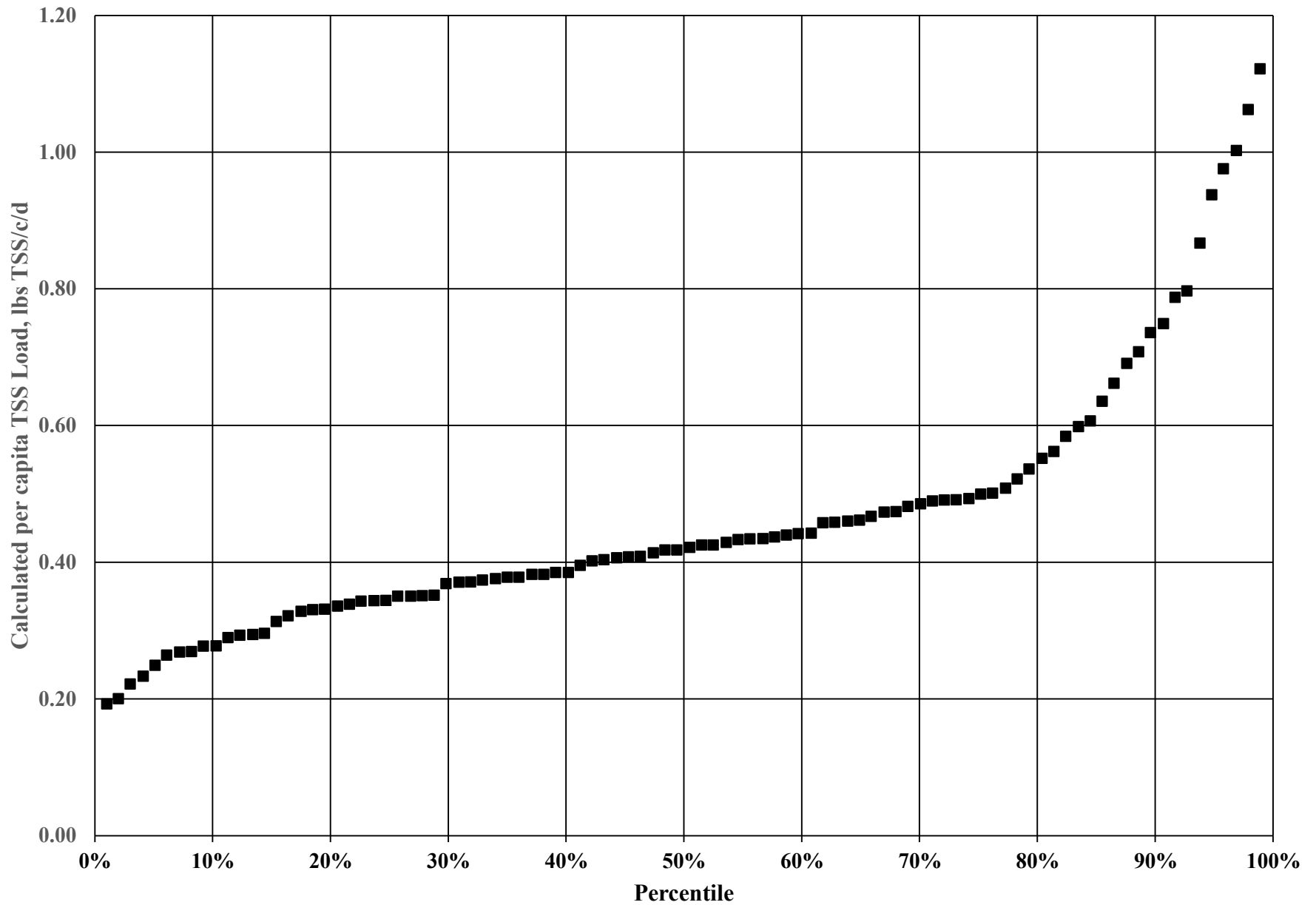


Figure B.19 Monthly Average Per Capita TKN Load Percentile 2012 - 2020

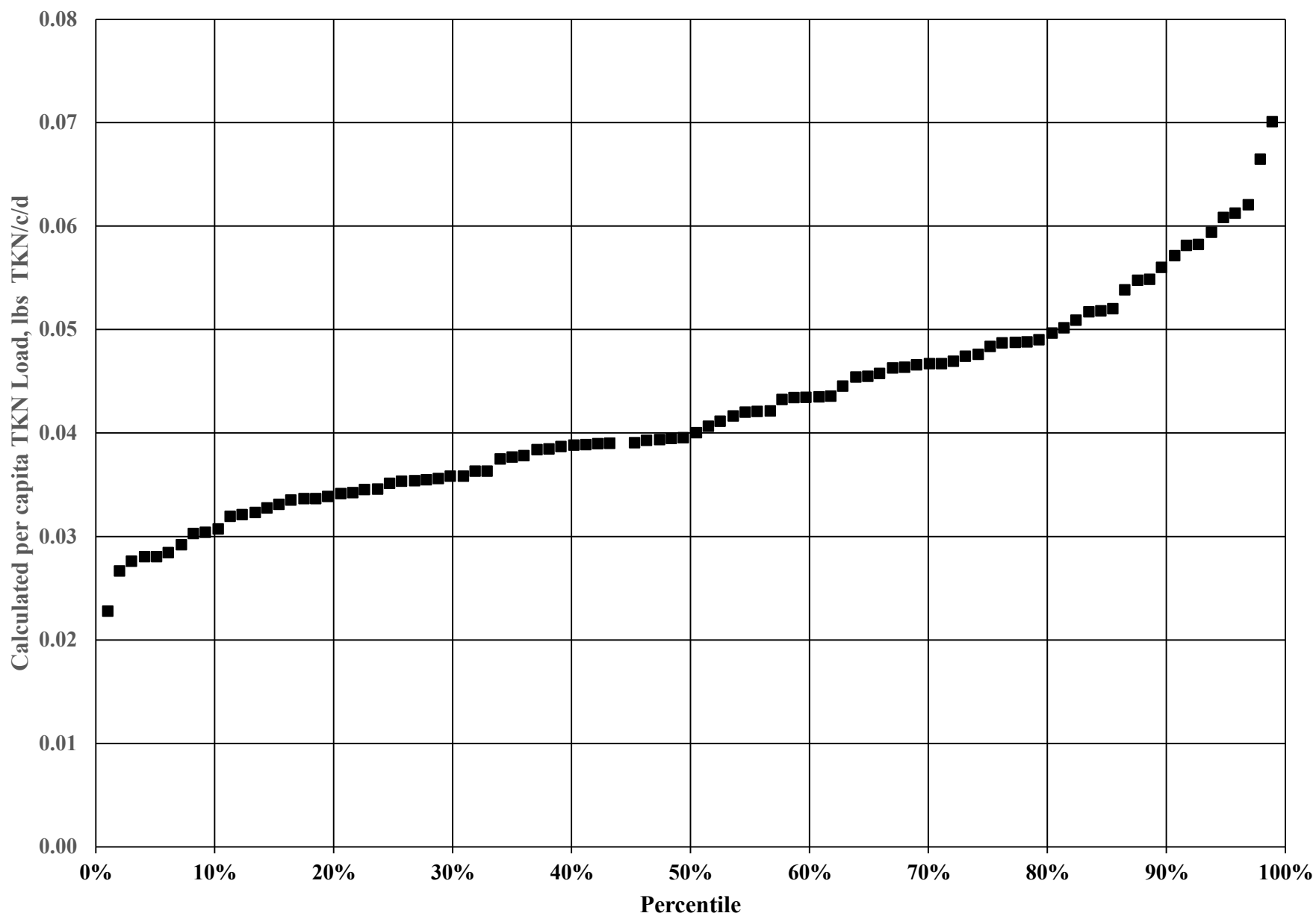


Figure B.20 Monthly Average Influent Flow Percentile 2012 - 2020

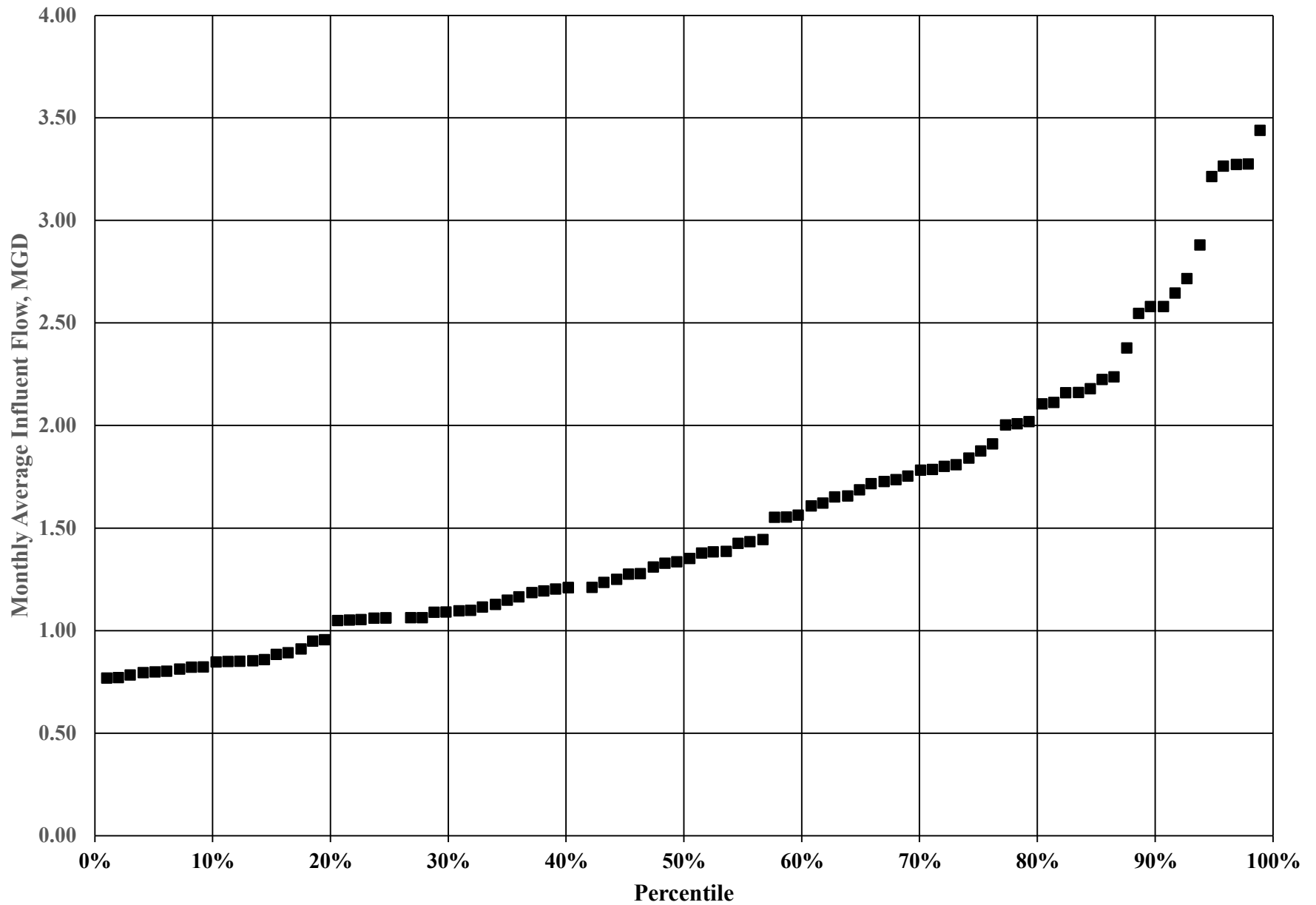


Figure B.21 Monthly Average CBOD Load Percentile 2012 - 2020

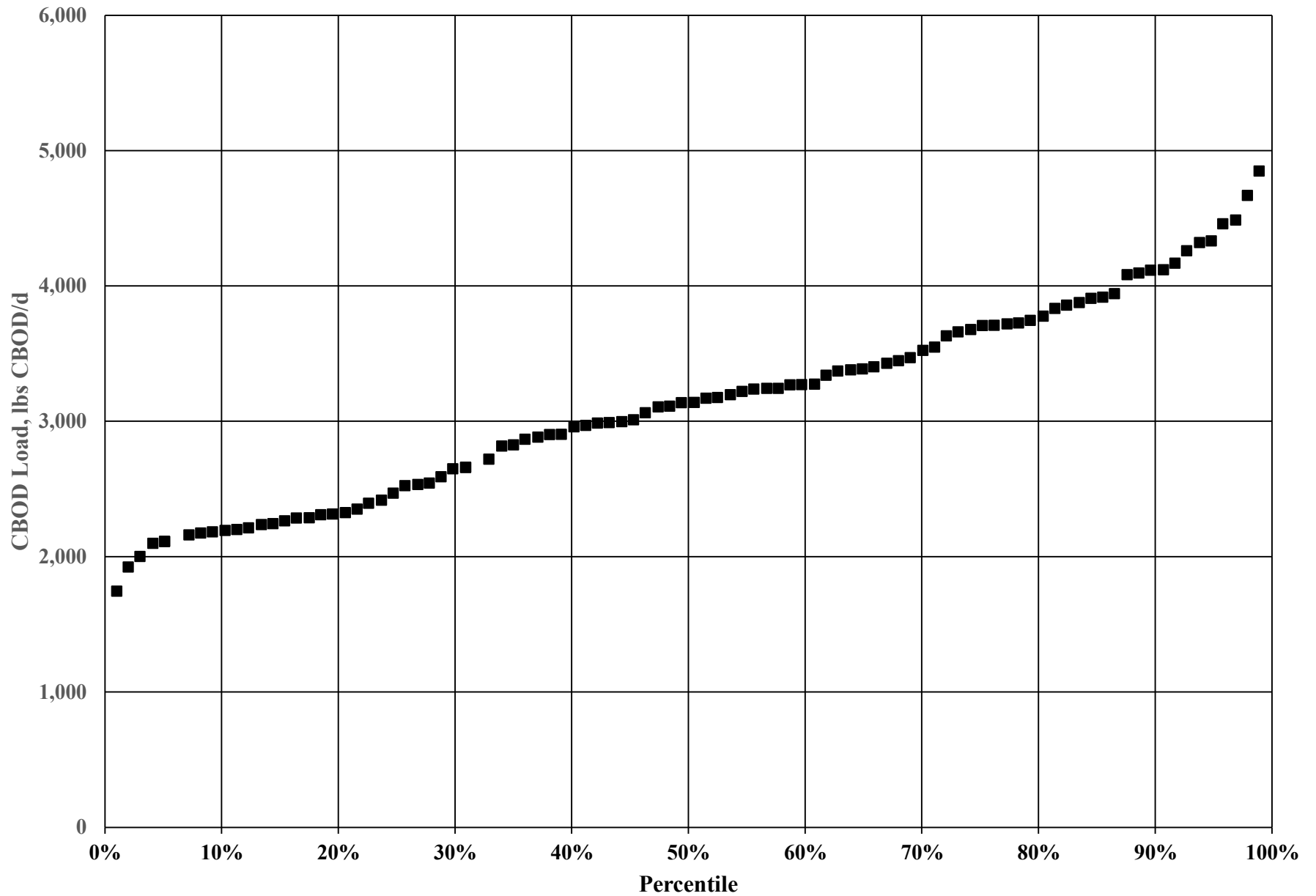


Figure B.22 Monthly Average TSS Load Percentile 2012 - 2020

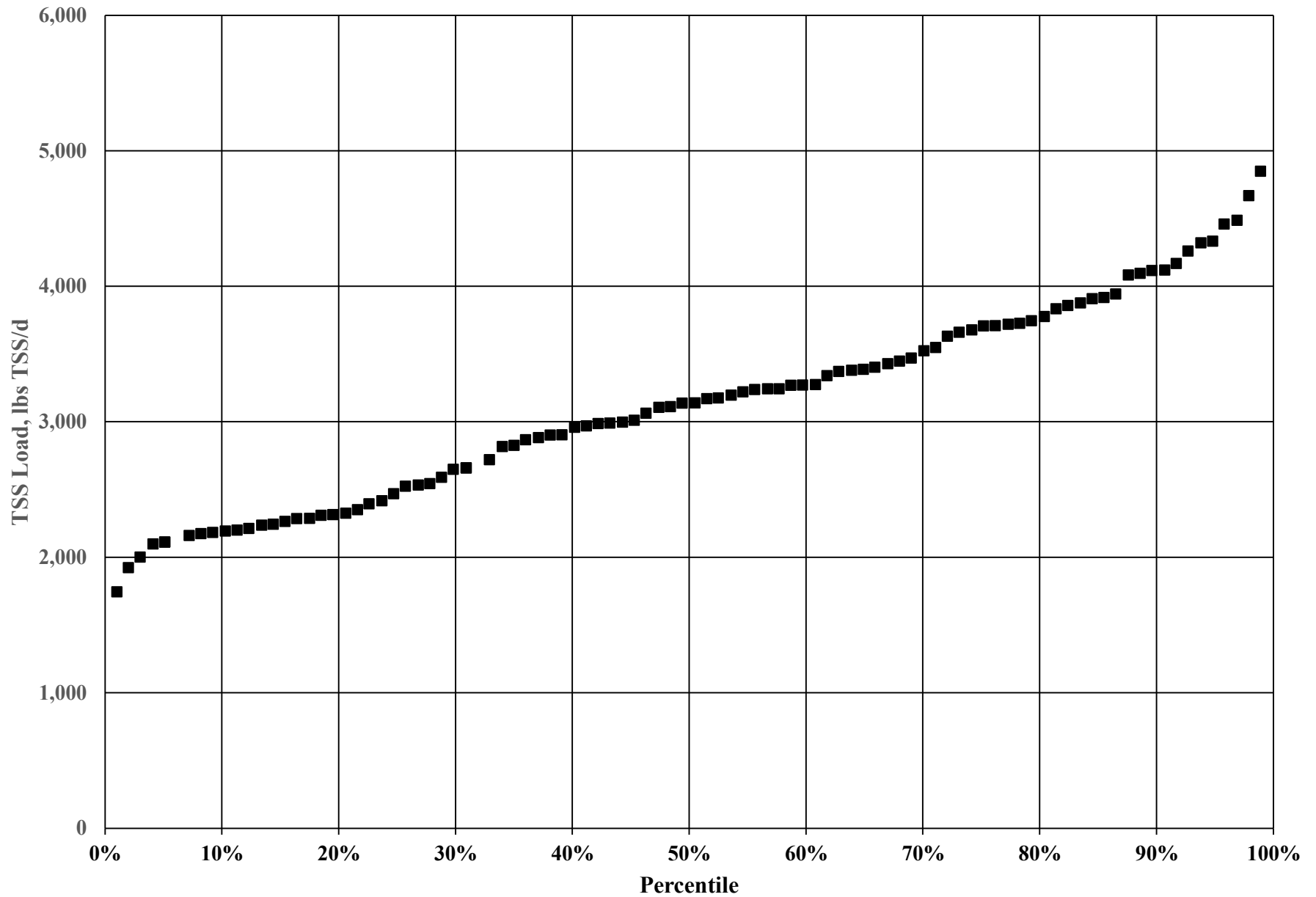


Figure B.23 Monthly Average TKN Load Percentile 2012 - 2020

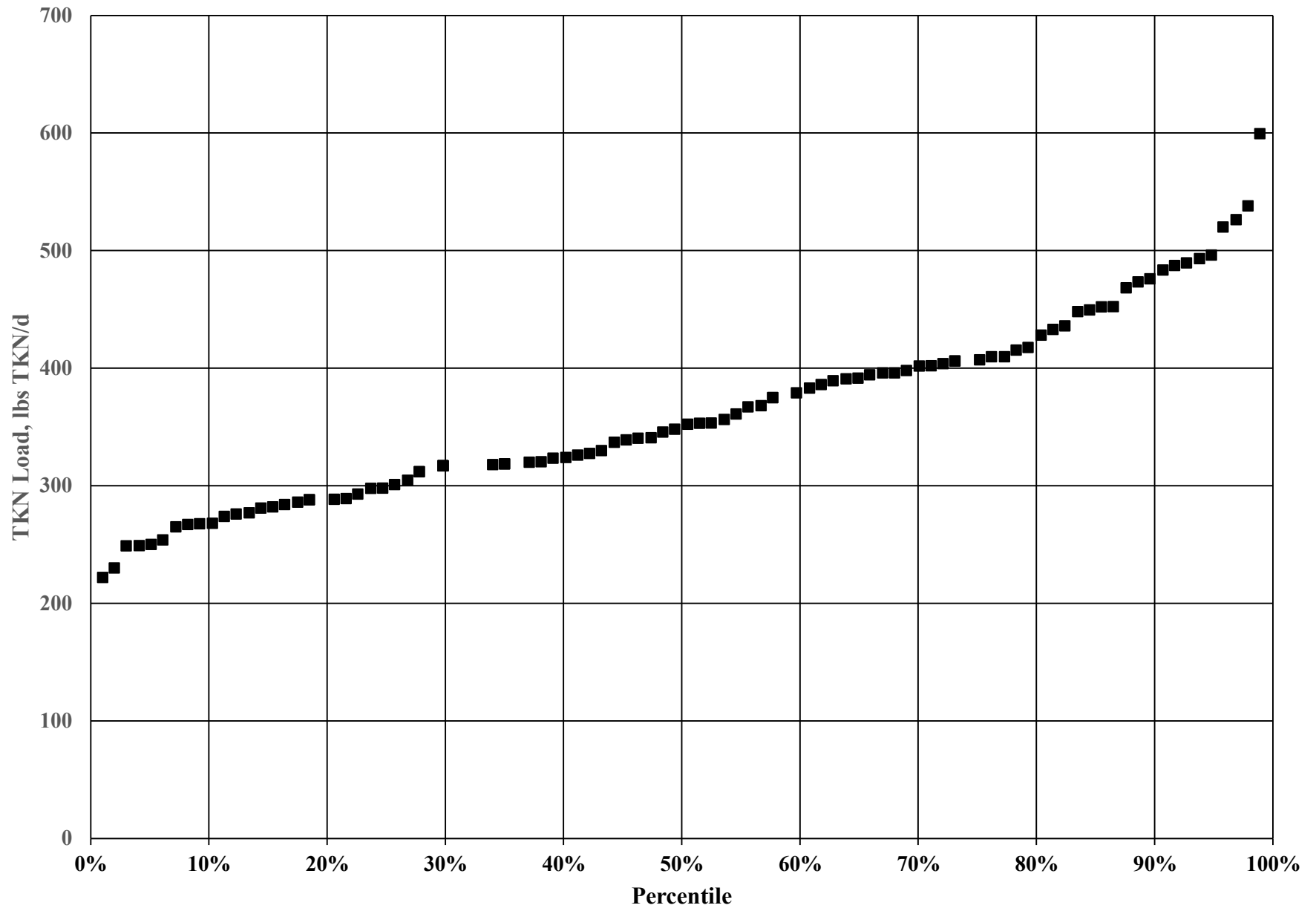
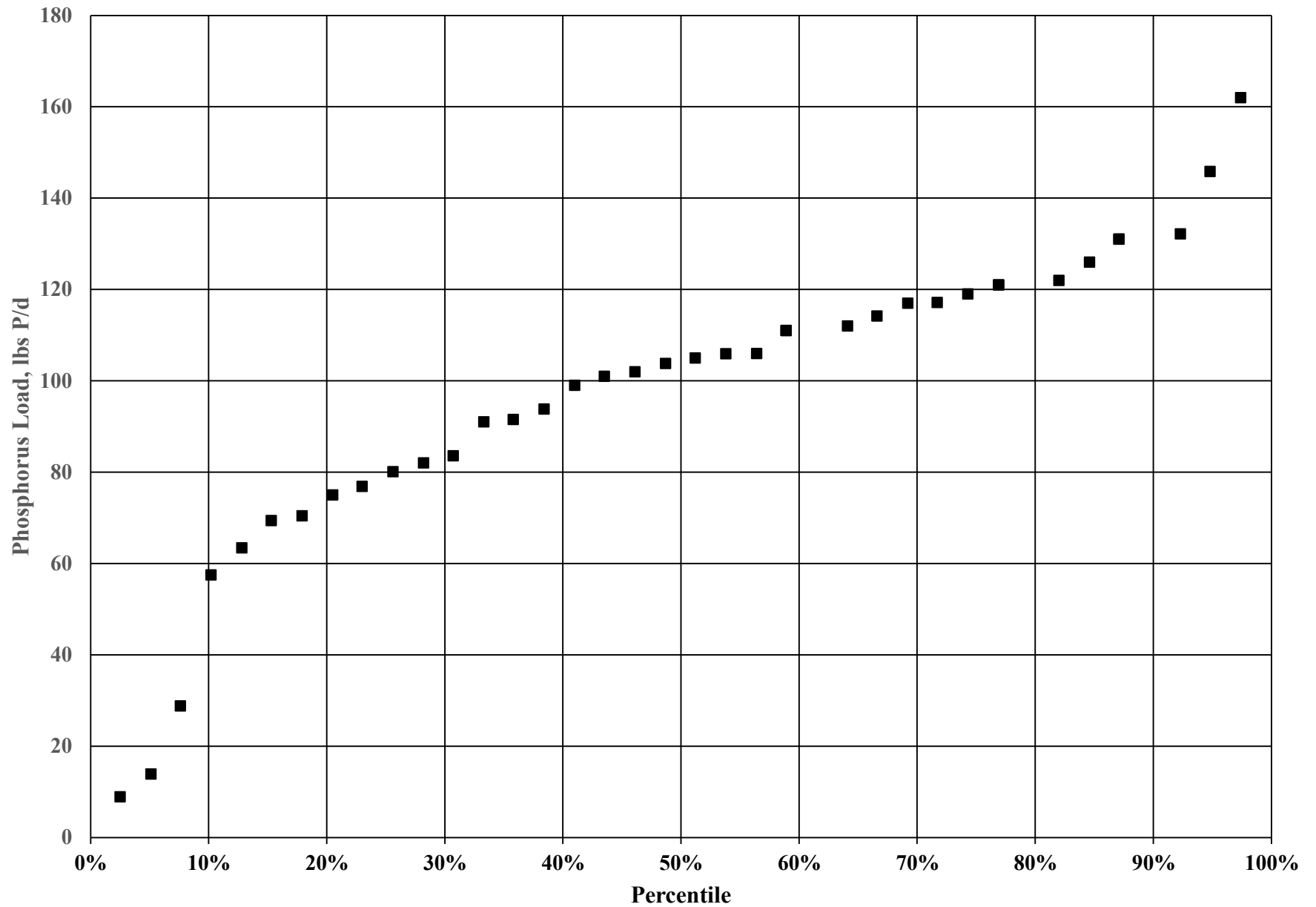


Figure B.24 Monthly Average Phosphorus Load Percentile 2017 - 2020



Appendix C: Population Projection



MEMO

TO: Gregory L Sindt P.E., Senior Principal Environmental Engineer
Bolton & Menk, Inc.

FROM : Daniel Ortiz-Hernandez, City Manager

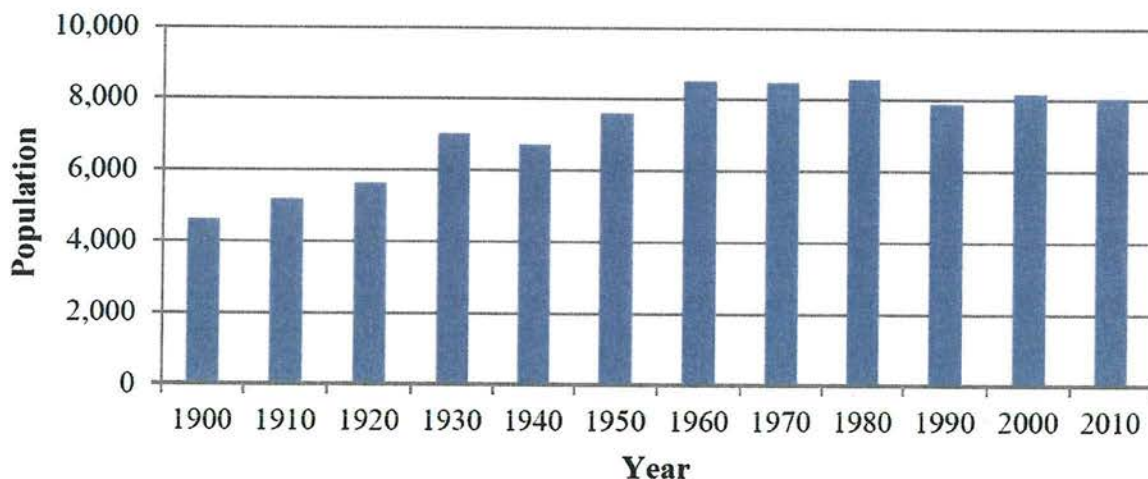
DATE: April 26, 2016

RE: Future Population Estimate for WWTP Capacity

Greg,

In consideration of the City of Webster City's future population estimates, the City has to consider not only historical trends but also recent activity that has the significant potential to impact future population estimates. Webster City experienced a steady increase in population between 1900-1960, and its population has been fluctuating since. The City's population peaked at 8,572 residents in 1980. It has generally remained stagnant at 8,000 residents or just below that level since that time. Chart 1 shows the population of Webster City for the decades 1900-2010.

Chart 1: Population of Webster City, 1900-2010



Source: State Data Center of Iowa, U.S. Census Bureau (2010)

In 2011, the City experienced the loss of major industry and employer, Electrolux. Official population estimates and documents prepared for the City, such as the most recent Comprehensive Plan and a

housing study completed in 2013, anticipated that the loss of this industry and major employer would lead to a decline in City's overall population.

"Webster City will have slightly less than 8,000 residents by the year 2025."

- A Housing Assessment and Strategy Plan for Webster City

While the community was impacted by the changes which occurred after Electrolux left, the City's population did not experience a large rapid decline as may have been expected. The City's population did fall below 8,000 residents and recent U.S. Census figures estimate the current population to be 7,814 (July, 2015). Additionally, Electrolux's departure resulted in several large industrial properties to sit vacant and unused for several years.

CURRENT ENVIRONMENT & RECENT ACTIVITY

The City's 2013 housing assessment and strategy plan and the City's Comprehensive Plan reflected and based some of their conclusions on the circumstances the community was undergoing at the time. Since that time the City has persevered, seen businesses and industries expand, and welcomed a new industry (VeroBlue Farms). VeroBlue Farms has acquired the vacant industrial properties previously mentioned and begun their aquaculture operations in the first quarter of 2017. Employment figures for VeroBlue are estimated to reach 150 employees or more spanning three or four sites in Webster City.

In addition to VeroBlue Farms, Mary Ann's Specialty Foods is undergoing a \$3,462,000.00 expansion and adding 25,000 square feet to their facilities to accommodate current demand and future growth. Mary Ann's anticipates with the expansion of adding to their current employment base consisting of over 180 employees. The project is financially supported by Mary Ann's business funds, bank loans, the City of Webster City's revolving loan program, and a recently awarded loan from USDA's REDL&G program.

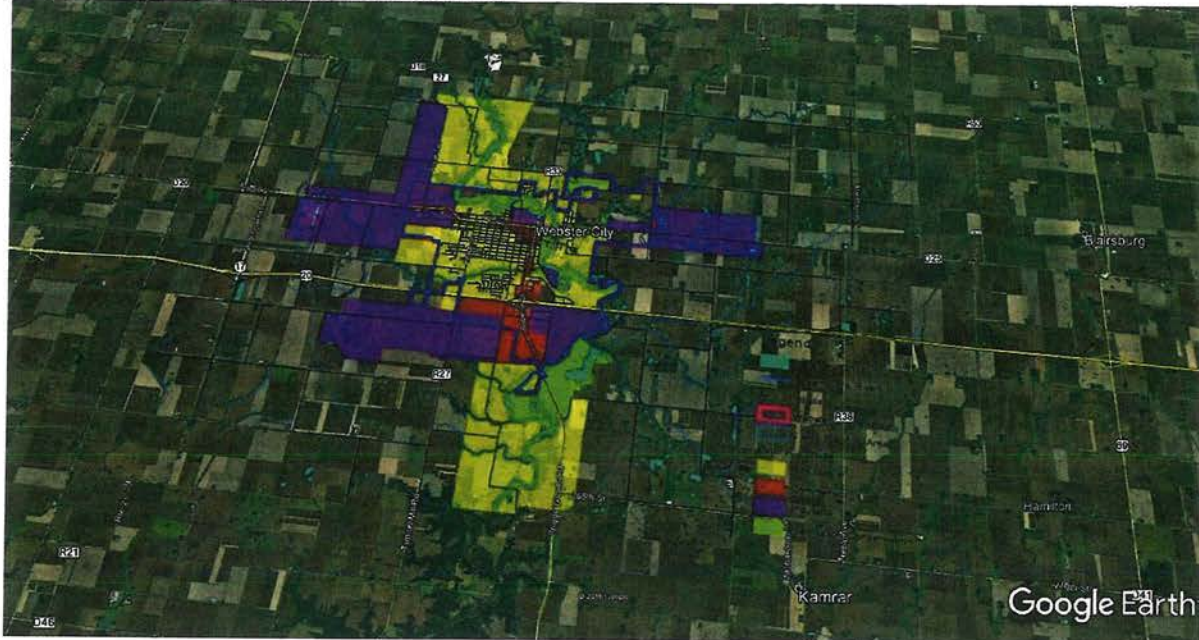
Beyond the City's corporate limits, the City will be impacted in future years by the upcoming development of Prestage Farms and their new pork processing plant in Wright County. The plant will have a major impact on the region and will be located just 11 miles from Webster City. An economic impact report developed by Goss & Associates Economic Solutions estimates in the first five years of operation the plant will have an impact of 922 direct jobs and support on average a total of 3,781 ancillary jobs each year within a ten (10) county area. Hamilton County is expected to have the 2nd largest impact. Webster City is not only the county seat for Hamilton County but also the largest and closest community in the County to the site of Prestage Farms' processing plant. Webster City also has the closest critical access hospital.

All the local and regional activities have begun to stimulate interest and residential growth. In 2016, the City of Webster City began to finalize engineering plans to complete its 5th and 6th addition of our self-developed housing subdivision known as Brewer Creek. Construction of the project began April 17, 2017 with an anticipated completion of fifty-three (53) residential lots by the fall of 2017. In addition, the City has processed requests for permits for single family residential homes to be constructed in existing subdivisions, and also been engaged with private developers seeking to build single and multi-family housing units. These discussions encompass projects ranging from a new subdivision ranging from one hundred residential lots, to twenty-four and sixty-unit apartment complexes. These projects and potential prospects are at varying degrees in the development process from preliminary site plan, to recently approved variance with the Board of Adjustment, to awaiting on application response for additional financial incentives from other entities.

FUTURE GROWTH ESTIMATE: 11,609 RESIDENTS

Given that current population forecasts do not account for activity that has occurred in the last eighteen (18) months in which industries have established or plan new operations in Webster City or the surrounding area, the City must calculate future population estimates that factors recent commercial/industrial activity and future residential developments. The map below taken from the City's most recent comprehensive plan depicts the City's future land use patterns, both within the corporate limits and the City's two (2) mile zoning jurisdiction. Current and future residential land use are depicted in yellow, industrial land use in purple, and commercial land use in red.

City of Webster City: Future Land Use Map



The City estimates there to be approximately 550 acres of land to be developed for residential purposes within the next twenty-five (25) years. This is based on current residential development projects, such as those previously mentioned, and areas where future residential development will likely occur based on the proximity of infrastructure, amenities, traffic corridors, suitable terrain, available land, and previously studied areas. This estimate does not represent 100% build out of all current and future residential land use.

The City's housing study and strategic plan from 2013 noted that Brewer Creek subdivision expansion of 5th through 7th additions would take up approximately 45 acres would provide about 135 lots at a gross density of three (3) units per acre. Under the current climate, and the City's development of Brewer Creek 5th and 6th addition will generate 53 residential lots. Combined with the potential of a twenty-unit and sixty-unit apartment complexes, they would total 137 housing units developed on thirty-five (35) acres at a density of approximately four (4) housing units per acre.

For planning purposes, the City utilizes the lesser figure of three (3) housing units per acre. Build out of 550 acres would then total approximately 1,650 housing units. Based on an average household size of 2.3, 1,650 new housing units over twenty-five years would result in a population increase of an estimated 3,795 new residents. The City's estimated population would then be 11,609 residents.

Gregory Sindt

From: City Manager Webster City Ia <citymanager@webstercity.com>
Sent: Thursday, April 02, 2020 4:36 PM
To: Gregory Sindt
Subject: Re: 3-18-19 Mary Anns agreement proposal.docx

Sorry for the delay, COVID-19 has dominated my week. I can find no basis to modify the population projections previously supplied by Mr. Ortiz-Hernandez, therefore please continue to use them as the 25 year population projection.

On Wed, Mar 25, 2020 at 2:46 PM Gregory Sindt <Gregory.Sindt@bolton-menk.com> wrote:

Thanks Jeff,

Greg.

From: City Manager Webster City Ia <citymanager@webstercity.com>
Sent: Wednesday, March 25, 2020 1:56 PM
To: Gregory Sindt <Gregory.Sindt@bolton-menk.com>
Cc: Zach Chizek <zach@groveslaw.net>; Ken Wetzler <kwetzler@webstercity.com>; Tim Danielson <tdanielson@webstercity.com>
Subject: Re: 3-18-19 Mary Anns agreement proposal.docx

Gentlemen,

Please see attached documentation (provided by the City Clerk) from the March 18th 2019 Council meeting. In particular, the sixth page (not page 6 as they are not all numbered) is a signed memo from Mary Ann's and the 7th page is the projections.

Appendix D: Design Flows and Loadings



**BOLTON
& MENK**

Real People. Real Solutions.

1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via Email James.Oppelt@dnr.iowa.gov

May 24, 2022

Mr. James Oppelt
Iowa Department of Natural Resources
Wallace State Office Building
502 East 9th Street
Des Moines, IA 50319-0034

RE: Webster City Wastewater Treatment Facility
Project No.: A21.119239
NPDES Discharge Permit No. 4063001
Design Flows and Loads Submittal
Waste Load Allocation Request
Revised Design Flows and Loads
Your May 18 Email

Dear Mr. Oppelt:

The following are answers to the questions in your May 18 email (copy enclosed) regarding the revised City of Webster City design flows submitted for your review on April 15, 2022:

1. Equalization Basin Design Calculations. The equalization basin design volume is based on operating the mechanical plant at a maximum daily flow equal to the AWW flow PLUS 0.50 MGD. Historical data is used in determining the storage volume required for the flow in excess of the maximum daily flow (AWW plus 0.50 MGD) to the mechanical plant. The maximum month (or maximum AWW) flow during the 2012-2019 period of data evaluation was 3.349 MGD. Therefore, 3.439 plus 0.500 MGD (3.939 MGD) was used as the maximum day flow to the mechanical plant in the model of 2012-2019 data for sizing the flow equalization basin. This approach provides the minimum basin volume required for storage of excess I/I flows while limiting the mechanical plant flow to the AWW flow plus 0.500 MGD. We used the 0.500 MGD flow in excess of AWW to reduce the required equalization basin volume. It was a trade off between much larger equalization basin volume for the extra 0.500 MGD storage versus slightly larger mechanical plant to handle the extra 0.500 MGD.
2. Mechanical Plant Design Flow Calculations with Storm Water Flow Equalization Basin. The AWW design flow to the new mechanical treatment plant is based on the projected design year AWW flows in Table 2.4 (4.586 MGD) PLUS 0.500 MGD. The maximum day design flow rate to the mechanical plant is 5.086 MGD as per Table 2.5.
3. Schedule G Flows. The April 11, 2022 revised Schedule G includes the RATED MWW design flow AFTER storm water flow equalization (5.086 MGD). As requested per your May 18 email, the Schedule G MWW design flow is revised to the design flow rate PRIOR TO flow equalization

May 24, 2022

Page 2

(9.430 MGD). See enclosed 5/23/2022 revised Schedule G. Thank you for the clarification on the Schedule G requirements regarding MWW flow data for facilities with flow equalization. The notation in line 2 of Schedule G "(with MWW wet weather flow equalization)" has been deleted. The 5.086 MGD mechanical plant maximum day design flow is included in the Facility Plan Table 2.5.

4. AWW Design Flow. The plant will be designed for the 4.586 MGD AWW flow as per Table 2.5.
5. RO Water Treatment Waste Load. There would be no BOD, TSS, TKN, or P loading from future reverse osmosis water treatment process reject water.
6. BOD Design Loads. All design loads are expressed as BOD as per DNR requirements. The Facility Plan Design Flows and Load Submittal at Page 2-2 (first paragraph) includes a statement that "DNR staff can assume for the purposes of process review and design organic loading rate that the BOD load is equivalent to the CBOD load for this facility". We used the historical CBOD raw wastewater monitoring data in the evaluation of design loads because DNR required CBOD monitoring in raw wastewater in the previous NPDES discharge permit. There is no historical raw wastewater BOD monitoring data.

Please contact me with any questions and discussion regarding this information.

Sincerely,

Bolton & Menk, Inc.



Gregory L. Sindt, P.E.

Senior Environmental Engineer

- c: Daniel Ortiz-Hernandez - City Manager, City of Webster City, w/ enclosures, via email
Biridiana Bishop - Public Works Director, City of Webster City, w/ enclosures, via email
Nick Knowles - Wastewater Superintendent, City of Webster City, w/ enclosures, via email
Ryan Olive - DNR NPDES Discharge Permits Section, via email
Katie Greenstein - DNR Waste Load Allocation Section, via email
DNR Mason City Field Office, via email
Andrew Sindt, Bolton & Menk, Inc., w/ enclosures
Greg Sindt, Bolton & Menk, Inc., w/ enclosures
File, w/ enclosures

Enclosures: Schedule G, May 23, 2022 Revised
James Oppelt May 18, 2022 Email



Iowa Department of Natural Resources
Wastewater Section
Construction Permit Application
SCHEDULE G, Treatment Project Design Data
Exhibit 11C

DNR USE ONLY
Project No. _____
Permit No. _____

Date Prepared <u>5/23/2020</u>	Project Identity City of Webster City Wastewater Treatment Facility Improvements
Date Revised <u>5/23/2022</u>	

1. Project Description		New Wastewater Treatment Facility									
2. Design Flows	Present Year (2020)					Design Year (2040)					
Design Condition →		AWW (MGD)		MWW (MGD)		AWW (MGD)		MWW (MGD)			
Domestic/Commercial Flow		0.93		1.56		1.068		1.068			
Industrial											
Flow		0.63		0.74		0.704		0.883			
Rated Flow						0.704		0.883			
Other Flow (specify)		Future RO Reject		0		0.217		0.400			
Infiltration/Inflow		0.80		1.80		2.597		7.079			
Total											
Flow		3.30		6.00		4.586		9.430			
Rated Flow		3.30		6.00		4.586		9.430			
Average Dry Weather Flow (ADW): <u>1.50</u> MGD (present year) <u>1.989</u> MGD (design year)		Peak Hourly Wet Weather Flow (PHWW): <u>6.70</u> MGD (present year) <u>11.780</u> MGD (design year)				Demographic Data: Population <u>7,900</u> (present year) Population <u>11,609</u> (design year)					
3. Organic Design Loadings		Present Year (2020)					Design Year (2040)				
Design Condition →		Max. 30 day (#/day)		Max. Day (#/day)		Max. 30 day (#/day)		Max. Day (#/day)			
Domestic/Commercial	BOD ₅	1,722		1,722		4,063		5,456			
	TSS					5,340		8,358			
	TKN	259		259		488		639			
Industrial	BOD ₅	2,428		2,428		3,383		5,209			
	TSS					2,764		4,487			
	TKN	141		141		357		516			
Other (Specify)	BOD ₅										
	TSS										
	TKN										
Total	BOD ₅	4,150		4,150		7,446		10,665			
	TSS					8,104		12,845			
	TKN	400		400		845		1,155			
4. Effluent Limitations		BOD ₅		TSS		NH ₃ -N (most stringent month)		Other		Other	
		Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
Operation Permit Effluent Limits*	mg/l										
	#/day										
*Date of Waste Load Allocation (WLA) determination: <u>4/11/22 Revised WLA Request</u>											
**Effluent Limitations entered shall be the more stringent value between the existing NPDES Permit and the WLA or an approved antidegradation analysis											
5. Major Industrial/Commercial contributors or Significant Industrial User: (Max. Day Loadings)											
Waste Contributors	Pre-Treat (Y/N)	Operation		Design Loadings							
		Hrs/Day	Days/Week	Flow		BOD ₅ #/day	Susp. Solids #/day	TKN #/day	Oil & Grease #/day	#/day	
Ave. MGD	Max. MGD										
Mary Ann's Foods	Y	24	6	0.100	0.140	400	300	80			
Webster City Meats	Y	24	6	0.070	0.110	1,000	250	80			
6. SCHEDULE G SUPPLEMENTAL CHECKLIST MUST ACCOMPANY THIS FORM											

Gregory Sindt

From: Oppelt, James <james.oppelt@dnr.iowa.gov>
Sent: Wednesday, May 18, 2022 1:53 PM
To: Andrew Sindt; Gregory Sindt
Subject: Revised Flows and Loads for Webster City

Andrew and Greg:

I'm confused about what the proposed mechanical plant capacity is (I'm not sure we discussed in the first version). Reading one portion of the document I'm thinking that the mechanical plant capacity (after EQ) is 5.086 MGD because you say that increasing this decreases required EQ capacity. But then it goes on to describe using 3.939 MGD in the model used to size EQ.

On Sch. G the design MWW is 9.43 MGD but the "rated" flow is 5.086 MGD, which makes me think your concept of rated flow is different from that we give in the instructions in Sch. G. That is, our "rated" flow in Sch. G is a flow where we consider industrial wastewater production shifts as opposed to just the average industrial flows. Rated flows on Sch. G should always be equal to or higher than the "Flow". Yours is lower, which makes me think you are stating the rated flow for the mechanical facility which is a different concept entirely that is not explicitly listed in Sch. G. Nowadays we try to remember to note the difference between the mechanical plant rated flow and the total flow (or "rated" flow on Sch. G) in facility plan approvals and construction permits but Sch. G is only for total raw influent values prior to EQ.

Is the AWW for the plant going to be 4.586 MGD? If so, it sounds like the plan is to provide less mechanical plant capacity than the AWW flow? We don't like to see plants sized for less than AWW even if there is EQ.

Does the proposed RO waste have any loadings to be concerned with?

To be clear, the BOD5 loads on schedule G will be what we use to verify plant capacity. Not CBOD loads.

I can probably approve the flows and loads that are on your schedule G. Some of what I am asking for here can be worked out in the FP stage, but just want to be clear before I approve these.

Thanks.



www.iowadnr.gov

JAMES C. OPPELT • Environmental Engineer, Senior

Water Quality Bureau

Iowa Department of Natural Resources

515-725-8428

502 E 9th St, Des Moines, IA 50319





June 2, 2022

Daniel Ortiz-Hernandez
400 Second Street
P.O. Box 217
Webster City, IA 50595

Re: Wastewater Treatment Facility Improvements
DNR Project No. S2017-0216

Subject: Revised Flows and Loads Approval

Dear Mr. Ortiz-Hernandez:

The Iowa Department of Natural Resources has reviewed the Revised Design Flows and Loads Submittal dated May 24, 2022 for the above-referenced project. The Flows and Loads are approved.

Design Waste Loadings

Design Flows			Max 30-day Design Loadings		
ADW	1.989	MGD	BOD5	7,446	lbs./day
AWW	4.586	MGD	TSS	8,104	lbs./day
MWW	9.430*	MGD	TKN	845	lbs./day
PHWW	11.780*	MGD			

*The hydraulic capacity of the mechanical plant is 5.086 MGD after wet weather flow equalization.

Department approval does not eliminate the need for the facility to comply with all federal, state and local regulations. This department must be notified of any change in your proposal and approve the change prior to incorporation in plans and specifications.

If you have any questions or comments concerning this project, please feel free to contact me at 515/725-8428 or email james.oppelt@dnr.iowa.gov.

Sincerely,

James C. Oppelt, P.E.
Project Manager
Wastewater Engineering Section

cc: Bolton & Menk, Inc. / Greg Sindt, P.E.
DNR Field Office 2
DNR Sewage File 6-40-63-0-01

Appendix E: Industrial Design Loads

1. Industrial Sewer User Design Loads
 - Cactus Family Farms LLC (2/27/2020)
 - Mary Ann's Specialty Foods, Inc. (10/21/2020)
 - Webster City Custom Meats, Inc. (2/13/2020)
2. Treatment Agreements (DNR Form 31 and DNR Form 542-3221)
 - Mary Ann's Specialty Foods, Inc. (3/19/2019)
 - Mertz Engineering, Inc. (3/4/2020)
 - Webster City Custom Meats, Inc. (3/1/2005)
3. Cactus Family Farms Wastewater Services Agreement (2/29/2020)
4. NaturalShrimp Wastewater Services Agreement (2/18/2021)

Note: Industrial Sewer Users will execute new Treatment Agreements prior to City Construction Permit Application submittal, after Industrial Sewer User design load allocations are finalized.

City of Webster City
Industrial Sewer User Design Loads

Industrial User: Cactus Family Farms LLC (Truck Wash)

	<u>Design Year 2025</u>	<u>Design Year 2030</u>
<u>Flow, gallons per day</u>		
Monthly Average	<u>375,000</u>	<u>375,000</u> (MONTHLY TOTAL FLOW)
Maximum Day	<u>21,000</u>	<u>21,000</u>
<u>CBOD, lbs per day</u>		
Monthly Average	<u>256</u>	<u>256</u>
Maximum Daily	<u>435</u>	<u>435</u>
<u>Total Kjeldahl Nitrogen, lbs per day</u>		
Monthly Average	<u>28</u>	<u>28</u>
Maximum Daily	<u>47</u>	<u>47</u>
<u>Total Suspended Solids, lbs per day</u>		
Monthly Average	<u>338</u>	<u>338</u>
Maximum Daily	<u>576</u>	<u>576</u>

Prepared by:

ROD LEWIS

Signed:

Rod

Date:

2/27/2020

City of Webster City
Industrial Sewer User Design Loads

Industrial User: Mary Ann's Specialty Foods, Inc.

	<u>Short Term thru 2025</u>	<u>Design Year 2030</u>
<u>Flow, gallons per day</u>		
Monthly Average	<u>.080 mg</u>	<u>.100 mg</u>
Maximum Day	<u>.110 mg</u>	<u>.140 mg</u>
<u>CBOD, lbs per day</u>		
Monthly Average	<u>600</u>	<u>600</u>
Maximum Daily	<u>900</u>	<u>900</u>
<u>Total Kjeldahl Nitrogen, lbs per day</u>		
Monthly Average	<u>50</u>	<u>60</u>
Maximum Daily	<u>80</u>	<u>80</u>
<u>Total Suspended Solids, lbs per day</u>		
Monthly Average	<u>200</u>	<u>200</u>
Maximum Daily	<u>300</u>	<u>300</u>

Prepared by: Pam Netzel

Signed: P. Netzel

Date: 10/21/2020

City of Webster City
Industrial Sewer User Design Loads

Industrial User: Webster City Custom Meats, Inc.

	<u>Design Year 2025</u>	<u>Design Year 2030</u>
<u>Flow, gallons per day</u>		
Monthly Average	<u>70,000</u>	<u>70,000</u>
Maximum Day	<u>110,000</u>	<u>110,000</u>
<u>CBOD, lbs per day</u>		
Monthly Average	<u>500</u>	<u>500</u>
Maximum Daily	<u>1000</u>	<u>1000</u>
<u>Total Kjeldahl Nitrogen, lbs per day</u>		
Monthly Average	<u>40</u>	<u>40</u>
Maximum Daily	<u>80</u>	<u>80</u>
<u>Total Suspended Solids, lbs per day</u>		
Monthly Average	<u>100</u>	<u>100</u>
Maximum Daily	<u>250</u>	<u>250</u>

Oil + Grease ?

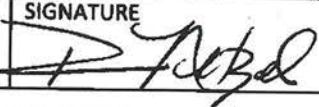

Prepared by: Connie Ingraham

Signed: Connie Ingraham

Date: 2/13/2020



IOWA DEPARTMENT OF NATURAL RESOURCES
TREATMENT AGREEMENT FORM

NOTICE				DNR USE ONLY	
<p>A properly executed Treatment Agreement must be submitted by the industrial user not less than one hundred eighty (180) days before the new significant industrial user proposes to discharge into a wastewater disposal system. Any proposed expansion, production increase, or process modification that may result in <u>any</u> change to a previous Treatment Agreement requires execution of a new Treatment Agreement.</p>				NPDES NO.	
				IND. CONT. AGREEMENT NO.	
				REPLACES AGREEMENT NO.	
SIGNIFICANT INDUSTRIAL USER		SYSTEM RECEIVING WASTE			
NAME Mary Ann's Specialty Foods, Inc.		NAME City of Webster City			
MAILING ADDRESS PO Box 696; Webster City, IA 50595		MAILING ADDRESS PO Box 217; Webster City, IA 50595-0217			
AUTHORIZED REPRESENTATIVE Pamela Netzel	PHONE NO. 515-832-4740	AUTHORIZED REPRESENTATIVE Kent Harfst	PHONE NO. 515-832-9139		
CERTIFICATION OF INDUSTRIAL USER I am the duly authorized representative for the significant industrial user identified above and state that the proposed discharge to the system receiving waste identified above shall not exceed the quantities listed on page two of this form after: <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"><p>EFFECTIVE DATE March 19, 2019 Expiration Date February 28, 2022</p></div> I further assure that notice of any anticipated increase in pollutants contributed shall be given to the owner of the system identified above sufficiently in advance of such increase to allow this contributor to submit a new treatment agreement to the Department of Natural Resources no later than sixty days in advance of the increase or change.					
TYPED OR PRINTED NAME Pamela Netzel	TITLE V.P. Marketing	SIGNATURE 	DATE 3/18/19		
CERTIFICATION OF SYSTEM RECEIVING WASTE I am the duly authorized representative for the facility owner named above and state that the owner agrees to accept the discharge described on page two from the contractor identified above, and accepts responsibility for providing treatment of the volume and quantities described on the reverse in accordance with the provisions of Chapter 455B, Code of Iowa, and the rules of the Department of Natural Resources. This agreement is conditioned on the industrial contributor complying with all applicable standards and requirements of the Department of Natural Resources and the United State Environmental Protection Agency. This agreement is entered for the purpose of identifying pollutants contributed and limiting the quantity contributed, and shall not otherwise be construed to affect local ordinances, sewer service agreements or fee systems entered into between the parties. This agreement may be modified or terminated by the owner of the disposal system if additional pollutants or additional quantities or volumes of pollutants are contributed other than identified on the reverse, or because of any condition that requires either a temporary or permanent reduction or elimination of the accepted contribution.					
TYPED OR PRINTED NAME Kent Harfst	TITLE City Manager	SIGNATURE 	DATE 3-18-19		

430 of 830



IOWA DEPARTMENT OF NATURAL RESOURCES
TREATMENT AGREEMENT FORM

NOTICE

A properly executed Treatment Agreement must be submitted by the industrial user not less than one hundred eighty (180) days before the new significant industrial user proposes to discharge into a wastewater disposal system. Any proposed expansion, production increase, or process modification that may result in any change to a previous Treatment Agreement requires execution of a new Treatment Agreement.

DNR USE ONLY

NPDES NO.

IND. CONT. AGREEMENT NO.

REPLACES AGREEMENT NO.

SIGNIFICANT INDUSTRIAL USER

SYSTEM RECEIVING WASTE

NAME

Mertz Engineering, Inc.

NAME

City of Webster City's Water & Waste Water Treatment Plant

MAILING ADDRESS

PO Box 548, Webster City, Iowa 50595

MAILING ADDRESS

PO Box 217, 400 2nd Street, Webster City, Iowa 50595

AUTHORIZED REPRESENTATIVE

Austin Wright

PHONE NO.

515-832-2832

AUTHORIZED REPRESENTATIVE

Tim Danielson

PHONE NO.

515-832-9146

CERTIFICATION OF INDUSTRIAL USER

I am the duly authorized representative for the significant industrial user identified above and state that the proposed discharge to the system receiving waste identified above shall not exceed the quantities listed on page two of this form after:

EFFECTIVE DATE

3/4/2020

I further assure that notice of any anticipated increase in pollutants contributed shall be given to the owner of the system identified above sufficiently in advance of such increase to allow this contributor to submit a new treatment agreement to the Department of Natural Resources no later than sixty days in advance of the increase or change.

TYPED OR PRINTED NAME

Austin Wright

TITLE

Assistant Engineer

SIGNATURE

DATE

3/4/2020

CERTIFICATION OF SYSTEM RECEIVING WASTE

I am the duly authorized representative for the facility owner named above and state that the owner agrees to accept the discharge described on page two from the contractor identified above, and accepts responsibility for providing treatment of the volume and quantities described on the reverse in accordance with the provisions of Chapter 455B, Code of Iowa, and the rules of the Department of Natural Resources. This agreement is conditioned on the industrial contributor complying with all applicable standards and requirements of the Department of Natural Resources and the United State Environmental Protection Agency. This agreement is entered for the purpose of identifying pollutants contributed and limiting the quantity contributed, and shall not otherwise be construed to affect local ordinances, sewer service agreements or fee systems entered into between the parties.

This agreement may be modified or terminated by the owner of the disposal system if additional pollutants or additional quantities or volumes of pollutants are contributed other than identified on the reverse, or because of any condition that requires either a temporary or permanent reduction or elimination of the accepted contribution.

TYPED OR PRINTED NAME

TITLE

SIGNATURE

DATE



TREATMENT AGREEMENT FORM

1. PROCESS DESCRIPTION					
SPECIFIC MANUFACTURING PROCESS Hydraulic Cylinders			SIC CODES 3593		
CONSUMPTION PRINCIPAL RAW MATERIAL AMOUNT CONSUMED PER DAY			PRODUCTION PRINCIPAL PRODUCTS AMOUNT PRODUCED PER DAY		
Steel	2,000		Hydraulic Cylinders	50	
2. HOURLY MAXIMUM FLOW CONTRIBUTION		3. DAYS OF OPERATION PER WEEK		4. HOURS OF OPERATION DURING PEAK DAY OF OPERATION	
250 gph		5		16	
5. RANGE OF pH LEVEL IN CONTRIBUTION					
MINIMUM MAXIMUM 6 10					
6. DESCRIPTION OF PRETREATMENT PROVIDED					
None					
7. DESCRIPTION OF ANY BATCH OR PERIODIC DISCHARGES					
Mertz Engineering holds Hotsy waste in a reservoir until full and then is emptied into the City Sewer. Bay 1 and Bay 3 are continuously recirculated and emptied at the end of each month, simultaneously. Bay 1 and Bay 3 are emptied into the City Sewer and are kept at 5.5 pH. Bay 2 is a continuous overflow tank that empties into the City Sewer. All Bays and Hotsy are sourced from City Water.					
8. COMPATIBLE WASTE IN CONTRIBUTION					
WASTEWATER PARAMETER	AVERAGE	MAXIMUM	WASTEWATER PARAMETER	AVERAGE	MAXIMUM
Flow (MGD)	4,000	8,000	Ammonia Nitrogen (lbs/day)		
BOD5 (lbs/day)			Oil and Grease (mg/l)		
Total Suspended Solids (lbs/day)					
Total Kjeldahl Nitrogen (lbs/day)					
9. INCOMPATIBLE WASTE IN CONTRIBUTION					
WASTEWATER PARAMETER	AVERAGE		MAXIMUM		
	mg/l	lbs/day	mg/l	lbs/day	
Cadmium	0.07	0.0023	0.11	0.0037	
Chromium	1.71	0.0570	2.77	0.0924	
Copper	2.07	0.0691	3.38	0.1128	
Lead	0.43	0.0143	0.69	0.0230	
Nickel	2.38	0.0794	3.98	0.1328	
Silver	0.24	0.0080	0.43	0.0143	
Zinc	1.48	0.0494	2.61	0.0871	
Cyanide	0.15	0.0050	1.2	0.0400	
TTO, Total			2.13	0.0711	

**IOWA DEPARTMENT OF NATURAL RESOURCES
OPERATION PERMIT APPLICATION
TREATMENT AGREEMENT**

DNR USE

IOWA FACILITY NO.

IND. CONT. AGREEMENT NO.

REPLACES AGREEMENT NO.

NOTICE

A properly executed Treatment Agreement must be submitted by the contributor not less than one hundred eighty (180) days before the new major contributing industry proposes to discharge into a wastewater disposal system. Any proposed expansion, production increase or process modification that may result in any change to a previous Treatment Agreement requires execution of a new Treatment Agreement.

MAJOR INDUSTRIAL CONTRIBUTOR

NAME

Webster City Custom Meats Inc.

MAILING ADDRESS

1611 East 2nd St. Webster City, IA.

AUTHORIZED REPRESENTATIVE

Dean Bowden

PHONE NO.

515-832-1130

SYSTEM RECEIVING WASTE

NAME

City of Webster City

MAILING ADDRESS

P.O. Box 217 Webster City, IA.

AUTHORIZED REPRESENTATIVE

Teresa Rotschafer

PHONE NO.

515-832-9151

CERTIFICATION OF CONTRIBUTING INDUSTRY

I am the duly authorized representative for the major industrial contributor identified above and state that the proposed discharge to the system receiving waste identified above shall not exceed the quantities listed on page two of this form after

EFFECTIVE DATE
March 1, 2005

I further assure that notice of any anticipated increase in pollutants contributed shall be given to the owner of the system identified above sufficiently in advance of such increase to allow this contributor to submit a new treatment agreement to the Department of Natural Resources not later than sixty days in advance of the increase or change.

TYPED OR PRINTED NAME

Dean Bowden

TITLE

President

SIGNATURE

Dean Bowden

DATE

4-8-05

CERTIFICATION OF SYSTEM RECEIVING WASTE

I am the duly authorized representative for the facility owner named above and state that the owner agrees to accept the discharge described on page two from the contractor identified above, and accepts responsibility for providing treatment of the volume and quantities described on the reverse in accordance with the provisions of Chapter 455B, Code of Iowa, and the rules of the Department of Natural Resources. This agreement is conditioned on the industrial contributor complying with all applicable standards and requirements of the Department of Natural Resources and the United State Environmental Protection Agency. This agreement is entered for the purpose of identifying pollutants contributed and limiting the quantity contributed, and shall not otherwise be construed to affect local ordinances, sewer service agreements or fee systems entered into between the parties.

This agreement may be modified or terminated by the owner of the disposal system if additional pollutants or additional quantities or volumes of pollutants are contributed other than identified on the reverse, or because of any condition that requires either a temporary or permanent reduction or elimination of the accepted contribution.

TYPED OR PRINTED NAME

Teresa Rotschafer

TITLE

City Manager

SIGNATURE

Teresa Rotschafer

DATE

4-5-05

[illegible]

RESOLUTION NO. 2020 - 063

**AUTHORIZING THE CITY OF WEBSTER CITY TO ENTER INTO
A WASTEWATER SERVICES AGREEMENT
WITH CACTUS FAMILY FARMS, LLC, WEBSTER CITY, IOWA**

WHEREAS, Cactus Family Farms LLC. desires a Wastewater Services Agreement to discharge Wastewater into Webster City's sanitary sewer system; and

WHEREAS, the City agrees to accept the discharge as described in said Wastewater Service Agreement; and

WHEREAS, the City Council has reviewed said form of 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 enter into a Wastewater Services Agreement for Cactus Family Farms LLC, to discharge wastewater into the City's sanitary sewer system.

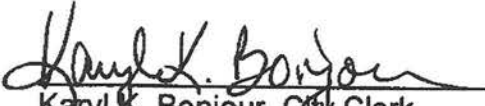
BE IT FURTHER RESOLVED that said agreement is hereby approved upon being executed by both parties.

Passed and adopted this 16th day of March, 2020.

ATTEST:



John Hawkins, Mayor



Karyl K. Bonjour, City Clerk

This Wastewater Services Agreement ("Agreement") is made as of February 29, 2020 by the City of Webster City, Iowa, a Municipal Corporation, ("City") and Cactus Family Farms, LLC, an Iowa Corporation, ("Company"). City and Company may be referred to individually as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, Company owns and operates a truck washing facility ("Facility") at 1709 2nd Street, Webster City, Iowa and is a contributor of Sewage (defined below) to the Sewage System (defined below); and

WHEREAS, Company's Sewage discharge exceeds the concentrations of residential and commercial amounts allowed under Webster City's Code of Ordinances.

WHEREAS, City owns, operates and maintains a municipal Sewage System (defined below); and

WHEREAS, this Agreement has been prepared to set forth the mutual understanding of the parties with respect to the Company's use as a Customer of the Sewage System,

NOW, THEREFORE, in consideration of the recitals and the mutual promises set forth herein, and for other good and valuable consideration, the receipt of which is hereby acknowledged, the parties agree as follows.

DEFINITIONS

For purposes of this Agreement, the following terms have the following meanings:

"Permitted Discharge" shall mean the following amounts of and characteristics of Sewage that Company is entitled to discharge from the Facility to the Sewage System:

Monthly Average:

Flow	0.008417 MGD
CBOD	120 lbs/d
TSS	120 lbs/d
TKN	15 lbs/d

Daily Maximum

Flow	0.015 MGD
CBOD	160 lbs/d
TSS	150 lbs/d
TKN	19 lbs/d
pH minimum	5.5
pH maximum	9.0

"CBOD" means Carbonaceous 5-Day Biochemical Oxygen Demand as measured by the test method set forth in the latest edition of Standard Methods for the Examination of Water and Wastewater.

"Claims" shall have the meaning set forth in Section 4.4.

"Company" shall mean **Cactus Family Farms, LLC** as set forth in the Recitals above.

"Customer" shall mean any person responsible for the production of Sewage which is directly or indirectly discharged into the Sewage System.

"Daily Maximum" for mass discharge (lbs/d) parameters shall mean the maximum amount of a contaminant discharged in a 24-hour period as calculated using the concentration of the contaminant in a 24-hour flow proportional sample and the total 24-hour discharge volume.

"Daily Maximum" for concentration (mg/L) parameters and pH shall mean the concentration of a grab sample collected at any time during a 24-hour period.

"Extended Coverage" shall have the meaning set forth in Section 4.2.

"FOG" and "Oil Grease" mean Fats, Oil, and Grease as set forth in EPA Method 1664, Revision A (N-Hexane Extractable Material).

"Facility" shall have the meaning set forth in the Recitals, above.

"IDNR" shall mean the Iowa Department of Natural Resources.

"Industrial Wastes" shall mean the liquid wastes from industrial manufacturing processes, trade, or business as distinct from Sanitary Sewage.

"Laws" shall mean all applicable federal, state and local statutes, codes, rules, regulations, ordinances, agency policies, orders, and case law, all as may be amended.

"MGD" shall mean million gallons per day.

"mg/L" shall mean milligrams per liter concentration.

"Monthly Average" shall mean the average of all monitoring data for a specific Sewage parameter collected during a calendar month.

"Notices" shall have the meaning set forth in Section 7.12.1.

"NPDES Permit" shall mean the National Pollutant Discharge Elimination System permit issued to the City pursuant to section 402 of the Clean Water Act, as amended, 33, U.S.C. 1251, et seq., and as further provided in implementing regulations 40 C.F.R. 403.3(b) and 403.3(1).

"pH" shall mean the logarithm of the reciprocal of the weight of hydronium ion concentration in moles per liter of solution.

"Records" shall have the meaning set forth in Section 7.2.

"Sanitary Sewage" shall mean sewage discharging from the sanitary conveniences of dwellings (including apartment houses and hotels), office buildings, factories or institutions, and free from storm, surface water, and Industrial Waste.

"Sewage" shall mean a combination of the water-carried wastes from business buildings, institutions, and industrial establishments of Company, together with such ground, surface, and storm waters as may be present.

"Sewage System" shall mean all facilities for collecting, pumping, treating, and disposing of sewage.

"Sewer" shall mean a pipe or conduit for carrying sewage.

"Sewer Service Charges" shall mean any and all charges, rates or fees levied against and payable by Customers, as consideration for the servicing of Customers by the Sewage System.

"Sewage System" shall mean all land, buildings, machinery, interceptor and sewers and other tangible and intangible property, whether now or later owned or used or added by City for collecting, transmitting, treating or disposing of Sewage.

"Successor" shall have the meaning set forth in Section 7.3.

"Standard Methods" shall mean the most current edition *Standard Methods for the Examination of Water and Wastewater* jointly published by the American Public Health Association, the American Water Works Association, and the Water Environment Federation.

"TKN" means Total Kjeldahl Nitrogen as measured by the test method set forth in the latest edition of Standard Methods for the Examination of Water and Wastewater.

"TSS" means Total Suspended Solids as measured by the test method set forth on the latest edition of Standard Methods for the Examination of Water and Wastewater.

"User" shall mean any individual, partnership, corporation or other organization or entity, public or private, that discharges Sewage to the Sewage System.

1. COLLECTION AND TREATMENT

1.1. Company Right to Discharge and City Obligation to Take and Treat Allocated Share

1.1.1. The Company shall have the right to discharge its Permitted Discharge to the Sewage System.

1.1.2. The City shall use all reasonable best efforts to continually receive and treat Company's Permitted Discharge without interruption to the Company.

1.1.3. Both Parties acknowledge that if ever in the future the loadings to the Sewage System reach or exceed its rated design capacity, the City may reduce Company's Permitted Discharge if required for maintaining compliance with City's NPDES Permit or if required by the Iowa Department of Natural Resources. City will provide Company thirty (30) days written notice of any reduction in Permitted Discharge and this Agreement will be amended to reflect the revised Permitted Discharge as established by the City.

2. USER CHARGES

2.1. Sewer User Charges

2.1.1. **Sewer User Rates and Sewer Service Charges.** The Company shall pay City Sewer Service Charges for receiving and treating Sewage discharged by Company to the Sewage System in accordance with the rates established by City ordinances. The City shall monitor the sewer fund and review rates annually. Rates shall be established in an equitable manner that results in rates for all users that are based on the costs of taking and treating the Sewage.

2.1.2. **Monthly Surcharges.** A monthly surcharge for concentration of any parameter greater than the surcharge concentrations stated below, if any, shall be calculated by applying the average monthly concentration for each parameter to the total metered Sanitary Sewage discharge volume from Company's monitoring station for that month. Surcharge concentrations are established by City ordinance.

2.1.3. **Modification of User Rates.** In the event IDNR requires the City to comply with more stringent discharge limits from its wastewater treatment facility than are contained in its NPDES Permit in effect on the date of this Agreement, the City specifically reserves the right to modify the user charge rates to the Company in order to provide appropriate user charges for (a) any additional costs reasonably incurred for the construction, amortization of debt service, operation, maintenance or replacement of such additional facilities; and (b) any change to operation of the Sewage System as may be necessary to meet such more stringent limits for adequate treatment of Permitted Discharge. The City shall determine those costs in accordance with a fair and equitable methodology for allocation of costs to service charge parameters (flow and CBOD and TSS surcharge) and notify the Company of them at least 180 days before such rates shall go into effect. Unless the Agreement is terminated pursuant to the terms set forth herein, the Company shall pay any increases in user fees from the effective date of the increase until the effective date of termination.

2.1.4. **Termination.** In the event the Company does not agree with the imposition or allocation of such additional user fees for modifications to the Sewage System as may be required for compliance with more stringent discharge limits, the Company shall notify the City in writing of its disagreement within 60 days after receiving

the City's proposed new sewer user rates. In that event, the Company may terminate this Agreement on or before the last to occur of (a) the effective date of the more stringent discharge limits, or (b) after the period which is reasonably necessary for Company to construct alternative wastewater treatment facilities.

3. MONITORING, TESTING AND CALCULATION OF AVERAGES

3.1. Monitoring. Company shall maintain equipment in proper operating condition approved by the City for the purpose of sampling/monitoring the Company's Sewage prior to discharge to the City's Sewage System. City approval of sampling locations/equipment shall not be unreasonably withheld. Company shall install and maintain a permanent monitoring station near and prior to the point of discharging to City's Sewage System within one (1) year of this Agreement. Company shall also install a temporary monitoring station located inside the Facility within thirty (30) days of this Agreement. Said temporary monitoring station shall include a magnetic flow meter and twenty-four (24) hour flow proportional composite sampler.

3.2. Laboratory Testing. City shall maintain a laboratory at the City's wastewater treatment plant or retain an independent laboratory (Laboratory), certified by the State of Iowa, for analyses of compliance monitoring samples of the Company's Sanitary Sewage. City shall deliver samples to the Laboratory for analysis and provide reports of analyses to Company. Company shall pay the cost of analysis by the Laboratory. In addition, Company may collect split samples for analyses at its own laboratory at the Company's cost.

3.3. Sampling

3.3.1. The Company shall provide daily flows to City on a monthly basis. In the event wastewater flow measurements are not available, the wastewater discharge volumes for billing purposes shall be estimated by multiplying the current month water use volume by the previous month ratio of total monthly wastewater discharge volume to total monthly water usage volume.

3.3.2. The Company sampling equipment shall collect 24-hour flow proportional-composite samples that are representative of the Sewage discharged by Company over the monitoring period. Representative grab samples shall be collected for Oil and Grease and pH analyses. A representative number of non-production day samples shall be collected each month. For example, if there are two (2) non-production or low flow days per week, then approximately 2/7th or twenty-nine percent (29%) of the samples collected during the month shall be on non-production days. If four (4) samples are collected per month, then one (1) sample per month would be collected during a non-production day. If there is no flow or extremely low flow when composite sampler operation is not practicable, a grab sample may be collected from the discharge end of the settling tank.

3.3.3. Monthly average mass discharge used for compliance monitoring purposes shall be calculated as the average of the mass discharges for every day that a sample was collected and analyzed.

- 3.3.4. City shall allow split samples for Company use upon Company's request. Samples shall be split at time of collection by the person collecting them. Company shall pay any expense for analysis of such split samples.

3.4. Sampling Methods and Laboratory Analyses Disputes.

In the event of unresolvable disputes regarding discharge monitoring methods or laboratory analyses, the City and Company shall jointly retain an independent Professional Engineer for technical evaluation of the issues. Cost of independent Professional Engineer's services shall be equally shared between City and Company. The independent Professional Engineer shall be selected by agreement of the City and Company, which agreement by either party shall not be unreasonably withheld. If the issues are not resolved after the evaluation by the independent Professional Engineer, then the matter shall be addressed as per Section 4.2 -Dispute Resolutions of this Agreement.

4. COMMUNICATIONS AND DISPUTE RESOLUTION

- 4.1. **Regular Meetings.** Each August during the term of the Agreement, or as otherwise agreed to by the Parties, the Parties shall meet to discuss any issues that have arisen in the Parties' respective performance under the Agreement, and any other issues arising from or related to the Agreement, including the user rates.
- 4.2. **Dispute Resolution.** Claims and disputes of any type between City and Company arising out of or relating to this Agreement which cannot be resolved by negotiation between the parties shall be decided by an alternative dispute resolution process ("ADR Process"). Either party may give written notice to the other of its desire to resolve a claim or dispute by the ADR Process. The Parties shall negotiate in good faith to determine the type of ADR Process to be utilized. If the type of ADR Process is not agreed upon by the parties within thirty (30) days after said party's notice, then arbitration in accordance with the rules of the American Arbitration Association, shall be the type of ADR Process utilized. An award resulting from the ADR Process shall be final and judgment may be entered upon such an award in accordance with applicable law in a court having appropriate jurisdiction. Any award made as a result of the ADR Process shall not include punitive damages. Unless this Agreement is terminated in accordance with its terms, or the Parties otherwise agree in writing, the Parties shall continue to perform during the ADR Process or other litigation between the parties.

5. TERM OF AGREEMENT

- 5.1. **Term.** Except as otherwise provided herein, this Agreement shall become effective on March 1, 2020 and the term shall be for one (1) year. This Agreement may be extended by mutual agreement of the Parties after one (1) year. City agrees to not assess any penalties under the City ordinances during the initial thirty (30) day period following execution of this Agreement and the Company beginning to discharge its Permitted Discharge into the City's Sewage System. This is to provide opportunity for Company to evaluate monitoring data and implement any modifications to its operations as may be required to maintain compliance with the Permitted Discharge. Following said initial thirty

(30) day period, the City shall begin to assess any applicable penalties to Company as outlined in the City ordinances.

5.2. Right to Terminate

5.2.1. The City and Company shall have the right to terminate this Agreement pursuant to this section, Sections 2.1.4 and 6.6 herein.

5.2.2 Company shall have the right to terminate this Agreement if it closes the production operations.

6. MISCELLANEOUS PROVISIONS

6.1. **Non-Compliance.** In the event Company's discharge exceeds its Permitted Discharge or violates the City's sewer user ordinances, the City may impose penalties and take additional enforcement actions as provided by City ordinances.

6.2. **Recordkeeping.** City shall keep books, records and accounts in which complete entries of all transactions and costs relating to the Sewage System and Sewage System shall be kept ("Records") for a minimum of three years. The Records shall, at reasonable times during City's regular business hours, be available for inspection and copying by Company at Company's expense.

6.3. **Assignment.** In the event Company should sell, transfer, merge or reorganize Company or its property or shares, the obligations and benefits of this Agreement shall pass through to the surviving company, purchaser or assignee, as the case may be, ("Successor") and this Agreement shall remain in full force and effect and be binding on the Successor. Company shall notify City of such transfer and Successor shall notify City of any significant changes to its Sewage characteristics.

6.4. **Authority.** City and Company each warrant it has the right, title and authority to enter into this Agreement and to perform all its obligations hereunder, and that all approvals necessary for it to enter into and fully perform this Agreement have been obtained.

6.5. **Entire Agreement.** This Agreement and all exhibits hereto constitute the entire agreement between the parties pertaining to the subject matters hereof and supersede all negotiations, preliminary agreements and all prior or contemporaneous discussions and understandings of the parties in connection with the subject matters hereof.

6.6. **Severability.** In the event any provision of this Agreement is held invalid, illegal or unenforceable, in whole or in part, the remaining provisions of this Agreement shall not be affected thereby and shall continue to be valid and enforceable. In the event any provision of this Agreement is held to be unenforceable as written, but enforceable if modified, then such provision shall be deemed to be amended to such extent as shall be necessary for such provision to be enforceable and it shall be enforced to that extent. Provided, however, if the result of any provision of this Agreement being held invalid, illegal or unenforceable, in whole or in part, or if the result of any provision of this

Agreement being deemed amended, would be a limitation on Company's Permitted Discharge or an increase in charges by the City to the Company for treatment of the Permitted Discharge, Company shall have a right to terminate this Agreement upon thirty (30) days written notice to the City, effective on the date specified in that notice.

6.7. No Waiver; Modifications. No failure or delay on the part of any Party in exercising any right, power or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right, power or remedy preclude any other or further exercise thereof or the exercise of any other right, power or remedy. No amendment, modification, supplement, termination or waiver of or to any provision of this Agreement, nor consent to any departure therefrom, shall be effective unless the same shall be in writing and signed by or on behalf of both parties.

6.8. Headings. Headings in this Agreement are provided for convenience of reference only, and shall not be considered a part hereof for purposes of interpreting or applying this Agreement, and such titles or captions do not define, limit, extend, explain or describe the scope or extent of this Agreement or any of its terms or conditions.

6.9. Agreement Conflicts. In the event of any conflict between this Agreement and the provisions of any other agreement between City and Company or with City ordinances or resolutions, the provisions of this Agreement shall control and any conflicting provisions of other agreements are hereby amended to conform to the provisions of this Agreement.

6.10. Construction. Both parties have participated equally in the preparation and approval of this Agreement. No provision of this Agreement shall be construed more strongly against either Party regardless of who was more responsible for its preparation.

6.11. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Iowa. The penalty provisions of this Agreement do not limit the right of either party to enforce the terms of this Agreement in law or in equity.

6.12. Notice

6.12.1. All notices, demands, requests, and other communications desired or required to be given hereunder ("Notices"), shall be in writing and shall be given by: (i) hand delivery to the address for Notices; (ii) delivery by overnight courier service to the address for Notices; or (iii) sending the same by United States mail, postage prepaid, certified mail, return receipt requested, addressed to the address for Notices.

6.12.2. All Notices shall be deemed given and effective upon the earlier to occur of: (i) the hand delivery of such Notice to the address for Notices; (ii) one business day after the deposit of such Notice with an overnight courier service by the time deadline for next day delivery addressed to the address for Notices; or (iii) three business days after depositing the Notice in the United States mail as set forth in (a) above. All Notices shall be addressed to the following addresses:

If to City, to: City of Webster City
P.O. Box 217
400 Second Street
Webster City, IA 50595
Phone: 515-832-9151
Attn: City Manager

If to Company, to: Cactus Family Farms, LLC
c/o Brown Winick Law
666 Grand Ave., Ste 2000
Des Moines, IA 50309
Attn: Michael R. Blaser

or to such other persons or at such other places as any party hereto may by Notice designate for service of Notices.

- 6.13. **Reservation of Rights.** Neither this Agreement, nor any portion of it, is intended to limit the right of the City to adopt, enforce or amend ordinances that are a proper exercise of the City's legislative powers.
- 6.14. **Rule of Construction.** This Agreement is intended to be consistent with the ordinances and resolutions of the City, and shall be so construed. City represents and warrants that this Agreement is not inconsistent with the ordinances and resolutions of the City.
- 6.15. **No Third-Party Rights/Remedies.** This Agreement is not intended and shall not be construed to confer upon any person or entity other than the Parties hereto any rights or remedies hereunder.
- 6.16. **Signatories Authorized.** Each of the undersigned representatives of the Parties certifies that he or she is authorized to enter into the terms and conditions of this Agreement and to execute and legally bind such Party to this document.

7. EXHIBITS

The following Exhibits are attached to and made part of this Agreement:

NO EXHIBITS

IN WITNESS WHEREOF, the Parties have duly executed this Agreement as of the day first above written.

CITY OF WEBSTER CITY, IOWA

By: John Hawkins
John Hawkins, Mayor
Attest: Karyl Bonjour
Karyl Bonjour, City Clerk

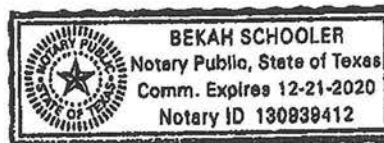
CACTUS FAMILY FARMS, LLC

By: [Signature]
Its: SVP

STATE OF IOWA, COUNTY OF HAMILTON: ss

On this 29th day of February 2020, before me, the undersigned a Notary Public in and for the said State, personally appeared Heath Wilson, to me personally known, who being by me duly sworn, did say that he is the SVP of Cactus Family Farms, LLC; that (a) no seal has been procured by said Corporation, and that the said instrument was signed on behalf of said Corporation by authority of its Board of Directors; and that the said SVP, as such Officer, acknowledged the execution of said instrument to be the voluntary act and deed of said Corporation, by it and by them voluntarily executed.

Bekah Schooler
Notary Public in and for the State of Iowa.



RESOLUTION NO. 2021 - 052

**AUTHORIZING THE CITY OF WEBSTER CITY, IOWA TO ENTER INTO
WASTEWATER SERVICES AGREEMENT WITH NATURALSHRIMP INC., LA COSTE,
TEXAS, LOCATED AT 401 DES MOINES STREET, WEBSTER CITY, IOWA**

WHEREAS, the Company, NaturalShrimp Inc., 833 County Road 583, La Coste, Texas, desires a Wastewater Services Agreement to discharge wastewater into Webster City's sanitary sewer system; and

WHEREAS, the City agrees to accept the discharge as described on said Wastewater Services Agreement; and

WHEREAS, the City Council has reviewed said form of 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 enter into a Wastewater Services Agreement for NaturalShrimp Inc., to discharge wastewater into the City's sanitary sewer system.

BE IT FURTHER RESOLVED that said agreement is hereby approved upon being executed by both parties.

Passed and adopted this 15th day of February, 2021.



Brian Miller, Mayor Pro Tem

ATTEST:



Karyl K. Bonjour, City Clerk

WASTEWATER SERVICES AGREEMENT

As of February 15, 2021

by and between

City of Webster City, Iowa

and

NaturalShrimp, Inc.

This Wastewater Services Agreement ("Agreement") is made as of February __, 2021 by the City of Webster City, Iowa, a municipal corporation, ("City") and NaturalShrimp, Inc., a Texas Corporation, ("Company"). City and Company may be referred to individually as a "Party" and collectively as the "Parties."

RECITALS

WHEREAS, Company plans to begin operating a shrimp production facility ("Facility") in Webster City and is a contributor of Sewage (defined below) to the Sewage System (defined below); and

WHEREAS, City owns, operates and maintains a municipal Sewage System (defined below); and

WHEREAS, this Agreement has been prepared to set forth the mutual understanding of the parties with respect to the Company's use as a Customer of the Sewage System,

NOW, THEREFORE, in consideration of the recitals and the mutual promises set forth herein, and for other good and valuable consideration, the receipt of which is hereby acknowledged, the parties agree as follows.

DEFINITIONS

For purposes of this Agreement, the following terms have the following meanings:

"Permitted Discharge" shall mean the following amounts of and characteristics of Sewage that Company is entitled to discharge from the Facility to the Sewage System:

Monthly Average:

Flow	0.024 MGD
CBOD	166 lbs/d
TSS	100 lbs/d
TKN	18 lbs/d
Oil & Grease (HEM)	100 mg/L

Daily Maximum

Flow	0.024 MGD
CBOD	208 lbs/d
TSS	150 lbs/d
TKN	20 lbs/d
Oil & Grease (HEM)	100 mg/L
pH minimum	5.5
pH maximum	9.0

2 February 15, 2021

"CBOD" means Carbonaceous 5-Day Biochemical Oxygen Demand as measured by the test method set forth in the latest edition of Standard Methods for the Examination of Water and Wastewater.

"Claims" shall have the meaning set forth in Section 4.4.

"Company" shall mean NaturalShrimp, Inc. as set forth in the Recitals above.

"Customer" shall mean any person responsible for the production of Sewage which is directly or indirectly discharged into the Sewage System.

"Daily Maximum" for mass discharge (lbs/d) parameters shall mean the maximum amount of a contaminant discharged in a 24-hour period as calculated using the concentration of the contaminant in a 24-hour flow proportional sample and the total 24-hour discharge volume.

"Daily Maximum" for concentration (mg/L) parameters and pH shall mean the concentration of a grab sample collected at any time during a 24-hour period.

"Extended Coverage" shall have the meaning set forth in Section 4.2.

"FOG" and **"Oil Grease"** mean Fats, Oil, and Grease as set forth in EPA Method 1664, Revision A (N-Hexane Extractable Material).

"Facility" shall have the meaning set forth in the Recitals, above.

"IDNR" shall mean the Iowa Department of Natural Resources.

"Industrial Wastes" shall mean the liquid wastes from industrial manufacturing processes, trade, or business as distinct from Sanitary Sewage.

"Laws" shall mean all applicable federal, state and local statutes, codes, rules, regulations, ordinances, agency policies, orders, and case law, all as may be amended.

"MGD" shall mean million gallons per day.

"mg/L" shall mean milligrams per liter concentration.

"Monthly Average" shall mean the average of all monitoring data for a specific Sewage parameter collected during a calendar month.

"Notices" shall have the meaning set forth in Section 7.12.1.

"NPDES Permit" shall mean the National Pollutant Discharge Elimination System permit issued to the City pursuant to section 402 of the Clean Water Act, as amended, 33. U.S.C. 1251, et seq., and as further provided in implementing regulations 40 C.F.R 403.3(b) and 403.3(1).

3 February 15, 2021

"pH" shall mean the logarithm of the reciprocal of the weight of hydronium ion concentration in moles per liter of solution.

"Records" shall have the meaning set forth in Section 7.2.

"Sanitary Sewage" shall mean sewage discharging from the sanitary conveniences of dwellings (including apartment houses and hotels), office buildings, factories or institutions, and free from storm, surface water, and Industrial Waste.

"Sewage" shall mean a combination of the water-carried wastes from business buildings, institutions, and industrial establishments of Company, together with such ground, surface, and storm waters as may be present.

"Sewage System" shall mean all facilities for collecting, pumping, treating, and disposing of sewage.

"Sewer" shall mean a pipe or conduit for carrying sewage.

"Sewer Service Charges" shall mean any and all charges, rates or fees levied against and payable by Customers, as consideration for the servicing of Customers by the Sewage System.

"Sewage System" shall mean all land, buildings, machinery, interceptor and sewers and other tangible and intangible property, whether now or later owned or used or added by City for collecting, transmitting, treating or disposing of Sewage.

"Successor" shall have the meaning set forth in Section 7.3.

"Standard Methods" shall mean the most current edition *Standard Methods for the Examination of Water and Wastewater* jointly published by the American Public Health Association, the American Water Works Association, and the Water Environment Federation.

"TKN" means Total Kjeldahl Nitrogen as measured by the test method set forth in the latest edition of Standard Methods for the Examination of Water and Wastewater.

"TSS" means Total Suspended Solids as measured by the test method set forth on the latest edition of Standard Methods for the Examination of Water and Wastewater.

"User" shall mean any individual, partnership, corporation or other organization or entity, public or private, that discharges Sewage to the Sewage System.

1. COLLECTION AND TREATMENT

1.1. Company Right to Discharge and City Obligation to Take and Treat Allocated Share

1.1.1. The Company shall have the right to discharge its Permitted Discharge to the Sewage System.

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- 1.1.2. The City shall use all reasonable best efforts to continually receive and treat Company's Permitted Discharge without interruption to the Company, subject to the provisions outlined herein.
- 1.1.3. The Company may transfer or sell any unused portion of its Permitted Discharge to another User provided Company receives the City's prior written consent which shall not be unreasonably withheld. If a portion of Company's Permitted Discharge is transferred to another User, City shall enter into an agreement with the other User that is similar to this Agreement and this Agreement shall be amended for revising Company's Permitted Discharge.
- 1.1.4. The City is obligated to receive and treat the Permitted Discharge from Company for life of Agreement, subject to the provisions outlined herein. The City may not transfer, re-allocate, or reduce any portion of Company's Permitted Discharge without Company's prior written consent, unless outlined herein.

2. USER CHARGES

2.1. Sewer User Charges

- 2.1.1. **Sewer User Rates and Sewer Service Charges.** The Company shall pay City Sewer Service Charges for receiving and treating Sewage discharged by Company to the Sewage System in accordance with the rates established by City ordinances. The City shall monitor the sewer fund and review rates annually. Rates shall be established in an equitable manner that results in rates for all users that are based on the costs of taking and treating the Sewage.
- 2.1.2. **Monthly Surcharges.** A monthly surcharge for concentration of any parameter greater than the surcharge concentrations stated below, if any, shall be calculated by applying the average monthly concentration for each parameter to the total metered Sanitary Sewage discharge volume from Company's monitoring station for that month. Surcharge concentrations are established by City ordinance.
- 2.1.3. **Modification of User Rates.** In the event IDNR requires the City to comply with more stringent discharge limits from its wastewater treatment facility than are contained in its NPDES Permit in effect on the date of this Agreement, the City specifically reserves the right to modify the user charge rates to the Company in order to provide appropriate user charges for (a) any additional costs reasonably incurred for the construction, amortization of debt service, operation, maintenance or replacement of such additional facilities; and (b) any change to operation of the Sewage System as may be necessary to meet such more stringent limits for adequate treatment of Permitted Discharge. The City shall determine those costs in accordance with a fair and equitable methodology for allocation of costs to service charge parameters (flow and CBOD and TSS surcharge) and notify the Company of them at least 180 days before such rates shall go into effect. Unless the Agreement is terminated pursuant to the terms set forth herein, the Company shall

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pay any increases in user fees from the effective date of the increase until the effective date of termination.

- 2.1.4. **Termination.** In the event the Company does not agree with the imposition or allocation of such additional user fees for modifications to the Sewage System as may be required for compliance with more stringent discharge limits, the Company shall notify the City in writing of its disagreement within 60 days after receiving the City's proposed new sewer user rates. In that event, the Company may terminate this Agreement on or before the last to occur of (a) the effective date of the more stringent discharge limits, or (b) after the period which is reasonably necessary for Company to construct alternative wastewater treatment facilities.

3. MONITORING, TESTING AND CALCULATION OF AVERAGES

- 3.1. **Monitoring.** Company shall maintain equipment in proper operating condition approved by the City for the purpose of sampling/monitoring the Company's Sewage prior to discharge to the City's Sewage System. City approval of sampling locations/equipment shall not be unreasonably withheld.

- 3.2. **Laboratory Testing.** City shall maintain a laboratory at the City's wastewater treatment plant or retain an independent laboratory (Laboratory), certified by the State of Iowa, for analyses of compliance monitoring samples of the Company's Sanitary Sewage. The Laboratory shall be selected by agreement of the City and Company, which agreement by either party shall not be unreasonably withheld. City shall deliver samples to the Laboratory for analysis, pay the cost of analysis, and provide reports of analyses to Company. Company may collect split samples for analyses at its own laboratory at the Company's cost.

3.3. **Sampling**

- 3.3.1. The Company shall provide daily flows to City on a monthly basis. In the event wastewater flow measurements are not available, the wastewater discharge volumes for billing purposes shall be estimated by multiplying the current month water use volume by the previous month ratio of total monthly wastewater discharge volume to total monthly water usage volume.
- 3.3.2. The Company sampling equipment shall collect 24-hour flow proportional-composite samples that are representative of the Sewage discharged by Company over the monitoring period. Representative grab samples shall be collected for Oil and Grease and pH analyses.
- 3.3.3. Monthly average mass discharge used for compliance monitoring purposes shall be calculated as the average of the mass discharges for every day that a sample was collected and analyzed.

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- 3.3.4. City shall allow split samples for Company use upon Company's request. Samples shall be split at time of collection by the person collecting them. Company shall pay any expense for analysis of such split samples.

3.4. Sampling Methods and Laboratory Analyses Disputes.

In the event of unresolvable disputes regarding discharge monitoring methods or laboratory analyses, the City and Company shall jointly retain an independent Professional Engineer for technical evaluation of the issues. Cost of independent Professional Engineer's services shall be equally shared between City and Company. The independent Professional Engineer shall be selected by agreement of the City and Company, which agreement by either party shall not be unreasonably withheld. If the issues are not resolved after the evaluation by the independent Professional Engineer, then the matter shall be addressed as per Section 5.2 -Dispute Resolutions of this Agreement.

4. OTHER CITY OBLIGATIONS

- 4.1. **Operation in Efficient and Economical Manner.** The City shall operate the Sewage System and Sewage System in an efficient and economic manner, in accordance with sound wastewater industry practices, complying with all applicable Laws.

- 4.2. **Maintain insurance.** The City shall procure and maintain the following insurance coverages: (1) loss or damage to the Sewage System and Sewage System by fire, windstorm, explosion, and all other hazards and perils now or at any time hereafter covered by a standard "Extended Coverage" insurance endorsement in an amount equal to the full insurable value of the Sewage System and Sewage System; (2) public liability insurance with policy limits of at least \$1,000,000 and coverage for any and all personal injury, property damage, or other damages sustained or claimed to have been sustained in connection with the Sewage System, and the operation or failure to operate the Sewer System and the Sewage System; and (3) any and all other insurance coverage in types and limits that are typically maintained by private or public entities conducting similar operations. All insurance shall be procured with companies licensed to do business in the State of Iowa and shall be maintained for the term of this Agreement. Upon request by the Company, the City shall provide the Company certificates of coverage under all insurance policies.

- 4.3. **Obligation to Repair or Replace.** If all or any portion of the Sewer System or Sewage System is damaged or destroyed by fire or other casualty, the City, unless prohibited by federal or state law shall repair or replace the damaged or destroyed facility(ies) and shall expend all amounts received by the City by reason of such damage or destruction toward the cost of performing such repairs or replacements.

- 4.4. **Release and Indemnification.** The City shall release, defend and hold harmless the Company, its directors, officers, partners, shareholders, members, managers, owners, agents, employees, guests, invitees, and representatives, or any of them, from and against all civil claims, orders, suits, liabilities, judgments, demands, actions, causes of action, penalties, fines losses, costs, damages and expenses, including reasonable attorneys and

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consultant fees ("Claims") arising out of or related to (directly or indirectly) to the operation or failure of the Sewer System or Sewage System and the City's non-compliance with its NPDES Permit. This release and indemnification obligation shall not apply to the negligence or intentional or willful misconduct of the Company but only to the extent of such divisible or allocable share directly attributed to such negligence or intentional or willful misconduct.

5. COMMUNICATIONS AND DISPUTE RESOLUTION

5.1. Regular Meetings. Each August during the term of the Agreement, or as otherwise agreed to by the Parties, the Parties shall meet to discuss any issues that have arisen in the Parties' respective performance under the Agreement, and any other issues arising from or related to the Agreement, including the user rates.

5.2. Dispute Resolution. Claims and disputes of any type between City and Company arising out of or relating to this Agreement which cannot be resolved by negotiation between the parties shall be decided by an alternative dispute resolution process ("ADR Process"). Either party may give written notice to the other of its desire to resolve a claim or dispute by the ADR Process. The Parties shall negotiate in good faith to determine the type of ADR Process to be utilized. If the type of ADR Process is not agreed upon by the parties within thirty (30) days after said party's notice, then arbitration in accordance with the rules of the American Arbitration Association, shall be the type of ADR Process utilized. An award resulting from the ADR Process shall be final and judgment may be entered upon such an award in accordance with applicable law in a court having appropriate jurisdiction. Any award made as a result of the ADR Process shall not include punitive damages. Unless this Agreement is terminated in accordance with its terms, or the Parties otherwise agree in writing, the Parties shall continue to perform during the ADR Process or other litigation between the parties.

6. TERM OF AGREEMENT

6.1. Term. Except as otherwise provided herein, the term of this Agreement shall be four (4) months beginning February 1, 2021 through May 31, 2021. This Agreement may be extended by mutual agreement of the Parties after the four (4) month term.

6.2. Right to Terminate

6.2.1. The City and Company shall have the right to terminate this Agreement pursuant to this section 6.2.2, and Sections 2.1.4, 7.1 and 7.6 herein.

6.2.2. This Agreement shall terminate should Company closes the production operations.

7. MISCELLANEOUS PROVISIONS

7.1. Non-Compliance. In the event Company's discharge exceeds its Permitted Discharge or violates the City's sewer user ordinances, upon written notice of said non-compliance, should Company fail to remediate said non-compliance within forty-eight (48) hours and

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pay all applicable fines, penalties, and charges, or should the Company's discharge exceed its Permitted Discharge or violate the City's sewer user ordinance more than three (3) days in any given calendar year, the City shall have the right to terminate this Agreement and immediately shut off the discharge flow from the Company's production facility into the City's Sewer System by shutting off the lift station electrical panel source located adjacent to Company's said lift station and locking said lift station electrical panel source. In addition to the above-noted, should the Company's discharge exceed its Permitted Discharge or violate the City's sewer user ordinance at any time, the City may also impose penalties and take additional enforcement actions as provided by City ordinances or as provided herein. Both parties agree that the City shall not be liable for any damages or loss as a result of their actions taken herein.

- 7.2. **Recordkeeping.** City shall keep books, records and accounts in which complete entries of all transactions and costs relating to the Sewage System and Sewage System shall be kept ("Records") for a minimum of three years. The Records shall, at reasonable times during City's regular business hours, be available for inspection and copying by Company at Company's expense.
- 7.3. **Assignment.** In the event Company should sell, transfer, merge or reorganize Company or its property or shares, the obligations and benefits of this Agreement shall pass through to the surviving company, purchaser or assignee, as the case may be, ("Successor") and this Agreement shall remain in full force and effect and be binding on the Successor. Company shall notify City of such transfer and Successor shall notify City of any significant changes to its Sewage characteristics.
- 7.4. **Authority.** City and Company each warrant it has the right, title and authority to enter into this Agreement and to perform all its obligations hereunder, and that all approvals necessary for it to enter into and fully perform this Agreement have been obtained.
- 7.5. **Entire Agreement.** This Agreement and all exhibits hereto constitute the entire agreement between the parties pertaining to the subject matters hereof and supersede all negotiations, preliminary agreements and all prior or contemporaneous discussions and understandings of the parties in connection with the subject matters hereof.
- 7.6. **Severability.** In the event any provision of this Agreement is held invalid, illegal or unenforceable, in whole or in part, the remaining provisions of this Agreement shall not be affected thereby and shall continue to be valid and enforceable. In the event any provision of this Agreement is held to be unenforceable as written, but enforceable if modified, then such provision shall be deemed to be amended to such extent as shall be necessary for such provision to be enforceable and it shall be enforced to that extent. Provided, however, if the result of any provision of this Agreement being held invalid, illegal or unenforceable, in whole or in part, or if the result of any provision of this Agreement being deemed amended, would be a limitation on Company's Permitted Discharge or an increase in charges by the City to the Company for treatment of the Permitted Discharge, Company shall have a right to terminate this Agreement upon thirty (30) days written notice to the City, effective on the date specified in that notice.

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- 7.7. No Waiver; Modifications.** No failure or delay on the part of any Party in exercising any right, power or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right, power or remedy preclude any other or further exercise thereof or the exercise of any other right, power or remedy. No amendment, modification, supplement, termination or waiver of or to any provision of this Agreement, nor consent to any departure therefrom, shall be effective unless the same shall be in writing and signed by or on behalf of both parties.
- 7.8. Headings.** Headings in this Agreement are provided for convenience of reference only, and shall not be considered a part hereof for purposes of interpreting or applying this Agreement, and such titles or captions do not define, limit, extend, explain or describe the scope or extent of this Agreement or any of its terms or conditions.
- 7.9. Agreement Conflicts.** In the event of any conflict between this Agreement and the provisions of any other agreement between City and Company or with City ordinances or resolutions, the provisions of this Agreement shall control and any conflicting provisions of other agreements are hereby amended to conform to the provisions of this Agreement.
- 7.10. Construction.** Both parties have participated equally in the preparation and approval of this Agreement. No provision of this Agreement shall be construed more strongly against either Party regardless of who was more responsible for its preparation.
- 7.11. Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Iowa. The penalty provisions of this Agreement do not limit the right of either party to enforce the terms of this Agreement in law or in equity.
- 7.12. Notice**
- 7.12.1. All notices, demands, requests, and other communications desired or required to be given hereunder ("Notices"), shall be in writing and shall be given by: (i) hand delivery to the address for Notices; (ii) delivery by overnight courier service to the address for Notices; or (iii) sending the same by United States mail, postage prepaid, certified mail, return receipt requested, addressed to the address for Notices.
- 7.12.2. All Notices shall be deemed given and effective upon the earlier to occur of: (i) the hand delivery of such Notice to the address for Notices; (ii) one business day after the deposit of such Notice with an overnight courier service by the time deadline for next day delivery addressed to the address for Notices; or (iii) three business days after depositing the Notice in the United States mail as set forth in (a) above. All Notices shall be addressed to the following addresses:

If to City, to: City of Webster City
 P.O. Box 217
 400 Second Street

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Webster City, IA 50595
Phone: 515-832-9151
Attn: City Manager

If to Company, to: NaturalShrimp, Inc.
c/o Tom Untermeyer
833 County Road 583
La Coste, TX 78039
Phone: 210-288-5741

or to such other persons or at such other places as any party hereto may by
Notice designate for service of Notices.

7.13. Reservation of Rights. Neither this Agreement, nor any portion of it, is intended to limit the right of the City to adopt, enforce or amend ordinances that are a proper exercise of the City's legislative powers.

7.14. Rule of Construction. This Agreement is intended to be consistent with the ordinances and resolutions of the City, and shall be so construed. City represents and warrants that this Agreement is not inconsistent with the ordinances and resolutions of the City.

7.15. No Third-Party Rights/Remedies. This Agreement is not intended and shall not be construed to confer upon any person or entity other than the Parties hereto any rights or remedies hereunder.

7.16. Signatories Authorized. Each of the undersigned representatives of the Parties certifies that he or she is authorized to enter into the terms and conditions of this Agreement and to execute and legally bind such Party to this document.

8. EXHIBITS

The following Exhibits are attached to and made part of this Agreement:

NO EXHIBITS

IN WITNESS WHEREOF, the Parties have duly executed this Agreement as of the day first above written.

CITY OF WEBSTER CITY, IOWA

NATURALSHRIMP, INC.

By: John Hawkins
John Hawkins, Mayor

By: Tom Untermeyer

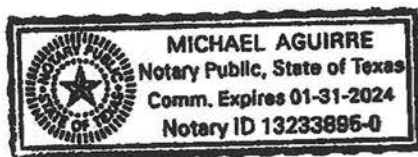
Attest: Karyl Bonjour
Karyl Bonjour, City Clerk


Its: CHIEF TECHNICAL OFFICER

11 February 16, 2021

STATE OF TEXAS, COUNTY OF BERNAL:

On this 26th day of January 2021, before me, the undersigned a Notary Public in and for the said State, personally appeared THOMAS CARLOS UTERQUIN to me personally known, who being by me duly sworn, did say that he is the CHIEF TECHNICAL OFFICER of Natural Shrimp, Inc.; that (a) no seal has been procured by said Corporation, and that the said Instrument was signed on behalf of said Corporation by authority of its Board of Directors; and that the said CHIEF TECHNICAL OFFICER as such Officer, acknowledged the execution of said instrument to be the voluntary act and deed of said Corporation, by it and by them voluntarily executed.




Notary Public in and for the State of Texas

Appendix F: EQ Basin

Table F.1	Equalization Basin Volume Evaluation – Jan 2012 – Dec 2019 Data
Figure F.1	2012 – 2019 Equalization Basin Volume
Table F.2	Equalization Basin Volume Evaluation – April 2013 – June 2013 Data
Figure F.2	April – June 2013 Equalization Basin Volume
Figure F.3	April – June 2013 Influent Flow with Equalization Basin
Table F.3	Equalization Basin Volume Evaluation – Sept 2018 – Oct 2018 Data
Figure F.4	September – October 2018 Equalization Basin Volume
Figure F.5	September – October 2018 Influent flow with Equalization Basin
Table F.4	Equalization Basin Volume Evaluation – March 2019 – June 2019 Data
Figure F.6	March – June 2019 Equalization Basin Volume
Figure F.7	March – June 2019 Influent Flow with Equalization Basin

Table F.1 Equalization Basin Volume Evaluation - Jan 2012 - Dec 2019 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System MGD	Flows To and From EQ Basin			Basin Volume End of Day MG	Flow to Treatment Process MGD
		Discharge To Basin MGD	Plant Cap. Avail for EQ Flow MGD	Discharge From Basin MGD		
					0	
1-Jan-12	0.76	0	3.18	0	0	0.76
2-Jan-12	0.83	0	3.11	0	0	0.83
3-Jan-12	0.88	0	3.06	0	0	0.88
4-Jan-12	0.89	0	3.05	0	0	0.89
5-Jan-12	0.88	0	3.06	0	0	0.88
24-Dec-19	1.386	0	2.55	0	0	1.39
25-Dec-19	1.304	0	2.64	0	0	1.30
26-Dec-19	0.858	0	3.08	0	0	0.86
27-Dec-19	1.429	0	2.51	0	0	1.43
28-Dec-19	1.937	0	2.00	0	0	1.94
29-Dec-19	1.93	0	2.01	0	0	1.93
30-Dec-19	1.937	0	2.00	0	0	1.94
31-Dec-19	1.912	0	2.03	0	0	1.91

Count	2919
Mean	1.54
Max.	7.89
99th perc.	5.11
95th perc.	3.11
90th perc.	2.52

Minimum Basin Volume Required:

11.12 MG

Figure F.1 2012 - 2019 Equalization Basin Volume

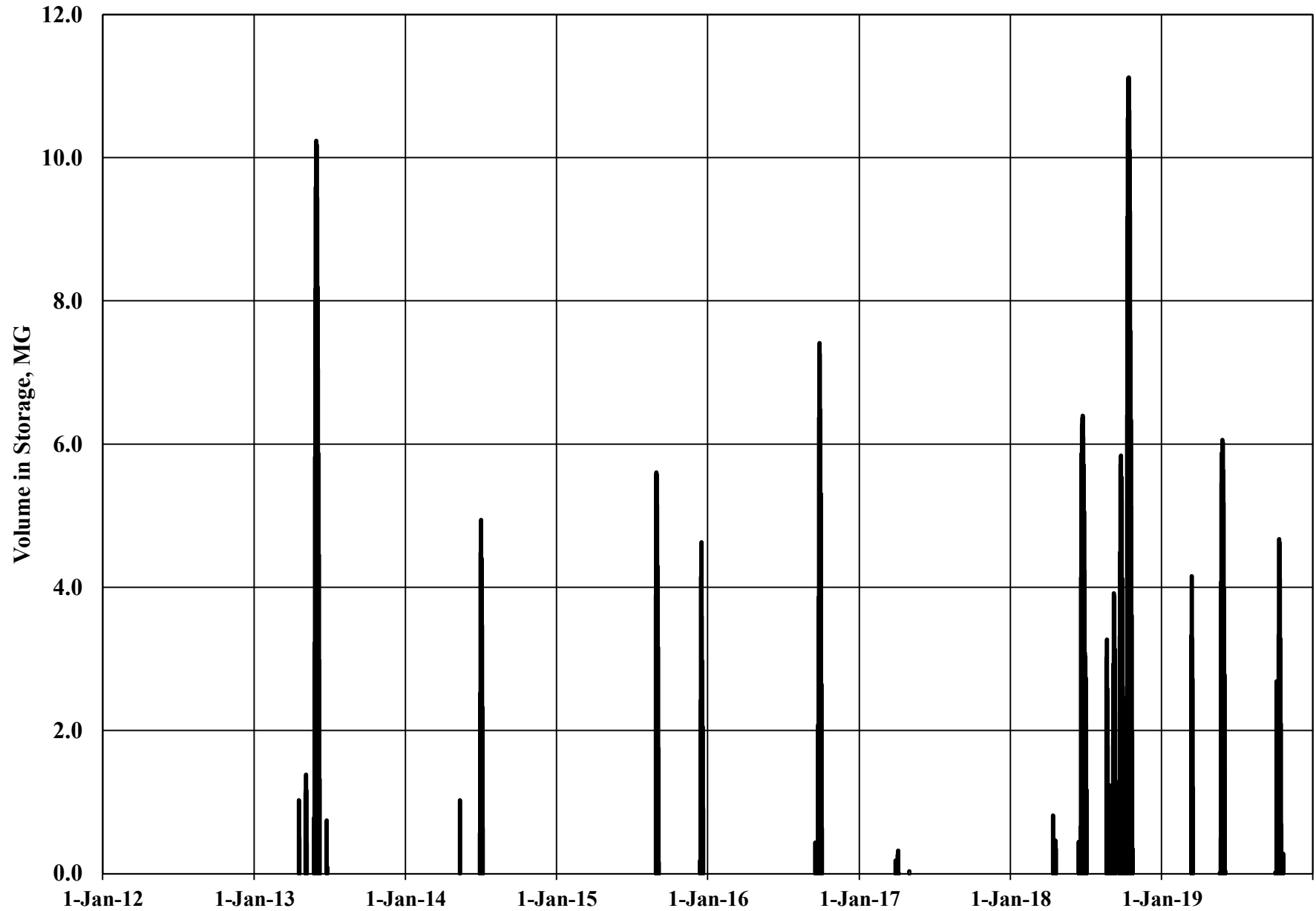


Table F.2 Equalization Basin Volume Evaluation - April 2013 - June 2013 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System	Flows To and From EQ Basin			Basin Volume End of Day	Flow to Treatment Process
		Discharge To Basin	Plant Cap. Avail for EQ Flow	Discharge From Basin		
1-Apr-13	1.02	0	2.92	0	0	1.02
2-Apr-13	1.01	0	2.93	0	0	1.01
3-Apr-13	0.98	0	2.96	0	0	0.98
4-Apr-13	0.97	0	2.97	0	0	0.97
5-Apr-13	0.95	0	2.99	0	0	0.95
6-Apr-13	0.91	0	3.03	0	0	0.91
7-Apr-13	0.86	0	3.08	0	0	0.86
8-Apr-13	1.11	0	2.83	0	0	1.11
9-Apr-13	2.86	0	1.08	0	0	2.86
10-Apr-13	2.50	0	1.44	0	0	2.50
11-Apr-13	2.65	0	1.29	0	0	2.65
12-Apr-13	2.08	0	1.86	0	0	2.08
13-Apr-13	1.83	0	2.11	0	0	1.83
14-Apr-13	2.92	0	1.02	0	0	2.92
15-Apr-13	2.39	0	1.55	0	0	2.39
16-Apr-13	2.06	0	1.88	0	0	2.06
17-Apr-13	3.32	0	0.62	0	0	3.32
18-Apr-13	4.97	1.027	0.00	0	1.027	3.94
19-Apr-13	3.41	0	0.53	0.534	0.493	3.94
20-Apr-13	2.48	0	1.46	0.493	0	2.97
21-Apr-13	2.42	0	1.52	0	0	2.42
22-Apr-13	2.76	0	1.18	0	0	2.76
23-Apr-13	2.68	0	1.26	0	0	2.68
24-Apr-13	2.45	0	1.49	0	0	2.45
25-Apr-13	2.25	0	1.69	0	0	2.25
26-Apr-13	2.06	0	1.88	0	0	2.06
27-Apr-13	1.89	0	2.05	0	0	1.89
28-Apr-13	1.81	0	2.13	0	0	1.81
29-Apr-13	1.87	0	2.07	0	0	1.87
30-Apr-13	1.75	0	2.19	0	0	1.75
1-May-13	1.90	0	2.04	0	0	1.90
2-May-13	2.99	0	0.95	0	0	2.99
3-May-13	3.68	0	0.26	0	0	3.68
4-May-13	5.07	1.128	0.00	0	1.128	3.94
5-May-13	4.19	0.255	0.00	0	1.383	3.94
6-May-13	3.72	0	0.22	0.217	1.166	3.94
7-May-13	3.19	0	0.75	0.746	0.42	3.94
8-May-13	3.01	0	0.93	0.42	0	3.43
9-May-13	3.08	0	0.86	0	0	3.08
10-May-13	2.70	0	1.24	0	0	2.70
11-May-13	2.49	0	1.45	0	0	2.49
12-May-13	2.34	0	1.60	0	0	2.34
13-May-13	2.32	0	1.62	0	0	2.32
14-May-13	2.24	0	1.70	0	0	2.24
15-May-13	2.05	0	1.89	0	0	2.05

Table F.2 Equalization Basin Volume Evaluation - April 2013 - June 2013 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System	Flows To and From EQ Basin			Basin Volume End of Day	Flow to Treatment Process
		Discharge To Basin	Plant Cap. Avail for EQ Flow	Discharge From Basin		
16-May-13	2.09	0	1.85	0	0	2.09
17-May-13	1.98	0	1.96	0	0	1.98
18-May-13	2.02	0	1.92	0	0	2.02
19-May-13	2.28	0	1.66	0	0	2.28
20-May-13	2.42	0	1.52	0	0	2.42
21-May-13	2.14	0	1.80	0	0	2.14
22-May-13	2.05	0	1.89	0	0	2.05
23-May-13	1.90	0	2.04	0	0	1.90
24-May-13	1.86	0	2.08	0	0	1.86
25-May-13	4.72	0.784	0.00	0	0.784	3.94
26-May-13	6.37	2.435	0.00	0	3.219	3.94
27-May-13	6.54	2.603	0.00	0	5.822	3.94
28-May-13	6.28	2.34	0.00	0	8.162	3.94
29-May-13	5.37	1.426	0.00	0	9.588	3.94
30-May-13	4.59	0.65	0.00	0	10.238	3.94
31-May-13	3.88	0	0.06	0.055	10.183	3.94
1-Jun-13	3.19	0	0.75	0.75	9.433	3.94
2-Jun-13	2.71	0	1.23	1.233	8.2	3.94
3-Jun-13	2.79	0	1.15	1.152	7.048	3.94
4-Jun-13	2.76	0	1.18	1.18	5.868	3.94
5-Jun-13	2.53	0	1.41	1.412	4.456	3.94
6-Jun-13	2.46	0	1.48	1.483	2.973	3.94
7-Jun-13	2.29	0	1.65	1.653	1.32	3.94
8-Jun-13	2.19	0	1.75	1.32	0	3.51
9-Jun-13	2.17	0	1.77	0	0	2.17
10-Jun-13	2.09	0	1.85	0	0	2.09
11-Jun-13	2.05	0	1.89	0	0	2.05
12-Jun-13	2.09	0	1.85	0	0	2.09
13-Jun-13	1.93	0	2.01	0	0	1.93
14-Jun-13	1.94	0	2.00	0	0	1.94
15-Jun-13	0.85	0	3.09	0	0	0.85
16-Jun-13	1.78	0	2.16	0	0	1.78
17-Jun-13	1.72	0	2.22	0	0	1.72
18-Jun-13	1.65	0	2.29	0	0	1.65
19-Jun-13	1.60	0	2.34	0	0	1.60
20-Jun-13	1.55	0	2.39	0	0	1.55
21-Jun-13	1.50	0	2.44	0	0	1.50
22-Jun-13	1.37	0	2.57	0	0	1.37
23-Jun-13	1.45	0	2.49	0	0	1.45
24-Jun-13	4.68	0.745	0.00	0	0.745	3.94
25-Jun-13	3.29	0	0.65	0.649	0.096	3.94
26-Jun-13	2.92	0	1.02	0.096	0	3.02
27-Jun-13	2.56	0	1.38	0	0	2.56
28-Jun-13	2.35	0	1.59	0	0	2.35
29-Jun-13	2.15	0	1.79	0	0	2.15

Table F.2 Equalization Basin Volume Evaluation - April 2013 - June 2013 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System	Flows To and From EQ Basin			Basin Volume End of Day	Flow to Treatment Process
		Discharge To Basin	Plant Cap. Avail for EQ Flow	Discharge From Basin		
30-Jun-13	2.14	0	1.80	0	0	2.14

Figure F.2 April - June 2013 Equalization Basin Volume

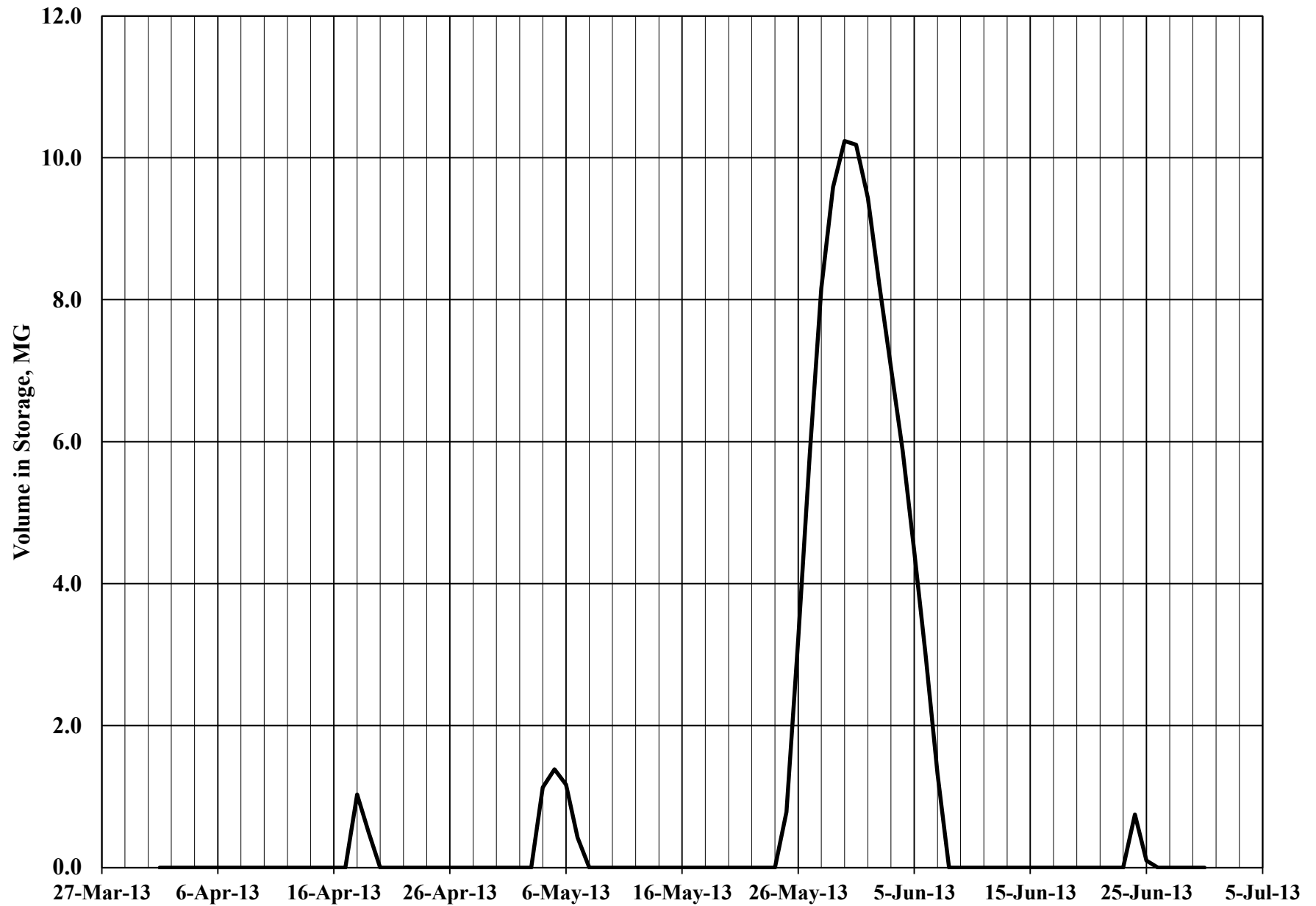


Figure F.3 April - June 2013 Influent Flow with Equaliztion Basin

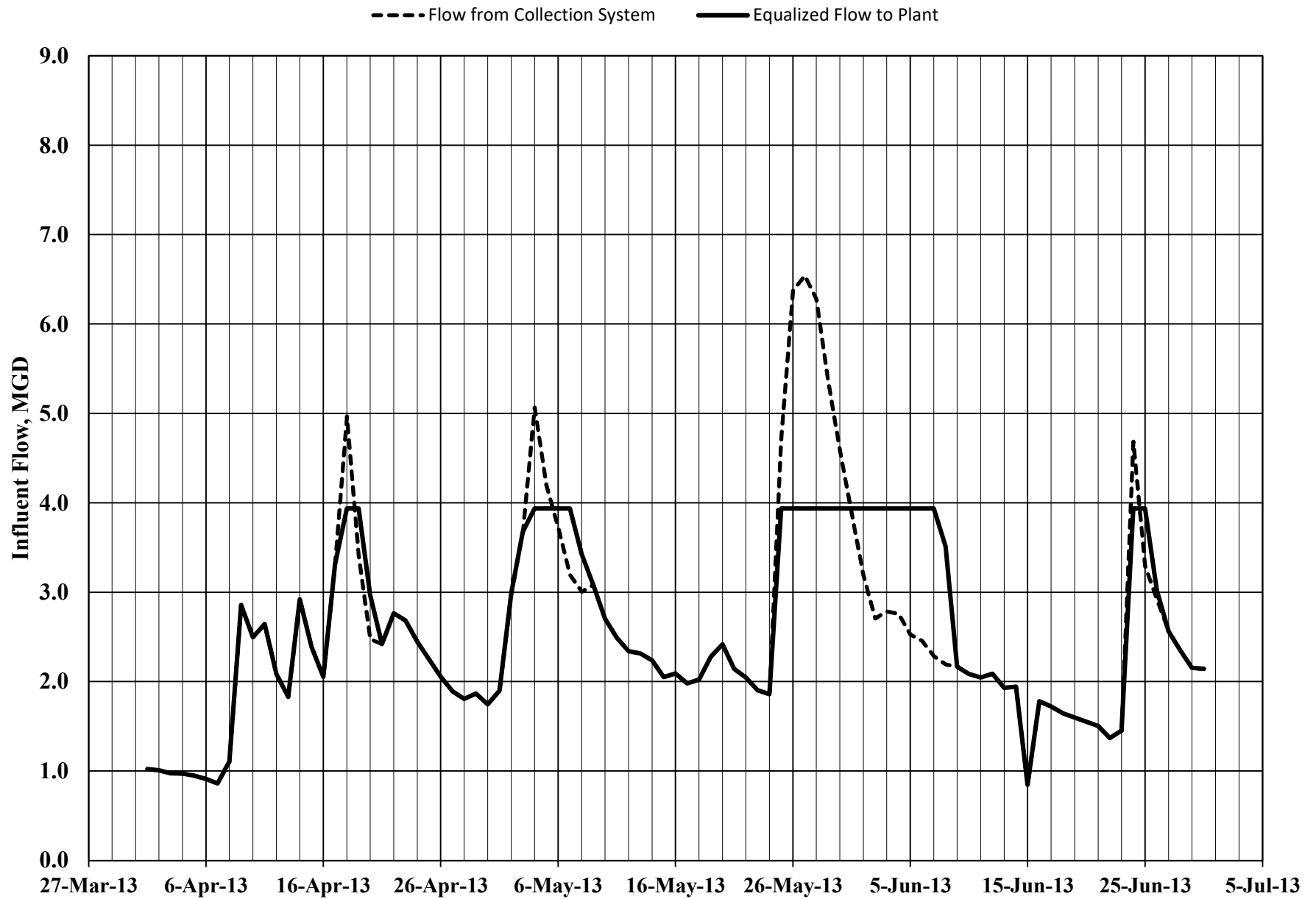


Table F.3 Equalization Basin Volume Evaluation - Sept. 2018 - Oct. 2018 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System MGD	Flows To and From EQ Basin			Basin Volume End of Day MG	Flow to Treatment Process MGD
		Discharge To Basin MGD	Plant Cap. Avail for EQ Flow MGD	Discharge From Basin MGD		
1-Sep-18	2.96	0	0.98	0	0	2.96
2-Sep-18	3.23	0	0.71	0	0	3.23
3-Sep-18	2.879	0	1.06	0	0	2.88
4-Sep-18	5.106	1.167	0.00	0	1.167	3.94
5-Sep-18	4.661	0.722	0.00	0	1.889	3.94
6-Sep-18	4.976	1.037	0.00	0	2.926	3.94
7-Sep-18	4.932	0.993	0.00	0	3.919	3.94
8-Sep-18	3.89	0	0.05	0.049	3.87	3.94
9-Sep-18	3.203	0	0.74	0.736	3.134	3.94
10-Sep-18	3.07	0	0.87	0.869	2.265	3.94
11-Sep-18	2.799	0	1.14	1.14	1.125	3.94
12-Sep-18	2.617	0	1.32	1.125	0	3.74
13-Sep-18	2.337	0	1.60	0	0	2.34
14-Sep-18	2.186	0	1.75	0	0	2.19
15-Sep-18	2.02	0	1.92	0	0	2.02
16-Sep-18	1.948	0	1.99	0	0	1.95
17-Sep-18	1.901	0	2.04	0	0	1.90
18-Sep-18	1.942	0	2.00	0	0	1.94
19-Sep-18	3.676	0	0.26	0	0	3.68
20-Sep-18	5.23	1.291	0.00	0	1.291	3.94
21-Sep-18	5.962	2.023	0.00	0	3.314	3.94
22-Sep-18	5.109	1.17	0.00	0	4.484	3.94
23-Sep-18	5.171	1.232	0.00	0	5.716	3.94
24-Sep-18	4.064	0.125	0.00	0	5.841	3.94
25-Sep-18	3.639	0	0.30	0.3	5.541	3.94
26-Sep-18	3.606	0	0.33	0.333	5.208	3.94
27-Sep-18	2.856	0	1.08	1.083	4.125	3.94
28-Sep-18	2.425	0	1.51	1.514	2.611	3.94
29-Sep-18	2.639	0	1.30	1.3	1.311	3.94
30-Sep-18	2.132	0	1.81	1.311	0	3.44
1-Oct-18	4.749	0.81	0.00	0	0.81	3.94
2-Oct-18	3.927	0	0.01	0.012	0.798	3.94
3-Oct-18	3.397	0	0.54	0.542	0.256	3.94
4-Oct-18	3.054	0	0.89	0.256	0	3.31
5-Oct-18	3.043	0	0.90	0	0	3.04
6-Oct-18	2.685	0	1.25	0	0	2.69
7-Oct-18	2.817	0	1.12	0	0	2.82
8-Oct-18	6.397	2.458	0.00	0	2.458	3.94
9-Oct-18	7.887	3.948	0.00	0	6.406	3.94
10-Oct-18	6.706	2.767	0.00	0	9.173	3.94
11-Oct-18	5.318	1.379	0.00	0	10.552	3.94
12-Oct-18	4.501	0.562	0.00	0	11.114	3.94
13-Oct-18	3.948	0.009	0.00	0	11.123	3.94
14-Oct-18	3.471	0	0.47	0.468	10.655	3.94

Table F.3 Equalization Basin Volume Evaluation - Sept. 2018 - Oct. 2018 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System MGD	Flows To and From EQ Basin			Basin Volume End of Day MG	Flow to Treatment Process MGD
		Discharge To Basin MGD	Plant Cap. Avail for EQ Flow MGD	Discharge From Basin MGD		
15-Oct-18	3.39	0	0.55	0.549	10.106	3.94
16-Oct-18	3.082	0	0.86	0.857	9.249	3.94
17-Oct-18	2.266	0	1.67	1.673	7.576	3.94
18-Oct-18	2.703	0	1.24	1.236	6.34	3.94
19-Oct-18	2.719	0	1.22	1.22	5.12	3.94
20-Oct-18	2.429	0	1.51	1.51	3.61	3.94
21-Oct-18	2.316	0	1.62	1.623	1.987	3.94
22-Oct-18	2.299	0	1.64	1.64	0.347	3.94
23-Oct-18	2.205	0	1.73	0.347	0	2.55
24-Oct-18	2.115	0	1.82	0	0	2.12
25-Oct-18	2.135	0	1.80	0	0	2.14
26-Oct-18	1.931	0	2.01	0	0	1.93
27-Oct-18	2.171	0	1.77	0	0	2.17
28-Oct-18	1.64	0	2.30	0	0	1.64
29-Oct-18	2.031	0	1.91	0	0	2.03
30-Oct-18	1.973	0	1.97	0	0	1.97
31-Oct-18	1.904	0	2.04	0	0	1.90

Figure F.4 September - October 2018 Equalization Basin Volume

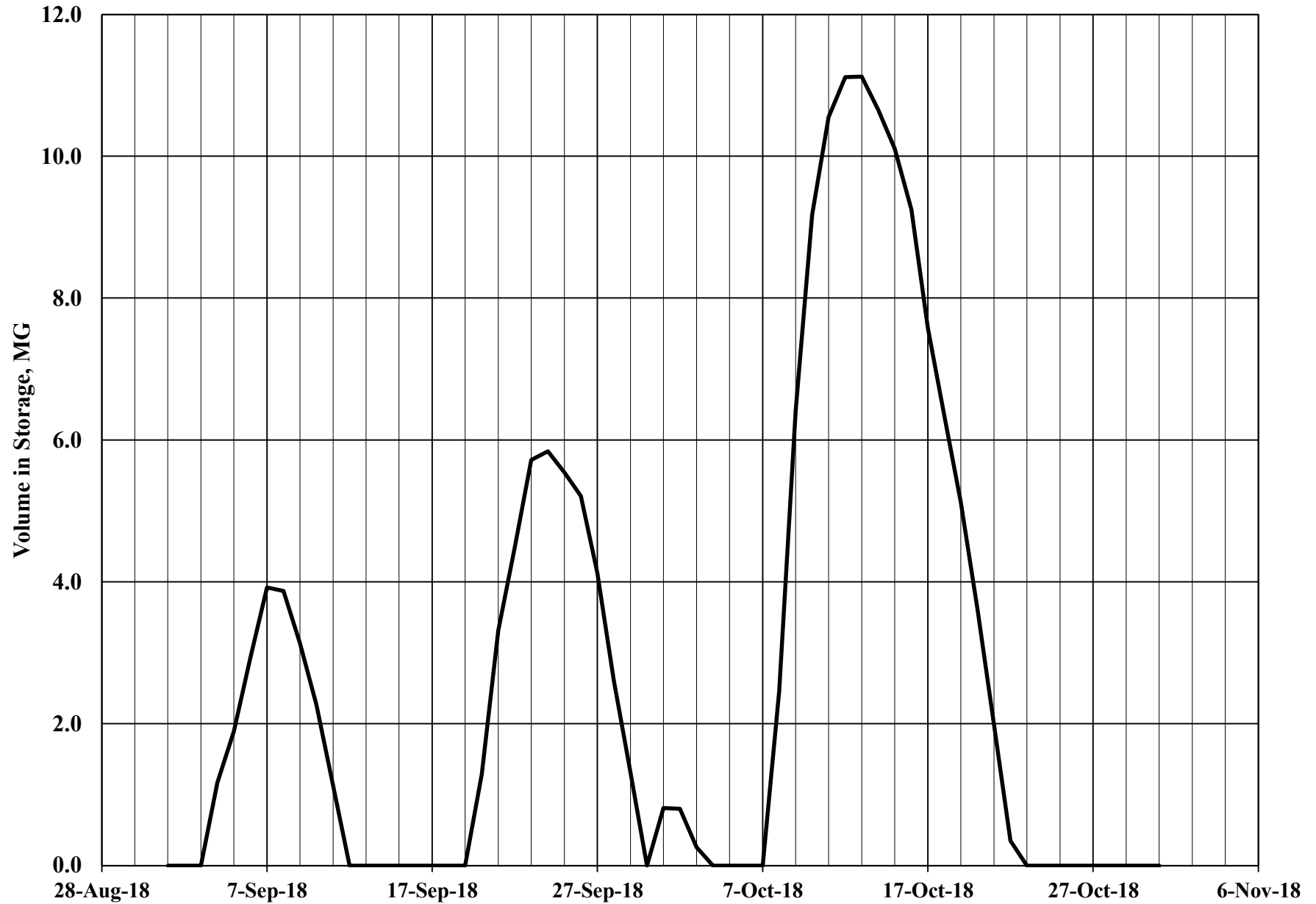


Figure E.5 September - October 2018 Influent Flow with Equaliztion Basin

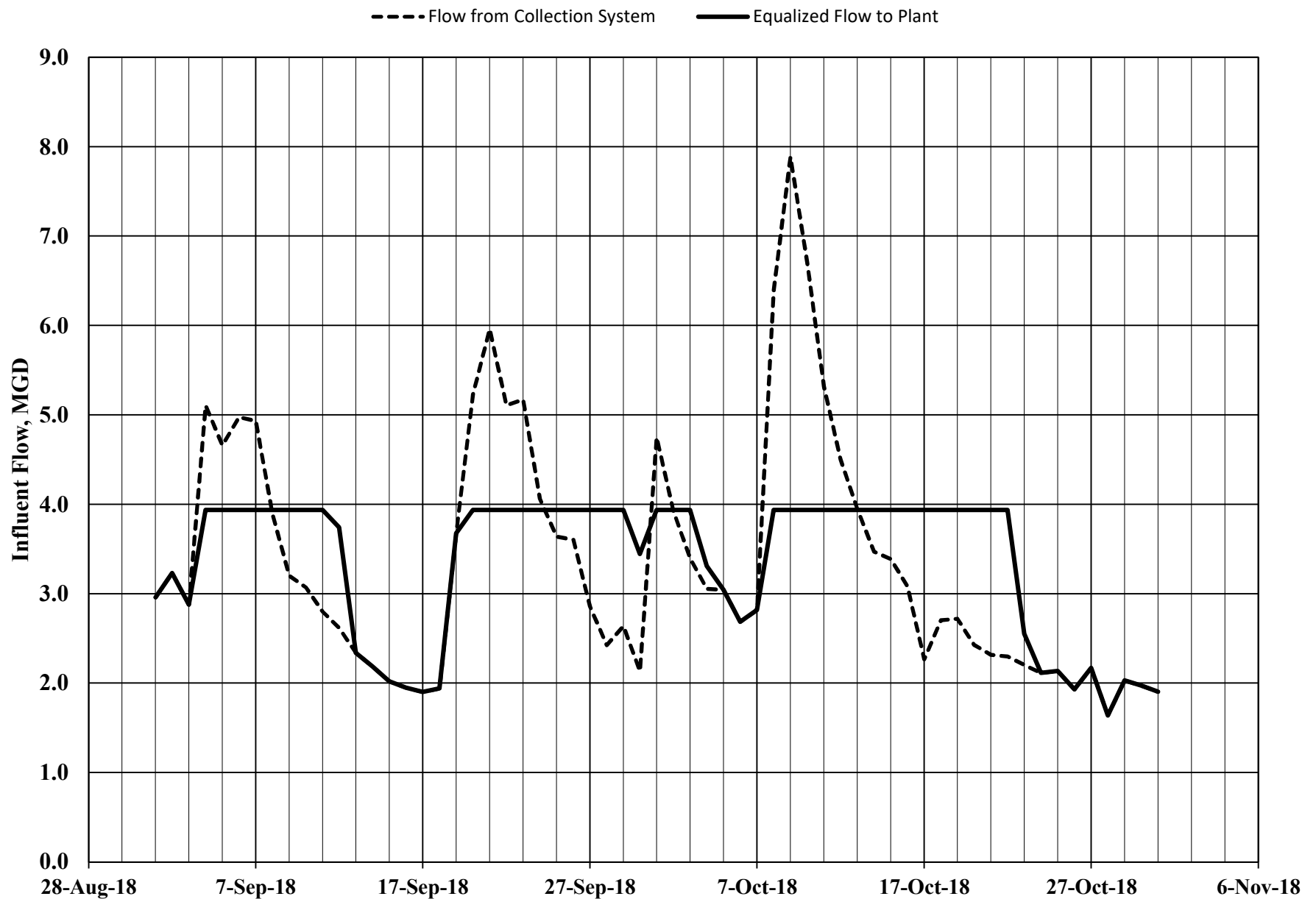


Table F.4 Equalization Basin Volume Evaluation - March 2019 - June 2019 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System MGD	Flows To and From EQ Basin			Basin Volume End of Day MG	Flow to Treatment Process MGD
		Discharge To Basin MGD	Plant Cap. Avail for EQ Flow MGD	Discharge From Basin MGD		
1-Mar-19	1.087	0	2.85	0	0	1.09
2-Mar-19	1.061	0	2.88	0	0	1.06
3-Mar-19	1.002	0	2.94	0	0	1.00
4-Mar-19	1.077	0	2.86	0	0	1.08
5-Mar-19	1.078	0	2.86	0	0	1.08
6-Mar-19	1.093	0	2.85	0	0	1.09
7-Mar-19	1.093	0	2.85	0	0	1.09
8-Mar-19	1.398	0	2.54	0	0	1.40
9-Mar-19	1.144	0	2.80	0	0	1.14
10-Mar-19	1.405	0	2.53	0	0	1.41
11-Mar-19	1.413	0	2.53	0	0	1.41
12-Mar-19	2.472	0	1.47	0	0	2.47
13-Mar-19	7.262	3.323	0.00	0	3.323	3.94
14-Mar-19	4.773	0.834	0.00	0	4.157	3.94
15-Mar-19	3.059	0	0.88	0.88	3.277	3.94
16-Mar-19	3.381	0	0.56	0.558	2.719	3.94
17-Mar-19	2.423	0	1.52	1.516	1.203	3.94
18-Mar-19	2.649	0	1.29	1.203	0	3.85
19-Mar-19	2.577	0	1.36	0	0	2.58
20-Mar-19	2.533	0	1.41	0	0	2.53
21-Mar-19	2.476	0	1.46	0	0	2.48
22-Mar-19	2.407	0	1.53	0	0	2.41
23-Mar-19	2.286	0	1.65	0	0	2.29
24-Mar-19	2.098	0	1.84	0	0	2.10
25-Mar-19	2.129	0	1.81	0	0	2.13
26-Mar-19	2.093	0	1.85	0	0	2.09
27-Mar-19	2.055	0	1.88	0	0	2.06
28-Mar-19	1.958	0	1.98	0	0	1.96
29-Mar-19	1.903	0	2.04	0	0	1.90
30-Mar-19	1.823	0	2.12	0	0	1.82
31-Mar-19	1.792	0	2.15	0	0	1.79
1-Apr-19	1.785	0	2.15	0	0	1.79
2-Apr-19	1.78	0	2.16	0	0	1.78
3-Apr-19	1.953	0	1.99	0	0	1.95
4-Apr-19	2.26	0	1.68	0	0	2.26
5-Apr-19	2.176	0	1.76	0	0	2.18
6-Apr-19	2.129	0	1.81	0	0	2.13
7-Apr-19	2.091	0	1.85	0	0	2.09
8-Apr-19	2.044	0	1.90	0	0	2.04
9-Apr-19	2.172	0	1.77	0	0	2.17
10-Apr-19	3.019	0	0.92	0	0	3.02
11-Apr-19	3.143	0	0.80	0	0	3.14
12-Apr-19	3.029	0	0.91	0	0	3.03
13-Apr-19	2.584	0	1.36	0	0	2.58

Table F.4 Equalization Basin Volume Evaluation - March 2019 - June 2019 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System MGD	Flows To and From EQ Basin			Basin Volume End of Day MG	Flow to Treatment Process MGD
		Discharge To Basin MGD	Plant Cap. Avail for EQ Flow MGD	Discharge From Basin MGD		
14-Apr-19	2.372	0	1.57	0	0	2.37
15-Apr-19	2.393	0	1.55	0	0	2.39
16-Apr-19	2.298	0	1.64	0	0	2.30
17-Apr-19	2.262	0	1.68	0	0	2.26
18-Apr-19	2.162	0	1.78	0	0	2.16
19-Apr-19	2.298	0	1.64	0	0	2.30
20-Apr-19	1.831	0	2.11	0	0	1.83
21-Apr-19	1.799	0	2.14	0	0	1.80
22-Apr-19	2.121	0	1.82	0	0	2.12
23-Apr-19	2.018	0	1.92	0	0	2.02
24-Apr-19	1.943	0	2.00	0	0	1.94
25-Apr-19	1.911	0	2.03	0	0	1.91
26-Apr-19	1.796	0	2.14	0	0	1.80
27-Apr-19	2.111	0	1.83	0	0	2.11
28-Apr-19	2.015	0	1.92	0	0	2.02
29-Apr-19	1.915	0	2.02	0	0	1.92
30-Apr-19	1.947	0	1.99	0	0	1.95
1-May-19	1.882	0	2.06	0	0	1.88
2-May-19	1.843	0	2.10	0	0	1.84
3-May-19	1.783	0	2.16	0	0	1.78
4-May-19	1.721	0	2.22	0	0	1.72
5-May-19	1.694	0	2.25	0	0	1.69
6-May-19	3.612	0	0.33	0	0	3.61
7-May-19	2.671	0	1.27	0	0	2.67
8-May-19	3.547	0	0.39	0	0	3.55
9-May-19	3.244	0	0.70	0	0	3.24
10-May-19	3.094	0	0.85	0	0	3.09
11-May-19	3.059	0	0.88	0	0	3.06
12-May-19	2.569	0	1.37	0	0	2.57
13-May-19	2.46	0	1.48	0	0	2.46
14-May-19	2.688	0	1.25	0	0	2.69
15-May-19	2.446	0	1.49	0	0	2.45
16-May-19	2.437	0	1.50	0	0	2.44
17-May-19	2.727	0	1.21	0	0	2.73
18-May-19	3.336	0	0.60	0	0	3.34
19-May-19	3.901	0	0.04	0	0	3.90
20-May-19	3.578	0	0.36	0	0	3.58
21-May-19	3.952	0.013	0.00	0	0.013	3.94
22-May-19	3.849	0	0.09	0.013	0	3.86
23-May-19	4.436	0.497	0.00	0	0.497	3.94
24-May-19	7.519	3.58	0.00	0	4.077	3.94
25-May-19	5.319	1.38	0.00	0	5.457	3.94
26-May-19	4.363	0.424	0.00	0	5.881	3.94
27-May-19	4.117	0.178	0.00	0	6.059	3.94

Table F.4 Equalization Basin Volume Evaluation - March 2019 - June 2019 Data

City of Webster City, Iowa

Storm Water Flow Equalization Basin Evaluation

Max. Month Flow (Sept. 2018) + 0.50 MGD

3.939

MGD Max. Flow to WWTP

Date	Influent Flow From Coll. System MGD	Flows To and From EQ Basin			Basin Volume End of Day MG	Flow to Treatment Process MGD
		Discharge To Basin MGD	Plant Cap. Avail for EQ Flow MGD	Discharge From Basin MGD		
28-May-19	3.904	0	0.04	0.035	6.024	3.94
29-May-19	3.545	0	0.39	0.394	5.63	3.94
30-May-19	3.487	0	0.45	0.452	5.178	3.94
31-May-19	2.753	0	1.19	1.186	3.992	3.94
1-Jun-19	2.727	0	1.21	1.212	2.78	3.94
2-Jun-19	2.585	0	1.35	1.354	1.426	3.94
3-Jun-19	2.552	0	1.39	1.387	0.039	3.94
4-Jun-19	2.423	0	1.52	0.039	0	2.46
5-Jun-19	2.288	0	1.65	0	0	2.29
6-Jun-19	2.177	0	1.76	0	0	2.18
7-Jun-19	2.165	0	1.77	0	0	2.17
8-Jun-19	2.006	0	1.93	0	0	2.01
9-Jun-19	1.689	0	2.25	0	0	1.69
10-Jun-19	1.86	0	2.08	0	0	1.86
11-Jun-19	1.903	0	2.04	0	0	1.90
12-Jun-19	1.873	0	2.07	0	0	1.87
13-Jun-19	1.831	0	2.11	0	0	1.83
14-Jun-19	1.872	0	2.07	0	0	1.87
15-Jun-19	1.782	0	2.16	0	0	1.78
16-Jun-19	1.652	0	2.29	0	0	1.65
17-Jun-19	2.183	0	1.76	0	0	2.18
18-Jun-19	2.973	0	0.97	0	0	2.97
19-Jun-19	2.016	0	1.92	0	0	2.02
20-Jun-19	2.147	0	1.79	0	0	2.15
21-Jun-19	2.35	0	1.59	0	0	2.35
22-Jun-19	2.243	0	1.70	0	0	2.24
23-Jun-19	2.42	0	1.52	0	0	2.42
24-Jun-19	2.341	0	1.60	0	0	2.34
25-Jun-19	2.17	0	1.77	0	0	2.17
26-Jun-19	2.019	0	1.92	0	0	2.02
27-Jun-19	1.954	0	1.99	0	0	1.95
28-Jun-19	1.53	0	2.41	0	0	1.53
29-Jun-19	1.995	0	1.94	0	0	2.00
30-Jun-19	1.642	0	2.30	0	0	1.64

Figure F.6 March - June 2019 Equalization Basin Volume

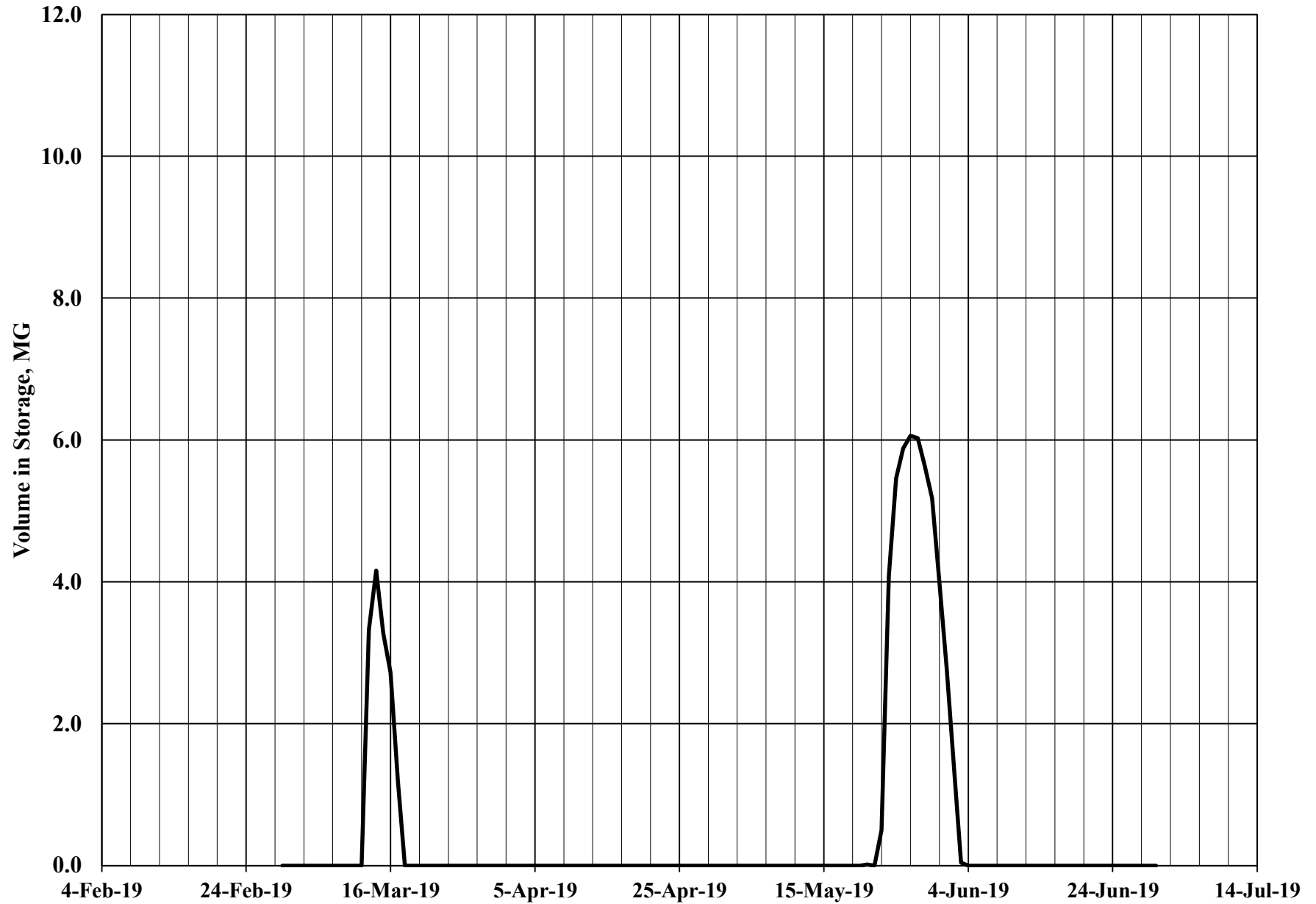
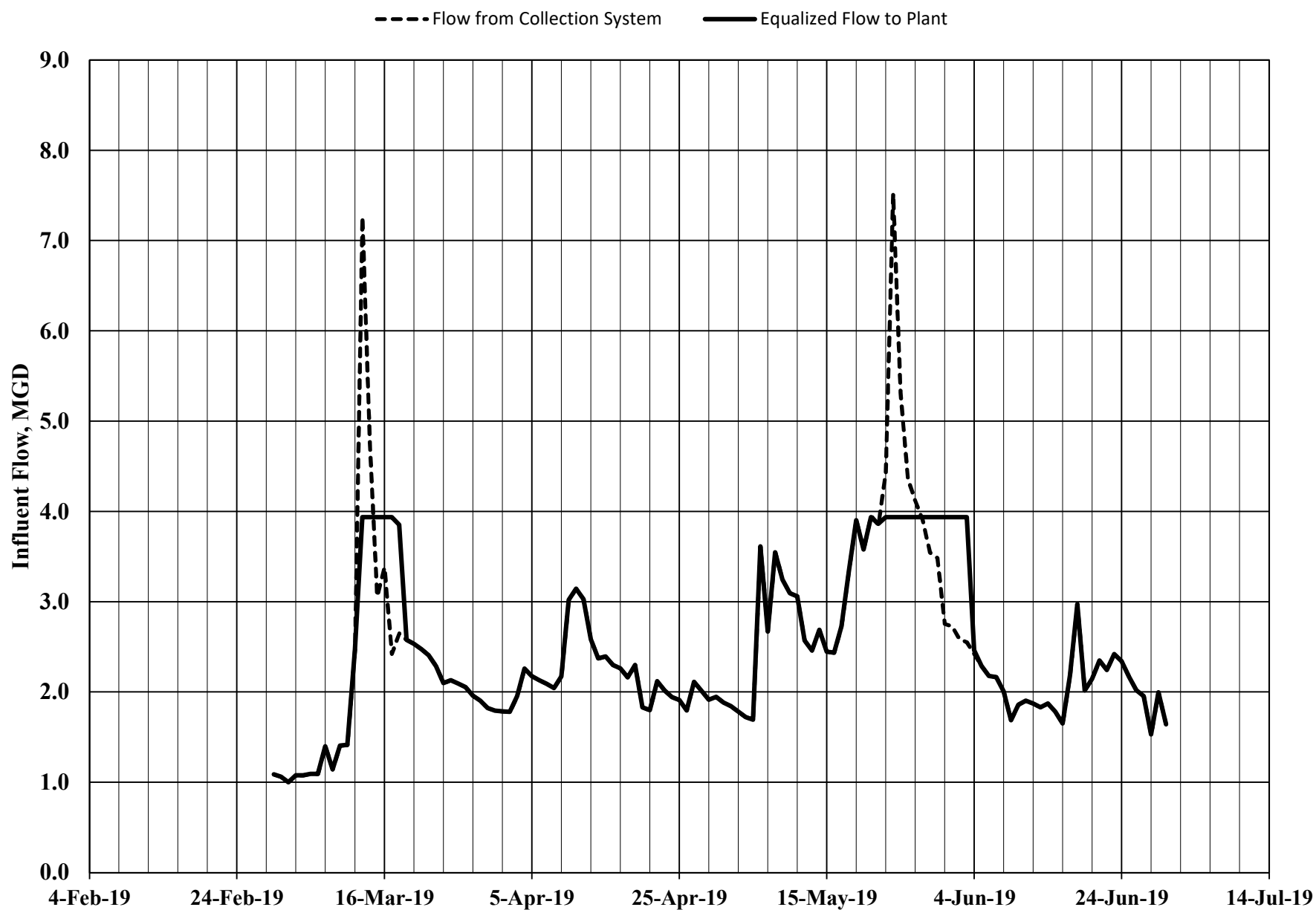


Figure F.7 March - June 2019 Influent Flow with Equalization Basin



Appendix G: Waste Load Allocation Calculations and Notes

Outfall 001	Discharge to Boone River Downstream of Ditch No. 166
Outfall 002	Discharge to Unnamed Creek to Oxbow Lake
Outfall 003	Discharge to Boone River Upstream of Ditch No. 166

City of Webster City

Proposed New Mechanical Facility

Proposed Outfall 001

This Package Contains

WASTELOAD ALLOCATION CALCULATIONS & NOTES

**ENVIRONMENTAL SERVICES DIVISION
WATER QUALITY-BASED PERMIT LIMITS**

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS*

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 001	ADW = 1.989 MGD & AWW = 4.586 MGD			
CBOD5	Secondary Treatment Levels Will Not Violate WQS			
Total D.O.	Minimum Concentration (mg/l)			
January - December	4.2			
Ammonia - Nitrogen				
January	11.1	15.9	257.7	593.2
February	12.7	15.0	296.9	556.3
March	6.6	15.4	154.7	573.7
April	4.9	16.3	114.6	611.1
May	5.6	15.8	130.9	592.4
June	4.2	15.1	98.7	563.6
July	3.2	18.3	75.6	686.0
August	3.1	16.9	71.8	633.2
September	3.4	17.1	79.5	642.4
October	5.0	16.3	117.4	611.4
November	7.5	15.3	175.4	571.8
December	8.0	16.6	186.7	621.1
Bacteria	Geometric Mean (#org./100 ml)		March 15 th – November 15 th	
E. coli	127			
Chloride	629	735	19,940	27,489
Sulfate	2,142	2,142	80,028	80,028
TRC**	0.013	0.022	0.403	0.827
Nitrate Nitrogen***	--	--	760	1,244
pH	6.5 - 14.0 Standard Units			

Major Facility Acute WET Testing Ratio: Use 95.9% of effluent and 4.1% of dilution water for the testing

Stream Network/Classification of Receiving Stream: Discharge pipe to the Boone River (A1, B(WW-1) HH)

Annual critical low flows in the Boone River at the outfall:

1Q10 flow 5.32 cfs, 7Q10 flow 5.76 cfs, 30Q10 flow 6.97 cfs, 30Q5 flow 13.6 cfs, harmonic mean flow 14.5 cfs

Performed by: Ian Willard

* All wasteload allocations/permit limits listed in this report apply at the beginning of the discharge pipe.

** Only required if chlorine is used for disinfection.

*** Nitrate nitrogen limits are based on a nitrate nitrogen TMDL for one stream segment of the Des Moines River. Limits are translated from the TMDL in a December 14, 2010 memo: "Deriving effluent limitations from the Des Moines River Nitrate TMDL." The translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

**** The mass limits for nitrate as N and nitrate+nitrite as N will be governed by the translated Des Moines River TMDL nitrate nitrogen limits.

Antidegradation Review Requirement

A tier II antidegradation review is required. See Section 2 for details.

The antidegradation review conducted in this wasteload allocation is based on the current information available.

Antidegradation could also be triggered during the NPDES permitting process based on new information.

**ENVIRONMENTAL SERVICES DIVISION
WATER QUALITY-BASED PERMIT LIMITS**

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS*

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 001	ADW = 1.989 MGD & AWW = 4.586 MGD			
Toxics				
1,1,1-Trichloroethane	2.754E+01	2.754E+01	1.029E+03	1.029E+03
1,1-Dichloroethylene	7.100E+00	5.633E+01	2.716E+02	2.104E+03
1,2-Dichloroethane	3.700E-01	6.155E+01	1.415E+01	2.299E+03
1,2-Dichloropropane	1.500E-01	1.500E-01	5.737E+00	5.737E+00
2,3,7,8-TCDD (Dioxin)	5.100E-11	5.100E-11	1.951E-09	1.951E-09
3,3-Dichlorobenzidine	2.800E-04	2.800E-04	1.071E-02	1.071E-02
4,4' DDT	1.468E-06	1.148E-03	4.601E-05	4.286E-02
Aldrin	5.000E-07	3.130E-03	1.912E-05	1.169E-01
Aluminum	1.307E+00	2.608E+00	4.095E+01	9.741E+01
Antimony	6.400E-01	1.148E+01	2.448E+01	4.286E+02
Arsenic (III)	5.000E-02	3.547E-01	1.912E+00	1.325E+01
Barium	2.139E+02	2.139E+02	7.988E+03	7.988E+03
Benzene	5.100E-01	1.721E+01	1.951E+01	6.429E+02
Benzo(a)Pyrene	1.800E-04	1.800E-04	6.885E-03	6.885E-03
Beryllium	5.216E-01	5.216E-01	1.948E+01	1.948E+01
Bis(2-ethylhexyl)phthalate	2.200E-02	2.200E-02	8.414E-01	8.414E-01
Bromoform	1.400E+00	1.400E+00	5.355E+01	5.355E+01
Cadmium	3.237E-03	1.059E-02	1.015E-01	3.952E-01
Carbon Tetrachloride	1.600E-02	2.248E+01	6.120E-01	8.397E+02
Chlordane	6.312E-06	2.504E-03	1.978E-04	9.351E-02
Chloride	6.29E+02	7.35E+02	1.9940E+04	2.7489E+04
Chlorobenzene	1.600E+00	1.680E+01	6.120E+01	6.273E+02
Chlorodibromomethane	1.300E-01	1.300E-01	4.972E+00	4.972E+00
Chloroform	4.700E+00	4.700E+00	1.798E+02	1.798E+02
Chloropyrifos	6.019E-05	8.659E-05	1.886E-03	3.234E-03
Chromium (VI)	1.679E-02	1.700E-02	5.261E-01	6.349E-01
Copper	4.111E-02	4.773E-02	1.289E+00	1.782E+00
Cyanide	7.634E-03	2.295E-02	2.393E-01	8.572E-01
Dichlorobromomethane	1.700E-01	1.700E-01	6.502E+00	6.502E+00
Dieldrin	5.400E-07	2.504E-04	2.065E-05	9.351E-03
Endosulfan	8.221E-05	2.295E-04	2.577E-03	8.572E-03
Endrin	5.285E-05	8.972E-05	1.656E-03	3.351E-03
Ethylbenzene	2.100E+00	2.363E+01	8.032E+01	8.825E+02
Fluoride	8.415E+00	8.415E+00	3.145E+02	3.145E+02
gamma-Hexachlorocyclohexane (Lindane)	9.911E-04	9.911E-04	3.702E-02	3.702E-02
Heptachlor	7.900E-07	5.425E-04	3.022E-05	2.026E-02

**ENVIRONMENTAL SERVICES DIVISION
WATER QUALITY-BASED PERMIT LIMITS**

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS*

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 001	ADW = 1.989 MGD & AWW = 4.586 MGD			
Toxics				
Heptachlor epoxide	3.900E-07	5.425E-04	1.492E-05	2.026E-02
Hexachlorobenzene	2.900E-06	2.900E-06	1.109E-04	1.109E-04
Hexachlorocyclopentadiene	1.100E+00	1.100E+00	4.207E+01	4.207E+01
Iron	1.043E+00	1.043E+00	3.896E+01	3.896E+01
Lead	2.404E-02	4.221E-01	7.533E-01	1.575E+01
Mercury (II)	1.500E-04	1.718E-03	5.737E-03	6.418E-02
Nickel	2.274E-01	1.417E+00	7.127E+00	5.291E+01
Nitrate as N****	3.338E+02	3.338E+02	1.247E+04	1.247E+04
Nitrate+Nitrite as N****	1.468E+02	3.338E+02	4.601E+03	1.247E+04
para-Dichlorobenzene	1.900E-01	2.086E+00	7.267E+00	7.793E+01
Parathion	1.908E-05	6.781E-05	5.981E-04	2.533E-03
Pentachlorophenol (PCP)	3.000E-02	3.040E-02	1.029E+00	1.135E+00
Phenols	7.340E-02	2.608E+00	2.301E+00	9.741E+01
Polychlorinated Biphenyls (PCBs)	6.400E-07	2.086E-03	2.448E-05	7.793E-02
Polynuclear Aromatic Hydrocarbons (PAHs)	4.404E-05	3.130E-02	1.380E-03	1.169E+00
Selenium	7.340E-03	2.013E-02	2.301E-01	7.520E-01
Silver	3.430E-02	3.430E-02	1.279E+00	1.279E+00
Sulfate	2.142E+03	2.142E+03	8.0028E+04	8.0028E+04
Tetrachloroethylene	3.300E-02	3.300E-02	1.262E+00	1.262E+00
Thallium	4.700E-04	6.238E-01	1.798E-02	2.330E+01
Toluene	7.340E-02	2.608E+00	2.301E+00	9.741E+01
Total Residual Chlorine (TRC)**	1.3E-02	2.2E-02	4.03E-01	8.27E-01
Toxaphene	2.800E-06	7.616E-04	9.202E-05	2.844E-02
trans-1,2-Dichloroethylene	1.400E-01	1.400E-01	5.355E+00	5.355E+00
Trichloroethylene (TCE)	1.174E-01	4.173E+00	3.681E+00	1.559E+02
Vinyl Chloride	2.400E-02	2.400E-02	9.179E-01	9.179E-01
Zinc	3.626E-01	3.626E-01	1.353E+01	1.353E+01

WLAs/Permit Limits for the City of Webster City's Proposed Mechanical Plant at Proposed Outfall 001

These wasteload allocations and water quality-based permit limitations are for the City of Webster City's wastewater discharge from a proposed new mechanical facility at proposed Outfall 001. The wasteload allocations/permit limits are based on the Water Quality Standards (IAC 567.61) and the "Iowa Wasteload Allocation (WLA) Procedure," effective November 11, 2020. The chloride allocation/permit limits are based on the criteria that became effective on November 11, 2009.

The water quality-based limits in this WLA are calculated to meet the surface water quality criteria to protect downstream uses. There could be technology-based limits applicable to this facility that are more stringent than the water quality-based limits shown in this WLA. The technology-based limits could be derived from either federal guidelines based on different industrial categories or permit writer's judgment.

1. BACKGROUND:

The City of Webster City currently discharges treated domestic wastewater from a mechanical (trickling filter/rotating biological contactor) wastewater treatment facility into Unnamed Creek (at 42° 27' 27.57" N, 93° 48' 22.72" W) and the Boone River (at 42° 27' 30.89" N, 93° 48' 23.02" W). Only one outfall is used at a time.

The City of Webster City is proposing to build a new mechanical (activated sludge) wastewater treatment facility at a new location. The design flows and design mass loadings used throughout this WLA are proposed values for the proposed new mechanical facility. Several different possible outfall locations are under consideration. This WLA is for a case where the proposed new mechanical facility would discharge via a discharge pipe into the Boone River at 42° 26' 32" N, 93° 47' 47" W (proposed Outfall 001).

Based on information provided by the consultant, the discharge pipe would have a length of 1,440 ft from the facility to the outfall and a flow velocity of 3 fps for both ADW and AWW flow conditions. All WLAs/permit limits listed in this report apply at the beginning of the discharge pipe.

Route of flow and use designations:

At the outfall, the Boone River is an A1, B(WW-1) HH designated use waterbody. The designations have been adopted in Iowa's state rule described in the rule-referenced document of "Surface Water Classification," effective July 24, 2019. Based on the pollutants of concern, the use designations of waterbodies further downstream will not impact the resulting limits for this facility.

Critical low flow determination:

The annual critical low flows in the Boone River at the outfall are estimated based on the Weighted Drainage Area Ratio (WDAR) method from "Methods for estimating selected low-flow frequency statistics and harmonic mean flows for streams in Iowa" (2012, revised 2017) and flow statistics obtained at USGS gage station 05481000, located on the Boone River at Webster City, Iowa.

Table 1: Annual critical low flows

Location	D.A. (mi ²)	1Q10 (cfs)	7Q10 (cfs)	30Q10 (cfs)	30Q5 (cfs)	Harmonic Mean (cfs)
The Boone River at the outfall	844	5.32	5.76	6.97	13.6	14.5

Mixing Zone (MZ) and Zone of Initial Dilution (ZID):

The outfall is along the northwestern bank of the Boone River. Briggs Woods Park is directly across the Boone River from the outfall, along the southeastern bank of the Boone River. Therefore, no MZ is allowed in the Boone River at the outfall for toxics with criteria for human health protection.

2. ANTIDEGRADATION REVIEW:

According to the "Iowa Antidegradation Implementation Procedure," effective February 17, 2010 (IAC 567-61.2(2).e), all new or expanded regulated activities (with limited exceptions, such as unsewered communities) are subject to antidegradation review requirements.

Table 2: Antidegradation review analysis

Item #	Factor or scenario	Antidegradation determination	Analysis/comments
1	Design capacity increase	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: Proposed new design capacity is indicated on the request form.
2	Significant Industrial Users (SIU) contributing new pollutant of concern (POC)	Yes <input type="checkbox"/> , No <input checked="" type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: As indicated on the request form.
3	New process contributing new pollutant of concern (POC)	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: As indicated on the request form.
4	Less stringent water quality-based limits?	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: Less stringent limits for some parameters will trigger an antidegradation review.
5	Outfall location change	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	
Conclusion and discussion:			
Due to Items 1, 3, 4, and 5, a tier II antidegradation review is required.			
The antidegradation review conducted in this WLA is based on the current information available. Antidegradation could also be triggered during the NPDES permitting process based on new information.			

3. TOTAL MAXIMUM DAILY LOAD (TMDL) LIMITATIONS:

The following waterbodies in the discharge route are on the 2022 impaired waters list:

- The Boone River for bacteria (indicator bacteria – *E. coli*)
- The Des Moines River for bacteria (indicator bacteria – *E. coli*) and fish kill (due to unknown toxicity)
- Saylorville Reservoir for turbidity (Secchi disk transparency)
- Red Rock Reservoir for bacteria (indicator bacteria – *E. coli*) and turbidity

A nitrate nitrogen TMDL for one stream segment of the Des Moines River was approved by the EPA on September 25, 2009. In that TMDL, the City of Webster City STP was assigned nitrate nitrogen allocations, as discussed in the nitrate nitrogen section below. The City of Webster City STP has not been assigned allocations in any other TMDLs at this time.

The results presented in this report are wasteload allocations based on meeting the State's current water quality standards in the receiving waterbody. Additional and/or more stringent effluent limits may be applicable to this discharge based on approved TMDLs for impaired waterbodies, which may provide watershed based wasteload allocations. Information on impaired streams in Iowa and approved TMDLs can be found at the following website: <http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Watershed-Improvement/Impaired-Waters>.

4. CALCULATIONS:

The WLAs/permit limits for this outfall are calculated based on the facility's proposed Average Dry Weather (ADW) design flow of 1.989 MGD and its proposed Average Wet Weather (AWW) design flow of 4.586 MGD.

Only wasteload allocations/permit limits (water quality-based effluent limits) calculated using DNR approved design flows can be applied in NPDES permits. Water quality-based effluent limits calculated using proposed flows that have not been approved by the DNR for permitting and compliance may be used for informational purposes only.

The water quality-based permit concentration limits are derived using the allowed stream flow and the proposed ADW design flow, while the loading limits are derived using the allowed stream flow and the proposed AWW design flow.

Toxics and TRC:

The toxics wasteload allocations will consider the procedures included in the 2000 revised WQS and the 2007 chemical criteria.

Effective November 11, 2020, water quality criteria for metals (excluding aluminum) are expressed as dissolved in IAC 567.61. Using EPA dissolved metal translators, water quality-based effluent limits in this WLA are expressed as total recoverable.

Effective November 11, 2020, water quality criteria for aluminum are expressed as bioavailable in IAC 567.61. Water quality-based effluent limits for aluminum in this WLA are expressed as total recoverable.

To protect the aquatic life use:

Important to toxics is the use of the 1Q10 stream flow in association with the acute wasteload allocation calculation. The chronic WLA will continue to use the 7Q10 stream flow in its calculations. In this case, 25% of the 7Q10 flow and 2.5% of the 1Q10 flow in the Boone River at the outfall are used as the MZ and the ZID, respectively.

TRC decay in the discharge pipe is taken into consideration. The decay is estimated by using a first order decay model with a length of 1,440 ft, a decay rate of 20/day, and a flow velocity of 3 fps.

To protect the human health (HH) use:

For pollutants that are non-carcinogenic and have criteria for human health protection, the criteria apply at the end of the MZ, which in this case is 0% of the 30Q5 flow in the Boone River at the outfall (due to Briggs Woods Park).

For pollutants that are carcinogenic and have criteria for human health protection, the criteria apply at the end of the MZ, which in this case is 0% of the harmonic mean flow in the Boone River at the outfall (due to Briggs Woods Park).

Final limits:

The maximum limits are those calculated for the protection of the aquatic life use and the average limits are the more stringent between those for the protection of the aquatic life use and those for the protection of the HH use.

The TRC limits are based on a sampling frequency of 5/week, based on a proposed design population equivalent (PE) of 44,587; the limits for the other toxics are based on a sampling frequency of 1/week. Please note that the translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

Ammonia Nitrogen:

Standard stream background pH, temperatures, and concentrations of NH₃-N are mixed with the discharge from the facility's effluent pH and temperature values to calculate the applicable instream criteria for the protection of the Boone River.

Based on the ratio of the stream flow to the discharge flow, 5% of the 1Q10 flow and 100% of the 30Q10 flow in the Boone River at the outfall are used as the ZID and the MZ, respectively. At the outfall, the Boone River is a B(WW-1) stream; therefore, early life protection will begin in March and run through September.

Ammonia nitrogen decay in the discharge pipe is taken into consideration. The decay is estimated by using a first order decay model with a length of 1,440 ft, a decay rate of 0.3/day at 20 °C, and a flow velocity of 3 fps.

The monthly background pH, temperatures, and NH₃-N concentrations shown in Table 3 are used for the wasteload allocation/permit limits calculations based on the Year 2000 ammonia nitrogen criteria. Table 4 shows the statewide monthly effluent pH and temperature values for mechanical facilities. Table 5 shows the calculated ammonia nitrogen wasteload allocations for this facility.

Table 3: Background pH, temperatures, and NH₃-N concentrations for use with Year 2000 ammonia nitrogen criteria

Months	pH	Temperature (°C)	NH ₃ -N (mg/l)
January	8.1	0.3	0.02
February	8.0	0.1	0.08
March	8.1	1.5	0.12
April	8.3	9.3	0.03
May	8.2	15.0	0.03
June	8.2	19.4	0.02
July	8.2	23.5	0.02
August	8.2	24.3	0.02
September	8.3	20.2	0.02
October	8.3	14.2	0.02
November	8.3	8.0	0.02
December	8.3	0.8	0.03

Table 4: Standard effluent pH and temperature values for mechanical facilities

Months	pH	Temperature (°C)
January	7.67	12.4
February	7.71	11.3
March	7.69	13.1
April	7.65	16.2
May	7.67	19.3
June	7.70	22.1
July	7.58	24.1
August	7.63	24.4
September	7.62	22.8
October	7.65	20.2
November	7.69	17.1
December	7.64	14.1

Table 5: Wasteload allocations for ammonia nitrogen for the protection of aquatic life

Months	ADW-based*		AWW-based**	
	Acute (mg/l)	Chronic (mg/l)	Acute (mg/l)	Chronic (mg/l)
January	15.9	11.1	15.5	6.7
February	15.0	12.7	14.5	7.8
March	15.4	6.6	15.0	4.0
April	16.3	4.9	16.0	3.0
May	15.8	5.6	15.5	3.4
June	15.1	4.2	14.7	2.6
July	18.3	3.2	17.9	2.0
August	16.9	3.1	16.6	1.9
September	17.1	3.4	16.8	2.1
October	16.3	5.0	16.0	3.1
November	15.3	7.5	15.0	4.6
December	16.6	8.0	16.2	4.9

*: bases for concentration limits;

** : bases for mass loading limits

CBOD5/Total Dissolved Oxygen:

Streeter-Phelps DO Sag Model is used to simulate the decay of CBOD and dispersion of total Dissolved Oxygen (DO) in the receiving water downstream from the outfall. The criterion is that the discharge cannot cause the DO level in the receiving stream (warm water) to be below 5.0 mg/l.

The parameter values used in the modeling are listed below:

Background:

The temperature and ammonia nitrogen levels are shown in Table 3. The ultimate CBOD and DO levels are assumed to be 6.0 mg/l and 6.0 mg/l, respectively.

Effluent:

The temperatures are shown in Table 4. The CBOD5 level used in the modeling is 40 mg/l, which is the technology-based maximum limit for standard secondary treatment. The ammonia nitrogen values used in the modeling are the calculated acute wasteload allocations shown in Table 5. Both the proposed ADW and the proposed AWW flows and the ammonia nitrogen limits associated with them are used in the modeling.

Receiving stream parameters:

There is an average water channel slope of 0.00083 (the water channel elevation changes from 1,000 ft to 976 ft over a distance of approximately 29,020 ft, estimated based on GIS LiDAR 2-ft contour coverage).

USGS gage station 05481000 had field measurement data, such as stream flow, cross sectional area, stream width, and velocity. The stream depth is not reported; however, it can be derived using the following equation:

$$\text{Depth} = \text{Cross Sectional Area} / \text{Width}$$

Regression equations of Ln(Depth) vs. Ln(Flow) and Ln(Velocity) vs. Ln(Flow) were established with acceptable R-squared values. The stream width was also calculated.

$$\text{Ln}(\text{Depth}) = 0.4013 * \text{Ln}(\text{Flow}) - 1.7430 \quad \text{R-squared} = 0.7762$$

$$\text{Ln}(\text{Velocity}) = 0.3992 * \text{Ln}(\text{Flow}) - 1.9357 \quad \text{R-squared} = 0.8327$$

$$\text{Width} = \text{Flow} / (\text{Depth} * \text{Velocity})$$

The gage station is located approximately 1 mile downstream of the outfall. Therefore, it is assumed that the above equations are valid in the Boone River at the outfall.

The stream width, depth, and velocity at 7Q10 + ADW and 7Q10 + AWW conditions were estimated using the above equations.

Table 6: Stream width, depth, and velocity

Flow Condition	Flow (cfs)	Width (ft)	Depth (ft)	Velocity (fps)
7Q10 + ADW	8.84	61.2	0.42	0.34
7Q10 + AWW	12.85	65.9	0.49	0.40

Reaeration:

Near and downstream of the outfall, the Boone River is a medium sized gentle sloped river with relatively uniform channel properties. Therefore, the USGS channel-control model (Melching and Flores, 1999) is used.

Discussion and conclusion:

The modeling results show that the effluent, which could have an allowed maximum effluent CBOD5 level of 40 mg/l (technology-based limits for secondary treatment), ammonia nitrogen levels as shown in Table 5, and a minimum DO level of 4.2 mg/l, will not cause the DO level in the receiving stream to be below 5.0 mg/l at any time.

E. coli:

This facility discharges into a Class A1 waterbody. The water quality standard for *E. coli* in a Class A1 waterbody is a geometric mean of 126 org./100 ml and a sample maximum of 235 org./100 ml from March 15th through November 15th. The criteria apply at “end-of-pipe.”

E. coli decay in the discharge pipe is taken into consideration. The decay is estimated by using a first order decay model with a length of 1,440 ft, a decay rate of 1/day, and a flow velocity of 3 fps. When *E. coli* decay in the discharge pipe is taken into consideration, the limits for the protection of the Class A1 waterbody are a geometric mean of 127 org./100 ml and a sample maximum of 236 org./100 ml from March 15th through November 15th.

However, 567 IAC 62.8(2) states that “the daily sample maximum criteria for *E. coli* set forth in 567 – Chapter 61 shall not be used as an end-of-pipe permit limitation.” Therefore, only the geometric mean limit of 127 org./100 ml applies.

Chloride and Sulfate:

The chloride and sulfate criteria became effective on November 11, 2009 and apply to all Class B waters. The City of Webster City STP submitted data from a site-specific hardness study where they collected 31 background hardness samples in the Boone River upstream of the outfall over the course of approximately 2.5 years. They also collected 31 hardness samples in the effluent over the course of approximately 2.5 years. The median background hardness value was 362 mg/l and the median effluent hardness value was 351 mg/l.

Chloride criteria are functions of hardness and sulfate concentration, shown as follows:

$$\begin{aligned}\text{Acute criteria} &= 287.8 * (\text{Hardness})^{0.205797} * (\text{Sulfate})^{-0.07452} \\ \text{Chronic criteria} &= 177.87 * (\text{Hardness})^{0.205797} * (\text{Sulfate})^{-0.07452}\end{aligned}$$

Sulfate criteria, shown in Table 7, are functions of hardness and chloride concentration and serve as both the acute and chronic criteria.

Table 7: Sulfate criteria

Hardness (mg/l as CaCO ₃)	Sulfate criteria (mg/l)		
	Chloride < 5 mg/l	5 mg/l <= Chloride < 25 mg/l	25 mg/l <= Chloride < 500 mg/l
< 100	500	500	500
100<=H<=500	500	$(-57.478 + 5.79 * H + 54.163 * Cl) * 0.65$	$(1276.7 + 5.508 * H - 1.457 * Cl) * 0.65$
H > 500	500	2,000	2,000

The acute criteria apply at the end of the ZID, and the chronic criteria apply at the end of the MZ. In this case, 25% of the 7Q10 flow and 2.5% of the 1Q10 flow in the Boone River at the outfall are used as the MZ and the ZID, respectively.

The default chloride concentration for both background water and effluent is 34 mg/l, while the default sulfate concentration for both background water and effluent is 63 mg/l. The limits are calculated based on an assumed sampling frequency of 1/week.

Iron:

Iron criteria are defined in the issue paper “Iron Criteria and Implementation for Iowa’s Surface Waters” (November 11, 2020). A dissolved iron criterion of 1 mg/l applies at the end of the ZID for both general use and designated use streams. In this case, the ZID is 2.5% of the 1Q10 flow in the Boone River at the outfall. Water quality-based effluent limits for iron in this WLA are expressed as total recoverable.

pH:

Iowa Water Quality Standards (IAC 567.61.3.(3).a.(2) and IAC 567.61.3.(3).b.(2)) require that pH in Class A or Class B waters “shall not be less than 6.5 nor greater than 9.0.” The criteria apply at the end of the MZ, which is 25% of the 7Q10 flow in the Boone River at the outfall.

Nitrate Nitrogen:

A nitrate nitrogen TMDL for one stream segment of the Des Moines River was approved by the EPA on September 25, 2009. In that TMDL, the City of Webster City STP was assigned nitrate nitrogen wasteload allocations of an average daily load of 400 lbs/day and a maximum daily load of 1,244 lbs/day. These WLAs were translated to nitrate nitrogen limits of a maximum daily limit of 1,244 lbs/day and a monthly average limit of 760 lbs/day in the December 14, 2010 memo: “Deriving effluent limitations from the Des Moines River Nitrate TMDL.” Please note that the translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

TDS:

Effective November 11, 2009, the site-specific TDS approach is no longer applicable; instead, the new chloride and sulfate criteria became applicable. However, the TDS level should be controlled to a level such that the narrative criteria stated in IAC 567.61.3 are fulfilled.

Major Facility Acute WET Testing Ratio:

The acute whole effluent toxicity (WET) testing ratio is calculated using the ADW design flow and 2.5% of the 1Q10 flow in the Boone River at the outfall as the ZID.

5. PERMIT LIMITATIONS:

- Based on the Year 2006 Water Quality Standards and 2002 Permit Derivation Procedure.

The acute and chronic WLAs are used as the values for input into the current permit derivation procedure. Under the 2002 permit derivation procedure, only for toxic parameters is the monitoring frequency considered in the calculation of final limits. The water quality-based limits are shown on Pages 1 – 3 of this report.

City of Webster City

Proposed New Mechanical Facility

Proposed Outfall 002

This Package Contains

WASTELOAD ALLOCATION CALCULATIONS & NOTES

ENVIRONMENTAL SERVICES DIVISION: WATER QUALITY-BASED PERMIT LIMITS

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 002	ADW = 1.989 MGD & AWW = 4.586 MGD			
CBOD5	Secondary Treatment Levels Will Not Violate WQS			
Total D.O. (Jan. – Dec.)	Minimum Concentration: 5.0 mg/l			
Ammonia - Nitrogen				
January	3.4	15.2	130.2	580.9
February	4.0	14.2	151.1	543.0
March	2.1	14.7	80.2	561.7
April	1.5	15.7	58.3	600.5
May	1.7	15.2	66.5	580.9
June	1.3	14.4	50.1	552.3
July	1.0	17.6	38.4	672.5
August	1.0	16.2	36.5	620.6
September	1.1	16.5	40.4	630.8
October	1.6	15.7	59.5	600.5
November	2.3	14.7	88.7	561.7
December	2.5	16.0	94.6	610.5
Bacteria	Geometric Mean (#org./100 ml)		March 15 th – November 15 th	
E. coli	126			
Chloride	437	706	16,728	27,004
Sulfate	2,000	2,054	76,494	78,572
TRC*	0.008	0.019	0.300	0.727
Nitrate Nitrogen**	--	--	760	1,244
pH	6.5 - 9.0 Standard Units			

Major Facility Acute WET Testing Ratio: Use 100% of effluent and 0% of dilution water for the testing

Stream Network/Classification of Receiving Stream: Unnamed Creek (A2, B(WW-2)) to Oxbow Lake (presumed A1, B(WW-1)) to Unnamed Creek 2 (presumed A1, B(WW-1)) to the Boone River (A1, B(WW-1) HH)

Annual critical low flows in Unnamed Creek at the outfall:

1Q10 flow 0 cfs, 7Q10 flow 0 cfs, 30Q10 flow 0 cfs

Annual critical low flows in Oxbow Lake at the mouth of Unnamed Creek:

1Q10 flow 0 cfs, 7Q10 flow 0 cfs, 30Q10 flow 0 cfs

Annual critical low flows in the Boone River at (just upstream of) the mouth of Unnamed Creek 2:

1Q10 flow 5.04 cfs, 7Q10 flow 5.49 cfs, 30Q10 flow 6.61 cfs, 30Q5 flow 12.9 cfs, harmonic mean flow 13.7 cfs

Performed by: Ian Willard

* Only required if chlorine is used for disinfection.

** Nitrate nitrogen limits are based on a nitrate nitrogen TMDL for one stream segment of the Des Moines River. Limits are translated from the TMDL in a December 14, 2010 memo: "Deriving effluent limitations from the Des Moines River Nitrate TMDL." The translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

*** The mass limits for nitrate as N and nitrate+nitrite as N will be governed by the translated Des Moines River TMDL nitrate nitrogen limits.

Antidegradation Review Requirement

A tier II antidegradation review is required. See Section 2 for details. The antidegradation review conducted in this wasteload allocation is based on the current information available. Antidegradation could also be triggered during the NPDES permitting process based on new information.

**ENVIRONMENTAL SERVICES DIVISION
WATER QUALITY-BASED PERMIT LIMITS**

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 002	ADW = 1.989 MGD & AWW = 4.586 MGD			
Toxics				
1,1,1-Trichloroethane	2.640E+01	2.640E+01	1.010E+03	1.010E+03
1,1-Dichloroethylene	1.500E+01	5.400E+01	4.027E+02	2.065E+03
1,2-Dichloroethane	7.818E-01	5.900E+01	2.098E+01	2.257E+03
1,2-Dichloropropane	3.170E-01	3.170E-01	8.507E+00	8.507E+00
2,3,7,8-TCDD (Dioxin)	1.078E-10	1.078E-10	2.892E-09	2.892E-09
3,3-Dichlorobenzidine	5.917E-04	5.917E-04	1.588E-02	1.588E-02
4,4' DDT	1.000E-06	1.100E-03	3.825E-05	4.207E-02
Aldrin	1.057E-06	3.000E-03	2.836E-05	1.147E-01
Aluminum	8.900E-01	2.500E+00	3.404E+01	9.562E+01
Antimony	1.311E+00	1.100E+01	3.561E+01	4.207E+02
Arsenic (III)	1.057E-01	3.400E-01	2.836E+00	1.300E+01
Barium	2.050E+02	2.050E+02	7.841E+03	7.841E+03
Benzene	1.078E+00	1.650E+01	2.892E+01	6.311E+02
Benzo(a)Pyrene	3.804E-04	3.804E-04	1.021E-02	1.021E-02
Beryllium	5.000E-01	5.000E-01	1.912E+01	1.912E+01
Bis(2-ethylhexyl)phthalate	4.649E-02	4.649E-02	1.248E+00	1.248E+00
Bromoform	2.958E+00	2.958E+00	7.940E+01	7.940E+01
Cadmium	2.171E-03	1.014E-02	8.303E-02	3.877E-01
Carbon Tetrachloride	3.381E-02	2.155E+01	9.074E-01	8.242E+02
Chlordane	4.300E-06	2.400E-03	1.645E-04	9.179E-02
Chloride	4.37E+02	7.06E+02	1.6728E+04	2.7004E+04
Chlorobenzene	3.277E+00	1.610E+01	8.901E+01	6.158E+02
Chlorodibromomethane	2.747E-01	2.747E-01	7.373E+00	7.373E+00
Chloroform	9.932E+00	9.932E+00	2.665E+02	2.665E+02
Chloropyrifos	4.100E-05	8.300E-05	1.568E-03	3.175E-03
Chromium (VI)	1.143E-02	1.629E-02	4.373E-01	6.232E-01
Copper	2.754E-02	4.570E-02	1.053E+00	1.748E+00
Cyanide	5.200E-03	2.200E-02	1.989E-01	8.414E-01
Dichlorobromomethane	3.592E-01	3.592E-01	9.641E+00	9.641E+00
Dieldrin	1.141E-06	2.400E-04	3.062E-05	9.179E-03
Endosulfan	5.600E-05	2.200E-04	2.142E-03	8.414E-03
Endrin	3.600E-05	8.600E-05	1.377E-03	3.289E-03
Ethylbenzene	4.301E+00	2.265E+01	1.168E+02	8.663E+02
Fluoride	8.077E+00	8.077E+00	3.089E+02	3.089E+02
gamma-Hexachlorocyclohexane (Lindane)	9.500E-04	9.500E-04	3.633E-02	3.633E-02
Heptachlor	1.669E-06	5.200E-04	4.480E-05	1.989E-02

**ENVIRONMENTAL SERVICES DIVISION
WATER QUALITY-BASED PERMIT LIMITS**

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 002	ADW = 1.989 MGD & AWW = 4.586 MGD			
Toxics				
Heptachlor epoxide	8.241E-07	5.200E-04	2.212E-05	1.989E-02
Hexachlorobenzene	6.128E-06	6.128E-06	1.645E-04	1.645E-04
Hexachlorocyclopentadiene	2.253E+00	2.253E+00	6.120E+01	6.120E+01
Iron	1.000E+00	1.000E+00	3.825E+01	3.825E+01
Lead	1.597E-02	4.040E-01	6.109E-01	1.545E+01
Mercury (II)	3.072E-04	1.647E-03	8.345E-03	6.300E-02
Nickel	1.524E-01	1.357E+00	5.827E+00	5.191E+01
Nitrate as N***	3.200E+02	3.200E+02	1.224E+04	1.224E+04
Nitrate+Nitrite as N***	1.000E+02	3.200E+02	3.825E+03	1.224E+04
para-Dichlorobenzene	3.891E-01	2.000E+00	1.057E+01	7.649E+01
Parathion	1.300E-05	6.500E-05	4.972E-04	2.486E-03
Pentachlorophenol (PCP)	2.235E-02	2.914E-02	8.550E-01	1.114E+00
Phenols	5.000E-02	2.500E+00	1.912E+00	9.562E+01
Polychlorinated Biphenyls (PCBs)	1.352E-06	2.000E-03	3.630E-05	7.649E-02
Polynuclear Aromatic Hydrocarbons (PAHs)	3.000E-05	3.000E-02	1.147E-03	1.147E+00
Selenium	5.000E-03	1.930E-02	1.912E-01	7.382E-01
Silver	3.280E-02	3.280E-02	1.255E+00	1.255E+00
Sulfate	2.000E+03	2.054E+03	7.6494E+04	7.8572E+04
Tetrachloroethylene	6.973E-02	6.973E-02	1.871E+00	1.871E+00
Thallium	9.626E-04	5.980E-01	2.615E-02	2.287E+01
Toluene	5.000E-02	2.500E+00	1.912E+00	9.562E+01
Total Residual Chlorine (TRC)*	8E-03	1.9E-02	3.00E-01	7.27E-01
Toxaphene	2.000E-06	7.300E-04	7.649E-05	2.792E-02
trans-1,2-Dichloroethylene	2.867E-01	2.867E-01	7.789E+00	7.789E+00
Trichloroethylene (TCE)	8.000E-02	4.000E+00	3.060E+00	1.530E+02
Vinyl Chloride	5.071E-02	5.071E-02	1.361E+00	1.361E+00
Zinc	3.472E-01	3.472E-01	1.328E+01	1.328E+01

WLAs/Permit Limits for the City of Webster City's Proposed Mechanical Plant at Proposed Outfall 002

These wasteload allocations and water quality-based permit limitations are for the City of Webster City's wastewater discharge from a proposed new mechanical facility at proposed Outfall 002. The wasteload allocations/permit limits are based on the Water Quality Standards (IAC 567.61) and the "Iowa Wasteload Allocation (WLA) Procedure," effective November 11, 2020. The chloride allocation/permit limits are based on the criteria that became effective on November 11, 2009.

The water quality-based limits in this WLA are calculated to meet the surface water quality criteria to protect downstream uses. There could be technology-based limits applicable to this facility that are more stringent than the water quality-based limits shown in this WLA. The technology-based limits could be derived from either federal guidelines based on different industrial categories or permit writer's judgment.

1. BACKGROUND:

The City of Webster City currently discharges treated domestic wastewater from a mechanical (trickling filter/rotating biological contactor) wastewater treatment facility into Unnamed Creek at 42° 27' 27.57" N, 93° 48' 22.72" W (existing Outfall 001) and the Boone River at 42° 27' 30.89" N, 93° 48' 23.02" W (existing Outfall 003). Only one outfall is used at a time.

The City of Webster City is proposing to build a new mechanical (activated sludge) wastewater treatment facility at a new location. The design flows and design mass loadings used throughout this WLA are proposed values for the proposed new mechanical facility. Several different possible outfall locations are under consideration. This WLA is for a case where the proposed new mechanical facility would discharge into Unnamed Creek at 42° 27' 27.57" N, 93° 48' 22.72" W (proposed Outfall 002, which is at the same location as existing Outfall 001).

Route of flow and use designations:

Directly downstream of the outfall, Unnamed Creek is an A2, B(WW-2) designated use waterbody. Approximately 270 ft downstream of the outfall, Unnamed Creek flows into Oxbow Lake. Oxbow Lake is a presumed A1, B(WW-1) designated use waterbody unless a future Field Use Attainability Assessment (UAA) proves otherwise. Oxbow Lake outlets into Unnamed Creek 2. Unnamed Creek 2 is a presumed A1, B(WW-1) designated use waterbody unless a future UAA proves otherwise. Unnamed Creek 2 flows into the Boone River. At the mouth of Unnamed Creek 2, the Boone River is an A1, B(WW-1) HH designated use waterbody.

The designations have been adopted in Iowa's state rule described in the rule-referenced document of "Surface Water Classification," effective July 24, 2019. Based on the pollutants of concern, the use designations of waterbodies further downstream will not impact the resulting limits for this facility.

Critical low flow determination:

The annual critical low flows in Unnamed Creek at the outfall and in Oxbow Lake at the mouth of Unnamed Creek are estimated based on the Regional Regression Equations (RRE) from "Methods for estimating selected low-flow frequency statistics and harmonic mean flows for streams in Iowa" (2012, revised 2017).

The annual critical low flows in the Boone River at (just upstream of) the mouth of Unnamed Creek 2 are estimated based on the Weighted Drainage Area Ratio (WDAR) method from “Methods for estimating selected low-flow frequency statistics and harmonic mean flows for streams in Iowa” (2012, revised 2017) and flow statistics obtained at USGS gage station 05481000, located on the Boone River near Webster City, Iowa.

Table 1: Annual critical low flows

Location	D.A. (mi ²)	1Q10 (cfs)	7Q10 (cfs)	30Q10 (cfs)	30Q5 (cfs)	Harmonic mean (cfs)
Unnamed Creek at the outfall	--	0	0	0	--	--
Oxbow Lake at the mouth of Unnamed Creek	--	0	0	0	--	--
The Boone River at (just upstream of) the mouth of Unnamed Creek 2	819	5.04	5.49	6.61	12.9	13.7

2. ANTIDEGRADATION REVIEW:

According to the “Iowa Antidegradation Implementation Procedure,” effective February 17, 2010 (IAC 567-61.2(2).e), all new or expanded regulated activities (with limited exceptions, such as unsewered communities) are subject to antidegradation review requirements.

Table 2: Antidegradation review analysis

Item #	Factor or scenario	Antidegradation determination	Analysis/comments
1	Design capacity increase	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: Proposed new design capacity is indicated on the request form.
2	Significant Industrial Users (SIU) contributing new pollutant of concern (POC)	Yes <input type="checkbox"/> , No <input checked="" type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: As indicated on the request form.
3	New process contributing new pollutant of concern (POC)	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: As indicated on the request form.
4	Less stringent water quality-based limits?	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: Less stringent limits for some parameters will trigger an antidegradation review.
5	Outfall location change	Yes <input type="checkbox"/> , No <input checked="" type="checkbox"/> , or Not Applicable <input type="checkbox"/>	
<p>Conclusion and discussion:</p> <p>Due to Items 1, 3, and 4, a tier II antidegradation review is required.</p> <p>The antidegradation review conducted in this WLA is based on the current information available. Antidegradation could also be triggered during the NPDES permitting process based on new information.</p>			

3. TOTAL MAXIMUM DAILY LOAD (TMDL) LIMITATIONS:

The following waterbodies in the discharge route are on the 2022 impaired waters list:

- The Boone River for bacteria (indicator bacteria – *E. coli*)
- The Des Moines River for bacteria (indicator bacteria – *E. coli*) and fish kill (due to unknown toxicity)
- Saylorville Reservoir for turbidity (Secchi disk transparency)
- Red Rock Reservoir for bacteria (indicator bacteria – *E. coli*) and turbidity

A nitrate nitrogen TMDL for one stream segment of the Des Moines River was approved by the EPA on September 25, 2009. In that TMDL, the City of Webster City STP was assigned nitrate nitrogen allocations, as discussed in the nitrate nitrogen section below. The City of Webster City STP has not been assigned allocations in any other TMDLs at this time.

The results presented in this report are wasteload allocations based on meeting the State's current water quality standards in the receiving waterbody. Additional and/or more stringent effluent limits may be applicable to this discharge based on approved TMDLs for impaired waterbodies, which may provide watershed based wasteload allocations. Information on impaired streams in Iowa and approved TMDLs can be found at the following website: <http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Watershed-Improvement/Impaired-Waters>.

4. CALCULATIONS:

The WLAs/permit limits for this outfall are calculated based on the facility's proposed Average Dry Weather (ADW) design flow of 1.989 MGD and its proposed Average Wet Weather (AWW) design flow of 4.586 MGD.

Only wasteload allocations/permit limits (water quality-based effluent limits) calculated using DNR approved design flows can be applied in NPDES permits. Water quality-based effluent limits calculated using proposed flows that have not been approved by the DNR for permitting and compliance may be used for informational purposes only.

The water quality-based permit concentration limits are derived using the allowed stream flow and the proposed ADW design flow, while the loading limits are derived using the allowed stream flow and the proposed AWW design flow.

Toxics and TRC:

The toxics wasteload allocations will consider the procedures included in the 2000 revised WQS and the 2007 chemical criteria.

Effective November 11, 2020, water quality criteria for metals (excluding aluminum) are expressed as dissolved in IAC 567.61. Using EPA dissolved metal translators, water quality-based effluent limits in this WLA are expressed as total recoverable.

Effective November 11, 2020, water quality criteria for aluminum are expressed as bioavailable in IAC 567.61. Water quality-based effluent limits for aluminum in this WLA are expressed as total recoverable.

To protect Unnamed Creek:

Important to toxics is the use of the 1Q10 stream flow in association with the acute wasteload allocation calculation. The chronic WLA will continue to use the 7Q10 stream flow in its calculations. Since the annual critical low flows in Unnamed Creek at the outfall are estimated to be all zero, the criteria apply at "end-of-pipe" instead of the end of the Mixing Zone (MZ) and the Zone of Initial Dilution (ZID).

To protect Oxbow Lake:

Important to toxics is the use of the 1Q10 stream flow in association with the acute wasteload allocation calculation. The chronic WLA will continue to use the 7Q10 stream flow in its calculations. Since the annual critical low flows in Oxbow Lake at the mouth of Unnamed Creek are estimated to be all zero, the criteria apply at that point.

To protect the downstream human health (HH) use:

For pollutants that are non-carcinogenic and have criteria for HH protection, the criteria apply at the end of the MZ, which in this case is 25% of the 30Q5 flow in the Boone River at (just upstream of) the mouth of Unnamed Creek 2.

For pollutants that are carcinogenic and have criteria for HH protection, the criteria apply at the end of the MZ, which in this case is 25% of the harmonic mean flow in the Boone River at (just upstream of) the mouth of Unnamed Creek 2.

Final limits:

The limits are the more stringent between those for the protection of Unnamed Creek, those for the protection of Oxbow Lake, and those for the protection of the downstream HH use.

The TRC limits are based on a sampling frequency of 5/week, based on a proposed design population equivalent (PE) of 44,587; the limits for the other toxics are based on a sampling frequency of 1/week. The translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

Ammonia Nitrogen:

To protect Unnamed Creek:

Standard stream background pH, temperatures, and concentrations of NH₃-N are mixed with the discharge from the facility's effluent pH and temperature values to calculate the applicable instream criteria for the protection of Unnamed Creek.

Since the annual critical low flows in Unnamed Creek at the outfall are all zero, the criteria apply at "end-of-pipe" instead of the end of the MZ and the ZID. At the outfall, Unnamed Creek is a B(WW-2) stream; therefore, early life protection will begin in April and run through September.

To protect Oxbow Lake:

Standard stream background pH, temperatures, and concentrations of NH₃-N are mixed with the discharge from the facility's effluent pH and temperature values to calculate the applicable instream criteria for the protection of Oxbow Lake.

Since the annual critical low flows in Oxbow Lake at the mouth of Unnamed Creek are all zero, the criteria apply at that point. At the mouth of Unnamed Creek, Oxbow Lake is a presumed B(WW-1) waterbody; therefore, early life protection will begin in March and run through September.

Ammonia nitrogen decay in Unnamed Creek is considered in the calculations. The decay is estimated by using a first order decay model with a length of 270 ft and a decay rate of 0.3/day at 20°C. As described in the CBOD₅/Total Dissolved Oxygen section below, a flow velocity of 0.85 fps is used for 7Q10 + ADW conditions and a flow velocity of 1.22 fps is used for 7Q10 + AWW conditions.

Final limits:

The monthly background pH, temperatures, and NH₃-N concentrations shown in Table 3 are used for the wasteload allocation/permit limits calculations based on the Year 2000 ammonia nitrogen criteria. Table 4 shows the statewide monthly effluent pH and temperature values for mechanical facilities. The more stringent WLAs/limits between those for the protection of Unnamed Creek and those for the protection of Oxbow Lake are calculated and used and are shown in Table 5 .

Table 3: Background pH, temperatures, and NH₃-N concentrations for use with Year 2000 ammonia nitrogen criteria

Months	pH	Temperature (°C)	NH ₃ -N (mg/l)
January	8.1	0.3	0.02
February	8.0	0.1	0.08
March	8.1	1.5	0.12
April	8.3	9.3	0.03
May	8.2	15.0	0.03
June	8.2	19.4	0.02
July	8.2	23.5	0.02
August	8.2	24.3	0.02
September	8.3	20.2	0.02
October	8.3	14.2	0.02
November	8.3	8.0	0.02
December	8.3	0.8	0.03

Table 4: Standard effluent pH and temperature values for mechanical facilities

Months	pH	Temperature (°C)
January	7.67	12.4
February	7.71	11.3
March	7.69	13.1
April	7.65	16.2
May	7.67	19.3
June	7.70	22.1
July	7.58	24.1
August	7.63	24.4
September	7.62	22.8
October	7.65	20.2
November	7.69	17.1
December	7.64	14.1

Table 5: Wasteload allocations for ammonia nitrogen for the protection of aquatic life

Months	ADW-based*		AWW-based**	
	Acute (mg/l)	Chronic (mg/l)	Acute (mg/l)	Chronic (mg/l)
January	15.2	3.4	15.2	3.4
February	14.2	4.0	14.2	4.0
March	14.7	2.1	14.7	2.1
April	15.7	1.5	15.7	1.5
May	15.2	1.7	15.2	1.7
June	14.4	1.3	14.4	1.3
July	17.6	1.0	17.6	1.0
August	16.2	1.0	16.2	1.0
September	16.5	1.1	16.5	1.1
October	15.7	1.6	15.7	1.6
November	14.7	2.3	14.7	2.3
December	16.0	2.5	16.0	2.5

*: bases for concentration limits;

**: bases for mass loading limits

CBOD5/Total Dissolved Oxygen:

Streeter-Phelps DO Sag Model is used to simulate the decay of CBOD and dispersion of total Dissolved Oxygen (DO) in the receiving water downstream from the outfall. The criterion is that the discharge cannot cause the DO level in the receiving stream (warm water) to be below 5.0 mg/l.

The parameter values used in the modeling are listed below:

Background:

The temperature and ammonia nitrogen levels are shown in Table 3. The ultimate CBOD and DO levels are assumed to be 6.0 mg/l and 6.0 mg/l, respectively.

Effluent:

The temperatures are shown in Table 4. The CBOD5 level used in the modeling is 40 mg/l, which is the technology-based maximum limit for standard secondary treatment. The ammonia nitrogen values used in the modeling are the calculated acute wasteload allocations shown in Table 5. Both the proposed ADW and the proposed AWW flows and the ammonia nitrogen limits associated with them are used in the modeling.

Receiving stream parameters:

There is an average water channel slope of 0.01481 (the water channel elevation changes from 1,014 ft to 1,010 ft over a distance of approximately 270 ft, estimated based on the GIS LiDAR 2-ft contour coverage).

Field Use Attainability Assessment (UAA) had one site along Unnamed Creek. Two observations of stream width, depth, and velocity were made at the site. Based on these UAA data, the stream average width, depth, and velocity at 7Q10 + ADW and 7Q10 + AWW conditions are estimated and are shown in Table 6.

Table 6: Stream width, depth, and velocity

Flow Condition	Flow (cfs)	Width (ft)	Depth (ft)	Velocity (fps)
7Q10 + ADW	3.08	5.1	0.71	0.85
7Q10 + AWW	7.09	5.6	1.04	1.22

Reaeration:

At 7Q10 + ADW and 7Q10 + AWW flows conditions, the stream would have a relatively fast velocity. The stream also has a fairly steep slope. Therefore, the USGS pool-riffle model (Melching and Flores, 1999) is used.

Discussion and conclusion:

The modeling results show that the effluent, which could have an allowed maximum effluent CBOD5 level of 40 mg/l (technology-based limits for secondary treatment), ammonia nitrogen levels as shown in Table 5, and a minimum DO level of 5.0 mg/l, will not cause the DO level in the receiving stream to be below 5.0 mg/l at any time.

E. coli:**To protect Unnamed Creek:**

This facility discharges into a Class A2 waterbody. The water quality standard for *E. coli* in a Class A2 waterbody is a geometric mean of 630 org./100 ml and a sample maximum of 2,880 org./100 ml from March 15th through November 15th. The criteria apply at “end-of-pipe.”

To protect Oxbow Lake:

Oxbow Lake is a presumed Class A1 waterbody. The water quality standard for *E. coli* in a Class A1 waterbody is a geometric mean of 126 org./100 ml and a sample maximum of 235 org./100 ml from March 15th through November 15th. In this case, the criteria will apply in Oxbow Lake at the mouth of Unnamed Creek as well as at the outfall.

Final limit:

The limits for the protection of Oxbow Lake are more stringent. However, 567 IAC 62.8(2) states that “the daily sample maximum criteria for *E. coli* set forth in 567 – Chapter 61 shall not be used as an end-of-pipe permit limitation.” Therefore, only the geometric mean limit of 126 org./100 ml applies.

Chloride and Sulfate:

The chloride and sulfate criteria became effective on November 11, 2009 and apply to all Class B waters. The City of Webster City STP submitted data from a site-specific hardness study where they collected 31 background hardness samples in Unnamed Creek upstream of existing Outfall 001 over the course of approximately 2.5 years, 31 background hardness samples in the Boone River upstream of existing Outfall 003 over the course of approximately 2.5 years, and 31 hardness samples in the effluent over the course of approximately 2.5 years. The median Unnamed Creek background hardness value was 355 mg/l, the median Boone River background hardness value was 362 mg/l, and the median effluent hardness value was 351 mg/l.

The default chloride concentration for both background water and effluent is 34 mg/l, while the default sulfate concentration for both background water and effluent is 63 mg/l. The limits are calculated based on an assumed sampling frequency of 1/week.

Chloride criteria are functions of hardness and sulfate concentration, shown as follows:

$$\begin{aligned}\text{Acute criteria} &= 287.8 * (\text{Hardness})^{0.205797} * (\text{Sulfate})^{-0.07452} \\ \text{Chronic criteria} &= 177.87 * (\text{Hardness})^{0.205797} * (\text{Sulfate})^{-0.07452}\end{aligned}$$

Sulfate criteria, shown in Table 7, are functions of hardness and chloride concentration and serve as both the acute and chronic criteria.

Table 7: Sulfate criteria

Hardness (mg/l as CaCO ₃)	Sulfate criteria (mg/l)		
	Chloride < 5 mg/l	5 mg/l <= Chloride < 25 mg/l	25 mg/l <= Chloride < 500 mg/l
< 100	500	500	500
100<=H<=500	500	$(-57.478 + 5.79 * H + 54.163 * Cl) * 0.65$	$(1276.7 + 5.508 * H - 1.457 * Cl) * 0.65$
H > 500	500	2,000	2,000

The acute criteria apply at the end of the ZID, and the chronic criteria apply at the end of the MZ. In this case, since the annual critical low flows in the receiving stream at the outfall are all zero, the criteria apply at “end-of-pipe” instead of the boundaries of the MZ and the ZID.

Iron:

Iron criteria are defined in the issue paper “Iron Criteria and Implementation for Iowa’s Surface Waters” (November 11, 2020). A dissolved iron criterion of 1 mg/l applies at the end of the ZID for both general use and designated use streams. In this case, since the annual critical low flows in the receiving stream at the outfall are all zero, the criteria apply at “end-of-pipe.” Water quality-based effluent limits for iron in this WLA are expressed as total recoverable.

pH:

Iowa Water Quality Standards (IAC 567.61.3.(3).a.(2) and IAC 567.61.3.(3).b.(2)) require that pH in Class A or Class B waters “shall not be less than 6.5 nor greater than 9.0.” The criteria apply at the end of the MZ, which in this case is not available since the annual critical low flows in the receiving stream at the outfall are all zero. Thus, the criteria will apply at “end-of-pipe.”

Nitrate Nitrogen:

A nitrate nitrogen TMDL for one stream segment of the Des Moines River was approved by the EPA on September 25, 2009. In that TMDL, the City of Webster City STP was assigned nitrate nitrogen wasteload allocations of an average daily load of 400 lbs/day and a maximum daily load of 1,244 lbs/day. These WLAs were translated to nitrate nitrogen limits of a maximum daily limit of 1,244 lbs/day and a monthly average limit of 760 lbs/day in the December 14, 2010 memo: “Deriving effluent limitations from the Des Moines River Nitrate TMDL.” Please note that the translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

TDS:

Effective November 11, 2009, the site-specific TDS approach is no longer applicable; instead, the new chloride and sulfate criteria became applicable. However, the TDS level should be controlled to a level such that the narrative criteria stated in IAC 567.61.3 are fulfilled.

Major Facility Acute WET Testing Ratio:

The acute whole effluent toxicity (WET) testing ratio is calculated using the ADW design flow and the ZID. In this case, since the annual critical low flows in the receiving stream at the outfall are all zero, 100% effluent is used.

5. PERMIT LIMITATIONS:

- Based on the Year 2006 Water Quality Standards and 2002 Permit Derivation Procedure.

The acute and chronic WLAs are used as the values for input into the current permit derivation procedure. Under the 2002 permit derivation procedure, only for toxic parameters is the monitoring frequency considered in the calculation of final limits. The water quality-based limits are shown on Pages 1 – 3 of this report.

City of Webster City

Proposed New Mechanical Facility

Proposed Outfall 003

This Package Contains

WASTELOAD ALLOCATION CALCULATIONS & NOTES

**ENVIRONMENTAL SERVICES DIVISION
WATER QUALITY-BASED PERMIT LIMITS**

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS*

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 003	ADW = 1.989 MGD & AWW = 4.586 MGD			
CBOD5	Secondary Treatment Levels Will Not Violate WQS			
Total D.O.	Minimum Concentration (mg/l)			
January - December	4.3			
Ammonia - Nitrogen				
January	5.0	15.4	157.6	584.0
February	5.8	14.4	182.4	546.2
March	3.1	14.8	96.2	564.7
April	2.2	15.8	70.4	603.4
May	2.6	15.3	80.3	584.1
June	1.9	14.6	60.5	555.6
July	1.5	17.8	46.5	676.6
August	1.4	16.4	44.1	624.4
September	1.6	16.7	48.8	634.3
October	2.3	15.9	72.0	603.7
November	3.4	14.8	107.3	564.5
December	3.7	16.1	114.4	613.3
Bacteria	Geometric Mean (#org./100 ml)		March 15 th – November 15 th	
E. coli	127			
Chloride	480	712	17,471	27,107
Sulfate	2,073	2,073	78,882	78,882
TRC**	0.0096	0.0214	0.350	0.815
Nitrate Nitrogen***	--	--	760	1,244
pH	6.5 - 14.0 Standard Units			

Major Facility Acute WET Testing Ratio: Use 99.1% of effluent and 0.9% of dilution water for the testing

Stream Network/Classification of Receiving Stream: Discharge pipe to the Boone River (A1, B(WW-1) HH)

Annual critical low flows in the Boone River at the outfall:

1Q10 flow 5.05 cfs, 7Q10 flow 5.50 cfs, 30Q10 flow 6.62 cfs, 30Q5 flow 13.0 cfs, harmonic mean flow 13.9 cfs

Performed by: Ian Willard

* All wasteload allocations/permit limits listed in this report apply at the beginning of the discharge pipe.

** Only required if chlorine is used for disinfection.

*** Nitrate nitrogen limits are based on a nitrate nitrogen TMDL for one stream segment of the Des Moines River. Limits are translated from the TMDL in a December 14, 2010 memo: "Deriving effluent limitations from the Des Moines River Nitrate TMDL." The translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

**** The mass limits for nitrate as N and nitrate+nitrite as N will be governed by the translated Des Moines River TMDL nitrate nitrogen limits.

Antidegradation Review Requirement

A tier II antidegradation review is required. See Section 2 for details.

The antidegradation review conducted in this wasteload allocation is based on the current information available.

Antidegradation could also be triggered during the NPDES permitting process based on new information.

**ENVIRONMENTAL SERVICES DIVISION
WATER QUALITY-BASED PERMIT LIMITS**

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS*

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 003	ADW = 1.989 MGD & AWW = 4.586 MGD			
Toxics				
1,1,1-Trichloroethane	2.664E+01	2.664E+01	1.014E+03	1.014E+03
1,1-Dichloroethylene	7.100E+00	5.450E+01	2.716E+02	2.074E+03
1,2-Dichloroethane	3.700E-01	5.954E+01	1.415E+01	2.266E+03
1,2-Dichloropropane	1.500E-01	1.500E-01	5.737E+00	5.737E+00
2,3,7,8-TCDD (Dioxin)	5.100E-11	5.100E-11	1.951E-09	1.951E-09
3,3-Dichlorobenzidine	2.800E-04	2.800E-04	1.071E-02	1.071E-02
4,4' DDT	1.101E-06	1.110E-03	3.992E-05	4.224E-02
Aldrin	5.000E-07	3.028E-03	1.912E-05	1.152E-01
Aluminum	9.795E-01	2.523E+00	3.552E+01	9.600E+01
Antimony	6.400E-01	1.110E+01	2.448E+01	4.224E+02
Arsenic (III)	5.000E-02	3.431E-01	1.912E+00	1.306E+01
Barium	2.069E+02	2.069E+02	7.872E+03	7.872E+03
Benzene	5.100E-01	1.665E+01	1.951E+01	6.336E+02
Benzo(a)Pyrene	1.800E-04	1.800E-04	6.885E-03	6.885E-03
Beryllium	5.046E-01	5.046E-01	1.920E+01	1.920E+01
Bis(2-ethylhexyl)phthalate	2.200E-02	2.200E-02	8.414E-01	8.414E-01
Bromoform	1.400E+00	1.400E+00	5.355E+01	5.355E+01
Cadmium	2.427E-03	1.023E-02	8.802E-02	3.893E-01
Carbon Tetrachloride	1.600E-02	2.175E+01	6.120E-01	8.275E+02
Chlordane	4.732E-06	2.422E-03	1.716E-04	9.216E-02
Chloride	4.80E+02	7.12E+02	1.7471E+04	2.7107E+04
Chlorobenzene	1.600E+00	1.625E+01	6.120E+01	6.182E+02
Chlorodibromomethane	1.300E-01	1.300E-01	4.972E+00	4.972E+00
Chloroform	4.700E+00	4.700E+00	1.798E+02	1.798E+02
Chloropyrifos	4.512E-05	8.377E-05	1.637E-03	3.187E-03
Chromium (VI)	1.258E-02	1.644E-02	4.564E-01	6.257E-01
Copper	3.082E-02	4.613E-02	1.118E+00	1.755E+00
Cyanide	5.723E-03	2.220E-02	2.076E-01	8.448E-01
Dichlorobromomethane	1.700E-01	1.700E-01	6.502E+00	6.502E+00
Dieldrin	5.400E-07	2.422E-04	2.065E-05	9.216E-03
Endosulfan	6.163E-05	2.220E-04	2.235E-03	8.448E-03
Endrin	3.962E-05	8.679E-05	1.437E-03	3.302E-03
Ethylbenzene	2.100E+00	2.286E+01	8.032E+01	8.698E+02
Fluoride	8.149E+00	8.149E+00	3.101E+02	3.101E+02
gamma-Hexachlorocyclohexane (Lindane)	9.588E-04	9.588E-04	3.648E-02	3.648E-02
Heptachlor	7.900E-07	5.248E-04	3.022E-05	1.997E-02

**ENVIRONMENTAL SERVICES DIVISION
WATER QUALITY-BASED PERMIT LIMITS**

SECTION VI: WATER QUALITY-BASED PERMIT LIMITS*

Facility Name: Webster City, City of STP

Sewage File Number: 6-40-63-0-01

Parameters	Ave. Conc. (mg/l)	Max. Conc. (mg/l)	Ave. Mass (lbs/d)	Max. Mass (lbs/d)
Outfall No. 003	ADW = 1.989 MGD & AWW = 4.586 MGD			
Toxics				
Heptachlor epoxide	3.900E-07	5.248E-04	1.492E-05	1.997E-02
Hexachlorobenzene	2.900E-06	2.900E-06	1.109E-04	1.109E-04
Hexachlorocyclopentadiene	1.100E+00	1.100E+00	4.207E+01	4.207E+01
Iron	1.009E+00	1.009E+00	3.840E+01	3.840E+01
Lead	1.802E-02	4.079E-01	6.535E-01	1.552E+01
Mercury (II)	1.500E-04	1.662E-03	5.737E-03	6.325E-02
Nickel	1.705E-01	1.370E+00	6.183E+00	5.212E+01
Nitrate as N****	3.230E+02	3.230E+02	1.229E+04	1.229E+04
Nitrate+Nitrite as N****	1.101E+02	3.230E+02	3.992E+03	1.229E+04
para-Dichlorobenzene	1.900E-01	2.018E+00	7.267E+00	7.680E+01
Parathion	1.431E-05	6.560E-05	5.189E-04	2.496E-03
Pentachlorophenol (PCP)	2.460E-02	2.941E-02	8.923E-01	1.119E+00
Phenols	5.503E-02	2.523E+00	1.996E+00	9.600E+01
Polychlorinated Biphenyls (PCBs)	6.400E-07	2.018E-03	2.448E-05	7.680E-02
Polynuclear Aromatic Hydrocarbons (PAHs)	3.302E-05	3.028E-02	1.197E-03	1.152E+00
Selenium	5.503E-03	1.948E-02	1.996E-01	7.411E-01
Silver	3.312E-02	3.312E-02	1.260E+00	1.260E+00
Sulfate	2.073E+03	2.073E+03	7.8882E+04	7.8882E+04
Tetrachloroethylene	3.300E-02	3.300E-02	1.262E+00	1.262E+00
Thallium	4.700E-04	6.035E-01	1.798E-02	2.296E+01
Toluene	5.503E-02	2.523E+00	1.996E+00	9.600E+01
Total Residual Chlorine (TRC)**	9.6E-03	2.14E-02	3.50E-01	8.15E-01
Toxaphene	2.201E-06	7.367E-04	7.983E-05	2.803E-02
trans-1,2-Dichloroethylene	1.400E-01	1.400E-01	5.355E+00	5.355E+00
Trichloroethylene (TCE)	8.804E-02	4.037E+00	3.193E+00	1.536E+02
Vinyl Chloride	2.400E-02	2.400E-02	9.179E-01	9.179E-01
Zinc	3.505E-01	3.505E-01	1.333E+01	1.333E+01

WLAs/Permit Limits for the City of Webster City's Proposed Mechanical Plant at Proposed Outfall 003

These wasteload allocations and water quality-based permit limitations are for the City of Webster City's wastewater discharge from a proposed new mechanical facility at proposed Outfall 003. The wasteload allocations/permit limits are based on the Water Quality Standards (IAC 567.61) and the "Iowa Wasteload Allocation (WLA) Procedure," effective November 11, 2020. The chloride allocation/permit limits are based on the criteria that became effective on November 11, 2009.

The water quality-based limits in this WLA are calculated to meet the surface water quality criteria to protect downstream uses. There could be technology-based limits applicable to this facility that are more stringent than the water quality-based limits shown in this WLA. The technology-based limits could be derived from either federal guidelines based on different industrial categories or permit writer's judgment.

1. BACKGROUND:

The City of Webster City currently discharges treated domestic wastewater from a mechanical (trickling filter/rotating biological contactor) wastewater treatment facility into Unnamed Creek (at 42° 27' 27.57" N, 93° 48' 22.72" W) and the Boone River (at 42° 27' 30.89" N, 93° 48' 23.02" W). Only one outfall is used at a time.

The City of Webster City is proposing to build a new mechanical (activated sludge) wastewater treatment facility at a new location. The design flows and design mass loadings used throughout this WLA are proposed values for the proposed new mechanical facility. Several different possible outfall locations are under consideration. This WLA is for a case where the proposed new mechanical facility would discharge via a discharge pipe into the Boone River at 42° 26' 33" N, 93° 47' 41" W (proposed Outfall 003).

Based on information provided by the consultant, the discharge pipe would have a length of 1,440 ft from the facility to the outfall and a flow velocity of 3 fps for both ADW and AWW flow conditions. All WLAs/permit limits listed in this report apply at the beginning of the discharge pipe.

Route of flow and use designations:

At the outfall, the Boone River is an A1, B(WW-1) HH designated use waterbody. The designations have been adopted in Iowa's state rule described in the rule-referenced document of "Surface Water Classification," effective July 24, 2019. Based on the pollutants of concern, the use designations of waterbodies further downstream will not impact the resulting limits for this facility.

Critical low flow determination:

The annual critical low flows in the Boone River at the outfall are estimated based on the Weighted Drainage Area Ratio (WDAR) method from "Methods for estimating selected low-flow frequency statistics and harmonic mean flows for streams in Iowa" (2012, revised 2017) and flow statistics obtained at USGS gage station 05481000, located on the Boone River at Webster City, Iowa.

Table 1: Annual critical low flows

Location	D.A. (mi ²)	1Q10 (cfs)	7Q10 (cfs)	30Q10 (cfs)	30Q5 (cfs)	Harmonic Mean (cfs)
The Boone River at the outfall	820	5.05	5.50	6.62	13.0	13.9

Mixing Zone (MZ) and Zone of Initial Dilution (ZID):

The outfall is along the northwestern bank of the Boone River. Briggs Woods Park is directly across the Boone River from the outfall, along the southeastern bank of the Boone River. Therefore, no MZ is allowed in the Boone River at the outfall for toxics with criteria for human health (HH) protection.

Additionally, approximately 450 ft downstream of the outfall, Ditch Number 166 (which is a perennial stream at that point) flows into the Boone River (which is also a perennial stream at that point). The MZ and ZID for toxics and ammonia nitrogen need to be shortened from the default MZ and ZID. Those MZ and ZID values need to be shortened to $450/2,000 = 22.5\%$ of their default values. The default MZ and ZID for ammonia nitrogen are based on the ratio of the stream flows to the discharge flow. Please note that the default MZ value is still used for the calculations of the pH limits. Table 2 shows the MZ and ZID for toxics, WET, ammonia nitrogen, and pH.

Table 2: MZ and ZID

Pollutant	Default		Shortened	
	ZID	MZ	ZID	MZ
Toxics with HH criteria protection	--	25%	--	0%
Toxics without HH criteria protection	2.5%	25%	0.5625%	5.625%
WET	2.5%	--	0.5625%	--
Ammonia Nitrogen	5%	100%	1.125%	22.5%
pH	--	25%	--	--

2. ANTIDegradation REVIEW:

According to the "Iowa Antidegradation Implementation Procedure," effective February 17, 2010 (IAC 567-61.2(2).e), all new or expanded regulated activities (with limited exceptions, such as unsewered communities) are subject to antidegradation review requirements.

Table 3: Antidegradation review analysis

Item #	Factor or scenario	Antidegradation determination	Analysis/comments
1	Design capacity increase	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: Proposed new design capacity is indicated on the request form.
2	Significant Industrial Users (SIU) contributing new pollutant of concern (POC)	Yes <input type="checkbox"/> , No <input checked="" type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: As indicated on the request form.
3	New process contributing new pollutant of concern (POC)	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: As indicated on the request form.
4	Less stringent water quality-based limits?	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	1: Less stringent limits for some parameters will trigger an antidegradation review.
5	Outfall location change	Yes <input checked="" type="checkbox"/> , No <input type="checkbox"/> , or Not Applicable <input type="checkbox"/>	
Conclusion and discussion:			
Due to Items 1, 3, 4, and 5, a tier II antidegradation review is required.			
The antidegradation review conducted in this WLA is based on the current information available. Antidegradation could also be triggered during the NPDES permitting process based on new information.			

3. TOTAL MAXIMUM DAILY LOAD (TMDL) LIMITATIONS:

The following waterbodies in the discharge route are on the 2022 impaired waters list:

- The Boone River for bacteria (indicator bacteria – *E. coli*)
- The Des Moines River for bacteria (indicator bacteria – *E. coli*) and fish kill (due to unknown toxicity)
- Saylorville Reservoir for turbidity (Secchi disk transparency)
- Red Rock Reservoir for bacteria (indicator bacteria – *E. coli*) and turbidity

A nitrate nitrogen TMDL for one stream segment of the Des Moines River was approved by the EPA on September 25, 2009. In that TMDL, the City of Webster City STP was assigned nitrate nitrogen allocations, as discussed in the nitrate nitrogen section below. The City of Webster City STP has not been assigned allocations in any other TMDLs at this time.

The results presented in this report are wasteload allocations based on meeting the State's current water quality standards in the receiving waterbody. Additional and/or more stringent effluent limits may be applicable to this discharge based on approved TMDLs for impaired waterbodies, which may provide watershed based wasteload allocations. Information on impaired streams in Iowa and approved TMDLs can be found at the following website: <http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Watershed-Improvement/Impaired-Waters>.

4. CALCULATIONS:

The WLAs/permit limits for this outfall are calculated based on the facility's proposed Average Dry Weather (ADW) design flow of 1.989 MGD and its proposed Average Wet Weather (AWW) design flow of 4.586 MGD.

Only wasteload allocations/permit limits (water quality-based effluent limits) calculated using DNR approved design flows can be applied in NPDES permits. Water quality-based effluent limits calculated using proposed flows that have not been approved by the DNR for permitting and compliance may be used for informational purposes only.

The water quality-based permit concentration limits are derived using the allowed stream flow and the proposed ADW design flow, while the loading limits are derived using the allowed stream flow and the proposed AWW design flow.

Toxics and TRC:

The toxics wasteload allocations will consider the procedures included in the 2000 revised WQS and the 2007 chemical criteria.

Effective November 11, 2020, water quality criteria for metals (excluding aluminum) are expressed as dissolved in IAC 567.61. Using EPA dissolved metal translators, water quality-based effluent limits in this WLA are expressed as total recoverable.

Effective November 11, 2020, water quality criteria for aluminum are expressed as bioavailable in IAC 567.61. Water quality-based effluent limits for aluminum in this WLA are expressed as total recoverable.

To protect the aquatic life use:

Important to toxics is the use of the 1Q10 stream flow in association with the acute wasteload allocation calculation. The chronic WLA will continue to use the 7Q10 stream flow in its calculations. In this case, 5.625% of the 7Q10 flow and 0.5625% of the 1Q10 flow in the Boone River at the outfall are used as the MZ and the ZID, respectively.

TRC decay in the discharge pipe is taken into consideration. The decay is estimated by using a first order decay model with a length of 1,440 ft, a decay rate of 20/day, and a flow velocity of 3 fps.

To protect the human health (HH) use:

For pollutants that are non-carcinogenic and have criteria for human health protection, the criteria apply at the end of the MZ, which in this case is 0% of the 30Q5 flow in the Boone River at the outfall (due to Briggs Woods Park).

For pollutants that are carcinogenic and have criteria for human health protection, the criteria apply at the end of the MZ, which in this case is 0% of the harmonic mean flow in the Boone River at the outfall (due to Briggs Woods Park).

Final limits:

The maximum limits are those calculated for the protection of the aquatic life use and the average limits are the more stringent between those for the protection of the aquatic life use and those for the protection of the HH use.

The TRC limits are based on a sampling frequency of 5/week, based on a proposed design population equivalent (PE) of 44,587; the limits for the other toxics are based on a sampling frequency of 1/week. The translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

Ammonia Nitrogen:

Standard stream background pH, temperatures, and concentrations of NH₃-N are mixed with the discharge from the facility's effluent pH and temperature values to calculate the applicable instream criteria for the protection of the Boone River.

Based on the ratio of the stream flow to the discharge flow and the shortened MZ and ZID (discussed above), 1.125% of the 1Q10 flow and 22.5% of the 30Q10 flow in the Boone River at the outfall are used as the ZID and the MZ, respectively. At the outfall, the Boone River is a B(WW-1) stream; therefore, early life protection will begin in March and run through September.

Ammonia nitrogen decay in the discharge pipe is taken into consideration. The decay is estimated by using a first order decay model with a length of 1,440 ft, a decay rate of 0.3/day at 20 °C, and a flow velocity of 3 fps.

The monthly background pH, temperatures, and NH₃-N concentrations shown in Table 4 are used for the wasteload allocation/permit limits calculations based on the Year 2000 ammonia nitrogen criteria. Table 5 shows the statewide monthly effluent pH and temperature values for mechanical facilities. Table 6 shows the calculated ammonia nitrogen wasteload allocations for this facility.

Table 4: Background pH, temperatures, and NH₃-N concentrations for use with Year 2000 ammonia nitrogen criteria

Months	pH	Temperature (°C)	NH ₃ -N (mg/l)
January	8.1	0.3	0.02
February	8.0	0.1	0.08
March	8.1	1.5	0.12
April	8.3	9.3	0.03
May	8.2	15.0	0.03
June	8.2	19.4	0.02
July	8.2	23.5	0.02
August	8.2	24.3	0.02
September	8.3	20.2	0.02
October	8.3	14.2	0.02
November	8.3	8.0	0.02
December	8.3	0.8	0.03

Table 5: Standard effluent pH and temperature values for mechanical facilities

Months	pH	Temperature (°C)
January	7.67	12.4
February	7.71	11.3
March	7.69	13.1
April	7.65	16.2
May	7.67	19.3
June	7.70	22.1
July	7.58	24.1
August	7.63	24.4
September	7.62	22.8
October	7.65	20.2
November	7.69	17.1
December	7.64	14.1

Table 6: Wasteload allocations for ammonia nitrogen for the protection of aquatic life

Months	ADW-based*		AWW-based**	
	Acute (mg/l)	Chronic (mg/l)	Acute (mg/l)	Chronic (mg/l)
January	15.4	5.0	15.3	4.1
February	14.4	5.8	14.3	4.8
March	14.8	3.1	14.8	2.5
April	15.8	2.2	15.8	1.8
May	15.3	2.6	15.3	2.1
June	14.6	1.9	14.5	1.6
July	17.8	1.5	17.7	1.2
August	16.4	1.4	16.3	1.2
September	16.7	1.6	16.6	1.3
October	15.9	2.3	15.8	1.9
November	14.8	3.4	14.8	2.8
December	16.1	3.7	16.0	3.0

*: bases for concentration limits;

**: bases for mass loading limits

CBOD5/Total Dissolved Oxygen:

Streeter-Phelps DO Sag Model is used to simulate the decay of CBOD and dispersion of total Dissolved Oxygen (DO) in the receiving water downstream from the outfall. The criterion is that the discharge cannot cause the DO level in the receiving stream (warm water) to be below 5.0 mg/l.

The parameter values used in the modeling are listed below:

Background:

The temperature and ammonia nitrogen levels are shown in Table 4. The ultimate CBOD and DO levels are assumed to be 6.0 mg/l and 6.0 mg/l, respectively.

Effluent:

The temperatures are shown in Table 5. The CBOD5 level used in the modeling is 40 mg/l, which is the technology-based maximum limit for standard secondary treatment. The ammonia nitrogen values used in the modeling are the calculated acute wasteload allocations shown in Table 6. Both the proposed ADW and the proposed AWW flows and the ammonia nitrogen limits associated with them are used in the modeling.

Receiving stream parameters:

There is an average water channel slope of 0.00083 (the water channel elevation changes from 1,000 ft to 976 ft over a distance of approximately 29,020 ft, estimated based on GIS LiDAR 2-ft contour coverage).

USGS gage station 05481000 had field measurement data, such as stream flow, cross sectional area, stream width, and velocity. The stream depth is not reported; however, it can be derived using the following equation:

$$\text{Depth} = \text{Cross Sectional Area} / \text{Width}$$

Regression equations of Ln(Depth) vs. Ln(Flow) and Ln(Velocity) vs. Ln(Flow) were established with acceptable R-squared values. The stream width was also calculated.

$$\text{Ln}(\text{Depth}) = 0.4013 * \text{Ln}(\text{Flow}) - 1.7430 \quad \text{R-squared} = 0.7763$$

$$\text{Ln}(\text{Velocity}) = 0.3994 * \text{Ln}(\text{Flow}) - 1.9370 \quad \text{R-squared} = 0.8327$$

$$\text{Width} = \text{Flow} / (\text{Depth} * \text{Velocity})$$

The gage station is located approximately 1 mile downstream of the outfall. Therefore, it is assumed that the above equations are valid in the Boone River at the outfall.

The stream width, depth, and velocity at 7Q10 + ADW and 7Q10 + AWW conditions were estimated using the above equations.

Table 7: Stream width, depth, and velocity

Flow Condition	Flow (cfs)	Width (ft)	Depth (ft)	Velocity (fps)
7Q10 + ADW	8.58	60.8	0.41	0.34
7Q10 + AWW	12.59	65.7	0.48	0.40

Reaeration:

Near and downstream of the outfall, the Boone River is a medium sized gentle sloped river with relatively uniform channel properties. Therefore, the USGS channel-control model (Melching and Flores, 1999) is used.

Discussion and conclusion:

The modeling results show that the effluent, which could have an allowed maximum effluent CBOD5 level of 40 mg/l (technology-based limits for secondary treatment), ammonia nitrogen levels as shown in Table 6, and a minimum DO level of 4.3 mg/l, will not cause the DO level in the receiving stream to be below 5.0 mg/l at any time.

E. coli:

This facility discharges into a Class A1 waterbody. The water quality standard for *E. coli* in a Class A1 waterbody is a geometric mean of 126 org./100 ml and a sample maximum of 235 org./100 ml from March 15th through November 15th. The criteria apply at “end-of-pipe.”

E. coli decay in the discharge pipe is taken into consideration. The decay is estimated by using a first order decay model with a length of 1,440 ft, a decay rate of 1/day, and a flow velocity of 3 fps. When *E. coli* decay in the discharge pipe is taken into consideration, the limits for the protection of the Class A1 waterbody are a geometric mean of 127 org./100 ml and a sample maximum of 236 org./100 ml from March 15th through November 15th.

However, 567 IAC 62.8(2) states that “the daily sample maximum criteria for *E. coli* set forth in 567 – Chapter 61 shall not be used as an end-of-pipe permit limitation.” Therefore, only the geometric mean limit of 127 org./100 ml applies.

Chloride and Sulfate:

The chloride and sulfate criteria became effective on November 11, 2009 and apply to all Class B waters. The City of Webster City STP submitted data from a site-specific hardness study where they collected 31 background hardness samples in the Boone River upstream of the outfall over the course of approximately 2.5 years. They also collected 31 hardness samples in the effluent over the course of approximately 2.5 years. The median background hardness value was 362 mg/l and the median effluent hardness value was 351 mg/l.

Chloride criteria are functions of hardness and sulfate concentration, shown as follows:

$$\begin{aligned}\text{Acute criteria} &= 287.8 * (\text{Hardness})^{0.205797} * (\text{Sulfate})^{-0.07452} \\ \text{Chronic criteria} &= 177.87 * (\text{Hardness})^{0.205797} * (\text{Sulfate})^{-0.07452}\end{aligned}$$

Sulfate criteria, shown in Table 8, are functions of hardness and chloride concentration and serve as both the acute and chronic criteria.

Table 8: Sulfate criteria

Hardness (mg/l as CaCO3)	Sulfate criteria (mg/l)		
	Chloride < 5 mg/l	5 mg/l <= Chloride < 25 mg/l	25 mg/l <= Chloride < 500 mg/l
< 100	500	500	500
100<=H<=500	500	$(-57.478 + 5.79 * H + 54.163 * Cl) * 0.65$	$(1276.7 + 5.508 * H - 1.457 * Cl) * 0.65$
H > 500	500	2,000	2,000

The acute criteria apply at the end of the ZID, and the chronic criteria apply at the end of the MZ. In this case, 5.625% of the 7Q10 flow and 0.5625% of the 1Q10 flow in the Boone River at the outfall are used as the MZ and the ZID, respectively.

The default chloride concentration for both background water and effluent is 34 mg/l, while the default sulfate concentration for both background water and effluent is 63 mg/l. The limits are calculated based on an assumed sampling frequency of 1/week.

Iron:

Iron criteria are defined in the issue paper “Iron Criteria and Implementation for Iowa’s Surface Waters” (November 11, 2020). A dissolved iron criterion of 1 mg/l applies at the end of the ZID for both general use and designated use streams. In this case, the ZID is 0.5625% of the 1Q10 flow in the Boone River at the outfall. Water quality-based effluent limits for iron in this WLA are expressed as total recoverable.

pH:

Iowa Water Quality Standards (IAC 567.61.3.(3).a.(2) and IAC 567.61.3.(3).b.(2)) require that pH in Class A or Class B waters “shall not be less than 6.5 nor greater than 9.0.” The criteria apply at the end of the MZ, which is 25% of the 7Q10 flow in the Boone River at the outfall.

Nitrate Nitrogen:

A nitrate nitrogen TMDL for one stream segment of the Des Moines River was approved by the EPA on September 25, 2009. In that TMDL, the City of Webster City STP was assigned nitrate nitrogen wasteload allocations of an average daily load of 400 lbs/day and a maximum daily load of 1,244 lbs/day. These WLAs were translated to nitrate nitrogen limits of a maximum daily limit of 1,244 lbs/day and a monthly average limit of 760 lbs/day in the December 14, 2010 memo: “Deriving effluent limitations from the Des Moines River Nitrate TMDL.” Please note that the translated Des Moines River TMDL nitrate nitrogen limits will govern the mass limits for nitrate as N and nitrate+nitrite as N.

TDS:

Effective November 11, 2009, the site-specific TDS approach is no longer applicable; instead, the new chloride and sulfate criteria became applicable. However, the TDS level should be controlled to a level such that the narrative criteria stated in IAC 567.61.3 are fulfilled.

Major Facility Acute WET Testing Ratio:

The acute whole effluent toxicity (WET) testing ratio is calculated using the ADW design flow and 0.5625% of the 1Q10 flow in the Boone River at the outfall as the ZID.

5. PERMIT LIMITATIONS:

- Based on the Year 2006 Water Quality Standards and 2002 Permit Derivation Procedure.

The acute and chronic WLAs are used as the values for input into the current permit derivation procedure. Under the 2002 permit derivation procedure, only for toxic parameters is the monitoring frequency considered in the calculation of final limits. The water quality-based limits are shown on Pages 1 – 3 of this report.

Appendix H: DNR Inspection Reports

- DNR Inspection Report dated August 18, 2017
- DNR Inspection Report dated October 14, 2019
- DNR Inspection Report dated April 12, 2021
- Webster City Custom Meats – Notice of Violation dated August 17, 2022
- Mary Ann’s Specialty Foods – Notice of Violation dated August 17, 2022



August 18, 2017

Ed Sadler, City Manager
City of Webster City
PO Box 217
Webster City, IA 50595

Subject: Wastewater Treatment Facility Inspection
Permit No. 4063001
Letter of Noncompliance – Sludge Recordkeeping

ATTENTION: Honorable Mayor and Council Members

Enclosed is a report of an inspection of your facility, which was conducted by Mr. Jeremy Klatt, Environmental Specialist of this office on August 9, 2017. I concur with the content of the report.

At the end of his report, Mr. Klatt has summarized his recommendations for facility operation improvements and stated required actions that must be completed in order to comply with the Iowa Administrative Code.

Please submit the monitoring report for the month of February 2017 no later than September 1.

If you have any questions concerning the report, please contact Mr. Klatt.

Sincerely,

FIELD SERVICES & COMPLIANCE BUREAU

A handwritten signature in black ink, reading "Jeffrey B. Vansteenburgh". The signature is written in a cursive, flowing style.

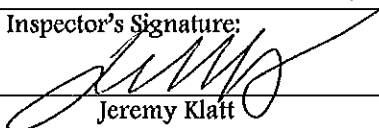
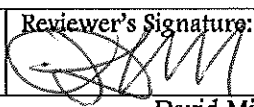
Jeffrey B. Vansteenburgh
Field Office Supervisor

JBV/jk

c: DNR Records Center

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL SERVICES DIVISION
WASTEWATER TREATMENT FACILITY INSPECTION

FACILITY NO. 4063001
PAGE 1

FACILITY	Name: Wastewater Treatment Plant		Owner: City of Webster City	
	Address: 400 2 nd St. PO Box 217		City: Webster City, Iowa 50595	Phone: 515-832-3141
PLANT GRADE	<input type="checkbox"/> IL <input type="checkbox"/> I <input type="checkbox"/> IIL <input type="checkbox"/> II <input checked="" type="checkbox"/> III <input type="checkbox"/> IV			
RESPONSIBLE OPERATOR	Name: Tim Danielson		Grade: III	Certification No. 9349
TREATMENT PROCESS	<input checked="" type="checkbox"/> Trickling Filter <input type="checkbox"/> Lagoon <input checked="" type="checkbox"/> Disinfection <input type="checkbox"/> Activated Sludge => Modification: <input checked="" type="checkbox"/> Other /Supplementary: RBC			
	Process Waste Description: Domestic and Industrial			
DESIGN CAPACITY	MGD: 3.3		Pounds BOD: 4150	PE (BOD): 24,412
NOW TREATING	MGD (Ave. Daily): 1.79 (3/16-6/17)		Pounds BOD: 2847 (3/16-6/17)	PE (BOD): 17,048
	Population Served: 8070 (2010 census)		Significant Industrial Contributors: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Treatment Agreement(s) Adequate <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
RECEIVING STREAM	Stream Name: Oxbow Lakes Tributary to Boone River			
INSPECTION INFORMATION	Date of This Inspection: 08/09/2017		Time of This Inspection: 10 AM	Date of Previous Inspection: 09/21/2015 (EPA)
	Purpose of Inspection: Compliance Evaluation Inspection			
PERSONS INTERVIEWED	Name: Tim Danielson		Title: Public Works Director	
	Name:		Title:	
	Name:		Title:	
SIGNATURES	Inspector's Signature: 		Date: 8/18/17	Reviewer's Signature:  Date: 1800417
	Jeremy Klatt		David Miller	
PERMIT COMPLIANCE SUMMARY				
SELF-MONITORING	Operation Reports Submitted: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg* <input type="checkbox"/> Unsat.* <input type="checkbox"/> N/A		Required Data Entered on Reports: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg* <input type="checkbox"/> Unsat.* <input type="checkbox"/> N/A	
EFFLUENT LIMITATIONS	Self-Monitoring Results: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg. <input type="checkbox"/> Unsat.* <input type="checkbox"/> N/A			
SAMPLES THIS INSPECTION	Type: None		Lab Data Attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Results: <input type="checkbox"/> Sat. <input type="checkbox"/> Marg. <input type="checkbox"/> Unsat.* <input checked="" type="checkbox"/> N/A			
	Visual Appearance of Effluent: Clear		Visual Appearance of Receiving Stream: Clear	
COMPLIANCE SCHEDULE	Compliance with Schedule: <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Marg* <input type="checkbox"/> Unsat.* <input type="checkbox"/> N/A		Next Item Due: Progress Report Date Due: 9/1/2017	

Revised 01/09/13

IOWA DEPARTMENT OF NATURAL RESOURCES
WASTEWATER TREATMENT FACILITY INSPECTION

FACILITY NO. 4063001
PAGE 2

FACILITY EVALUATION

Were deficiencies noted or significant observations made during the inspection?

Yes = See Comments Section for details

No = No deficiencies or significant observations were noted.

Lack of entry = Item not applicable or not observed.

ITEM	YES	NO		YES	NO
1. COLLECTION SYSTEM			9. SLUDGE HANDLING AND DISPOSAL		
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Dry Weather Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Infiltration/Inflow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. By-pass	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	e. Final Disposal, Solids	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			f. Final Disposal, Liquids	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. LIFT STATION(S) (COLLECTION SYSTEM)					
a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. LAGOON STRUCTURES ()		
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Reliability/Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. INDUSTRIAL WASTE PRE-TREATMENT			d. Cell Configuration	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Waste Toxicity/Compatibility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Storage/Drawdown Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Strength Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. FLOW MEASUREMENT		
c. Affect on Treatment Plant	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. PRE-TREATMENT UNITS (this facility)			b. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Continuity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Location/Method/Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. PUMPING		
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. PRIMARY TREATMENT			b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Reliability/Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. MISCELLANEOUS		
d. Sludge/Scum Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Location	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Odors	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. SECONDARY TREATMENT			c. Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. By-pass(es)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Equipment	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Buildings & Grounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Recirculation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Other (Lab Certification)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Freezing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. STAFFING, OPERATOR CERTIFICATION		
f. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operator, Direct Responsibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. FINAL SETTLING			b. Shift Operator(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. General Staffing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. SUPPLEMENTARY		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Permit Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Operation Reports Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. SUPPLEMENTARY TREATMENT			c. Equipment Records Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Previously Noted Deficiencies	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	e. Improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Domestic/Industrial Growth	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Recommendations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			h. Required Actions	<input checked="" type="checkbox"/>	<input type="checkbox"/>

FACILITY DESCRIPTION

The wastewater treatment facility consists of 2 barscreens, comminutor (Muffin Monster), 2 aerated grit chambers, 2 pumping stations, 3 primary clarifiers, 1 trickling filter, 20 RBC units, 2 final clarifiers, chlorine detention tank (2 chlorinators), dechlorination with sodium bisulfite, 1 fixed-cover primary anaerobic digester (heated), 1 floating cover secondary digester, gas recirculation, heat exchanger, 2 sludge drying beds and a 1.2 million gallon sludge storage tank. Specifications for process equipment are on file at the treatment plant and at the DNR Field Office in Mason City.

PERMIT COMPLIANCE SUMMARY

Discharge from this facility is authorized by NPDES Permit No. 40-63-0-01, which was issued March 1, 2016, and will expire on February 28, 2021. The City has the ability to discharge at two separate locations; this is reflected in the new permit. Outfall 001 is the discharge to the Oxbow Lakes, which flow to the Boone River while Outfall 003 is a direct discharge to the Boone River. Limits for some parameters change based on the location of discharge.

The monthly operation reports (MOR's) were reviewed for compliance since the issuance of the new permit (March 2016-June 2017). During this period, the City discharged exclusively to Outfall 001. The following permit effluent violations were reported during the reviewed period:

Copper – Concentration and mass violations occurred in November of 2016 and May of 2017.

E. coli – The geometric limit was exceeded in August of 2016.

pH – The maximum pH limit was exceeded in March of 2017.

Total Suspended Solids – The average and maximum concentration limits were exceeded in November of 2016. Additionally, the maximum TSS concentration limit was exceeded in August, September and October 2016. Lastly, the maximum mass limit was exceeded in September of 2016.

Annual toxicity testing was completed in July of 2016; the effluent passed both toxicity tests. The 2017 toxicity was recently taken and results have not been received.

The City inadvertently sent a blank monitoring report for February of 2017. Please update and resubmit the February 2017 monitoring report.

Compliance Schedule

The new permit has a compliance schedule for meeting limits for cadmium, copper, silver, zinc, and total residual chlorine. The facility was required to submit a compliance strategy by September of 2016. This report was submitted in February of 2017 and indicated that the existing equipment will be evaluated to determine if the TRC limit can be met without upgrades. For metals, a site-specific study will be conducted in hopes of revising the limits. However, the City is currently contemplating a plant upgrade to an activated sludge treatment system (see item 15e).

Nutrient Reduction Strategy

The City of Webster City is also subject to the State's Nutrient Reduction Strategy. The permit requires that the City submit a report that evaluates the feasibility and reasonableness of reducing the amounts of nitrogen and phosphorus discharged into surface water. The report is due by March 1, 2018.

FACILITY EVALUATION

1-e Bypassing

Bypassing occurred on March 7, 2017, due to a power outage at the plant. The power was out for about 60 minutes and sewage flowed out of a manhole near the plant. Once power was restored the bypass subsided.

3-a Industrial Pretreatment

The City has TAs with Mary Ann's Specialty Foods (Mary Ann's) and Webster City Custom Meats (Custom Meats). The monitoring data for both industries was reviewed for the period of March 2016 to June 2017. Custom Meats exceeded BOD loading limits in two months, flow limits in two months, pH limits during seven months and TKN during one month. Mary Ann's exceeded BOD limits during two months, flow limits during four months, pH limits during eight months, TKN limits during two months and TSS limit during one month.

VeroBlue, a fish grower/processor has purchased a portion of the old Electrolux facilities in Webster City and is currently growing fish. The City has a treatment agreement with the industry, though the industry is not a 'Significant Industrial User' and therefore, the agreement was not incorporated into the permit. VeroBlue does plan to begin processing fish in the facility. If the processing results in being designated as a Significant Industrial User, the treatment agreement must be submitted to the DNR wastewater section for review and inclusion in the permit

Mr. Danielson indicated that he anticipates reworking the agreements for Mary Ann's and Custom Meats in the near future as plans to expand the facility progress.

4a Pre-treatment

Grit is placed in a drying bed for dewatering and then is mixed with woodchips and stockpiled across the street and the City's compost operation. There was a significant accumulation of grit in the drying beds at the time of inspection. Grit must be ultimately disposed either by land application in accordance with Chapter 567 IAC 121, after meeting pathogen reduction and vector reduction requirements, or by disposal at the landfill. If the City decides to land apply the grit, contact the DNR field office for land application requirements.

5a Primary Clarifier

One of the City's three primary clarifiers is being rebuilt with new concrete walls, weirs, and troughs and is currently out of service. Mr. Danielson indicated that the construction crew is waiting on baffles and weirs to finish the project. Construction Permit No. 2016-0356-S was obtained for the project.

6-a,b Secondary Treatment

Four of the 20 RBC units are currently not operational. As of now, the City is not intending to make repairs to these units as they prepare to upgrade secondary treatment to activated sludge. Should the City decide against the plant upgrade, these units will need to be repaired.

9-b,e Biosolids Disposal

The primary digester is also under repair and is currently not being used; this work was also authorized by Construction Permit No. 2016-0356-S. Past sludge report records have indicated that the pathogen reduction is met by achieving the required detention time in the anaerobic digester; however, Mr. Danielson reported that he has never seen the calculation to document that the detention time is adequate.

With the primary digester out of commission, it is unlikely that the required detention time is being achieved. The City must either demonstrate that the required detention time is achieved or meet the pathogen reduction requirement by other means.

The 5-year application was completed by V & K Engineering in May of 2016 and the report recommends that the City demonstrate pathogen reduction by calculating the geometric mean of fecal coliform of seven samples of the sewage sludge and showing a concentration of less than 2,000,000 MPN/gram. I recommend that the City begin using this method annually, as the City has not calculated the detention time in the digester.

Sludge was hauled in the fall of 2016 and the sludge application records were reviewed. The sludge was sampled for pollutants required in Chapter 67 and all pollutants were below ceiling concentrations. Vector reduction was met by injecting the sludge below the soil surface. The report indicated that pathogen reduction was met by detention time in the anaerobic digester.

Mr. Danielson was not able to locate the 2015 sludge application records, although the results of the sludge sampling were located in the May 2016, 5-year sludge plan. All pollutants were below ceiling limits in the samples taken both in March and October of 2015. The City must ensure that all sludge application records are maintained on-site for five years (the required recordkeeping items are attached to this report).

9f Sludge Drying Beds

The previous inspection report noted that the City also disposes of grit, etc. from sewer cleaning in the sludge drying beds. In March of 2013, the City asked the Department about disposal of this material in their dead animal (road kill) compost pile. At that time the Department notified the City that this material must be handled in accordance with the sewage sludge regulations. See Item 4a above regarding disposal options.

13-g Laboratory Certification

There has been no change in the laboratories used for the various analyses required by this facility. The City's lab, AgSource Labs, and SHL, are all being used and remain certified.

14-c General Staffing

Tim Danielson was named Public Works Director in July 2011 and is the responsible operator for the facility. Mr. Danielson currently is certified as a Grade III wastewater operator.

15e Improvements

The City is making plans to expand their wastewater treatment facility. A project initiation meeting between the City and the DNR occurred in December of 2016 (DNR Project # 2017-0216A). Mr. Danielson reported that the City currently is hoping to construct new secondary treatment facilities at a new location, south of Highway 20. Preliminary treatment and primary clarification would occur at the current facilities.

RECOMMENDATION

1. To meet pathogen reduction requirements, take seven fecal coliform samples during sludge hauling and calculate a geomean.
2. Contact the DNR Field Office if grit from the drying beds will be land applied.

REQUIRED ACTIONS

1. Comply with all effluent limitations in the permit per Subrule 567 IAC 64.3(1).
2. Submit the monitoring report for February 2017 per Subrule 567 IAC 64.3(1).
3. Continue to enforce the treatment agreement with industrial contributors per Subrules 567 IAC 64.3(1) and 567 IAC 62.1(6).
4. Ensure the pathogen reduction requirement is being met for application of sewage sludge per Subrule 567 IAC 67.8(1).
5. Maintain sludge application records for five years per Subrule 567 IAC 67.8(4).
6. Properly dispose of grit accumulations in the drying bed by either land application or at the landfill per Rule 567 IAC 100.4 (455B).



October 14, 2019

City of Webster City
City Hall, P.O. Box 217
Webster City, IA 50595

Subject: Wastewater Treatment Facility Inspection, Permit No. 4063001
Notice of Violation – Compliance Schedule, Effluent Limits

ATTENTION: Honorable Mayor and Council Members

Sheila Kenny, Environmental Specialist with this office, conducted an inspection of your facility on July 16, 2019. A field inspection report was completed and is enclosed for your file. I concur with the content of the report.

At the end of this report, Ms. Kenny has summarized her recommendations for facility operation improvements and stated required actions that must be completed in order to comply with the Iowa Administrative Code. Failure to comply can result in referral to the Department's Legal Services Section for consideration of enforcement action.

Please submit a written response to this office within **30 days of receipt** of this letter, stating the measures you have taken, or will take, to comply with the required actions.

If you have any questions concerning the report, please contact Ms. Kenny at 641-424-4073.

Sincerely,

FIELD SERVICES & COMPLIANCE BUREAU

Trent Lambert
Field Office Supervisor

TL/sk

Enclosure: Effluent Limits Violations Reports
Section 13.11 of the Iowa Wastewater Facilities Design Standards

c: DNR Records Center

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

NPDES Permit #: 4063001

Page 1

FACILITY INFORMATION

Facility:	Name: <u>Webster City Wastewater Treatment Facility</u>	Plant Grade: <u>WW-III</u>
	Responsible Authority/Owner: <u>City of Webster City</u>	
Responsible Operator:	Address: <u>City Hall, P.O. Box 217</u>	Phone: <u>515-832-9185</u>
	City: <u>Webster City</u>	State: <u>IA</u> Zip: <u>50595</u>
	Name: <u>Tim Danielson</u>	Grade: <u>WW-III</u> Certification Number: <u>9349</u>
General Description:	<p>This facility consists of a collection system with 3 lift stations and a treatment plant comprised of the following units or processes: a comminutor, a bypass channel with a bar screen, an aerated grit chamber, cyclone grit removal and grit washer, 3 primary clarifiers, 1 uncovered trickling filter, 20 rotating biological contactors (RBCs) arranged in 5 trains of 4 with aeration, 2 final clarifiers, a chlorine contact chamber with gas chlorination, and sodium bisulfite feed for dechlorination. Sludge is stabilized in a primary anaerobic digester with a fixed cover and a secondary digester with a floating cover. Sludge may be dried in the sludge drying bed or stored in a 1.2 million gallon storage tank prior to disposal by land application.</p>	
Design Capacity:	<p>Average MGD: <u>3.300</u> Maximum MGD: <u>6.00</u> Pounds BOD/Day: <u>4150</u> PE (BOD): <u>24,850</u></p>	
Now Treating:	<p>Average MGD: <u>1.910</u> Maximum MGD: <u>7.887</u> Pounds BOD/Day: <u>3714</u> PE (BOD): <u>22,237</u></p>	
Receiving Stream:	<p>Period Reviewed: <u>August 2017-June 2019</u> Population Served: <u>8070 (2010 Census)</u> <u>Outfall 001 - Unnamed tributary to Oxbow Lake, Tributary to the Boone River</u> <u>Outfall 003 - Boone River</u></p>	

INSPECTION INFORMATION

Inspection:	Date and Time of Inspection: <u>07/16/19 - 1pm</u>	Purpose: <u>Compliance Evaluation</u>
	Date of Last Inspection: <u>08/09/17</u>	
Persons Interviewed:	Name: <u>Tim Danielson</u>	Title: <u>Wastewater Superintendent</u>

NPDES PERMIT COMPLIANCE SUMMARY

Self-Monitoring: Effluent Limitations: Samples this Inspection:	Operation Reports Submitted: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*	Required Data on Reports: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*	Testing Adequacy: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*
	Self-Monitoring Results: <input type="checkbox"/> Compliance <input checked="" type="checkbox"/> Infrequent Non-Compliance* <input type="checkbox"/> Significant Non Compliance*		
	Type: <u>None</u>	Lab Data Attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Results: <input type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*
	Visual Appearance of Effluent: <u>Clear</u>		
Compliance Schedule:	Visual Appearance of Receiving Stream: <u>Clear</u>		
	Compliance w/Schedule: <input type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input checked="" type="checkbox"/> Unsat.* <input type="checkbox"/> NA Next Items Due: <u>Submit Progress Report for Nutrient Reduction Schedule by 03/01/2020.</u>		
	* Additional details in the narrative report <u>Progress reports for the metals schedule were due 06/01/18 and 06/01/19.</u>		

AUTHENTICATION

Inspector:	<u>Sheila Kenny</u>	Date: <u>10/14/19</u>
Reviewer:	<u>David Miller</u>	Date: <u>17 OCT 19</u>

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

NPDES Permit #: **4063001**

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FACILITY EVALUATION

Were deficiencies noted or significant observations made during the inspection?

Yes = See Comments Section for details

No = No deficiencies or significant observations were noted

Lack of Entry = Item not applicable or not observed.

Item	Yes	No	Item	Yes	No
1. Collection System			9. Sludge Handling and Disposal		
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Dry Weather Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Infiltration/Inflow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Bypass(es)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Final Disposal, Solids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Lift Station(s) (Collection System)			f. Final Disposal, Liquids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Lagoon Structures		
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Maintenance	<input type="checkbox"/>	<input type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input type="checkbox"/>
d. Reliability/Emergency Operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input type="checkbox"/>
3. Industrial Waste Pre-Treatment			d. Cell Configuration	<input type="checkbox"/>	<input type="checkbox"/>
a. Significant Industrial Users	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Storage/Drawdown Management	<input type="checkbox"/>	<input type="checkbox"/>
b. Waste Toxicity/ Compatibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. Flow Measurement		
c. Strength Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Effect on Treatment Plant	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Preliminary Treatment			c. Continuity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Location. Method/ Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. Pumping		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Primary Treatment			c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Reliability/ Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. Miscellaneous		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Location	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Sludge/Scum Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Odors	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Emergency Operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Secondary Treatment			d. Bypass(es)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Equipment	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Buildings & Grounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Lab Certification	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Recirculation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	h. Other	<input type="checkbox"/>	<input type="checkbox"/>
e. Freezing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. Staffing, Operator Certification		
f. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operator, Direct Responsibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Final Settling			b. Shift Operator(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. General Staffing	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. Supplementary		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Permit Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Operation Reports Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Supplementary Treatment			c. Equipment Records Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Previously Noted Deficiencies	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	e. Improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Domestic/Industrial Growth	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Recommendations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			h. Required Actions	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

INTRODUCTION

A compliance inspection was conducted at the Webster City WWTP on July 16, 2019. The inspection involved a review of City records, discussions with the operator identified above, and a walk through of the treatment plant. The purpose of the inspection was to determine the compliance status of the facility.

NPDES PERMIT COMPLIANCE SUMMARY

Discharge from this facility is authorized by NPDES permit #4063001. The NPDES permit was issued on March 1, 2016, and has an expiration date of February 28, 2021.

Self-Monitoring Results

Refrigerated composite samplers are used to collect 24-hour composite samples of the influent and effluent flow at this facility. There are effluent samplers pre- and post-disinfection, but Mr. Danielson reported that the post-disinfection sampler was down for a few weeks while they awaited the necessary parts to repair it. In the interim, they have been reporting result from the pre-disinfection sampler. The City should work to repair the sampler and return it to service as soon as possible. The tubing in the composite samplers should be watched closely for bacterial growth as dirty lines may lead to higher sample results that are not representative of the typical wastewater at this facility. Mr. Danielson stated that they clean the tubing on both samplers as needed.

Operational monitoring and compliance sample analysis for BOD₅, CBOD₅, TSS, SS, NH₃-N, TRC, pH, DO, and temperature is conducted at the certified in-house laboratory (Iowa Lab #314). Samples for NO₃-N, TKN, Total N, Total P, metals, toxicity, and *E. coli* are taken to the State Hygienic Laboratory in Ankeny (Iowa Lab #397) for analysis. Samples are hand-delivered to comply with the 6-hour maximum hold time for *E. coli*.

To ensure accurate readings, Mr. Danielson reported that they perform a three-point (4.0, 7.0, and 10.0) calibration of the pH meter and measure a known TRC standard five days per week. They also have a certified thermometer in the lab. Proper calibration logs are being maintained to document these calibration activities in accordance with Subrule 567 IAC 63.2(1).

The operation reports submitted for this facility since August 2017 indicate that there were two minor violations of the effluent TRC limits and three significant violations of the effluent *E. coli* limit. See the enclosed Effluent Limit Violations report for details. The discharge of untreated or partially treated wastes which exceed permit effluent limits is a violation of Subrule 567 IAC 64.3(1), and is prohibited by Section 455B.186 of the Code of Iowa. Action should be taken to ensure that further violations do not occur. Mr. Danielson reported that they made some physical changes to the chlorine room in April 2019 as the piping layout and equipment failures were the primary causes of these violations. **As a reminder, Rules 567 IAC 63.12(455B) and 63.15(455B) require that all permittees report instances of non-compliance, including violations of effluent limitations, to the Department.** See permit conditions 13 and 14 for additional information.

Operation Reports Submitted; Required Data Entered on Reports

The operation reports were submitted on time and all required data was reported. All operation records, including Monthly Operation Reports (MORs), lab results, and chain-of-custody documents must be maintained for a minimum of three years. The City is maintaining both paper and electronic records for this facility. The MORs have been signed in accordance with the rules, but Mr. Danielson was encouraged to also date the MORs so that an accurate timeline can be established in the records.

Compliance Schedules

The current NPDES permit for Webster City contains a compliance schedule to meet more stringent effluent limits for metals and a construction schedule for nutrient reduction. Mr. Danielson reported that they have been working with Greg Pitt, P.E. from Bolton & Menk, on designing a new activated sludge plant.

Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form

Facility Name: Webster City Wastewater Treatment Facility

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DES Permit #: 4063001

Inspection Date: 07/16/19

The metals compliance schedule requires annual progress reports on June 1 of each year; however, to date, the Department has not received the progress reports for 2018 or 2019. The implementation schedule and the first progress report were both submitted more than 90 days after the due date as well. **Therefore, the City is current in significant non-compliance for failure to follow the compliance schedule and must submit a progress report immediately.** Mr. Danielson indicated that the City is in the process of collecting stream sampling data in order to request site-specific limits for metals. The City should ensure that they are moving forward with this project in order to meet the final compliance deadline of February 1, 2021.

The construction schedule for nutrient reduction requires annual progress reports on March 1 of each year. The 2019 report indicates that the City is working with industrial users to determine appropriate design flows and loading rates. The City must complete construction of the necessary upgrades by March 1, 2024. The City will then have a six-month optimization period followed by a one-year monitoring period before final nutrient limits are established.

FACILITY EVALUATION

1d. COLLECTION SYSTEM – Infiltration/Inflow

Infiltration is the entrance of extraneous clear water into the collection system via loose joints, cracked or broken pipes, poorly constructed manholes, etc. Inflow is the entrance of extraneous clear water into the collection system via improper connections such as storm sewers, foundation drains, roof drains, etc. Infiltration and inflow (I/I) increase the cost of operation and maintenance of the lift stations and treatment facility. Influent flows exceeding the facility's design capacity shorten the detention time and may make compliance with your permit's effluent limits more difficult. Mr. Danielson indicated that they do see increased flows after rainfall events and the data provided since the previous inspection indicates flows of up to 7.519 MGD, which exceeds the maximum wet weather design flow for this facility. Therefore, it is recommended that the City continue to identify and eliminate sources of infiltration/inflow to the collection system. City ordinances that prohibit sump pumps and roof drains from being discharged into the sanitary sewer are also recommended and should be enforced. Mr. Danielson reported that the City conducted sump pump inspections about 4-5 years ago and disconnected any illegal connections they discovered. He also stated that the City has money budgeted each year for televising and repairs to the collection system.

1e. COLLECTION SYSTEM – Bypasses

A wastewater bypass occurred in April 2018 due to a power outage. As a reminder, bypassing is prohibited under Rule 567 IAC 63.6(455B); therefore, the City should work to prevent all future bypasses. Written bypass reports are now required to be submitted within five days following a bypass event. An electronic report form is now available for use upon request.

2a. and 2d. LIFT STATION

There are three lift stations in town to pump all wastewater to the treatment plant. Mr. Danielson reported that each lift station is equipped with two pumps that are automatically alternated to distribute the wear between the pumps and ensure that both pumps are working properly. The lift stations are equipped with autodialer alarm systems which will call the operator should a problem arise, but Mr. Danielson reported that they do not have emergency generators at the lift stations. **Section 13.11 of the Iowa Wastewater Facilities Design Standards requires that all lift stations have an emergency means of operation such as a generator or redundant power supply, which can be in place within 30 minutes following a power outage.** The City must submit information detailing how they will comply with this requirement.

3a. SIGNIFICANT INDUSTRIAL USERS (SIUs)

The City currently has treatment agreements for two significant industrial users – Mary Ann's Specialty Foods and Webster City Custom Meats, Inc. Review of the data submitted for these industries since August 2017 shows that both industries have frequent violations of the established treatment agreement limits. See the enclosed Effluent Limits Violations reports for details. The discharge of wastewater into a publicly owned treatment works in volumes or quantities in excess of those to which a major contributing industry is committed in a treatment agreement is a violation of Subrule 567 IAC 62.1(6). The discharge limits established in the treatment agreement have also been incorporated into the NPDES permit issued to the City. Failure to enforce treatment agreement limits constitutes a violation of Subrule 567 IAC 64.3(1). The City must either enforce the limits in the treatment agreements, or negotiate new treatment agreements with limits the industries can meet.

Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

Mr. Danielson indicated that the City signed a new treatment agreement with Mary Ann's Specialty Foods this spring. If you have not already done so, the City must submit this new agreement to Ben Hucka, IDNR Pretreatment Coordinator in Des Moines, and to IDNR Field Office 2 in Mason City. Once the agreement has been approved, the new limits will be incorporated into the City's NPDES permit. Mr. Danielson also stated that the City issues monetary penalties for exceedances of the treatment agreement limits; however, additional action may be needed to ensure industrial compliance is maintained.

It is recommended that periodic industrial surveys be completed to ensure that all SIUs are identified and properly regulated. See page 31 of the NPDES permit for more information on SIUs.

5a. PRIMARY TREATMENT and 7a. FINAL SETTLING – Operation and Maintenance

Even flow of wastewater was noted over the weirs in each of the primary and final clarifiers. Heat lamps are present on the scum boxes in all clarifiers to help prevent freezing in the winter. The skimmer arms appeared to adequately remove scum. Mr. Danielson reported that the clarifiers are cleaned monthly in the winter and every 1-2 weeks in the summer to remove any solids or filamentous growth.

6a. SECONDARY TREATMENT – Operation and Maintenance

The trickling filter distributor arms are hydraulically driven to distribute wastewater over the rock media. Mr. Danielson reported that the recirculation pump was recently repaired. No mud balls were observed and no pooling or ponding of water was evident in the trickling filter during this inspection. Mr. Danielson stated that the openings in the distributor arms are cleaned about once every two weeks in the summer and about monthly in the winter to prevent plugging.

8a. SUPPLEMENTARY TREATMENT – Operation and Maintenance

Only one half of the chlorine contact chamber is in use. The chlorine and sodium bisulfite are fed automatically. Mr. Danielson reported that a new chlorinator and injector were installed the month prior to this inspection.

9a. SLUDGE HANDLING AND DISPOSAL

Sludge is automatically pulled from the primary clarifiers. Mr. John West reported that they pump about 1400-1800 gallons per day from each of the clarifiers and maintain sludge blankets of about 18-24". Sludge from the final clarifiers is automatically pulled and flows by gravity back to the headworks of the plant. The sludge blanket in the final clarifiers is approximately 3-6" deep. They pull supernatant from the digesters every Friday and return a total of about 100,000 gallons per month to the head of the plant.

Mr. Danielson reported that the south sludge drying bed was removed and filled in. The remaining drying bed is used primarily for grit. The City also utilizes the services of HydroKleen to clean out sections of the sanitary sewer. Any waste from this process is also placed in the drying bed.

All municipalities disposing of sewage sludge by land application must comply with the requirements of Chapter 67 of the Iowa Administrative Code (IAC) and the National Sewage Sludge Program contained in Title 40 Code of Federal Regulations Part 503. The City's biosolids management plan and application records were reviewed during this inspection. Overall, it appears that proper sludge records are being maintained; however, records indicate that this facility land applied about 50 dry tons of sludge in 2018, but the biosolids plan, which was developed in 2016, indicates production levels of about 220 dry tons. **As a reminder, Rule 567 IAC 67.4(455B) requires that the City's biosolids management plan be reviewed and updated annually.**

11a. FLOW MEASUREMENT

The influent and effluent flows at this facility are measured by Parshall Flumes with ultrasonic flow meters. The meters should be calibrated in accordance with the manufacturer's recommendations. Mr. Danielson stated that an outside company calibrates the meters each year. Documentation of such calibration activities must be kept in the facility records for a minimum of three years.

MISCELLANEOUS – Emergency Operation

There is no emergency generator at the treatment plant, but Mr. Danielson stated that they have a redundant power supply.

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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DES Permit #: 4063001

Inspection Date: 07/16/19

SUMMARY

Overall, the facility appears to be properly operated and maintained, but it is nearing its design capacity. The City is in the process of planning facility upgrades to an activated sludge plant to meet more stringent effluent metals limits and the nutrient reduction construction schedule. The City is in significant non-compliance for failure to submit annual progress reports for the metals compliance schedule. Infrequent effluent violations and numerous treatment agreement violations from both industrial users were noted since the last inspection.

REQUIREMENTS

1. Comply with all permit effluent limits per Subrule 567 IAC 64.3(1) and provide proper notification of any non-compliance issues per Subrules 567 IAC 63.12(455B) and 63.15(455B).
2. Submit the delinquent progress reports regarding the metals compliance schedule and comply with all other deadlines in the schedule per the permit and Subrule 567 IAC 64.3(1).
3. Submit information detailing how the City will comply with the emergency operation requirements for all lift stations pursuant to Section 13.11 of the Iowa Wastewater Facilities Design Standards.
4. Review and update the biosolids management plan annually in accordance with Rule 567 IAC 67.4(455B).

RECOMMENDATIONS

1. Budget funds annually for I/I work as the collection system will deteriorate with age.
 2. Work to eliminate all wastewater bypasses.
- Work with existing industrial users to ensure compliance with all treatment agreement limits. Conduct periodic industrial surveys to ensure that all SIUs are identified and properly regulated.

13.11 EMERGENCY OPERATION

Pumping stations and collection systems shall be designed to prevent or minimize bypassing of wastewater. For use during possible periods of extensive power outages, mandatory power reductions, or uncontrolled storm events, an emergency means of operation shall be provided, such as a second, independent power source connected to the station, an engine-driven generator, engine-driven standby pumps or portable pumps or portable generator. The standby facilities must be capable of being placed in operation at the site within 30 minutes of the onset of the emergency condition (preferably before the liquid level in the wet well rises to the overflow level).

Engine-driven pumps must meet all applicable requirements in Section 13.4 of these standards. Provisions for backup power sources must comply with the requirements of Section 14.5.3 of these standards.

In addition to the required emergency means of operation, where overflows affect public water supplies, a high level wet well overflow and a storage/detention basin, or tank, shall be provided having 2-hour detention capacity at the anticipated overflow rate. Storage/detention tanks, or basins, shall be designed to drain by gravity or pumping to the station wet well.

Consideration should be given to providing a high level wet well overflow to supplement alarm systems and required standby facilities in order to prevent backup of wastewater into basements, or other discharges which may cause severe adverse impacts on public interests, including public health and property damage.

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY EPA #:IA0036625		DAILY MAXIMUM - MG/L		AVERAGE - GEOMEAN	
		Limit	DMR	Limit	DMR
Outfall: 001					
10/2017	E. COLI			630	1343.89
8/2018	E. COLI			630	4829.23
10/2018	E. COLI			630	11,093.33
	TRC	0.336	0.34		
11/2018	TRC	0.336	0.34		

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY		DAILY MAXIMUM - MG/L		AVERAGE - GEOMEAN	
EPA #:IA0036625		Limit	DMR	Limit	DMR
Outfall: 001					
10/2017	E. COLI			630	1343.89
8/2018	E. COLI			630	4829.23
10/2018	E. COLI			630	11,093.33
	TRC	0.336	0.34		
11/2018	TRC	0.336	0.34		

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY
EPA #:1A0036625

MARY ANN'S SPECIALTY FOODS
Outfall: 001

		AVERAGE - LBS/DAY		DAILY MAXIMUM - LBS/DAY		AVERAGE - MGD		DAILY MAXIMUM - MGD		DAILY MAXIMUM - STD UNITS		DAILY MINIMUM - STD UNITS	
		Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR
8/2017	BOD5			400	457.2977457								
	PH									11	11.56		
9/2017	BOD5	300	362.5544575	400	629.0850991								
	FLOW							0.04	0.043602				
10/2017	BOD5	300	879.9033057	400	3027.290146								
	FLOW					0.03	0.0382463	0.04	0.34669				
	TKN	30	86.9418082	40	303.596433								
	O&G			125	144.56973								
	PH									11	11.93	6	5.33
	TSS	150	214.503232	250	809.590488								
11/2017	PH												
2/2018	PH											6	5.52
5/2018	PH											6	5.52
7/2018	FLOW							0.04	0.040706	11	11.78		
8/2018	TKN			40	42.5470104								
9/2018	PH											6	5.98
10/2018	BOD5	300	376.026414	400	430.674264								
	BOD5	300	476.7657744	400	748.86111								
11/2018	TKN	30	41.0213908	40	53.144982								
	O&G			125	346.8917916								
	PH											6	5.79
12/2018	BOD5			400	444.0216	0.03	0.030767	0.04	0.042268				
	FLOW												
1/2019	TKN			40	41.627025			0.04	0.19652				
	FLOW							0.04	0.054489				
5/2019	FLOW												

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY
EPA #:1A0036625

MARY ANN'S SPECIALTY FOODS

Outfall: 001

		AVERAGE - LBS/DAY		DAILY MAXIMUM - LBS/DAY		AVERAGE - MGD		DAILY MAXIMUM - MGD		DAILY MAXIMUM - STD UNITS		DAILY MINIMUM - STD UNITS	
		Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR
8/2017	BOD5			400	457.2977457								
	PH									11	11.56		
9/2017	BOD5	300	362.5544575	400	629.0850991								
	FLOW							0.04	0.043602				
10/2017	BOD5	300	879.9033057	400	3027.290146								
	FLOW					0.03	0.0382463	0.04	0.34669				
	TKN	30	86.9418082	40	303.596433								
	OD&G			125	144.56973								
	PH												
	TSS	150	214.503232	250	809.590488					11	11.93	6	5.33
11/2017	PH												
12/2017	PH												
1/2018	PH												
2/2018	PH												
3/2018	PH												
4/2018	PH												
5/2018	PH												
6/2018	PH												
7/2018	PH												
8/2018	PH												
9/2018	PH												
10/2018	PH												
11/2018	PH												
12/2018	PH												
1/2019	PH												
2/2019	PH												
3/2019	PH												
4/2019	PH												
5/2019	PH												
6/2019	PH												

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY
EPA #:1A0036625

WEBSTER CITY CUSTOM MEATS

Outfall: 001

		AVERAGE - LBS/DAY		DAILY MAXIMUM - LBS/DAY		AVERAGE - MGD		DAILY MAXIMUM - MGD		DAILY MAXIMUM - STD UNITS		DAILY MINIMUM - STD UNITS	
		Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR
9/2017	BOD5			125	317.9013427								
11/2017	FLOW					0.08	0.0800903	0.11	0.12312				
	TSS			300	349.5318936								
12/2017	BOD5	600	853.4107703	900	1397.184254								
	FLOW							0.11	0.124317				
	TKN			80	91.4823023								
	PH											6	5.1
6/2018	PH									11	12.99		
7/2018	BOD5			900	1085.48019								
8/2018	BOD5	600	645.512764	900	1967.492736								
	FLOW							0.11	0.42224				
	PH											6	4.63
10/2018	FLOW							0.11	0.128551				
11/2018	FLOW							0.11	0.121475				
	PH									11	12.63		
12/2018	FLOW							0.11	0.12989				
1/2019	PH									11	11.29		
3/2019										11	12.1		
4/2019	BOD5			900	1004.489616							6	4.72
	PH												

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY
EPA #:1A0036625

WEBSTER CITY CUSTOM MEATS
Outfall: 001

	AVERAGE - LBS/DAY			DAILY MAXIMUM - LBS/DAY			AVERAGE - MGD			DAILY MAXIMUM - MGD			DAILY MAXIMUM - STD UNITS			DAILY MINIMUM - STD UNITS		
	Limit	DMR		Limit	DMR		Limit	DMR		Limit	DMR		Limit	DMR		Limit	DMR	
9/2017				125	317.9013427													
11/2017							0.08	0.0800903		0.11	0.12312							
				300	349.5318936													
12/2017	600	853.4107703		900	1397.184254													
										0.11	0.124317							
				80	91.4823023													
6/2018																6	5.1	
7/2018				900	1085.48019								11	12.99				
8/2018	600	645.512764		900	1967.492736													
										0.11	0.42224					6	4.63	
10/2018																		
11/2018										0.11	0.128551							
										0.11	0.121475							
12/2018													11	12.63				
1/2019										0.11	0.12989							
2/2019													11	11.29				
3/2019													11	12.1				
4/2019				900	1004.489616											6	4.72	



April 12, 2021

City of Webster City
City Hall, P.O. Box 217
Webster City, IA 50595

Subject: Wastewater Treatment Facility Inspection, Permit No. 4063001
Letter of Noncompliance – Compliance Schedule Reporting

ATTENTION: Honorable Mayor and Council Members

Jeremy Klatt, Environmental Specialist with this office, conducted an inspection of your facility on March 10, 2021. A field inspection report was completed and is enclosed for your file. I concur with the content of the report.

At the end of this report, Mr. Klatt has summarized his recommendations for facility operation improvements and stated required actions that must be completed in order to comply with the Iowa Administrative Code.

If you have any questions concerning the report, please contact Mr. Klatt at 641-424-4073.

Sincerely,

FIELD SERVICES & COMPLIANCE BUREAU

A handwritten signature in black ink, appearing to be "Trent Lambert", written over a horizontal line.

Trent Lambert
Field Office Supervisor

TL/jk

c: DNR Records Center

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

NPDES Permit #: 4063001

Page 1

FACILITY INFORMATION

Facility:	Name: <u>Webster City Wastewater Treatment Facility</u>	Plant Grade: <u>WW-III</u>
	Responsible Authority/Owner: <u>City of Webster City</u>	
	Address: <u>City Hall, P.O. Box 217</u>	Phone: <u>515-832-9185</u>
Responsible Operator:	City: <u>Webster City</u>	State: <u>IA</u>
	Zip: <u>50595</u>	
	Name: <u>Tim Danielson</u>	Grade: <u>WW-III</u>
General Description:	Certification Number: <u>9349</u>	
	This facility consists of a collection system with 3 lift stations and a treatment plant comprised of the following units or processes: a comminutor, a bypass channel with a bar screen, an aerated grit chamber, cyclone grit removal and grit washer, 3 primary clarifiers, 1 uncovered trickling filter, 20 rotating biological contactors (RBCs) arranged in 5 trains of 4 with aeration, 2 final clarifiers, a chlorine contact chamber with gas chlorination, and sodium bisulfite feed for dechlorination. Sludge is stabilized in a primary anaerobic digester with a fixed cover and a secondary digester with a floating cover. Sludge may be dried in the sludge drying bed or stored in a 1.2 million gallon storage tank prior to disposal by land application.	
Design Capacity:	Average MGD: <u>3.300</u>	Maximum MGD: <u>6.00</u>
	Pounds BOD/Day: <u>4150</u>	PE (BOD): <u>24,850</u>
Now Treating:	Average MGD: <u>1.45</u>	Maximum MGD: <u>7.27</u>
	Pounds BOD/Day: <u>3629</u>	PE (BOD): <u>21,730</u>
Receiving Stream:	Period Reviewed: <u>Jul. 2019 – Dec. 2020</u>	Population Served: <u>8070 (2010 Census)</u>
	<u>Outfall 001 - Unnamed tributary to Oxbow Lake, Tributary to the Boone River</u>	
	<u>Outfall 003 – Boone River</u>	

INSPECTION INFORMATION

Inspection:	Date and Time of Inspection: <u>03/10/21</u>	Purpose: <u>Compliance Evaluation</u>
	Date of Last Inspection: <u>07/16/19</u>	
Persons Interviewed:	Name: <u>Tim Danielson</u>	Title: <u>Wastewater Superintendent</u>

NPDES PERMIT COMPLIANCE SUMMARY

Self-Monitoring: Effluent Limitations: Samples this Inspection:	Operation Reports Submitted:	Required Data on Reports:	Testing Adequacy:
	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*
	Self-Monitoring Results:		
	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Infrequent Non-Compliance* <input type="checkbox"/> Significant Non Compliance*		
	Type: <u>Influent & Effluent</u>	Lab Data Attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Results: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*
Compliance Schedule:	Visual Appearance of Effluent: <u>Clear</u>		
	Visual Appearance of Receiving Stream: <u>Clear</u>		
	Compliance w/Schedule:		
	<input type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input checked="" type="checkbox"/> Unsat.* <input type="checkbox"/> NA Next Items Due: <u>Delinquent progress report.</u>		
* Additional details in the narrative report		Compliance schedule completed.	

AUTHENTICATION

Inspector:	<u>Jeremy Klatt</u>	Date: <u>4/12/21</u>
Reviewer:	<u>David Miller</u>	Date: <u>14 APRIL 21</u>

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

NPDES Permit #: 4063001

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FACILITY EVALUATION

Were deficiencies noted or significant observations made during the inspection?

Yes = See Comments Section for details

No = No deficiencies or significant observations were noted

Lack of Entry = Item not applicable or not observed.

Item	Yes	No	Item	Yes	No
1. Collection System			9. Sludge Handling and Disposal		
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Dry Weather Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Infiltration/Inflow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Bypass(es)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Final Disposal, Solids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Lift Station(s) (Collection System)			f. Final Disposal, Liquids	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Lagoon Structures		
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Maintenance	<input type="checkbox"/>	<input type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input type="checkbox"/>
d. Reliability/Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input type="checkbox"/>
3. Industrial Waste Pre-Treatment			d. Cell Configuration	<input type="checkbox"/>	<input type="checkbox"/>
a. Significant Industrial Users	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Storage/Drawdown Management	<input type="checkbox"/>	<input type="checkbox"/>
b. Waste Toxicity/ Compatibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. Flow Measurement		
c. Strength Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Effect on Treatment Plant	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Preliminary Treatment			c. Continuity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Location, Method/ Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. Pumping		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Primary Treatment			c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Reliability/ Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. Miscellaneous		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Location	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Sludge/Scum Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Odors	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Secondary Treatment			d. Bypass(es)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Equipment	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Buildings & Grounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Lab Certification	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Recirculation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	h. Other	<input type="checkbox"/>	<input type="checkbox"/>
e. Freezing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. Staffing, Operator Certification		
f. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operator, Direct Responsibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Final Settling			b. Shift Operator(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. General Staffing	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. Supplementary		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Permit Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Operation Reports Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Supplementary Treatment			c. Equipment Records Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Previously Noted Deficiencies	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	e. Improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Domestic/Industrial Growth	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Recommendations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			h. Required Actions	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

INTRODUCTION

A compliance inspection was conducted at the Webster City WWTP on March 10, 2021. The inspection involved a review of City records, discussions with the operator identified above, and a walk through of the treatment plant. The purpose of the inspection was to determine the compliance status of the facility.

NPDES PERMIT COMPLIANCE SUMMARY

Discharge from this facility is authorized by NPDES permit #4063001. The NPDES permit was issued on March 1, 2016, and expired on February 28, 2021. An application for permit renewal was received on August 27, 2020, therefore, the City should continue to operate under the conditions of the expired permit until the new permit is issued.

Self-Monitoring Results

Monitoring reports for the period of July 2019 to December 2020 were reviewed for compliance with the permit. Effluent violations on the report in August 2019 (E. coli), October 2019 (ammonia) and November 2020 (pH and CBOD) were found to be data entry errors. Mr. Danielson resubmitted the reports to correct errors. After correcting for the reporting errors, no effluent violations occurred during the reviewed period.

Standard Conditions #13 & #14

Please note that permit conditions 13 and 14 require that effluent violations be reported either verbally (condition #13) or in writing at the time of MOR submittal (condition #14). The four effluent violations above were not reported at the time of the report submittal as required

Toxicity Testing

Toxicity testing was completed in October of 2019 and October of 2020; the effluent passed the test in both years. Please note that your permit requires submittal of the toxicity test results (DNR Form 542-1381) with the monthly operation report.

Compliance Sample

Influent and effluent samples were taken by Travis Morarend with the State Hygienic Laboratory during the inspection and the results are summarized below:

Table 1. Sampling Results from Inspection				
	Influent		Effluent	
	mg/L	lbs/day	mg/L	lbs/day
BOD	310	3152	-	-
CBOD	-	-	17	192
TSS	140	1423	15	170
TKN	34	346	11	124
Ammonia	-	-	6.8	77
Nitrate	0.57	5.8	7.5	85
Total Nitrogen	34.6	351	18.9	213
Zinc	-	-	0.03	0.34
Cadmium	-	-	<0.00025	<0.0028
Silver	-	-	<0.001	<0.011
Copper	-	-	0.009	0.0102
Total P	9.9	101	9.4	106
DO	-	-	7.3	-
-	Not sampled			

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

Compliance Schedule

The NPDES permit for Webster City contains a compliance schedule to meet more stringent effluent limits for cadmium, copper, silver, zinc and total residual chlorine. This schedule called for submittal of a progress report on June 1, 2020, and compliance with final limits on February 1, 2021. This progress report had not been received at the time of the inspection, but was received following the inspection on March 16, 2021. The progress report indicates that City is currently meeting the more stringent metals limits. Review of the compliance data submitted for the reviewed period confirmed that the City is meeting the new, more stringent metal limits.

The report also indicated that the City does not have the capability to measure TRC concentrations low enough to demonstrate compliance with the new TRC limit. During the inspection Mr. Danielson confirmed that the City has not yet purchased the new equipment. The City was not disinfecting on the day of the inspection but would need to begin disinfection on March 15. Without the ability to demonstrate compliance with the new limit, the City will be in violation of the permit limit.

Nutrient Reduction Strategy Construction Schedule

The construction schedule for nutrient reduction requires annual progress reports on March 1 of each year. The 2021 report had not been received at the time of the inspection, but was received following the inspection on March 16, 2021. The report indicates the City is in the planning process for construction of a new facility that will be designed with biological nutrient removal with supplemental chemical phosphorus removal. During the inspection, Mr. Danielson indicated that construction of the new plant will likely begin in two years.

FACILITY EVALUATION

Items 1d & e. COLLECTION SYSTEM – Infiltration/Inflow & Bypassing

No bypassing was reported during the reviewed period. However, the City should continue to budget funds for infiltration and inflow (I/I) as the collection system will continue to deteriorate over time.

Item 2a. LIFT STATION

There are three lift stations in town to pump all wastewater to the treatment plant. Mr. Danielson reported that the two primary lift stations (East & North) had their pumps rebuilt during the reviewed period. Furthermore, Mr. Danielson reported that the East lift station may be replaced as part of the facility upgrade project.

3a. SIGNIFICANT INDUSTRIAL USERS (SIUs)

The City's permit currently includes three significant industrial users; Mary Ann's Specialty Foods, Webster City Custom Meats, and Mertz Engineering. Mary Ann's Specialty Foods was inspected in November of 2020 and received a Letter of Noncompliance due to violations of their treatment agreement following the inspection. Webster City Custom Foods was last inspected in February of 2020 and received a Notice of Violation for treatment agreement violations. Review of the Webster City Custom Foods monitoring since February 2020 show that the facility has substantially complied with its pretreatment limits since that time, though BOD violations occurred in October and December of 2020.

Mertz Engineering, was added to the City's permit as a significant industrial user in July of 2020. Mr. Danielson reported that Mertz Engineering has been submitting monitoring data and a review of their data shows no pretreatment violations, though there have been instances of non-reporting.

Mr. Danielson reported that the City recently signed a treatment agreement with an industry that plans to raise shrimp and will discharge to the City sewer. This treatment agreement should be sent to the DNR Des Moines office for review and inclusion in the new permit.

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

Item 3a. SIGNIFICANT INDUSTRIAL USERS (SIUs)

the Webster City Custom Foods monitoring since February 2020 shows that the facility has substantially complied with its pretreatment limits since that time, though BOD violations occurred in October and December of 2020.

Mertz Engineering, was added to the City's permit as a significant industrial user in July of 2020. Mr. Danielson reported that Mertz Engineering has been submitting monitoring data and a review of their data shows no pretreatment violations, though there have been instances of non-reporting for some parameters.

Mr. Danielson reported that the City recently signed a treatment agreement with an industry that plans to raise shrimp and will discharge to the City sewer. This treatment agreement should be sent to the DNR Des Moines office for review and inclusion in the new permit.

Mr. Danielson reported that the City is also working to allow an egg breaking facility to discharge to the City. Discussions have been begun with DNR to see if the City has the available capacity needed to allow the discharge.

6a. SECONDARY TREATMENT – Operation and Maintenance

Mr. Danielson reported that the trickling filter had recently become frozen during cold weather in February. The arm was operational at the time of inspection but sustained damage to the center well which was allowing some water to discharge to the filter prior to entering the arm. Mr. Danielson said plans are being made to repair the damage.

8a. SUPPLEMENTARY TREATMENT – Operation and Maintenance

Disinfection was not occurring at the time of inspection; Mr. Danielson indicated that the City planned to begin on March 15, as required by the permit.

9f. SLUDGE HANDLING AND DISPOSAL

Sludge was land applied in December of 2019 and November of 2020. The required pollutant testing was completed in both years and results in both years were below both the pollutant concentrations and ceiling concentrations in Tables 1 and 3 of Iowa Administrative Code. According to the sludge records, vector reduction requirement is met by incorporation and the pathogen reduction requirements was met by fecal coliform testing in 2020 and by detention time in the anaerobic digester in 2019. It is not clear if the City's sludge handling procedures meet the anaerobic digestion standard as it is not the mean cell residence time of the digester is not known. Mr. Danielson reported that pathogen reduction will be met with fecal coliform testing going forward.

11a. FLOW MEASUREMENT

The influent and effluent flows at this facility are measured by Parshall Flumes with ultrasonic flow meters. The meters should be calibrated in accordance with the manufacturer's recommendations. Mr. Danielson stated that an outside company calibrates the meters each year. Documentation of such calibration activities must be kept in the facility records for a minimum of three years.

13g. LAB CERTIFICATION

Operational monitoring and compliance sample analysis for BOD₅, CBOD₅, TSS, SS, NH₃-N, TRC, pH, DO, and temperature is conducted at the certified in-house laboratory (Iowa Lab #314). Samples for NO₃-N, TKN, Total N, Total P, metals, toxicity, and *E. coli* are taken to the State Hygienic Laboratory in Ankeny (Iowa Lab #397) for analysis. Samples are hand-delivered to comply with the 6-hour maximum hold time for *E. coli*.

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

SUMMARY

Overall, the facility appears to be properly operated and maintained and no effluent violations were reported during the reviewed period. The City is in the process of planning facility upgrades.

REQUIREMENTS

1. Provide proper notification of any non-compliance issues per Rules 567 IAC 63.12(455B) and 63.15(455B).
2. Ensure that all future compliance schedule items are submitted in accordance with the specified schedules per Subrule 567 IAC 64.3(1).
3. Submit toxicity testing results with the monthly operation reports per Subrule 567 IAC 64.3(1).

RECOMMENDATIONS

- Budget funds annually for I/I work as the collection system will deteriorate with age.



Collection Location wwtp influent grab sample	Collector and Phone morarend uhl0023 515/72-516.38	Client Reference webster city csi	Accession # 1620276
WEBSTER CITY, IA	Collected 2021-03-10 10:35	Received 2021-03-10 14:21	Project 03wqcsi
Report To	JEREMY KLATT IDNR-FO 2 2300 15TH ST SW MASON CITY, IA 50401-5630		Sample Description wastewater
			Sample Type Non-Drinking Water
			Sample Source
			Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

<u>TEST</u>	<u>RESULT (No Units)</u>	<u>ANALYSIS NOTE(S)</u>
Field pH, SM 4500 H+ B pH	7.7	

<u>TEST</u>	<u>RESULT (degrees C)</u>	<u>ANALYSIS NOTE(S)</u>
Field Temperature, SM 2550 B Field Temperature	12.0	

SAMPLE AND ANALYSIS NOTES

1. Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

ANALYSIS INFORMATION

<u>TEST</u>	<u>ANALYZED</u>	<u>SITE</u>	<u>RELEASED</u>	<u>ANALYSIS PREP</u>
1. Field pH, SM 4500 H+ B	2021-03-10 10:35 EJO	3201	2021-03-12 07:25 TM	
2. Field Temperature, SM 2550 B	2021-03-10 10:35 EJO	3201	2021-03-12 07:25 TM	

DESCRIPTION OF UNITS

No Units = No Units
degrees C = Degrees Celsius

SITE(S) PERFORMING TESTING

3201 STATE HYGIENIC LABORATORY ANKENY, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Michael D. Schueller, M.S., Associate Director; Wade K. Aldous, Ph.D. (D)ABMM, Associate Director; IOWA ENVIRONMENTAL LAB ID #397

The result(s) of this report relate only to the items analyzed. Where the laboratory has not been responsible for the sampling stage the results apply only to the sample as received. This report shall not be reproduced except in full without the written approval of the laboratory. If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500.



Report To	Collection Location wwtp effluent grab sample	Collector and Phone morarend uhl0023 515/72-516,38	Client Reference webster city csi	Accession # 1620277
	WEBSTER CITY, IA	Collected 2021-03-10 11:20	Received 2021-03-10 14:21	Project 03wqcsi
	JEREMY KLATT IDNR-FO 2 2300 15TH ST SW MASON CITY, IA 50401-5630			Sample Description wastewater
				Sample Type Non-Drinking Water
				Sample Source
				Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

<u>TEST</u>	<u>RESULT (mg/L)</u>	<u>QUANT LIMIT</u>	<u>ANALYSIS NOTE(S)</u>
Field Dissolved Oxygen, ASTM D 888-09 C Dissolved Oxygen	7.3	0.1	
<u>TEST</u>	<u>RESULT (No Units)</u>		<u>ANALYSIS NOTE(S)</u>
Field pH, SM 4500 H+ B pH	7.6		
<u>TEST</u>	<u>RESULT (degrees C)</u>		<u>ANALYSIS NOTE(S)</u>
Field Temperature, SM 2550 B Field Temperature	12.8		

SAMPLE AND ANALYSIS NOTES

1. Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

ANALYSIS INFORMATION

<u>TEST</u>	<u>ANALYZED</u>	<u>SITE</u>	<u>RELEASED</u>	<u>ANALYSIS PREP</u>
1. Field Dissolved Oxygen, ASTM D 888-09 C	2021-03-10 11:20 EJO	3201	2021-03-12 07:26 TM	
2. Field pH, SM 4500 H+ B	2021-03-10 11:20 EJO	3201	2021-03-12 07:26 TM	
3. Field Temperature, SM 2550 B	2021-03-10 11:20 EJO	3201	2021-03-12 07:26 TM	

DESCRIPTION OF UNITS

mg/L = Milligrams per Liter
No Units = No Units
degrees C = Degrees Celsius

SITE(S) PERFORMING TESTING

3201 STATE HYGIENIC LABORATORY ANKENY, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Michael D. Schueller, M.S., Associate Director; Wade K. Aldous, Ph.D. (D)ABMM, Associate Director; IOWA ENVIRONMENTAL LAB ID #397

The result(s) of this report relate only to the items analyzed. Where the laboratory has not been responsible for the sampling stage the results apply only to the sample as received. This report shall not be reproduced except in full without the written approval of the laboratory. If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500.



Report To	Collection Location wwtp influent 24 hour composite	Collector and Phone morarend uhl0023 515/72-516.38	Client Reference webster city csi	Accession # 1622155
	WEBSTER CITY,	Collected 2021-03-11 10:40	Received 2021-03-11 13:39	Project 03wqcsi
	JEREMY KLATT IDNR-FO 2 2300 15TH ST SW MASON CITY, IA 50401-5630			Sample Description wastewater
				Sample Type Non-Drinking Water
				Sample Source
				Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

TEST	RESULT ([MGD])	QUANT LIMIT	ANALYSIS NOTE(S)
Field Flow Rate, ISCO 1989			
Flow Rate	1.219	0.001	

TEST	RESULT (mg/L)	QUANT LIMIT	MCL	ANALYSIS NOTE(S)
Nitrate as N, EPA 300.0				2
Nitrate nitrogen as N	0.57	0.1	10	
Nitrite as N, EPA 300.0				2
Nitrite nitrogen as N	<0.125	0.125	1.0	

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Total Phosphorus as P, LAC 10-115-01-2B			
Total Phosphorus as P	9.9	0.1	
Total Kjeldahl Nitrogen as N, LAC 10-107-06-2M			
Total Kjeldahl Nitrogen as N	34	0.1	
BOD, 5 Day, SM 5210 B			
BOD, 5 Day	310	2	
Total Suspended Solids, USGS I-3765-85			
Total Suspended Solids	140	1	

SAMPLE AND ANALYSIS NOTES

1. Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

Webster City WWTP Raw Influent 24 hour Time Composite. ISCO sampler was set to collect 150 mL every 20 minutes. ISCO sampler was iced and locked overnight. All samples collected equal in volume, and similar in appearance. All samples were composited.

2. The MCL (maximum contaminant level) is only applicable to compliance monitoring samples under the Safe Drinking Water Act (SDWA).

ANALYSIS INFORMATION

TEST	ANALYZED	SITE	RELEASED	ANALYSIS PREP
1. Field Flow Rate, ISCO 1989	2021-03-11 10:40 EJO	3201	2021-03-12 07:32 TM	
2. Nitrate as N, EPA 300.0	2021-03-11 18:24 MGB	3201	2021-03-12 15:12 DLS	
3. Nitrite as N, EPA 300.0	2021-03-11 18:24 MGB	3201	2021-03-12 15:12 DLS	
4. Total Phosphorus as P, LAC 10-115-01-2B	2021-03-23 10:39 SLS	3201	2021-03-24 11:28 MLS	



Collection Location	Collector	Client Reference	Accession #
wwtp influent 24 hour composite	morarend uhl0023	webster city csi	1622155

TEST	ANALYZED	SITE	RELEASED	ANALYSIS PREP
5. Total Kjeldahl Nitrogen as N, LAC 10-107-06-2M	2021-03-23 10:39 SLS	3201	2021-03-24 11:28 MLS	
6. BOD, 5 Day, SM 5210 B	2021-03-11 14:00 AMG	3201	2021-03-17 13:51 JAE	
7. Total Suspended Solids, USGS I-3765-85	2021-03-11 09:05 KAR	3201	2021-03-12 14:57 MLS	

DESCRIPTION OF UNITS

[MGD] = Million Gallons per Day

mg/L = Milligrams per Liter

SITE(S) PERFORMING TESTING

3201 STATE HYGIENIC LABORATORY ANKENY, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Michael D. Schueller, M.S., Associate Director; Wade K. Aidous, Ph.D. (D)ABMM, Associate Director; IOWA ENVIRONMENTAL LAB ID #397

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Collection Location wwtp effluent 24 hour composite WEBSTER CITY,	Collector and Phone morarend uhl0023 515-725-1638	Client Reference webster city csi	Accession # 1622156
	Collected 2021-03-11 11:12	Received 2021-03-11 13:39	Project 03wqcsi
Report To JEREMY KLATT IDNR-FO 2 2300 15TH ST SW MASON CITY, IA 50401-5630			Sample Description wastewater
			Sample Type Non-Drinking Water
			Sample Source
			Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

TEST	RESULT ((MGD))	QUANT LIMIT	ANALYSIS NOTE(S)
Field Flow Rate, ISCO 1989 Flow Rate	1.355	0.001	

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Ammonia as N, LAC 10-107-06-1J Ammonia nitrogen as N	6.8	0.05	

TEST	RESULT (mg/L)	QUANT LIMIT	MCL	ANALYSIS NOTE(S)
Nitrate as N, EPA 300.0 Nitrate nitrogen as N	7.5	0.1	10	2
Nitrite as N, EPA 300.0 Nitrite nitrogen as N	0.38	0.025	1.0	2

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Total Phosphorus as P, LAC 10-115-01-2B Total Phosphorus as P	9.4	0.1	
Total Kjeldahl Nitrogen as N, LAC 10-107-06-2M Total Kjeldahl Nitrogen as N	11	0.1	
BOD, Carbonaceous 5 Day, SM 5210 B CBOD, 5 Day	17	2	
Total Suspended Solids, USGS I-3765-85 Total Suspended Solids	15	1	
Metals, EPA 200.8 Cadmium	<0.00025	0.00025	
Copper	0.009	0.005	
Silver	<0.001	0.001	
Zinc	0.03	0.02	

SAMPLE AND ANALYSIS NOTES

1. Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

Webster City WWTP Final Effluent 24 hour Time Composite. ISCO sampler was set to collect 150 mL every 20 minutes for 24 hours. ISCO sampler was iced, and locked overnight. All samples were collected equal in volume and similar in appearance. All samples were composited.



Collection Location	Collector	Client Reference	Accession #
wwtp effluent 24 hour composite	morarend uhl0023	webster city csi	1622156

2. The MCL (maximum contaminant level) is only applicable to compliance monitoring samples under the Safe Drinking Water Act (SDWA).

ANALYSIS INFORMATION

<u>TEST</u>	<u>ANALYZED</u>	<u>SITE</u>	<u>RELEASED</u>	<u>ANALYSIS PREP</u>
1. Field Flow Rate, ISCO 1989	2021-03-11 11:12 EJO	3201	2021-03-12 07:35 TM	
2. Ammonia as N, LAC 10-107-06-1J	2021-03-26 12:10 MLS	3201	2021-03-26 14:12 JAE	
3. Nitrate as N, EPA 300.0	2021-03-11 19:56 MGB	3201	2021-03-12 15:12 DLS	
4. Nitrite as N, EPA 300.0	2021-03-11 19:33 MGB	3201	2021-03-12 15:12 DLS	
5. Total Phosphorus as P, LAC 10-115-01-2B	2021-03-23 10:39 SLS	3201	2021-03-24 11:28 MLS	
6. Total Kjeldahl Nitrogen as N, LAC 10-107-06-2M	2021-03-25 09:07 SLS	3201	2021-03-25 15:11 JAE	
7. BOD, Carbonaceous 5 Day, SM 5210 B	2021-03-11 14:00 AMG	3201	2021-03-17 13:51 JAE	
8. Total Suspended Solids, USGS I-3765-85	2021-03-11 09:05 KAR	3201	2021-03-12 14:57 MLS	
9. Metals, EPA 200.8	2021-03-23 13:37 SGB	3201	2021-03-24 14:25 MRC	

DESCRIPTION OF UNITS

[MGD] = Million Gallons per Day
mg/L = Milligrams per Liter

SITE(S) PERFORMING TESTING

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August 17, 2022

CHIP ABBOT
WEBSTER CITY CUSTOM MEATS
PO BOX 280
1611 E 2ND ST
WEBSTER CITY IA 50595

Subject: **Notice of Violation** - Exceedance of Treatment Agreement Limits
NPDES Permit #4063001IC6

Dear Mr. Abbott:

This office recently completed a 6-month compliance review of your wastewater treatment facility records for the period of January through June 2022. This letter is to advise you that during the months of January, February, March, and June the effluent from your wastewater treatment facility exceeded the established limitations in your National Pollutant Discharge Elimination System (NPDES) permit. A copy of the violations report is enclosed.

The discharge of untreated or partially treated wastes that exceed permit effluent limits is a violation of Subrule 567 IAC 64.3(1) of the Iowa Administrative Code, and is prohibited by Section 455B.186 of the Code of Iowa. Additionally, Paragraph 567 IAC 62.1(8)"f" prohibits discharges with a pH lower than 5.0 standard units. **Please respond to this office in writing within 15 days of receipt of this letter stating what actions you have taken, or will take, to prevent further violations.** If non-compliance persists, this matter could be referred to our Legal Services Bureau in Des Moines for consideration of enforcement action including monetary penalties.

If you feel this notice has been sent in error, need assistance in understanding the effluent limit requirements in your NPDES permit, or otherwise wish to discuss this matter please contact me at jacob.donaghy@dnr.iowa.gov or 641-424-4073.

Sincerely,

FIELD SERVICES AND COMPLIANCE BUREAU

Jacob Donaghy
Environmental Specialist

Enclosure: Effluent Limits Violations Report

c: DNR Records Center
Nick Knowles (via nknowles@webstercity.com)

Effluent Limit Violations 1/1/2022 - 6/30/2022

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY EPA #:LA0036625		AVERAGE - MG/L		DAILY MAXIMUM - MG/L		DAILY MAXIMUM - STD UNITS		DAILY MINIMUM - STD UNITS	
		Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR
WEBSTER CITY CUSTOM MEATS INC									
Outfall: 001									
1/2022	O&G			125	144				
	PH					11	14		
2/2022	O&G	100	105.475	125	259				
3/2022	PH							6	4.34
6/2022	PH							6	3.68



August 17, 2022

PAM NETZEL
MARY ANN SPECIALTY FOODS
1511 EAST 2ND ST
WEBSTER CITY IA 50595

Subject: **Notice of Violation** - Exceedance of Treatment Agreement Limits
NPDES Permit #4063001IC2

Dear Ms. Netzel:

This office recently completed a 6-month compliance review of your wastewater treatment facility records for the period of January through June 2022. This letter is to advise you that during the months of January, February, March, April, May, and June the effluent from your wastewater treatment facility exceeded the established limitations in your National Pollutant Discharge Elimination System (NPDES) permit. A copy of the violations report is enclosed. Of particular importance are the exceedances of the BOD5 and O&G limits, which constitute Significant Non-Compliance for these parameters.

The discharge of untreated or partially treated wastes that exceed permit effluent limits is a violation of Subrule 567 IAC 64.3(1) of the Iowa Administrative Code, and is prohibited by Section 455B.186 of the Code of Iowa. **Please respond to this office in writing within 15 days of receipt of this letter stating what actions you have taken, or will take, to prevent further violations.** If non-compliance persists, this matter could be referred to our Legal Services Bureau in Des Moines for consideration of enforcement action including monetary penalties.

If you feel this notice has been sent in error, need assistance in understanding the effluent limit requirements in your NPDES permit, or otherwise wish to discuss this matter please contact me at jacob.donaghy@dnr.iowa.gov or 641-424-4073.

Sincerely,

FIELD SERVICES AND COMPLIANCE BUREAU

Jacob Donaghy
Environmental Specialist

Enclosure: Effluent Limits Violations Report

c: DNR Records Center
Nick Knowles (via nknowles@webstercity.com)

Effluent Limit Violations 1/1/2022 – 6/30/2022

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY EPA #:1A0036625		AVERAGE - LBS/DAY		DAILY MAXIMUM - LBS/DAY		AVERAGE - MG/L		DAILY MAXIMUM - MG/L		DAILY MAXIMUM - MGD	
		Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR
MARY ANN'S SPECIALTY FOODS Outfall: 001											
1/2022	BOD5	300	928.71763	400	2793.08435						
	O&G					100	377	125	871		
2/2022	BOD5	300	313.084851								
	O&G					100	286.68	125	717		
3/2022	FLOW									0.11	0.349
	O&G							125	127		
4/2022	O&G							125	142		
5/2022	O&G							125	162		
6/2022	BOD5	300	600.430687	400	2715.18374						
	TKN	30	45.2980638	40	211.531757						
	O&G					100	172.46	125	524		
	TSS	150	448.835548	250	2131.10352						

Appendix I: Table 4.2A Opinion of Probable Cost Detail

TABLE 4.2A			
Webster City Facility Plan Opinion of Probable Cost for WWTF Improvements			
Item	Alternative No. 1 - UCT	Alternative No. 2 - MLE	Alternative No. 3 - Ox. Ditch
General Conditions (3-5% of Construction Subtotal)	\$2,700,000	\$2,700,000	\$3,000,000
East Lift Station Renovation (TOTAL)	\$610,000	\$610,000	\$610,000
Site Work	\$100,000	\$100,000	\$100,000
Precast Valve Vault	\$25,000	\$25,000	\$25,000
Control Panel Building	\$150,000	\$150,000	\$150,000
Pumps	\$60,000	\$60,000	\$60,000
Piping and valves	\$25,000	\$25,000	\$25,000
Electrical & Controls	\$250,000	\$250,000	\$250,000
Forcemain (TOTAL)	\$3,680,000	\$3,680,000	\$3,680,000
Two 18" Forcemains Open Cut	\$2,160,000	\$2,160,000	\$2,160,000
Directional Drill under Hwy 20 w/ HDPE Casing	\$760,000	\$760,000	\$760,000
Jack & Auger under UP Railroad	\$360,000	\$360,000	\$360,000
Air Release Valves, Manholes, Fittings, Bore Pits, Misc	\$400,000	\$400,000	\$400,000
Wet Weather Storage Lagoon (TOTAL)	\$900,000	\$900,000	\$900,000
Lagoon Earthwork	\$350,000	\$350,000	\$350,000
Synthetic Liner	\$300,000	\$300,000	\$300,000
Concrete Sump, Anchor Trench, Manhole, Piping, Access Drive	\$250,000	\$250,000	\$250,000
Site Work (TOTAL)	\$3,900,000	\$3,900,000	\$4,300,000
General Excavation and Backfill	\$2,000,000	\$2,000,000	\$2,400,000
Dewatering	\$100,000	\$100,000	\$100,000
Site Utilities	\$200,000	\$200,000	\$200,000
Paving, walks, and curbs	\$600,000	\$600,000	\$600,000
Site prep, seeding, landscaping	\$300,000	\$300,000	\$300,000
Fencing and Gates	\$200,000	\$200,000	\$200,000
Demolition of Existing Structures, Piping and Equipment	\$500,000	\$500,000	\$500,000
Cast in Place Concrete (TOTAL)	\$12,765,000	\$12,565,000	\$15,310,000
Raw Lift Station Addition at Existing Plant	\$40,000	\$40,000	\$40,000
Pretreatment Building	\$500,000	\$450,000	\$500,000
Anaerobic/Anoxic Basins (Two Trains)	\$1,750,000	\$1,750,000	\$1,100,000
Aeration Basins (Two Trains)	\$3,500,000	\$3,500,000	\$5,400,000
Rapid Mix & Clarifier Control Structure	\$160,000	\$160,000	\$160,000
Clarifiers (3)	\$1,400,000	\$1,400,000	\$1,800,000
Fermenter	\$630,000	\$0	\$630,000
UV Building	\$150,000	\$150,000	\$150,000
Reaeration Basin	\$120,000	\$120,000	\$120,000
Operations Building	\$1,390,000	\$1,500,000	\$1,600,000
WAS Holding Tank	\$315,000	\$315,000	\$320,000
Aerobic Digesters (Two Units)	\$930,000	\$930,000	\$980,000
Press Batch Tank	\$180,000	\$200,000	\$210,000
Press Building	\$140,000	\$140,000	\$140,000
Dewatered Sludge Storage Building	\$1,450,000	\$1,800,000	\$2,050,000
Septage Receiving Station	\$60,000	\$60,000	\$60,000
Generator Slab and Miscellaneous Items	\$50,000	\$50,000	\$50,000
Buildings - Precast Concrete (TOTAL)	\$1,720,000	\$1,785,000	\$1,815,000
Raw Lift Station Addition at Existing Plant	\$60,000	\$60,000	\$60,000
Pretreatment Building	\$310,000	\$310,000	\$310,000
Operations Building	\$805,000	\$820,000	\$850,000
UV Building	\$145,000	\$145,000	\$145,000
Press Building	\$400,000	\$450,000	\$450,000
Architectural (Roofs, Carpentry, Doors, Misc. Metal) (TOTAL)	\$1,520,000	\$1,540,000	\$1,540,000
Roofing	\$400,000	\$420,000	\$420,000
Carpentry, Doors, and Windows	\$120,000	\$120,000	\$120,000
Miscellaneous Metals	\$800,000	\$800,000	\$800,000
Misc. Renovation Work at Existing Plant	\$100,000	\$100,000	\$100,000
Furnishings and Lab Equipment	\$100,000	\$100,000	\$100,000
Pre-Engineered Metal Building - Dewatered Sludge Storage	\$465,000	\$600,000	\$700,000
Painting	\$800,000	\$800,000	\$780,000
Equipment (TOTAL)	\$7,260,000	\$7,345,000	\$7,390,000
Bar Screen and Washer/Compactor at Existing Wet Well	\$410,000	\$410,000	\$410,000
Renovate Aerated Grit Chamber	\$70,000	\$70,000	\$70,000
Raw Lift Pumps at Existing Dry Well	\$630,000	\$630,000	\$630,000
Fine Screen and Washer/Compactor at Pretreatment Building	\$250,000	\$250,000	\$250,000
Vortex Grit Removal System	\$180,000	\$180,000	\$180,000
Wet Weather Lagoon Return Pumps	\$50,000	\$50,000	\$50,000
Jet Mix Equipment	\$650,000	\$650,000	--
Aeration Equipment - In Basin	\$440,000	\$440,000	\$1,280,000
Aeration Blowers	\$500,000	\$500,000	--
ALR & MLR Pumps	\$160,000	\$80,000	--
Rapid Mixer	\$60,000	\$60,000	\$60,000
Clarifier Mechanisms (3)	\$750,000	\$825,000	\$950,000
RAS/WAS/Scum Pumps	\$240,000	\$240,000	\$300,000
Submersible Mixers	\$80,000	\$0	\$80,000
UV Disinfection	\$250,000	\$250,000	\$250,000
Coarse Bubble Mixing - WAS Holding, Digesters, Press Batch Tank	\$160,000	\$160,000	\$200,000
Biosolids Process Blowers (4)	\$450,000	\$450,000	\$500,000
Rotary Drum Thickener	\$250,000	\$250,000	\$300,000
Biosolids Pumps	\$180,000	\$180,000	\$220,000
Tank Covers (4)	\$350,000	\$370,000	\$380,000
Sludge Press	\$670,000	\$750,000	\$750,000
Dewatered Sludge Conveyors	\$200,000	\$220,000	\$220,000
Plant Drain Pumps	\$50,000	\$50,000	\$50,000
Chemical Feed Equipment	\$100,000	\$150,000	\$150,000
Hoists and Cranes	\$80,000	\$80,000	\$60,000
Misc. Small Equipment	\$50,000	\$50,000	\$50,000
Equipment Installation	\$1,460,000	\$1,470,000	\$1,480,000
Piping, Fittings and Installation	\$7,500,000	\$7,350,000	\$7,000,000
Valves and Gates	\$1,200,000	\$1,150,000	\$1,000,000
Outfall Piping and Protection	\$250,000	\$250,000	\$250,000
Plumbing	\$500,000	\$700,000	\$500,000
HVAC	\$1,000,000	\$1,100,000	\$1,100,000
Electrical & Controls	\$7,600,000	\$7,500,000	\$7,200,000
Construction Contract Allowances	<u>\$1,000,000</u>	<u>\$1,000,000</u>	<u>\$1,000,000</u>
Subtotal	\$56,830,000	\$56,945,000	\$58,555,000
Contingency (20%)	<u>\$11,366,000</u>	<u>\$11,318,000</u>	<u>\$11,700,000</u>
Construction Subtotal	\$68,196,000	\$68,263,000	\$70,255,000
Legal/Engineering/Financing/Administration (15%)	<u>\$10,230,000</u>	<u>\$10,187,000</u>	<u>\$10,600,000</u>
TOTAL	<u>\$78,426,000</u>	<u>\$78,450,000</u>	<u>\$80,855,000</u>

Appendix J: Detailed Process Design Summary

- UCT Process Design Summary
- UCT Process at AWW Flow and Load – Winter
- UCT Process at AWW Flow and Load - Summer
- UCT Process BioWin Effluent Summary at AWW Flow and Load - Winter
- MLE Process at AWW Flow and Load - Winter
- MLE Process at AWW Flow and Load - Summer
- MLE Process BioWin Effluent Summary at AWW Flow and Load - Winter
- Sanitaire Oxidation Ditch Process Summary
- Sanitaire Oxidation Ditch Process Description

DESCRIPTION	VALUE	GOOD DESIGN PRACTICE
<u>INFLUENT DESIGN CRITERIA</u>		
Design Year	2040	20 years
Flow		
Average Dry Weather (ADW) Flow	1.989 MGD	
Average Wet Weather (AWW) Flow	4.586 MGD	
Maximum Wet Weather (MWW) Flow	9.43 MGD	
Peak Hour Wet Weather (PHWW) Flow	11.78 MGD	
Mechanical Plant Design Flow Rate (Plant MWW)	5.089 MGD	
Nutrient Removal Design Flow Rate	2.54 MGD	
Carbonaceous Biochemical Oxygen Demand (CBOD) Mass		
AWW	7,446 lbs/day	
MWW	10,665 lbs/day	
Total Suspended Solids (TSS) Mass		
AWW	8,104 lbs/day	
MWW	12,845 lbs/day	
Total Kjeldahl Nitrogen (TKN) Mass		
AWW	845 lbs/day	
MWW	1,155 lbs/day	
Total Phosphorus (TP) Mass		
AWW	145 lbs/day	
MWW	334 lbs/day	
Alkalinity	134 mg/L as CaCO ₃	Supplemental alkalinity may be required.
<u>EFFLUENT DESIGN CRITERIA</u>		
Refer to Appendix G		
<u>MAIN LIFT STATION</u>		
Number of Units	4	
Type	Dry Pit Sub. Non-Clog Centrifugal	
Firm Capacity (Largest Unit Out of Service)	11.78 MGD	
Firm Capacity (Largest Unit Out of Service)	8,180 GPM	
Capacity (Each, 2)	1,600 GPM at 120' TDH	
Motor Size	85 HP	
Capacity (Each, 2)	5,000 GPM at 120' TDH	
Motor Size	215 HP	
Drive	VFD w/ Bypass Contactors	
<u>FORCEMAIN</u>		
Number of Units	2	
Size	18 in.	
Velocity at Design Flow		
ADW (1,385 GPM)	1.78 ft/s One Pipe In Service	
AWW (3,185 GPM)	4.08 ft/s One Pipe In Service	
MWW (6,550 GPM)	4.20 ft/s Two Pipes In Service	
PHWW (8,185 GPM)	5.25 ft/s Two Pipes In Service	
<u>WET WEATHER EQUALIZATION LAGOON</u>		
Number of Lagoons	1	
Operating Capacity	12.0 MG	
Bottom Dimensions	185 ft x 420 ft	
Operating Depth	18 ft	
Freeboard	2.0 ft	2 ft minimum
Minimum Level	2.0 ft	2 ft minimum
Interior Side Slope	3:1 Run: Rise	3:1 to 4:1
Distance From Lagoon Bottom To Bedrock	10 ft	10 ft recommended, 4 ft minimum
Liner Material	Synthetic HDPE	
<u>EQ RETURN LIFT STATION</u>		
Number of Units	2	
Type	Submersible Non-Clog Centrifugal	
Firm Capacity (Largest Unit Out of Service)	0.50 MGD	
Capacity (Each)	350 GPM	
Motor Size	15 HP	
Drive	VFD	

DESCRIPTION	VALUE	GOOD DESIGN PRACTICE
ACTIVATED SLUDGE PROCESS		
Solids Retention Time (SRT) (Total)	20 Days	20 days or greater for extended aeration
Water Temperature		
Minimum	10 Degrees C	
Maximum	25 Degrees C	
NUTRIENT BASIN		
Nutrient Removal Process For Biological N and P Removal	University of Cape Town (UCT) Process	
Number of Treatment Trains	2	
Anaerobic Basins		
Number of Units	2	
Type	Complete Mix	
Dimensions (Each)	60 ft X 18 ft	
Volume (Each)	145,000 gal	
Operating Depth	18 ft	
Freeboard	3 ft	
SRT	1.8 Days	Greater than 1 - 1.5 days
HRT at AWW Flow	1.52 Hrs	
HRT at Nutrient Removal Flow	3.04 Hrs	1 - 2 hrs
Mixing System		
Type	Jet Mix	
Number of Pumps and Mixing Headers per Tank	1	
Pump Type	Submersible Non Clog Centrifugal	
Motor Size	20 HP	
Drive	VFD	
Anoxic Basins		
Number of Units	2 Trains of 2 Basins in Series	
Type	Complete Mix	
Operating Depth	17.25 ft	
Freeboard	3 ft	
SRT (Total Anoxic)	3.1 Days	Greater than 1 - 1.5 days
HRT at AWW Flow (Total Anoxic)	2.62 Hrs	
HRT at Nutrient Removal Flow (Total Anoxic)	5.23 Hrs	
Anoxic Basins 'A'		
Dimensions (Each)	60 ft X 10 ft	
Volume (Each)	75,000 gal	
Mixing System		
Type	Jet Mix	
Number of Pumps and Mixing Headers per Tank	1	
Pump Type	Submersible Non Clog Centrifugal	
Motor Size	7.5 HP	
Drive	VFD	
Anoxic Basins 'B'		
Dimensions (Each)	60 ft X 24 ft	
Volume (Each)	185,000 gal	
Mixing System		
Type	Jet Mix	
Number of Pumps and Mixing Headers per Tank	1	
Pump Type	Submersible Non Clog Centrifugal	
Motor Size	25 HP	
Drive	VFD	

DESCRIPTION	VALUE	GOOD DESIGN PRACTICE
<u>ANOXIC LIQUOR RETURN PUMPS</u>		
Number of Units	2	
Type	Submersible Non Clog Centrifugal	
Return Rate (% of Nutrient Removal Design Flow)	200 %	200% of influent flow
Capacity (Each)	1,765 GPM at 18' TDH	
Motor Size	20 HP	
Drive	VFD	
<u>AERATION BASINS</u>		
Number of Basin Trains	2	
Type	3 Stage Baffled	
Dimensions per Basin		
First Stage	74 ft X 72 ft	
Second Stage	30 ft X 72 ft	
Third Stage	20 ft X 72 ft	
Operating Depth	16 ft	
Freeboard	4 ft	
Volume per Basin (Each)		
First Stage	638,000 gal	
Second Stage	259,000 gal	
Third Stage	172,000 gal	
SRT, Total Aeration Basin	15.0 days	15 - 20 days minimum
HRT at AWW Flow	6.94 hrs	
CBOD Volumetric Loading (Includes N Removal Carbon Deman	14.6 lbs/ 1,000 c.f.	Less than 15 lbs/ 1,000 c.f.
MLSS Concentration	3,672 mg/L	Less than 5,000 mg/L
Food/Microorganism Ratio	0.18 lbs CBOD/lb MLVSS/d	
Aeration and Mixing System		
Actual Oxygenation Rate (AOR), Total		
AWW	11,129 lbs/d	
MWW	15,804 lbs/d	
Peaking Factor (PF)	2.0	2.0 (per 10 States Standards)
Peak AOR (AWW)	22,258 lbs/d	
Maximum Air Flow Rate, Total (AWW x PF)	12,000 SCFM at 8.6 PSIG	
Oxygen Uptake Rate (AWW)	23.2 mg/L/hr	40 mg/L/hr maximum
Peak Oxygen Uptake Rate (AWW x PF)	46.4 mg/L/hr	60 mg/L/hr maximum
Dissolved Oxygen Concentration	2.0 mg/L	2 mg/L
First and Second Stages		
Type	Fine Bubble Flexible Membrane	
Alpha (Dirty Water Coefficient)	0.45	
Beta (Dirty Water Saturation Correction)	0.95	
Third Stage		
Type	Jet Mix Aeration	
Alpha (Dirty Water Coefficient)	0.85	
Beta (Dirty Water Saturation Correction)	0.95	
Pumps		
Number of Pumps and Mixing Headers (Each Basin)	1	
Pump Type	Submersible Non Clog Centrifugal	
Motor Size	20 HP	
Drive	VFD	
<u>AERATION BLOWERS</u>		
Number of Units	6	
Firm Capacity (one unit out of service)	12,000 SCFM	
Type	Positive Displacement	
Maximum Inlet Temperature	110 degrees F	
Minimum Inlet Temperature	(-) 20 degrees F	
Capacity at Max. Inlet Temperature	2,400 SCFM	
Net Discharge Pressure	8.6 PSIG	
Motor Size	150 HP	
Drive	VFD	
Number of Blowers Operating		
AWW	2 - 3	
MWW	3 - 4	
AWW x SF	5	

DESCRIPTION	VALUE	GOOD DESIGN PRACTICE
<u>MIXED LIQUOR RETURN PUMP</u>		
Number of Units	2	
Type	Submersible Non Clog Centrifugal	
Return Rate (% of Nutrient Removal Design Flow)	200 %	200-300% of influent flow
Capacity (Each)	1,765 at 44' TDH	
Motor Size	20 HP	
Drive	VFD	
<u>RAPID MIX BASIN</u>		
Number of Units	1	
Dimensions	12 ft X 12 ft	
Operating Depth	16 ft	
Operating Volume	17,230 gallons	
HRT at AWW + 100% RAS (6,375 GPM)	2.7 min	
HRT at Nutrient Removal Flow + 100% RAS (3,190 GPM)	5.4 min	
Mixer Type	Top Entering Vertical Shaft	
Minimum Mean Velocity Gradient, G	400 1/s	300 - 500 (1/s)
Motor Size	30.0 HP	
Drive	VFD	
<u>CLARIFIER</u>		
Number of Units	3	
Type	Circular	
Sludge Collection and Withdrawal	Rapid Hydraulic	
Diameter	68 ft	
Side Water Depth	14 ft	
Surface Area (Each)	3,632 sf	
Operating Volume	380,300 gal	
Launders	Inboard w/ Peripheral Weir	
Weir Length	213 ft	
Motor Size	3/4 HP	
Drive	Constant Speed	
All Units Online - AWW Flow		
Weir Loading Rate	7,177 gal/d/ft	
Hydraulic Loading Rate	421 gal/sf/d	Less than 1,000 gal/sf/d
Solids Loading Rate (100% RAS)	26.3 lb/d/sf	Less than 30 lbs/sf/d
One Unit Offline - Treat 75% AWW Flow		
Weir Loading Rate	8,074 gal/d/ft	
Hydraulic Loading Rate	473 gal/sf/d	Less than 1,000 gal/sf/d
Solids Loading Rate (0.75 x 100% RAS)	29.6 lb/d/sf	Less than 30 lbs/sf/d
<u>RETURN ACTIVATED SLUDGE (RAS) PUMPS</u>		
Number of Units	4	
Type	Horizontal Non Clog Centrifugal	
Return Rate (% of Influent AWW Flow)	50 - 100 %	80 - 100% of influent flow
Capacity (Each)	1,065 GPM	
Motor Size	20 HP	
Drive	VFD	
<u>WASTE ACTIVATED SLUDGE (WAS) & SCUM PUMP</u>		
Number of Units	2	
Type	Horizontal Non Clog Centrifugal	
Capacity (Each)	200 GPM	
Motor Size	15 HP	
Drive	VFD	

DESCRIPTION	VALUE	GOOD DESIGN PRACTICE
<u>FERMENTER</u>		
Number of Units	1	
Dimensions	65 ft Dia.	
Operating Depth	19 ft	
Operating Volume	460,000 gallons	
HRT at AWW	24 hr	24 - 48 hrs
HRT at Nutrient Removal Flowrate	43 hr	
Raw Waste Fraction at AWW		
Percent Flow	5%	
Flowrate	80 GPM	
RAS Fraction at AWW 100% RAS		
Percent Flow	15%	
Flowrate	240 GPM	
Mixing System	Submersible Mixers	
<u>ULTRAVIOLET (UV) DISSINFECTION</u>		
Number of Units	1 Duty + 1 Standby	
Type	Angled Submerged Bulbs	
Capacity (Each)	4.586 MGD	
Total Capacity	5.086 MGD	
Transmissivity	65 %	
UV Dose	30 mJ/cm^2	
<u>REAERATION BASIN</u>		
Number of Basin Trains	1	
Type	2 Stage Baffled	
Dimensions (Each Stage)	20 ft X 10 ft	
Operating Depth	11 ft	
Freeboard	2 ft	
Volume (Each Stage)	16,450 gal	
Volume (Total)	32,900 gal	
HRT at AWW Flow	10.3 min	
Aeration System		
Type	Fine Bubble Flexible Membrane	
Actual Oxygenation Rate (AOR) (Total)	200 lbs/d	
Oxygen Uptake Rate	30.3 mg/L/hr	40 mg/L/hr
Dissolved Oxygen Concentration	5.0 mg/L	
Alpha (Dirty Water Coefficient)	0.45	
Beta (Dirty Water Saturation Correction)	0.95	

DESCRIPTION	VALUE	GOOD DESIGN PRACTICE
<u>BIOSOLIDS PRODUCTION ESTIMATE</u>		
Total WAS Production at AWW (Winter Condition)	4,921 lbs/d	
TSS Generation	2,026 lbs/d	
VSS Generation	2,895 lbs/d	
WAS Concentration	0.66%	
Daily WAS Volume	88,730 gal/d	
<u>WAS HOLDING TANK</u>		
Number of Units	1	
Type	Concrete w/ Sump	
Diameter	46 ft	
Operating Depth	22 ft	
Free Board	2 ft	
Operating Volume	266,000 gal	
Storage Time at 0.66 % Solids	3 days	
Mixing System		
Type	Coarse Bubble Aeration	
Design Airflow	30 SCFM per 1,000 cf	30 - 40 SCFM per 1,000 cf
Airflow Required	1,070 SCFM at 11.0 PSIG	
<u>WAS HOLDING TANK BLOWER</u>		
Number of Units	1	
Type	Positive Displacement	
Capacity	1,070 SCFM	
Net Discharge Pressure	11.0 PSIG	
Inlet Temperature		
Minimum	(-) 20 degrees F	
Maximum	110 degrees F	
Motor Size	75 HP	
Drive	VFD	
<u>SLUDGE THICKENER</u>		
Number of Units	1	
Type	Rotary Drum	
Capacity	300 GPM at 0.66% Solids	
Design Runtime	35 hrs/wk	
Target Thickened Solids Concentration	4.5 %	
Gallons of Thickened Sludge Per Day	13,112 gal/d	
<u>AEROBIC DIGESTERS (EXISTING)</u>		
Number of Units	2	
Type	Cast-In-Place Concrete w/ Sloped Floor	
Diameter	56 ft	
Operating Depth	22 ft	
Free Board	2 ft	
Operating Volume (Each)	405,000 gal	
Storage Time at 4.5 % Solids, Total	61 days	60 days at 15 degrees C.
VSS Destruction Rate	40%	
Net Solids Discharged From Digester	3,760 lbs/d	
Mixing System		
Type	Coarse Bubble Aeration	
Material	Stainless Steel	
Design Airflow	30 SCFM per 1,000 cf	30 - 40 SCFM per 1,000 cf
Airflow Required	1,625 at 11.0 PSIG	

DESCRIPTION	VALUE	GOOD DESIGN PRACTICE
<u>AEROBIC DIGESTER BLOWERS</u>		
Number of Units	3	
Type	Positive Displacement	
Capacity, Each	1,625 SCFM	
Net Discharge Pressure	11.0 PSIG	
Inlet Temperature		
Minimum	(-) 20 degrees F	
Maximum	110 degrees F	
Motor Size	150 HP	
Drive	VFD	
<u>PRESS HOLDING TANK</u>		
Number of Units	1	
Type	Concrete w/ Sump	
Diameter	28 ft	
Operating Depth	18 ft	
Free Board	2 ft	
Operating Volume	80,000 gal	
Storage Time at 3.4 % Solids	3 days	
Mixing System		
Type	Coarse Bubble Aeration	
Design Airflow	20 SCFM per 1,000 cf	20 - 40 SCFM per 1,000 cf
Airflow Required	212 SCFM at 11.0 PSIG	
<u>PRESS HOLDING TANK BLOWER</u>		
Number of Units	1	
Type	Positive Displacement	
Capacity	212 SCFM	
Net Discharge Pressure	9.3 PSIG	
Inlet Temperature		
Minimum	(-) 20 degrees F	
Maximum	110 degrees F	
Motor Size	25 HP	
Drive	VFD	
<u>BIOSOLIDS DEWATERING</u>		
Number of Units	1	
Type	Screw Press	
Weekly Digested Biosolids Production (Winter Basis)	13 Dry Ton/wk	
Press Operation Time	35 Hrs/wk	
Capacity	755 Dry lbs/hr	
Feed rate	44 GPM at 3.4% Solids	
Dewatered Cake Solids Content	20%	
<u>DEWATERED BIOSOLIDS STORAGE</u>		
Type	Covered Concrete Bunker	
Storage Time	365 Days	365 days (one year)
Annual Digested Biosolids Production (Winter Basis)	686 Dry Ton/yr	
Dewatered Cake Solids Content	20%	
Annual Dewatered Cake Production	3,431 Wet Ton/yr	
Dewatered Cake Density	40 lbs/cf	40 - 60 lbs/cf
Dewatered Cake Volume	172,000 cf	
Stacking Height	10 ft	
Storage Area Required	17,155 sf	
Bunker Dimensions	110 ft x 205 ft	

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Winter AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O₂/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 UCT Process Design

Line	Parameter	Value	Units	Notes
1	<u>INPUT DATA</u>			
2				
3	<u>Aerobic Process Loading</u>			
4				
5	Flowrate	4.59 MGD		Manual input
5A	CBOD5 mass to secondary process	7,446 lbs.CBOD/d		Manual input
5B	CBOD mass removed with denitrification	1,208 lbs.CBOD/d		Manual input
6	CBOD5 mass to aeration basins	6,238 lbs/d		Line 5A - Line 5B
7	TKN mass	845 lbs/d		Manual input
7A	P Mass	145 lbs/d		Manual input
8	Alkalinity concentration	134 mg/L CaCO ₃		Manual input, Based on City Sampling applied to ADW flow
9	Fixed TSS, % of total TSS	25% of TSS		Manual input
10	Inert VSS, % of total TSS	10% of TSS		Manual input
10A				
11	TSS mass	8,104 lbs/d		Manual input
12				
13	<u>Process Design Parameters</u>			
14				
15				
16	SRT (including anaerobic, anoxic, and aeration basins)	20 days		Manual input
17	Temperature	10 degrees C		Manual input
18	MLSS concentration (max)	5000 mg/L		Manual input
19	Oxygen Uptake Rate (max)	40 mg/L/hr		Manual input
20	Clarifier hydraulic load (max)	500 gpd/sf		Manual input
21	Number of aeration basins	1		Manual input
22	Number of clarifiers	3		Manual input
23	RAS ratio	125%		Manual input
24	Clarifier solids load (max)	30 lbs/d/sf		Manual input
25	a, Yield factor	0.4 lbs. VSS/lb. CBODL removed		Manual input
26	b, Endogenous decay factor at 20 deg C	0.2 lbs VSS destroyed/lb VSS/d		Manual input
27	Ratio CBODL:CBOD5	1.5		Manual input
28	e, CBOD removal efficiency	100%		Manual input
28A	P solids production chem P removal	0.0 lbs solids / lb P removed		Manual input
29	Min aeration HRT	0 hrs		Manual input Not applicable
30	Aeration Basin Depth	16 ft		Manual input
31				

Webster City - 2022 Facility Plan
Activated Sludge Process Analysis
Winter AWW Loads Aeration Basin and Sludge Yield Calculations
Design Control 40 mg O₂/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
UCT Process Design

Line	Parameter	Value	Units	Notes
32	Aeration air requirement, O ₂ transfer	0.5	scfm/lb O ₂ per day transfer	Manual input
33	Aeration air requirement, mixing	0.14	scfm/sq ft basin	Manual input
34	Blower power	0.7	bhp-hr/lb O ₂	Manual input
35	Number of blowers (operating)	3		Manual input
36	Thickened sludge concentration	4.5%		Manual input
37				
38				
39				
40				
41	<u>AERATION BASINS</u>			
42				
43				
44	b, decay factor at operating temp.	0.1	lbs VSS destroyed/lb VSS/d	Line 26 + 0.01(T - 20)
45	L, CBODL Loading to aeration basins	9,357	lbs/d	Line 6 * Line 27
46	L, CBODL Loading to activated sludge process	11,169	lbs/d	Line 5A * Line 27
47	Sludge Production Rate			
48	MLVSS Production	2,085	lbs/d	$dM/dt = aeL[1 - 0.8bSRT/(1 + bSRT)]$ [Line 46 CBOD load]
49	Inert VSS Production	810	lbs/d	Line 10 * Line 11
49A	Chem P Removal Solids Production	0	lbs/d	Line 7A * Line 28A
50	Fixed MLSS Production	<u>2,026</u>	lbs/d	Line 9 * Line 11
51	Total MLSS Production	4,921	lbs/d	
52	MLVSS/MLSS	59%		
53	MLSS Inventory	98,426	lbs	SRT * Line 51
54				
55	Aeration Requirement			
56	BODL	9,357	lbs O ₂ /d	$dO/dt = eL$ [Line 6 CBOD load]
57	TKN oxidation	3,887	lbs O ₂ /d	$dO/dt = 4.6 * TKN$
58	WAS oxygen equivalent	<u>(2,961)</u>	lbs O ₂ /d	$dO/dt = 1.42 * dM/dt$
59	Total AOR required	10,283	lbs O ₂ /d	
59A	Actual AOR provided		lbs O ₂ /d	Manual input
60				
61	Aeration Volume Required			
62	MLSS Limit	2.36	MG	MLSS Inventory/(MLSS limit * 8.34)
63	OUR Limit	1.28	MG	(AOR/24)/(OUR limit * 8.34)
64	HRT Limit	0.00	MG	(Q/24) * Min HRT
65	Aeration Design Volume Required	2.36	MG	Max of the three volumes above
65A	Actual aeration basin volume provided	2.40	MG	Manual input
66	Actual anoxic basin volume provided	0.5	MG	Manual input

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Winter AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O2/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 UCT Process Design

Line	Parameter	Value	Units	Notes
66A	Actual anaerobic basin volume provided	<u>0.29</u>	MG	Manual input
67	Total anoxic ana + aeration basin volume provided	3.19	MG	Line 65A + Line 66 + Line 66A BASED ON 20d SRT Ana+Anox+Aer
68				
69				
70				
71				
72				
73				
74				
75	MLSS Concentration	3,700	mg/L	MLSS Inventory/(Aer + Anox Vol)/8.34 [Line 53/Line67/8.34]
76	OUR	21.4	mg/L/hr	AOR/24/Aeration Vol/8.34
77	F:M ratio	0.18	lbs CBOD5/lb MLVSS/d	CBOD5/(MLVSS Prod * SRT) based on anox. + aer.
78	CBOD Volumetric Loading	14.6	lbs CBOD5/1000 cf/d	CBOD5*1000/(Aeration Vol/7.48) based on ana. + anox. + aer.
79	HRT (aeration basin only)	12.5	hrs.	Aeration vol./influent flowrate
80				
81	<u>BLOWERS</u>			
82				
83	Number of Blowers (Operating)	3		Line 35
84	Oxygen transfer required	10,283	lbs O2/d	Line 59
85	Air Requirement			
86	O2 transfer	5,142	scfm	AOR * Line 32
87	Mixing requirement	2,761	scfm	Line 33 * (aeration volume/depth)
88	Aeration air requirement	5,142	scfm	Max of the two values above
89	Blower Capacity (each) required	1,714	scfm	Total air reqd/no of blowers
89A	Actual blower capacity provided (each)		scfm	Manual input
90	Blower bhp (each) required	100	bhp	(AOR/24)*Line 34/Line 83
90A	Actual blower motor horsepower (each)		hp	Manual input

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 Activated Sludge Process Analysis
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 Design Control 40 mg O2/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 UCT Process Design

Line	Parameter	Value	Units	Notes
102	<u>SLUDGE PRODUCTION</u>			
103				
104	Daily solids production	4,921	lbs/d	Line 51
105	Thickened sludge concentration	4.5%		Line 36
106	Approximate WAS concentration	6,659	mg/L	MLSS*(1+RAS ratio)/RAS ratio
107	Volume WAS per day	88,611	gal/d	1000000*WAS lbs/(WAS conc. *8.34)
108	Volume thickened sludge per day	13,113	gal/d	WAS lbs/(thickened conc. * 8.34)
109				
110	<u>ALKALINITY</u>			
111				
112	Raw alkalinity concentration	134	mg/L CaCO3	Line 8
113	Alkalinity residual goal	(100)	mg/L CaCO3	Manual input
114	Alkalinty available	34	mg/L CaCO3	
115	Raw alkalinity mass available	1,302	lbs/d CaCO3	Q*alkalinity available*8.34
115A	Alkalinity mass recovered with denitrification	2,282	lbs/d CaCO3	Manual input
116	Alkalinity consumed	(6,000)	lbs/d CaCO3	TKN mass * 7.1
117	Alkalinity Deficiency (excess)	2,416	lbs/d CaCO3	
118	Hydrated lime requirement	0.89	tons/d	alk reqd/1.35/2000
119	Magnesium Hydroxide slurry requirement			
120	Alkalinity equivalent	1.71	lbs. CaCO3/lb. Mg(OH)2	Manual input
121	Slurry concentration	61%		Manual input
122	Magnesium Hydroxide slurry requirement	2,316	Lbs/d	alk reqd/Line 120/Line 121

Webster City - 2022 Facility Plan
Activated Sludge Process Analysis
Summer AWW Loads Aeration Basin and Sludge Yield Calculations
Design Control 40 mg O₂/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
UCT Process Design

Line	Parameter	Value	Units	Notes
102	<u>SLUDGE PRODUCTION</u>			
103				
104	Daily solids production	4,326	lbs/d	Line 51
105	Thickened sludge concentration	4.5%		Line 36
106	Approximate WAS concentration	5,853	mg/L	MLSS*(1+RAS ratio)/RAS ratio
107	Volume WAS per day	88,611	gal/d	1000000*WAS lbs/(WAS conc. *8.34)
108	Volume thickened sludge per day	11,526	gal/d	WAS lbs/(thickened conc. * 8.34)
109				
110	<u>ALKALINITY</u>			
111				
112	Raw alkalinity concentration	134	mg/L CaCO ₃	Line 8
113	Alkalinity residual goal	<u>100</u>	mg/L CaCO ₃	Manual input
114	Alkalinty available	34	mg/L CaCO ₃	
115	Raw alkalinity mass available	1,302	lbs/d CaCO ₃	Q*alkalinity available*8.34
115A	Alkalinity mass recovered with denitrification	2,282	lbs/d CaCO ₃	Manual input
116	Alkalinity consumed	<u>6,000</u>	lbs/d CaCO ₃	TKN mass * 7.1
117	Alkalinity Deficiency (excess)	2,416	lbs/d CaCO ₃	
118	Hydrated lime requirement	0.89	tons/d	alk reqd/1.35/2000
119	Magnesium Hydroxide slurry requirement			
120	Alkalinity equivalent	1.71	lbs. CaCO ₃ /lb. Mg(OH) ₂	Manual input
121	Slurry concentration	61%		Manual input
122	Magnesium Hydroxide slurry requirement	2,316	Lbs/d	alk reqd/Line 120/Line 121

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Activated Sludge Process Analysis
Summer AWW Loads Aeration Basin and Sludge Yield Calculations
Design Control 40 mg O₂/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
UCT Process Design

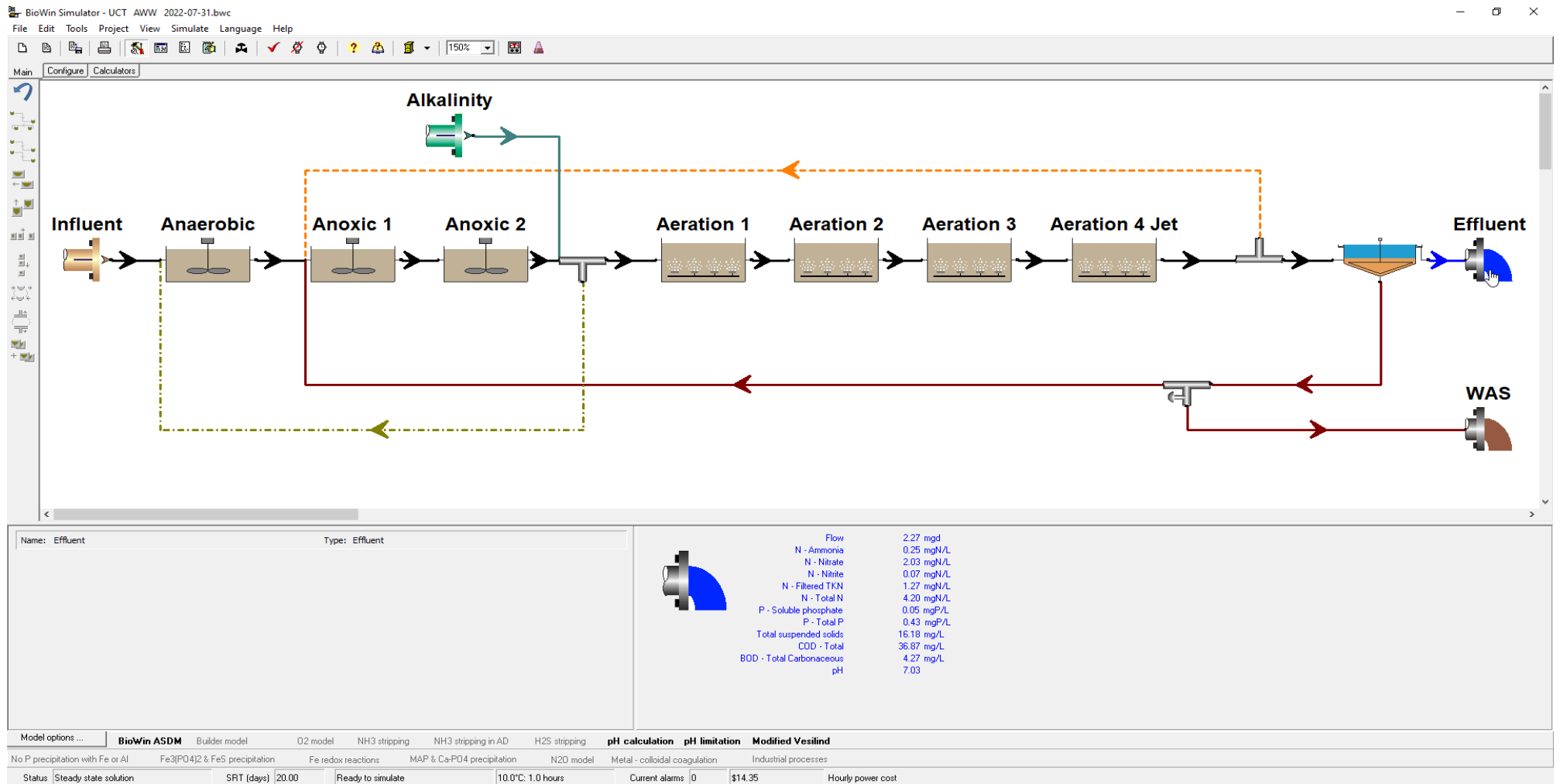
Line	Parameter	Value	Units	Notes
1	<u>INPUT DATA</u>			
2				
3	<u>Aerobic Process Loading</u>			
4				
5	Flowrate	4.59 MGD		Manual input
5A	CBOD ₅ mass to secondary process	7,446 lbs.CBOD/d		Manual input
5B	CBOD mass removed with denitrification	1,208 lbs.CBOD/d		Manual input
6	CBOD ₅ mass to aeration basins	6,238 lbs/d		Line 5A - Line 5B
7	TKN mass	845 lbs/d		Manual input
7A	P Mass	145 lbs/d		Manual input
8	Alkalinity concentration	134 mg/L CaCO ₃		Manual input, Based on City Sampling applied to ADW flow
9	Fixed TSS, % of total TSS	25% of TSS		Manual input
10	Inert VSS, % of total TSS	10% of TSS		Manual input
10A				
11	TSS mass	8,104 lbs/d		Manual input
12				
13	<u>Process Design Parameters</u>			
14				
15				
16	SRT (including anaerobic, anoxic, and aeration basins)	20 days		Manual input
17	Temperature	25 degrees C		Manual input
18	MLSS concentration (max)	5000 mg/L		Manual input
19	Oxygen Uptake Rate (max)	40 mg/L/hr		Manual input
20	Clarifier hydraulic load (max)	500 gpd/sf		Manual input
21	Number of aeration basins	1		Manual input
22	Number of clarifiers	2		Manual input
23	RAS ratio	125%		Manual input
24	Clarifier solids load (max)	35 lbs/d/sf		Manual input
25	a, Yield factor	0.4 lbs. VSS/lb. CBODL removed		Manual input
26	b, Endogenous decay factor at 20 deg C	0.2 lbs VSS destroyed/lb VSS/d		Manual input
27	Ratio CBODL:CBOD ₅	1.5		Manual input
28	e, CBOD removal efficiency	100%		Manual input
28A	P solids production chem P removal	0.0 lbs solids / lb P removed		Manual input
29	Min aeration HRT	0 hrs		Manual input Not applicable
30	Aeration Basin Depth	16 ft		Manual input
31				

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Activated Sludge Process Analysis
Summer AWW Loads Aeration Basin and Sludge Yield Calculations
Design Control 40 mg O₂/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
UCT Process Design

Line	Parameter	Value	Units	Notes
32	Aeration air requirement, O ₂ transfer	0.5	scfm/lb O ₂ per day transfer	Manual input
33	Aeration air requirement, mixing	0.14	scfm/sq ft basin	Manual input
34	Blower power	0.7	bhp-hr/lb O ₂	Manual input
35	Number of blowers (operating)	3		Manual input
36	Thickened sludge concentration	4.5%		Manual input
37				
38				
39				
40				
41	<u>AERATION BASINS</u>			
42				
43				
44	b, decay factor at operating temp.	0.25	lbs VSS destroyed/lb VSS/d	Line 26 + 0.01(T - 20)
45	L, CBODL Loading to aeration basins	9,357	lbs/d	Line 6 * Line 27
46	L, CBODL Loading to activated sludge process	11,169	lbs/d	Line 5A * Line 27
47	Sludge Production Rate			
48	MLVSS Production	1,489	lbs/d	$dM/dt = aeL[1 - 0.8bSRT/(1 + bSRT)]$ [Line 46 CBOD load]
49	Inert VSS Production	810	lbs/d	Line 10 * Line 11
49A	Chem P Removal Solids Production	0	lbs/d	Line 7A * Line 28A
50	Fixed MLSS Production	<u>2,026</u>	lbs/d	Line 9 * Line 11
51	Total MLSS Production	4,326	lbs/d	
52	MLVSS/MLSS	53%		
53	MLSS Inventory	86,512	lbs	SRT * Line 51
54				
55	Aeration Requirement			
56	BODL	9,357	lbs O ₂ /d	$dO/dt = eL$ [Line 6 CBOD load]
57	TKN oxidation	3,887	lbs O ₂ /d	$dO/dt = 4.6 * TKN$
58	WAS oxygen equivalent	<u>(2,115)</u>	lbs O ₂ /d	$dO/dt = 1.42 * dM/dt$
59	Total AOR required	11,129	lbs O ₂ /d	
59A	Actual AOR provided		lbs O ₂ /d	Manual input
60				
61	Aeration Volume Required			
62	MLSS Limit	2.07	MG	MLSS Inventory/(MLSS limit * 8.34)
63	OUR Limit	1.39	MG	(AOR/24)/(OUR limit * 8.34)
64	HRT Limit	0.00	MG	(Q/24) * Min HRT
65	Aeration Design Volume Required	2.07	MG	Max of the three volumes above
65A	Actual aeration basin volume provided	2.40	MG	Manual input
66	Actual anoxic basin volume provided	0.5	MG	Manual input

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Summer AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O₂/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 UCT Process Design

Line	Parameter	Value	Units	Notes
66A	Actual anaerobic basin volume provided	0.29	MG	Manual input
67	Total anoxic ana + aeration basin volume provided	3.19	MG	Line 65A + Line 66 + Line 66A BASED ON SRT Ana+Anox+Aer
68				
69				
70				
71				
72				
73				
74				
75	MLSS Concentration	3,252	mg/L	MLSS Inventory/(Aer + Anox Vol)/8.34 [Line 53/Line67/8.34]
76	OUR	23.2	mg/L/hr	AOR/24/Aeration Vol/8.34
77	F:M ratio	0.25	lbs CBOD5/lb MLVSS/d	CBOD5/(MLVSS Prod * SRT) based on anox. + aer.
78	CBOD Volumetric Loading	14.6	lbs CBOD5/1000 cf/d	CBOD5*1000/(Aeration Vol/7.48) based on anox. + aer.
79	HRT (aeration basin only)	12.5	hrs.	Aeration vol./influent flowrate
80				
81	<u>BLOWERS</u>			
82				
83	Number of Blowers (Operating)	3		Line 35
84	Oxygen transfer required	11,129	lbs O ₂ /d	Line 59
85	Air Requirement			
86	O ₂ transfer	5,565	scfm	AOR * Line 32
87	Mixing requirement	2,427	scfm	Line 33 * (aeration volume/depth)
88	Aeration air requirement	5,565	scfm	Max of the two values above
89	Blower Capacity (each) required	1,855	scfm	Total air reqd/no of blowers
89A	Actual blower capacity provided (each)		scfm	Manual input
90	Blower bhp (each) required	108	bhp	(AOR/24)*Line 34/Line 83
90A	Actual blower motor horsepower (each)		hp	Manual input



Appendix J - Detailed Process Design Summary
Webster City WWTF Improvements
Facility Plan - August 2022
BioWin Model Effluent Parameters - UCT Process

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Winter AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O₂/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 MLE Process Design

Line	Parameter	Value	Units	Notes
------	-----------	-------	-------	-------

1 **INPUT DATA**

2

3 **Aerobic Process Loading**

4

5	Flowrate	4.59 MGD		Manual input
5A	CBOD5 mass to secondary process	7,446 lbs.CBOD/d		Manual input
5B	CBOD mass removed with denitrification	1,208 lbs.CBOD/d		Manual input
6	CBOD5 mass to aeration basins	6,238 lbs/d		Line 5A - Line 5B
7	TKN mass	845 lbs/d		Manual input
7A	P Mass Removed (75% of Total)	110 lbs/d		Manual input
8	Alkalinity concentration	134 mg/L CaCO ₃		Manual input, Based on City Sampling applied to ADW flow
9	Fixed TSS, % of total TSS	25% of TSS		Manual input
10	Inert VSS, % of total TSS	10% of TSS		Manual input
10A				
11	TSS mass	8,104 lbs/d		Manual input

12

13 **Process Design Parameters**

14

15

16	SRT (including anoxic and aerobic basins)	20 days		Manual input
17	Temperature	10 degrees C		Manual input
18	MLSS concentration (max)	5000 mg/L		Manual input
19	Oxygen Uptake Rate (max)	40 mg/L/hr		Manual input
20	Clarifier hydraulic load (max)	500 gpd/sf		Manual input
21	Number of aeration basins	1		Manual input
22	Number of clarifiers	3		Manual input
23	RAS ratio	100%		Manual input
24	Clarifier solids load (max)	30 lbs/d/sf		Manual input
25	a, Yield factor	0.4 lbs. VSS/lb. CBODL removed		Manual input
26	b, Endogenous decay factor at 20 deg C	0.2 lbs VSS destroyed/lb VSS/d		Manual input
27	Ratio CBODL:CBOD5	1.5		Manual input
28	e, CBOD removal efficiency	100%		Manual input
28A	P solids production chem P removal	10.0 lbs solids / lb P removed		Manual input
29	Min aeration HRT	0 hrs		Manual input
30	Aeration Basin Depth	16 ft		Manual input

31

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Winter AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O2/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 MLE Process Design

Line	Parameter	Value	Units	Notes
32	Aeration air requirement, O2 transfer	0.5	scfm/lb O2 per day transfer	Manual input
33	Aeration air requirement, mixing	0.14	scfm/sq ft basin	Manual input
34	Blower power	0.7	bhp-hr/lb O2	Manual input
35	Number of blowers (operating)	3		Manual input
36	Thickened sludge concentration	4.5%		Manual input
37				
38				
39				
40				
41	<u>AERATION BASINS</u>			
42				
43				
44	b, decay factor at operating temp.	0.1	lbs VSS destroyed/lb VSS/d	Line 26 + 0.01(T - 20)
45	L, CBODL Loading to aeration basins	9,357	lbs/d	Line 6 * Line 27
46	L, CBODL Loading to activated sludge process	11,169	lbs/d	Line 5A * Line 27
47	Sludge Production Rate			
48	MLVSS Production	2,085	lbs/d	$dM/dt = aeL[1 - 0.8bSRT/(1 + bSRT)]$ [Line 46 CBOD load]
49	Inert VSS Production	810	lbs/d	Line 10 * Line 11
49A	Chem P Removal Solids Production	1,100	lbs/d	Line 7A * Line 28A
50	Fixed MLSS Production	<u>2,026</u>	lbs/d	Line 9 * Line 11
51	Total MLSS Production	6,021	lbs/d	
52	MLVSS/MLSS	48%		
53	MLSS Inventory	120,426	lbs	SRT * Line 51
54				
55	Aeration Requirement			
56	BODL	9,357	lbs O2/d	$dO/dt = eL$ [Line 6 CBOD load]
57	TKN oxidation	3,887	lbs O2/d	$dO/dt = 4.6 * TKN$
58	WAS oxygen equivalent	<u>(2,961)</u>	lbs O2/d	$dO/dt = 1.42 * dM/dt$
59	Total AOR required	10,283	lbs O2/d	
59A	Actual AOR provided		lbs O2/d	Manual input
60				
61	Aeration Volume Required			
62	MLSS Limit	2.89	MG	MLSS Inventory/(MLSS limit * 8.34)
63	OUR Limit	1.28	MG	(AOR/24)/(OUR limit * 8.34)
64	HRT Limit	0.00	MG	(Q/24) * Min HRT
65	Aeration Design Volume Required	2.89	MG	Max of the three volumes above
65A	Actual aeration basin volume provided	2.60	MG	Manual input
66	Actual anoxic basin volume provided	0.65	MG	Manual input

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Winter AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O2/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 MLE Process Design

Line	Parameter	Value	Units	Notes
66A	Actual anaerobic basin volume provided		MG	Manual input
67	Total anoxic ana + aeration basin volume provided	3.25	MG	Line 65A + Line 66 + Line 66A BASED ON 20d SRT Ana+Anox+Aer
68				
69				
70				
71				
72				
73				
74				
75	MLSS Concentration	4,443	mg/L	MLSS Inventory/(Aer + Anox Vol)/8.34 [Line 53/Line67/8.34]
76	OUR	19.8	mg/L/hr	AOR/24/Aeration Vol/8.34
77	F:M ratio	0.18	lbs CBOD5/lb MLVSS/d	CBOD5/(MLVSS Prod * SRT) based on anox. + aer.
78	CBOD Volumetric Loading	17.1	lbs CBOD5/1000 cf/d	CBOD5*1000/(Aeration Vol/7.48) based on anox. + aer.
79	HRT (aeration basin only)	13.6	hrs.	Aeration vol./influent flowrate
80				
81	<u>BLOWERS</u>			
82				
83	Number of Blowers (Operating)	3		Line 35
84	Oxygen transfer required	10,283	lbs O2/d	Line 59
85	Air Requirement			
86	O2 transfer	5,142	scfm	AOR * Line 32
87	Mixing requirement	3,378	scfm	Line 33 * (aeration volume/depth)
88	Aeration air requirement	5,142	scfm	Max of the two values above
89	Blower Capacity (each) required	1,714	scfm	Total air reqd/no of blowers
89A	Actual blower capacity provided (each)		scfm	Manual input
90	Blower bhp (each) required	100	bhp	(AOR/24)*Line 34/Line 83
90A	Actual blower motor horsepower (each)		hp	Manual input

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Winter AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O2/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 MLE Process Design

Line	Parameter	Value	Units	Notes
102	<u>SLUDGE PRODUCTION</u>			
103				
104	Daily solids production	6,021	lbs/d	Line 51
105	Thickened sludge concentration	4.5%		Line 36
106	Approximate WAS concentration	8,886	mg/L	MLSS*(1+RAS ratio)/RAS ratio
107	Volume WAS per day	81,250	gal/d	1000000*WAS lbs/(WAS conc. *8.34)
108	Volume thickened sludge per day	16,044	gal/d	WAS lbs/(thickened conc. * 8.34)
109				
110	<u>ALKALINITY</u>			
111				
112	Raw alkalinity concentration	134	mg/L CaCO3	Line 8
113	Alkalinity residual goal	<u>(100)</u>	mg/L CaCO3	Manual input
114	Alkalinty available	34	mg/L CaCO3	
115	Raw alkalinity mass available	1,302	lbs/d CaCO3	Q*alkalinity available*8.34
115A	Alkalinity mass recovered with denitrification	2,282	lbs/d CaCO3	Manual input
116	Alkalinity consumed	<u>(6,000)</u>	lbs/d CaCO3	TKN mass * 7.1
117	Alkalinity Deficiency (excess)	2,416	lbs/d CaCO3	
118	Hydrated lime requirement	0.89	tons/d	alk reqd/1.35/2000
119	Magnesium Hydroxide slurry requirement			
120	Alkalinity equivalent	1.71	lbs. CaCO3/lb. Mg(OH)2	Manual input
121	Slurry concentration	61%		Manual input
122	Magnesium Hydroxide slurry requirement	2,316	Lbs/d	alk reqd/Line 120/Line 121

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Summer AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O₂/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 MLE Process Design

Line	Parameter	Value	Units	Notes
------	-----------	-------	-------	-------

1 **INPUT DATA**

2

3 **Aerobic Process Loading**

4

5	Flowrate	4.59 MGD		Manual input
5A	CBOD5 mass to secondary process	7,446 lbs.CBOD/d		Manual input
5B	CBOD mass removed with denitrification	1,208 lbs.CBOD/d		Manual input
6	CBOD5 mass to aeration basins	6,238 lbs/d		Line 5A - Line 5B
7	TKN mass	845 lbs/d		Manual input
7A	P Mass Removed (75% of Total)	110 lbs/d		Manual input
8	Alkalinity concentration	134 mg/L CaCO ₃		Manual input, Based on City Sampling applied to ADW flow
9	Fixed TSS, % of total TSS	25% of TSS		Manual input
10	Inert VSS, % of total TSS	10% of TSS		Manual input
10A				
11	TSS mass	8,104 lbs/d		Manual input

12

13 **Process Design Parameters**

14

15

16	SRT (including anoxic and aerobic basins)	20 days		Manual input
17	Temperature	25 degrees C		Manual input
18	MLSS concentration (max)	5000 mg/L		Manual input
19	Oxygen Uptake Rate (max)	40 mg/L/hr		Manual input
20	Clarifier hydraulic load (max)	500 gpd/sf		Manual input
21	Number of aeration basins	1		Manual input
22	Number of clarifiers	3		Manual input
23	RAS ratio	100%		Manual input
24	Clarifier solids load (max)	35 lbs/d/sf		Manual input
25	a, Yield factor	0.4 lbs. VSS/lb. CBODL removed		Manual input
26	b, Endogenous decay factor at 20 deg C	0.2 lbs VSS destroyed/lb VSS/d		Manual input
27	Ratio CBODL:CBOD5	1.5		Manual input
28	e, CBOD removal efficiency	100%		Manual input
28A	P solids production chem P removal	10.0 lbs solids / lb P removed		Manual input
29	Min aeration HRT	2 hrs		Manual input
30	Aeration Basin Depth	16 ft		Manual input

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Webster City - 2022 Facility Plan
Activated Sludge Process Analysis
Summer AWW Loads Aeration Basin and Sludge Yield Calculations
Design Control 40 mg O2/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
MLE Process Design

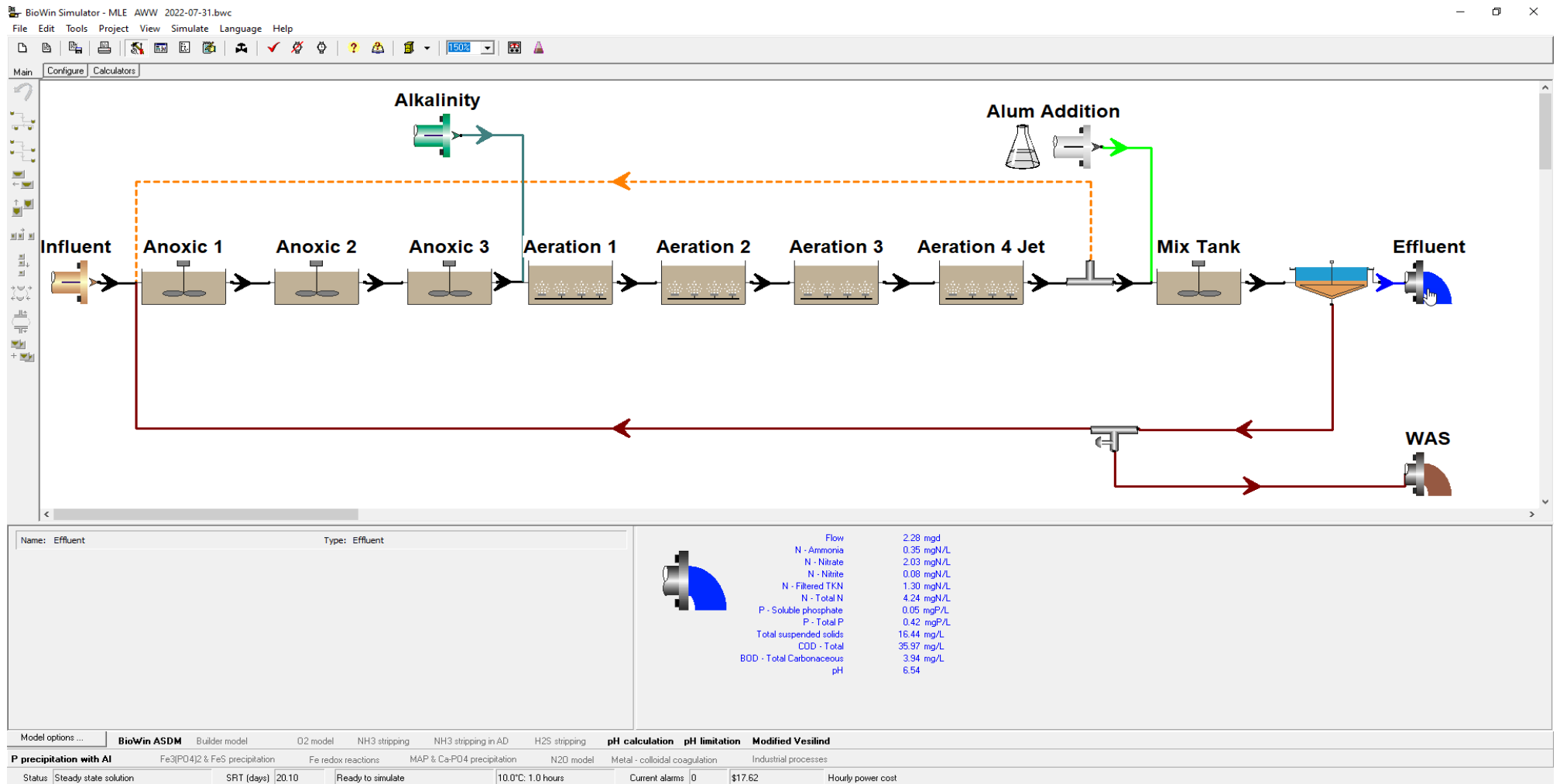
Line	Parameter	Value	Units	Notes
32	Aeration air requirement, O2 transfer	0.5	scfm/lb O2 per day transfer	Manual input
33	Aeration air requirement, mixing	0.14	scfm/sq ft basin	Manual input
34	Blower power	0.7	bhp-hr/lb O2	Manual input
35	Number of blowers (operating)	3		Manual input
36	Thickened sludge concentration	4.5%		Manual input
37				
38				
39				
40				
41	<u>AERATION BASINS</u>			
42				
43				
44	b, decay factor at operating temp.	0.25	lbs VSS destroyed/lb VSS/d	Line 26 + 0.01(T - 20)
45	L, CBODL Loading to aeration basins	9,357	lbs/d	Line 6 * Line 27
46	L, CBODL Loading to activated sludge process	11,169	lbs/d	Line 5A * Line 27
47	Sludge Production Rate			
48	MLVSS Production	1,489	lbs/d	$dM/dt = a_e L [1 - 0.8bSRT / (1 + bSRT)]$ [Line 46 CBOD load]
49	Inert VSS Production	810	lbs/d	Line 10 * Line 11
49A	Chem P Removal Solids Production	1,100	lbs/d	Line 7A * Line 28A
50	Fixed MLSS Production	<u>2,026</u>	lbs/d	Line 9 * Line 11
51	Total MLSS Production	5,426	lbs/d	
52	MLVSS/MLSS	42%		
53	MLSS Inventory	108,512	lbs	SRT * Line 51
54				
55	Aeration Requirement			
56	BODL	9,357	lbs O2/d	$dO/dt = eL$ [Line 6 CBOD load]
57	TKN oxidation	3,887	lbs O2/d	$dO/dt = 4.6 * TKN$
58	WAS oxygen equivalent	<u>(2,115)</u>	lbs O2/d	$dO/dt = 1.42 * dM/dt$
59	Total AOR required	11,129	lbs O2/d	
59A	Actual AOR provided		lbs O2/d	Manual input
60				
61	Aeration Volume Required			
62	MLSS Limit	2.60	MG	MLSS Inventory / (MLSS limit * 8.34)
63	OUR Limit	1.39	MG	(AOR/24) / (OUR limit * 8.34)
64	HRT Limit	0.38	MG	(Q/24) * Min HRT
65	Aeration Design Volume Required	2.60	MG	Max of the three volumes above
65A	Actual aeration basin volume provided	2.60	MG	Manual input
66	Actual anoxic basin volume provided	0.65	MG	Manual input

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Summer AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O2/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 MLE Process Design

Line	Parameter	Value	Units	Notes
66A	Actual anaerobic basin volume provided	0	MG	Manual input
67	Total anoxic ana + aeration basin volume provided	3.25	MG	Line 65A + Line 66 + Line 66A BASED ON 20d SRT Ana+Anox+Aer
68				
69				
70				
71				
72				
73				
74				
75	MLSS Concentration	4,003	mg/L	MLSS Inventory/(Aer + Anox Vol)/8.34 [Line 53/Line67/8.34]
76	OUR	21.4	mg/L/hr	AOR/24/Aeration Vol/8.34
77	F:M ratio	0.25	lbs CBOD5/lb MLVSS/d	CBOD5/(MLVSS Prod * SRT) based on anox. + aer.
78	CBOD Volumetric Loading	17.1	lbs CBOD5/1000 cf/d	CBOD5*1000/(Aeration Vol/7.48) based on anox. + aer.
79	HRT (aeration basin only)	13.6	hrs.	Aeration vol./influent flowrate
80				
81	<u>BLOWERS</u>			
82				
83	Number of Blowers (Operating)	3		Line 35
84	Oxygen transfer required	11,129	lbs O2/d	Line 59
85	Air Requirement			
86	O2 transfer	5,565	scfm	AOR * Line 32
87	Mixing requirement	3,044	scfm	Line 33 * (aeration volume/depth)
88	Aeration air requirement	5,565	scfm	Max of the two values above
89	Blower Capacity (each) required	1,855	scfm	Total air reqd/no of blowers
89A	Actual blower capacity provided (each)		scfm	Manual input
90	Blower bhp (each) required	108	bhp	(AOR/24)*Line 34/Line 83
90A	Actual blower motor horsepower (each)		hp	Manual input

Webster City - 2022 Facility Plan
 Activated Sludge Process Analysis
 Summer AWW Loads Aeration Basin and Sludge Yield Calculations
 Design Control 40 mg O2/L/hr or 5,000 mg/L MLSS or 15lbs CBOD/1000 CF Basin Volume
 MLE Process Design

Line	Parameter	Value	Units	Notes
102	<u>SLUDGE PRODUCTION</u>			
103				
104	Daily solids production	5,426	lbs/d	Line 51
105	Thickened sludge concentration	4.5%		Line 36
106	Approximate WAS concentration	8,007	mg/L	MLSS*(1+RAS ratio)/RAS ratio
107	Volume WAS per day	81,250	gal/d	1000000*WAS lbs/(WAS conc. *8.34)
108	Volume thickened sludge per day	14,457	gal/d	WAS lbs/(thickened conc. * 8.34)
109				
110	<u>ALKALINITY</u>			
111				
112	Raw alkalinity concentration	134	mg/L CaCO3	Line 8
113	Alkalinity residual goal	(100)	mg/L CaCO3	Manual input
114	Alkalinty available	34	mg/L CaCO3	
115	Raw alkalinity mass available	1,302	lbs/d CaCO3	Q*alkalinity available*8.34
115A	Alkalinity mass recovered with denitrification	1,544	lbs/d CaCO3	Manual input
116	Alkalinity consumed	(6,000)	lbs/d CaCO3	TKN mass * 7.1
117	Alkalinity Deficiency (excess)	3,154	lbs/d CaCO3	
118	Hydrated lime requirement	1.17	tons/d	alk reqd/1.35/2000
119	Magnesium Hydroxide slurry requirement			
120	Alkalinity equivalent	1.71	lbs. CaCO3/lb. Mg(OH)2	Manual input
121	Slurry concentration	61%		Manual input
122	Magnesium Hydroxide slurry requirement	3,024	Lbs/d	alk reqd/Line 120/Line 121



Appendix J - Detailed Process Design Summary
 Webster City WWTF Improvements
 Facility Plan - August 2022
 BioWin Model Effluent Parameters - MLE Process

Bioloop® Design Proposal - SNDN Process
Webster City WWTP Sanitaire #31507-22od

INFLUENT WASTEWATER CHARACTERISTICS AND SITE CONDITIONS

Number of Parallel Biological Trains	1	
	Per Biological Train	Total all Bio. trains
Average Annual Flow	4.59 MGD	4.59 MGD
Maximum Month Influent Flow	5.09 MGD	5.09 MGD
Peak Hourly Flow	11.78 MGD	11.78 MGD
BOD ₅ (20°C)	176 mg/l	
BOD ₅ (20°C)	7,446 lb/d	
Suspended Solids	191 mg/l	
TKN	20 mg/l	
Total Phosphorus	8 mg/l	
Max Wastewater Temperature	26.667 °C	
Min Wastewater Temperature	10.556 °C	
Ambient Air Temperature	20 - 110 °F	
Site Elevation	1,000 ft	

Bioloop® SNDN PROCESS EFFLUENT QUALITY (MONTHLY AVERAGE)

BOD ₅ (20°C)	25 mg/l
Suspended Solids	30 mg/l
NH ₃ -N	1 mg/l
TN	10 mg/l
Total Phosphorus*	1 mg/l
*Requires chemical precipitation	

Bioloop® SNDN PROCESS DESIGN CRITERIA

F / M	0.051 lb BOD ₅ / lb MLSS / day
SVI (after 30 minutes settling)	150 ml/g
Biological Mixed Liquor Suspended Solids (MLSS) conc.	3,900 mg/l
Waste Sludge Produced (Approx.)	6,834 lb/d
Volume of Sludge Produced (Approx. 0.78% solids)	105,052 gpd
Aerated Hydraulic Retention Time	21.34 Hrs
Sludge Age	21.5 Days
Sufficient Alkalinity must be provided to maintain basin pH of 6.8	
Chemical dosage (as Alum)	40 mg/l
RAS Pumping Rate	100% of Maximum Month Flow

Bioloop® SNDN PROCESS BASIN DESIGN DETAILS (PER TRAIN)

	<u>Oxidation Ditches operated in Series</u>			
	Anaerobic	Pre-Anoxic	Ditch 1	Ditch 2
Basin Quantity	1	1	1	1
Volume/Basin (MG)	0.464	0.156	2.261	2.261
Basin Length (ft) - *	52.5	34.0	192.0	192.0
Basin Width (ft)	65.6	34.0	34.0	34.0
Basin Depth (ft)	18.0	18.0	18.0	18.0
* - For oxidation ditches, basin length above is straight section length for Side by Side Ditch Type (see ref. drawing)				

Bioloop® SNDN PROCESS EQUIPMENT

	Anaerobic	Pre-Anoxic	Oxidation Ditches operated in Series	
			Ditch 1	Ditch 2
Mixer Quantity/Basin			2	2
Mixer Motor Hp			8.4	8.4
Fine Bubble Diffuser Quantity / Basin / Train			776	776
Biological blower (scfm/basin/train)			1245	1634

Biological Blowers (PD type) 2 Duty + 1 Standby with 100 Hp Motor

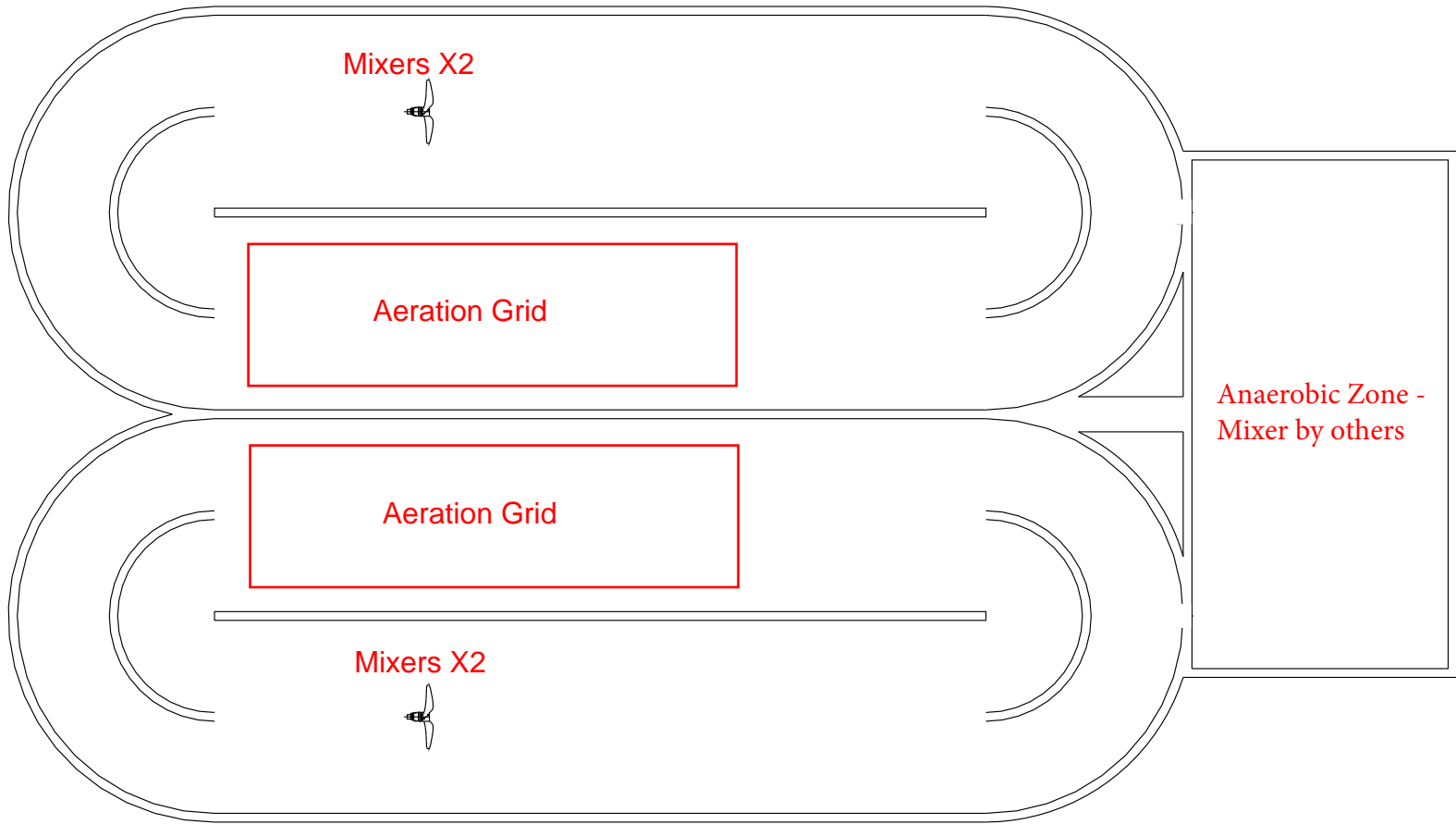
OSCAR Control Panel

Instruments and Valves in Basins				Quantity
Location	Ditch 1	Ditch 2		
ORP probe	Yes			1
DO probe	Yes	Yes		2
Air modulating valve	1@8 inch	1@8 inch		2
Airflow meter	1@8 inch	1@8 inch		2
Other Instruments and Valves				
Location			Size	
Air pressure transmitter	Bio Blower Discharge			1

Bioloop® SNDN AERATION/MIXING POWER REQUIREMENTS (TOTAL FOR ALL TRAINS)

	Anaerobic	Pre-Anoxic	Oxidation Ditches operated in Series		kW-hr/d
			Ditch 1	Ditch 2	
Basin Quantity	1	1	1	1	
Mixers / Basin			2	2	
Mixer Op. Hp			5.6	5.6	399
Bio Blowers Operating Power		2	at	88.5 Hp	3,169

Total kW-hr/d 3,568



PRELIMINARY – THIS DRAWING IS NOT INTENDED FOR CONTRACT DOCUMENTS, SUBMITTALS OR CONSTRUCTION



CUST. NO.	THIS DRAWING IS THE PROPERTY OF XYLEM AND IS SUBMITTED IN CONFIDENCE. IT IS NOT TO BE DISCLOSED, USED OR DUPLICATED WITHOUT PERMISSION OF XYLEM.	600 of 830	DRAWN BY	DATE	MODEL	JOB
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			APPVD. BY	DATE		



Bioloop® Oxidation Ditch with OSCAR™ process performance optimizer – SNDN) Process

**For:
Webster City WWTP**

Sanitaire Representative:
Electric Pump



June 22, 2022

Re: Webster City

Xylem is pleased to present a comprehensive wastewater treatment process solution by providing an integrated mechanical and electrical system that optimizes biological process performance. Plant operation is the largest life-cycle cost component for a wastewater treatment facility. An integrated and well-engineered control system for your specific requirements is critical for efficient, long-term plant operation, process control, and management. The proposed Bioloop® Oxidation Ditch combines Sanitaire fine bubble diffused aeration and Flygt mixers, coupled with OSCAR™ biological process controls and YSI instrumentation to deliver an energy-efficient process solution that is fully automatic and simple to operate. Our offerings leverage Xylem's unique understanding of aeration and mixing to provide the most efficient system available.

Features and benefits of our solution include:

Proven Solution with Single Supplier Responsibility

- Industry-leading products deliver a reliable solution you can trust.

Low Maintenance/Ease of Operation

- Sanitaire fine bubble diffused aeration equipment is robust, long-lasting, and resistant to clogging.
- Variable speed Flygt submersible mixers respond to load fluctuations and prevent sludge accumulation.
- The OSCAR® process performance optimizer control system provides real-time monitoring of DO and ORP so operators always have the information they need. Automation allows operators to enter setpoints and let the OSCAR® system do the rest.

Minimum Energy Consumption

- Flygt Mixers allow operators to match thrust with changing mixing needs to reduce energy use.
- The most efficient aeration control system available—high efficiency Sanitaire Silver Series II membrane diffusers coupled with OSCAR™ process control employs proprietary ORP and DO control to offer substantial energy savings compared with conventional systems.

Biological Nutrient Removal Process Design

- The SNDN process proposed is designed to oxidize BOD and ammonia, denitrify the wastewater to remove nitrates, and remove phosphorus biologically with chemical precipitation for polishing. The proposed design reduces energy consumption relative to other alternatives, recovers alkalinity, and addresses effluent requirements for nitrogen and phosphorus removal.

A. PROCESS DESIGN

I. SNDN Process Description (Reactors in Series option)

Xylem utilized an empirical model to evaluate the treatment performance of the subject project. Influent characterization, including influent condition and corresponding effluent quality requirements are defined in the attached sizing calculations.

In the SNDN process, two aerated oxidation ditches will be operated in series, followed by secondary clarifiers for solid-liquid separation. The oxygen supply rate to the initial aerated reactors, which will with a higher F:M ratio, will be a controlled rate so that the oxygen is quickly consumed (called an aerated-anoxic condition). The aerated reactor at the back end of the process will be maintained in an aerobic state and will remove any residual ammonia, but the majority of the ammonia will be converted to nitrate in the upstream aerated anoxic reactors.

As the liquor circulates away from the diffuser grids, most of the dissolved oxygen and nitrates will be consumed, resulting in anaerobic conditions to promote biological phosphorus removal. An anaerobic environment supports the selection of phosphorus accumulating organisms (PAOs). Anaerobic conditions also enhance hydrolysis of slowly biodegradable substrates to readily biodegradable substrates. The presence of PAOs provides excess phosphorus removal by elevating the phosphorus uptake of the biomass in excess to that required for cell growth. The anaerobic conditions, combined with readily available biodegradable substrate, promote the release of

phosphorus into solution. The phosphorus rich solution, combined with an aerobic environment and PAOs, results in an uptake of the phosphorus previously released in the outer channel as well as additional phosphorus uptake commonly referred to as luxury uptake. Phosphorus is ultimately removed from the system through sludge wasting. Denitrification concludes the nitrogen removal process by converting nitrate from the nitrification step to nitrogen gas which is released to the atmosphere. Denitrification occurs under anoxic conditions, relying on heterotrophic bacteria and readily available biodegradable substrate. Since the initial reactors are maintained in an aerated anoxic state, bacteria in the initial reactors can chemically bind the oxygen in nitrate to reduce readily available biodegradable substrate.

SNDN has been documented by several independent researchers¹²³⁴ as an energy-efficient method of total nitrogen removal. This process has also been successfully demonstrated at full-scale wastewater plants with fine bubble diffused aeration (FBDA), such as the Sanitaire oxidation ditches in Holmen, WI and the fine bubble diffused aeration plant in Fond Du Lac, WI. The challenge for maintaining Aerated Anoxic with FBDA has been the need to limit the oxygen supply rate during low temperatures and/or low influent load while maintaining mixing. The Bioloop® process addresses this need by using a combination of FBDA and submersible mixers to allow independent control of the mixing and oxygen supply rates.

The discharge from the inner channel flows to the secondary clarifiers. Return activated sludge (RAS) flows from the clarifiers to the beginning of the biological process (outer channel) to ensure that a healthy biomass is maintained in the biological basins. The excess sludge produced, the waste activated sludge (WAS), is taken out of the system to maintain a stable sludge mass (i.e., SRT). The schematic below shows the general process layout.

REDUNDANCY

To allow maintenance, the **Bioloop® Oxidation Ditch** system can also treat 50% of the design average annual mass load or more with any of the two ditches out of service. With the blowers supplying air to the diffuser grids in a common manifold, it is easy to increase the aeration rate to the remaining tanks when a basin is taken off-line.

Each oxidation ditch has two aeration grids. During periods of low load, either of the aeration grids can be shut off (using manually actuated valves) to allow the air supply to be turned down further, ensuring that aerated anoxic conditions needed for TN removal and anaerobic conditions needed for enhanced biological phosphorus removal can be maintained. ORP and DO probes, airflow meters, and airflow modulating valves provided by Sanitaire, along with an operator input to the HMI, will be used to control the oxygen supply to each ditch to maintain the optimum environment for biological nutrient removal.

Another benefit of operating multiple reactors in series during normal operation is that all or a fraction of the influent can be diverted to the downstream ditch during a peak flow event and/or a plant upset that impairs settling (step-feed or contact stabilization mode). This allows higher MLSS concentrations and/or higher SVI conditions to be tolerated without oversizing the secondary clarifiers, while maintaining good effluent quality throughout the peak flow or plant upset event. The switch from the normal operating mode to step-feed or contact stabilization can be accomplished with adjustable weir gates in a splitter box. This technique for handling peak flows has been demonstrated at hundreds of wastewater plants across the United States.

¹ Littleton, Daigger, Strom, Mechanisms of Simultaneous Biological Nutrient Removal in Closed Loop Reactors, WEFTEC 2003

² Barnard, Dunlap, Steichen, Utilizing Simultaneous Nitrification and Denitrification in BNR Plants to the Maximum Effect, WEFTEC 2013

³ Jimenez, Simultaneous Nitrification-Denitrification to Meet Low Effluent Nitrogen Limits, VWEA 2012

⁴ Fitzgerald, Noguera, Camejo, Ammonia-oxidizing microbial communities in reactors with efficient nitrification at low-dissolved oxygen, Water Research – Dec 2014 **604 of 830**

Appendix K: Preliminary Geotechnical Report



June 1, 2021

PN 211124

GEOTECHNICAL EXPLORATION

**FORCEMAIN AND PRELIMINARY WWTF IMPROVEMENTS
E OHIO STREET EXTENDING SOUTH OF HIGHWAY 20
WEBSTER CITY, IOWA**

PERFORMED FOR

**CITY OF WEBSTER CITY
400 2ND STREET, P.O. BOX 217
WEBSTER CITY, IA 50595**



June 1, 2021

City of Webster City
400 2nd Street, P.O. Box 217
Webster City, IA 50595
Attn: Ken Wetzler

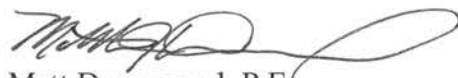
RE: Geotechnical Exploration
Forcemain and Preliminary WWTF Improvements
E Ohio Street extending South of Highway 20
Webster City, Iowa
PN 211124

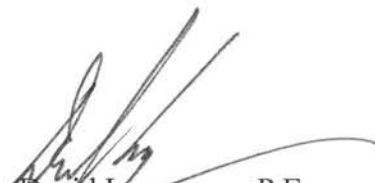
Dear Mr. Wetzler:



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 preliminary 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.


Matt Drummond, P.E.
Project Engineer


David Logemann, 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.	
	 6/1/2021	
	Matthew J. Drummond, P.E.	License Number 21407 Date
	My license renewal date is December 31, 2022.	
	Pages covered by this seal: <u> All Pages </u> .	

1 PC and 1 Email Above

1 Email Bolton & Menk; Attn: Andrew Sindt, P.E.

GEOTECHNICAL EXPLORATION

FORCEMAIN AND PRELIMINARY WWTF IMPROVEMENTS E OHIO STREET EXTENDING SOUTH OF HIGHWAY 20 WEBSTER CITY, IOWA

PN 211124

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GEOTECHNICAL EXPLORATION

FORCEMAIN AND PRELIMINARY WWTF IMPROVEMENTS E OHIO STREET EXTENDING SOUTH OF HIGHWAY 20 WEBSTER CITY, IOWA

PN 211124

June 1, 2021

PROJECT INFORMATION

The City of Webster City, with design assistance from Bolton & Menk, is planning a new wastewater forcemain and treatment facility (WWTF) located southeast of Webster City in Hamilton County, Iowa. The proposed forcemain is expected to follow a route east of the existing wastewater treatment facility following the Boone River Recreation Trail south. The forcemain will cross below US Highway 20 which will require trenchless construction methods. The WWTF is in preliminary design phases and locations and depths of proposed structures are not available at the time of this report. We recommend additional borings for WWTF structures and lagoon be conducted in the future to provide geotechnical recommendations for final design of the project.

FIELD EXPLORATION

Eighteen borings were conducted at this site to depths of 14.1 to 39.1 feet below existing grades on February 17 through 19 and March 2, 2021. Approximate locations of test borings are shown on the preceding Figure Nos. 1 and 2 and enclosed Site Plan. Boring locations were staked and recorded at the site by Bolton & Menk during a field meeting with ABE, Bolton & Menk, and the City on February 12, 2021. The location of Boring No. 19 was offset approximately 45 feet east from the proposed/surveyed location due to a possible buried utility (sewer) and overhead electric lines. Boring No. 9 was not conducted due to shallow bedrock conditions encountered in Boring No. 8 on the north side of US Highway 20. Boring surface elevations, indicated on the enclosed Boring Logs, were provided by Bolton & Menk for the surveyed boring locations. Methods of drilling, sampling, standard laboratory testing, and classifying of subsurface materials are discussed in the Boring Log Description/Legend pages of the Appendix.



Figure No. 1 - Site Overview with Soil Boring Locations

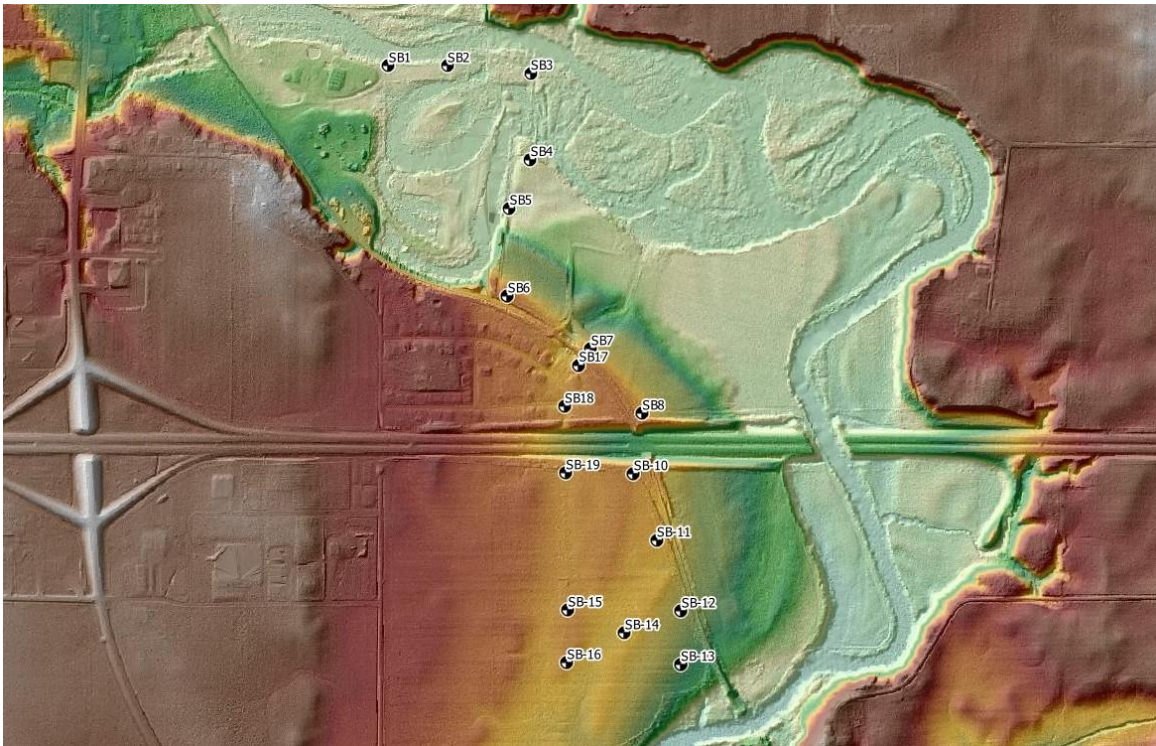


Figure No. 2 - Hillshade Model with Soil Boring Locations

SUBSURFACE CONDITIONS

Site Geology

This project site is located within a geomorphic region known as the “Des Moines Glacial Lobe.” The Wisconsin glacier was the last glacier to advance into north central Iowa. The brown to brown-gray Wisconsin supraglacial 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 Wisconsin subglacial 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 low-lying northern portion of the forcemain site is located within the reclaimed flood plain of the Boone River. The natural topography within the flood plain exhibits little relief and is relatively level. Fill materials encountered at the surface have been placed for development or reclamation of the flood plain area. The natural soil profile encountered below the fill materials consists primarily of cohesive alluvial soils comprised of silts and clays grading to extensive deposits of sand and gravel associated with depositional events of the waterway.

The overburden Wisconsin glacial till and alluvium soils are underlain by the Mississippian bedrock system consisting primarily of undifferentiated formations of dolomite, limestone, and sandstone.

Soil Profile

Detailed descriptions of soils encountered by this exploration are provided on the Boring Logs enclosed in the Appendix. The Profile of Borings presented in the Appendix depict the relative deposit elevations in borings conducted along the sanitary sewer forcemain (Plates A-1 and A-2) and future wastewater treatment facility (Plates A-3 and A-4). 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.

Boring Nos. 1 through 5 were conducted along the forcemain alignment in the lower lying portion of the site near the Boone River floodplain and encountered granular and cohesive alluvium soils consisting primarily of silty and clayey sand (SM and SP) with clay seams or layers, grading to medium to coarse sand with gravel below depths of approximately 12 to 14 feet. Boring Nos. 1 through 4 terminated in loose to medium dense saturated sand and gravel near depths of 15 feet. Cohesive alluvium with sand was more prevalent in Boring No. 5 which terminated in very moist and soft to stiff sandy lean clay (CL) alluvium near a depth of 15 feet.

Boring Nos. 6 through 19 were conducted along upland portions of the forcemain route and at the future wastewater treatment plant site. Borings in the upland portions of the site encountered a typical soil sequence consisting primarily of sandy lean clay (CL) fill or topsoil overlying brown-gray sandy lean clay (CL) Wisconsinan supraglacial till, dark gray sandy lean clay (CL) Wisconsinan subglacial till, silty fine to medium sand (SM) glacial outwash, and limestone bedrock.

Moist to very moist and medium stiff fill encountered in Boring Nos. 7, 8, 10 through 12, 17, and 18 extended to depths of 3 to 5.5 feet. Very moist and medium stiff topsoil encountered at the surface in Boring Nos. 6 and 13 through 16 extended to depths of approximately 1 to 1.5 feet. The fill or topsoil was underlain by moist to very moist and medium stiff to very stiff Wisconsinan supraglacial till which extended to depths between 7.5 and 15.5 feet in the borings. Random sand seams and thicker glacial outwash (sand) layers were observed in Boring Nos. 6 through 19 between various depths of 3 to 30 feet. Damp to moist and stiff to hard Wisconsinan subglacial till was encountered underlying the supraglacial till. Boring No. 11 terminated in stiff subglacial till near a depth of 15 feet. Boring Nos. 6 and 7 terminated in hard subglacial till near depths of 30 feet. Boring No. 17 terminated in medium dense glacial outwash near a depth of 30 feet.

Limestone bedrock was encountered underlying the Wisconsinan subglacial till or glacial outwash in Boring Nos. 8, 10, 12 through 16, 18, and 19 below depths of 21 to 30 feet. The upper portion of the bedrock in several borings was fractured/weathered, generally becoming harder with depth. These borings terminated in hard limestone bedrock near depths between 14.1 to 39.1 feet.

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 was noted near depths of 11 to 24 feet in approximately 2/3 of the borings. At the completion of drilling operations, groundwater accumulation was observed between depths of 13 to 15 feet in Boring Nos. 1 through 5 conducted in the lower lying floodplain area of the site, and between depths of 5 to 25 feet in the upland Boring Nos. 6 through 19. Temporary piezometers were installed in Boring Nos. 15 and 16 in the western portion of the future wastewater treatment plant, in the area of the future lagoon. After a period of 7 days, groundwater levels in Boring 15 and 16 were observed near depths of 10.5 feet. It should be recognized that 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 mottling of the Wisconsin glacial till is an indication of past fluctuations of the groundwater in this zone. Therefore, we interpret that past seasonal high groundwater tables have been near depths of 3 to 5 feet or deeper below existing grades. Furthermore, in these subsurface conditions it is common to encounter perched groundwater conditions within sand seams, glacial outwash, and the more variably sandy Wisconsin supraglacial till overlying the denser, less permeable Wisconsin subglacial till. Fluctuation of groundwater levels can occur due to seasonal variations in the amount of rainfall, surface drainage, subsurface drainage, site topography, irrigation practices, ground cover (pavement or vegetation), and stage level of the nearby Boone River.

ANALYSES AND RECOMMENDATIONS

Sanitary Forcemain

Limestone bedrock was encountered below depths of 10 to 29 feet. In general, bedrock surface was encountered between approximate elevations 1026 and 1028 feet. The bedrock surface appears to slope gently east and north toward the river. The bedrock was generally shallowest (approximately 10 to 15 feet deep, near elevation 1026.5 feet) in Boring No. 13 conducted in the western portion of the future wastewater treatment facility and deepest in Boring No. 8 below a depth of 30 feet (below approximate elevation 1022 feet). Considering existing Highway 20 grades in the area south of Boring No. 8, near elevation 1026 feet in the center median of Highway 20, we estimate limestone bedrock could be as shallow as 4 feet below ditch level at this potential forcemain crossing location. The limestone bedrock surface in Boring Nos. 18 and 19 conducted north and south of Highway 20, east of the substation and overhead power lines, was encountered between approximate elevations 1026 to 1028 feet. The center ditch of Highway 20 at this potential

forcemain crossing appears to be near elevation 1040 feet, or approximately 12 feet or more above the bedrock surface.

Directional boring or other trenchless construction methods may be required to extend the sanitary forcemain below Highway 20. We expect that directional boring operations will likely encounter medium stiff to stiff sandy lean clay (CL) Wisconsin supraglacial and subglacial till overlying medium dense clayey sand (SC) glacial outwash. The glacial outwash encountered in Boring No. 18 was saturated at the time of drilling. Directional borings which encounter flowing sand layers may require stabilization measures to complete boring operations. It should be noted that trenchless methods that provide continuous support of the tunnel face would be preferable to reduce the risk of ground loss if saturated sands are encountered. If boulders or large rock fragments are encountered during drilling, special core drilling or hand excavating techniques could be required.

Excavation, Stability, Dewatering and Backfilling

Sand is present as alluvium in the lower lying floodplain portions of the forcemain route and as random sand seams or glacial outwash layers in upland locations at the site. We anticipate the majority of excavations for the forcemain and treatment plant site will encounter both granular (sand) and cohesive (clay) soils. The overburden soils can typically be excavated utilizing conventional excavation equipment. Excavations encountering hard limestone bedrock, if any, will likely require rippers, pneumatic tools, hydraulic breakers, or heavier excavation equipment.

Above groundwater levels, the sands can be excavated utilizing conventional excavation equipment. However, the sands are easily disturbed by construction traffic and excavations will most likely require low impact equipment (such a backhoe) to minimize disturbance of these materials. For excavations extending below the water table, it will be necessary to conduct extensive dewatering of the areas with sand points and/or wells prior to excavation. When dewatering, water levels should be maintained a minimum of 2 feet below the bottom of excavations in saturated sands to prevent upward seepage forces which could result in reduced 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. It is to be noted that provisions for shoring and bracing of deep excavations are required of the contractor by OSHA.

All trench and structure backfill should be placed in lifts compatible with compaction equipment. Cohesive (clay) soils should be compacted within a moisture content range of -1 to +4 percent of the material's optimum moisture content. The recommended degree of compaction guidelines for backfill is provided in the following Table A.

**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.

At the time of this geotechnical exploration, the moisture contents of the onsite cohesive soils were generally above the recommended moisture content range for compaction. Adjustment of soil moisture content will be required to lower or raise the moisture to within the recommended moisture content range. Discing and aeration is generally the most economical method to lower soil moisture content if climatic conditions allow. Chemical modification of very moist soils with quicklime or Class C fly ash can be accomplished if construction scheduling does not permit field drying. If

grading or fill placement at the site will be conducted during colder weather, it should be noted that common chemical modification methods may be ineffective when temperatures are near or below 40° Fahrenheit.

WWTF and Lagoon Preliminary Considerations

The future WWTF is planned to be located in the field approximately ¼ mile south of US Highway 20 in the area extending approximately ¼ mile west of the railroad embankment as shown in the following Figure No. 3. The WWTF is in preliminary design phases and locations and depths of proposed structures are not available at the time of this report; however, we understand treatment lagoons may be located in the western portion of the WWTF site. Boring Nos. 12 through 16 were conducted at the WWTF site with Boring Nos. 15 and 16 located in the area of future lagoons.



Figure No. 3 - Proposed WWTF Site and Preliminary Boring Locations

The Iowa Department of Natural Resources (IDNR) suggests 4 feet of separation between the top of the lagoon seal and the maximum groundwater level (18C.3.5.2). A minimum of 2 feet of separation is required when using a soil seal. If the maximum anticipated groundwater table is less than two feet below the bottom of the lagoon, a synthetic liner will be required. The groundwater table at the site is a subdued reflection of the ground surface and will be highest in the slope in the

northwest portion of the future WWTF site. Groundwater levels below the future lagoon area measured 7 days after conducting the borings were observed near elevation 1041.6 feet on the north side of the future lagoon site to near elevation 1040.5 feet in the southern portion of the lagoon site. These observed water levels are approximately 1.5 feet below and 2 feet above the level of the denser Wisconsinan subglacial till encountered in Boring Nos. 15 and 16, respectively. Preliminarily, it would be appropriate to establish the preliminary bottom level of the future lagoon at least 2 feet above the level of the denser Wisconsinan subglacial till, at elevation 1045 feet or higher. This level would be 2 feet or more above observed high groundwater levels in the borings. Groundwater levels at the site may fluctuate and longer-term continued measurement of groundwater levels in temporary piezometers at the site could more closely define seasonal high groundwater levels below the future WWTF site and lagoon. If higher groundwater levels are recorded in the future, subsurface drainage along the north and west perimeters of the lagoon could be considered to lower perched groundwater levels within the glacial outwash and more variably sandy Wisconsinan supraglacial till above the level of the denser, less permeable subglacial till.

The IDNR Animal Feeding Operations Siting Website indicates that the proposed WWTF site is located within an area of "Potential Karst" due to bedrock outcrops and shallow depth to bedrock in areas along the Boone River. The IDNR website does not show any documented sinkholes in the Webster City area. Potential karst terrain is indicative of near surface soluble bedrock such as limestone. Limestone bedrock was encountered in the lagoon area borings below approximate elevations 1027 to 1028 feet. Preliminarily establishing the lagoon bottom near or above elevation 1045 feet (based on preliminary groundwater levels or use of subdrains to draw down perched groundwater) would provide 15 feet or more of separation between the bedrock and lagoon bottom. Iowa DNR 18C.3.6.2 indicates a separation of 10 feet between the pond bottom and any bedrock formations is recommended with a minimum separation of 4 feet required. Due to the bedrock depth and presence of overburden glacial till above the limestone, it is our opinion that this site is unlikely to be underlain by karst features.

Boring No. 16 was conducted in the southern portion of the future lagoon site and encountered silty sand (SM) glacial outwash extending to near elevation 1038 feet. The IDNR requires where sand soils are encountered on the lagoon bottom or side slopes for a soil liner, they should be over-excavated a minimum of two feet and backfilled with low permeability cohesive soils. Due to the presence of sand seams, glacial outwash layers, and very sandy zones within the Wisconsinan supraglacial till in the preliminary borings, a two-foot-thick cohesive soil liner will

likely be necessary over the entire lagoon bottom and side slopes extending to two feet above the maximum water level to ensure that the sand seams/zones are adequately sealed.

Standard Proctor and falling head permeability tests were performed on samples of the sandy lean clay Wisconsinan supraglacial till and subglacial till soils obtained from depths between 2 to 9 and 9 to 17.5 feet below existing grades in Boring No. 15. The results are provided in the Appendix as Figures PR-1 and PR-2. The following Table B provides the results of Proctor and falling head permeability tests performed on the recompacted representative samples which indicate the on-site sandy lean clay (CL) Wisconsinan supraglacial till and subglacial till soils would be suitable materials for use as compacted soil liner.

**TABLE B
RESULTS OF FALLING HEAD PERMEABILITY TEST**

Soil Type (Sample Location)	Moisture Content (percent)	Dry Density (pcf)	Percent Compaction	Permeability (ft/day)	Required Liner Thickness (ft)¹
Wisconsinan Supraglacial Till Boring No. 15 (2' – 9')	16.1%	112.9	94.5%	4.7×10^{-5}	0.1
Wisconsinan Subglacial Till Boring No. 15 (9' – 17.5')	15.5%	114.0	94.7%	4.9×10^{-5}	0.1

- 1) Minimum liner thickness required to meet IDNR seepage loss requirement of less than 1/16 inch per day under a maximum water depth of 10 feet. Calculations based on Darcy's Law utilizing a factor of safety equal to 1.

The stiff to very stiff sandy lean clay (CL) Wisconsinan supraglacial and subglacial till encountered in preliminary borings for the WWTF could provide suitable support for future structures. Based on preliminary boring data, the Wisconsinan supraglacial till and newly placed fill would generally be capable of providing net allowable soil bearing pressures on the order of 2,500 pounds per square foot. Higher net allowable soil bearing pressures would be possible for structures bearing deeper in the stiff to very stiff Wisconsinan subglacial till.

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.

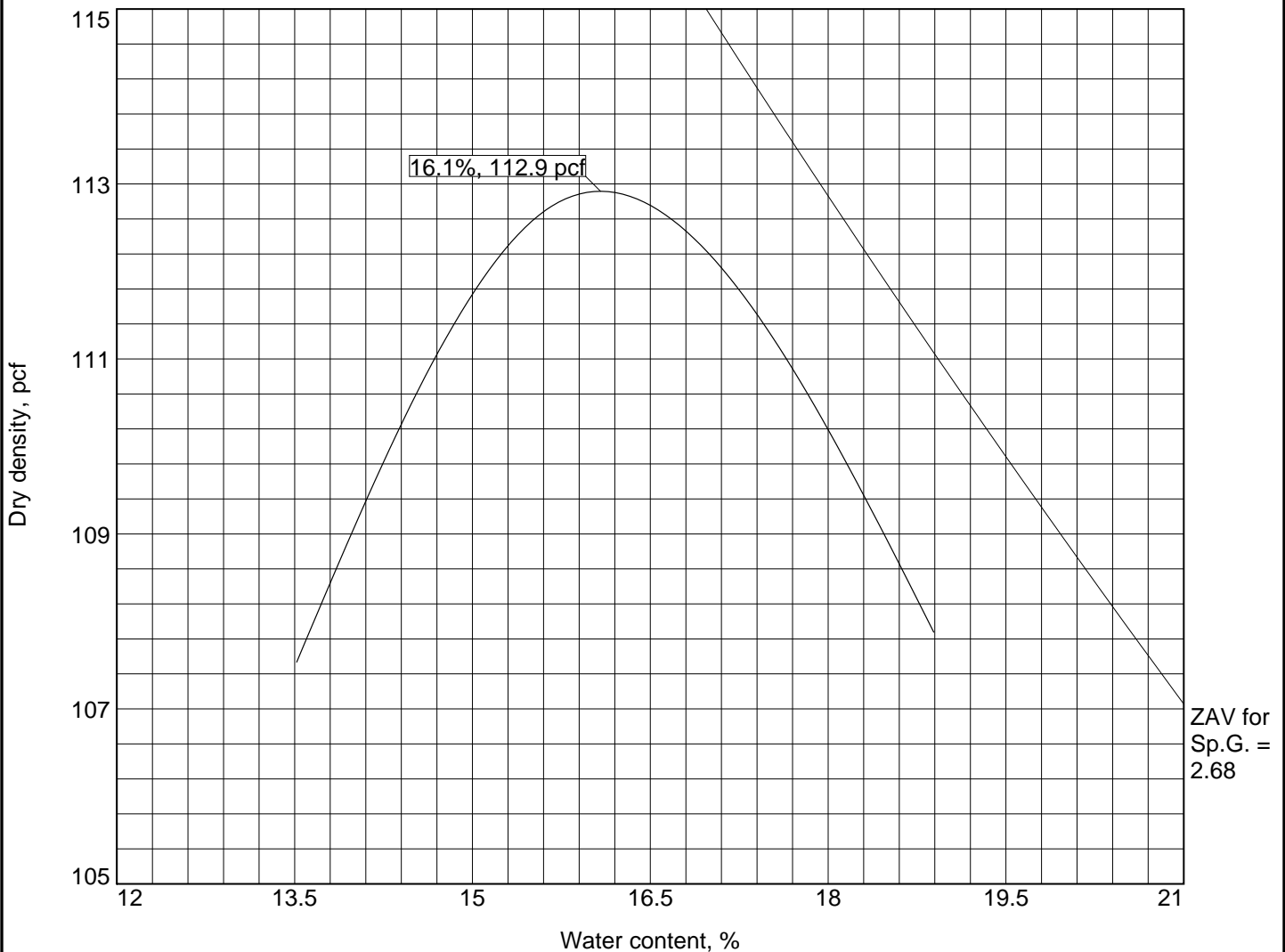
It is recommended that the geotechnical engineer be provided the opportunity to review the plans and specifications so that comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications. It is further recommended that the geotechnical 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

PROCTOR TEST REPORT



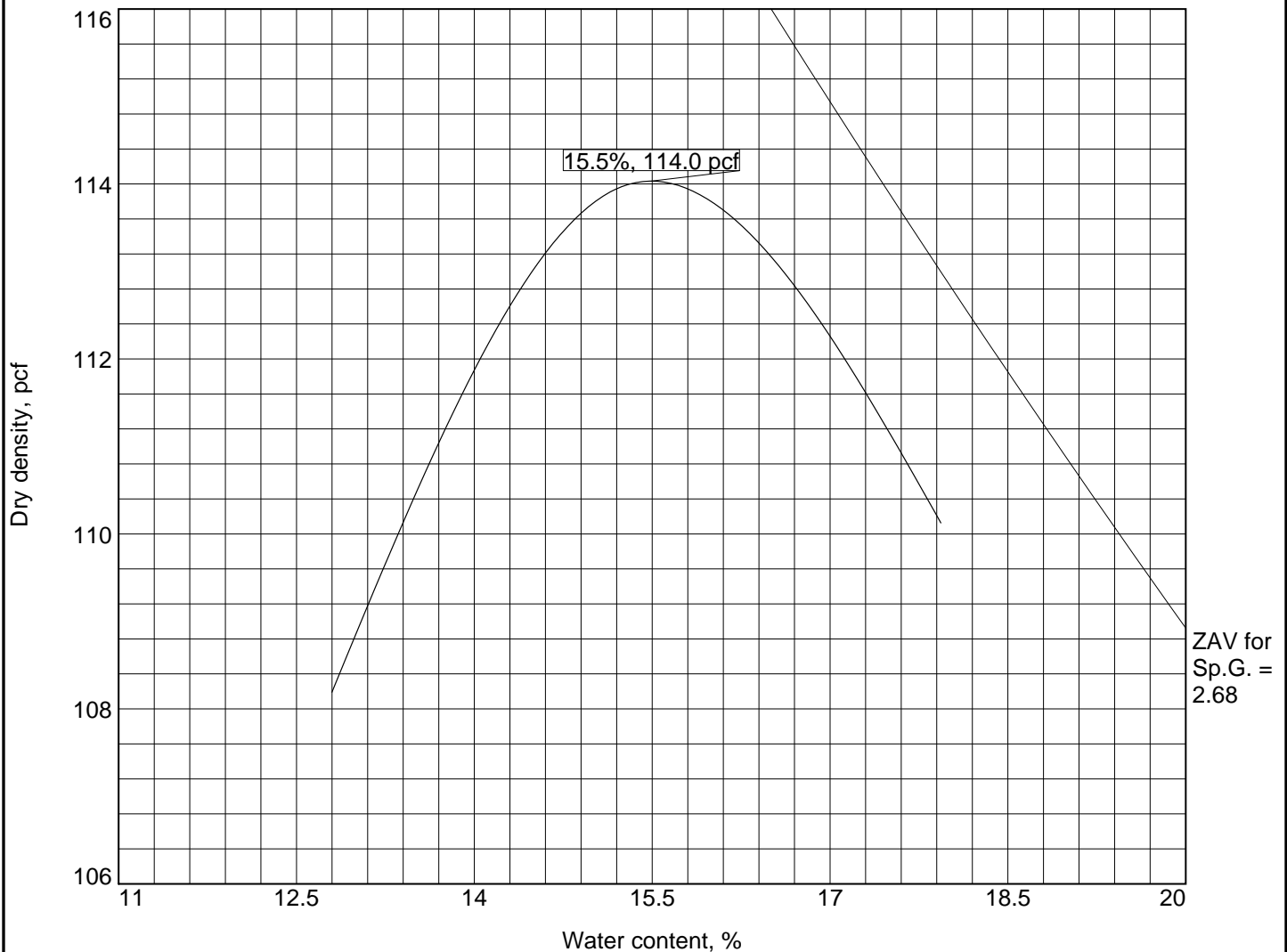
Test specification: ASTM D 698-12 Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
2' to 9'	CL			2.68				

TEST RESULTS		MATERIAL DESCRIPTION	
Maximum dry density = 112.9 pcf Optimum moisture = 16.1 %		Brown-gray sandy lean clay, trace gravel	
Project No. 211124 Client: City of Webster City Project: Forcemain & Preliminary WWTF Improvements E Ohio St. Extending South of Highway 20, Webster City, Iowa Location: Boring No. 15		Remarks: WISCONSINAN SUPRAGLACIAL TILL	
ALLENDER BUTZKE ENGINEERS, INC.		Figure PR-1	

Figure PR-1

PROCTOR TEST REPORT



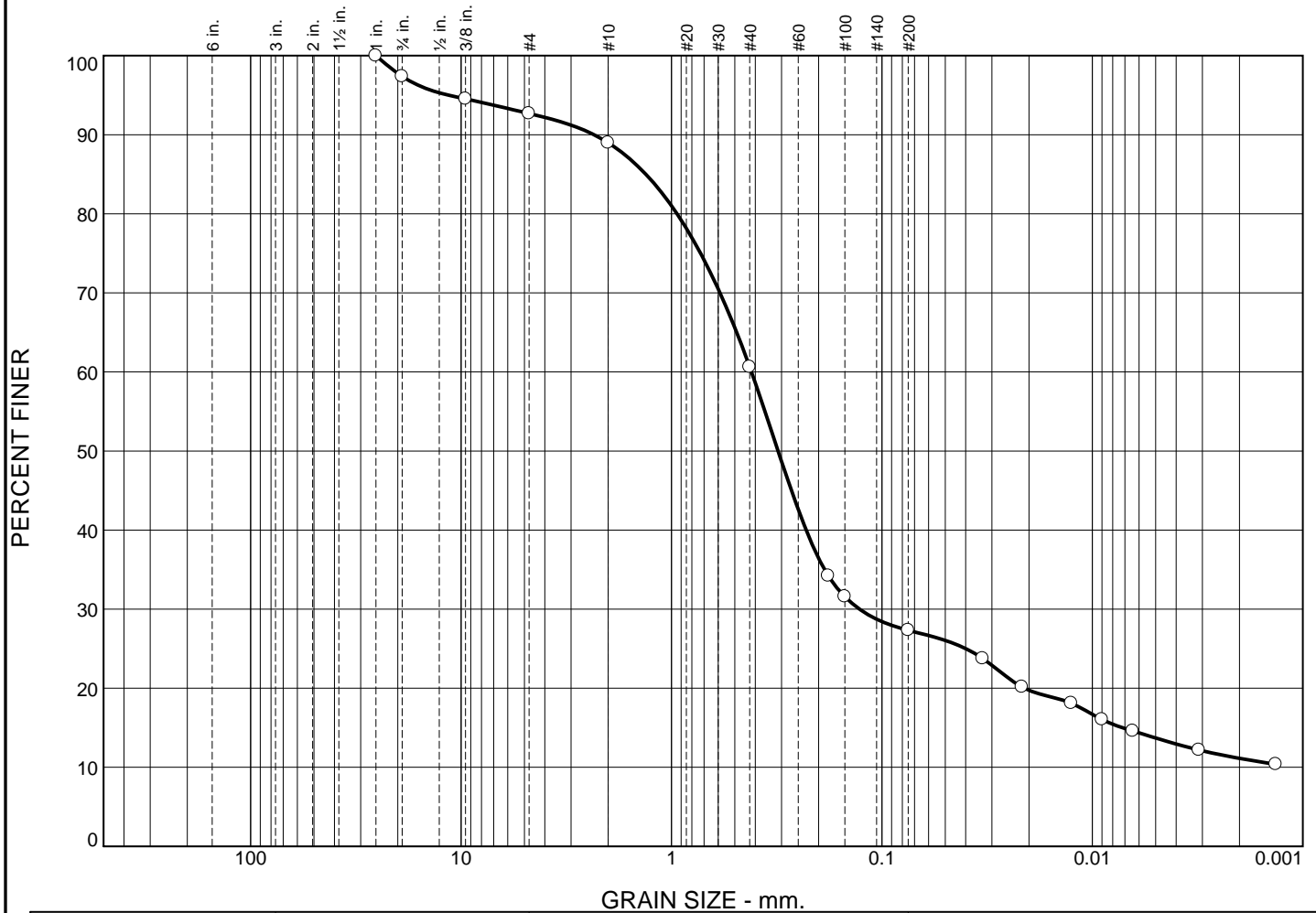
Test specification: ASTM D 698-12 Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
9' to 17.5'	CL			2.68				

TEST RESULTS		MATERIAL DESCRIPTION	
Maximum dry density = 114.0 pcf Optimum moisture = 15.5 %		Dark gray sandy lean clay, trace gravel	
Project No. 211124 Client: City of Webster City Project: Forcemain & Preliminary WWTF Improvements E Ohio St. Extending South of Highway 20, Webster City, Iowa Location: Boring No. 15		Remarks: WISCONSINAN SUBGLACIAL TILL	
ALLENDER BUTZKE ENGINEERS, INC.			
		Figure PR-2	

Figure PR-2

Particle Size Distribution Report



	% +3"		% Gravel		% Sand				% Fines		
			Coarse	Fine	Coarse	Medium	Fine	Silt		Clay	
<input type="radio"/>	0.0		2.6	4.7	3.7	28.4	33.3	16.2		11.1	
<input checked="" type="checkbox"/>	LL	PI	D ₈₅	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u	
<input type="radio"/>			1.3240	0.4169	0.3116	0.1277	0.0072				

MATERIAL DESCRIPTION	USCS	AASHTO
<input type="radio"/> Brown silty fine to medium sand, trace gravel		

Project No. 211124 Client: City of Webster City Project: Forcemain & Preliminary WWTF Improvements E Ohio St. Extending South of Highway 20, Webster City, Iowa <input type="radio"/> Location: Boring No. 16 Depth: 1' to 12'	Remarks: <input type="radio"/> GLACIAL OUTWASH
ALLENDER BUTZKE ENGINEERS, INC.	

Figure GS-1

BORING LOG DESCRIPTION/LEGEND

(page 1 of 4)

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 4)

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

(page 3 of 4)

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)	

BORING LOG DESCRIPTION/LEGEND

(page 4 of 4)

BEDROCK

CLASSIFICATION	
LIMESTONE	Light to dark colored, crystalline to fine-grained texture, composed of CaCO_3 , reacts with HCl.
DOLOMITE	Light to dark colored, crystalline to fine-grained texture, composed of MgCO_3 , slightly harder than limestone, reacts with HCl when powdered.
CHERT	Light to dark colored, smooth, very fine-grained texture, composed of micro-crystalline quartz (SiO_2), brittle, breaks into angular fragments, will scratch glass.
SANDSTONE	Usually light colored, coarse to fine texture, composed of cemented sand-sized grains of quartz, feldspar, etc.
SHALE	Light to dark colored, very fine-grained texture, composed of consolidated mud, silt, or clay, usually bedded in thin layers. The unlaminated equivalent is frequently referred to as siltstone, claystone, or mudstone.
COAL	Usually black graphite-like material composed of carbonaceous matter (decomposed organics) and clay, brittle.

Rock Quality Designation, RQD is based on a modified core recovery procedure which, in turn, is based indirectly on the number of fractures and amount of softening or alteration in the rock mass as observed in the rock cores from a drill hole. Instead of counting the fractures, an indirect measure is obtained by summing up the total length of core recovered but counting only those pieces of core which are 4 inches in length or longer, and which are hard and sound.











ROCK QUALITY DESIGNATION (RQD)


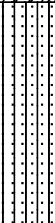
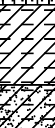




RQD	Description of Rock Quality
0 – 25	Very Poor
25 – 50	Poor
50 – 75	Fair
75 – 90	Good
90 – 100	Excellent


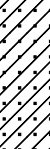







BORING LOG NO. 1 NORTHING 8574311 EASTING 14777246								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1015.6' Datum: Site Survey								Date Drilled: 2/17/2021 Drilling Method: 4" CFA				
Drilling Depth, ft.: 15								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.
1014	0							CRUSHED ROCK WITH FINES (6"±)		CL		0.5
								Dark brown very sandy lean clay, moist				1015.1
								COHESIVE ALLUVIUM				2
		1	SSA	5	5.8			Brown silty fine to medium sand, moist		SP-SM		1013.6
1008	6							GRANULAR ALLUVIUM				
								Trace gravel 10' to 12'				
								Saturated after 12'				
1002	12							Brown medium to coarse sand with clay after 13'		SW-SC GP		
		3	SSA	25				Gravel with sand, trace clay after 14'				15
								End of Boring				1000.6
996	18											
990	24											
984	30											
978	36											




*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: 13 ft. ft. ft.	ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.
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
BORING LOG NO. <u>2</u> NORTHING <u>8574317</u> EASTING <u>1477765</u>								Project No.: <u>211124</u>				
Project: <u>Forcemain & Preliminary WWTF Imps.</u> <u>E Ohio St. Extending South of Highway 20</u> <u>Webster City, Iowa</u>								Client: <u>City of Webster City</u> <u>400 2nd Street, P.O. Box 217</u> <u>Webster City, Iowa 50595</u>				
Surface Elevation: <u>1015.9'</u> Datum: <u>Site Survey</u>								Date Drilled: <u>2/17/2021</u> Drilling Depth, ft.: <u>15</u>				
								Drilling Method: <u>4" CFA</u> Page: <u>1</u> of <u>1</u>				
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.
1014	0							Dark brown very sandy lean clay, moist Gray silty fine to medium sand, trace gravel, damp after 0.5'		CL SP		1.5
		1	SSA	7	14.3			FILL Dark brown silty fine to medium sand, moist Brown, trace gravel after 4'		SP- SM		1014.4
	6											
1008		2	SSA	6	7.7			With clay seams from 7' to 8.5' GRANULAR ALLUVIUM Brown-light brown fine to medium sand with silt after 8.5'		CL SP- SM		
								Brown with gravel 10 to 11.5'				
	12							Sandy clay seams from 11.5' to 12.5'		CL		
1002		3	SSA	9	8.0			Gray medium to coarse sand with silt, trace gravel after 12.5'		SW- SM		15
								Saturated after 14.8'				1000.9
								End of Boring				
	18											
996												
	24											
990												
	30											
984												
	36											
978												
*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: <u>14.8</u> ft.  ft.  ft. 								ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.				

BORING LOG NO. 3 NORTHING 8574261 EASTING 14778501								Project No.: 211124					
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595					
Surface Elevation: 1012.9' Datum: Site Survey								Date Drilled: 2/17/2021 Drilling Depth, ft.: 15					
								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 ft.	Elevation ft.
1008 1002	0							Dark brown lean clay, trace organics, very moist TOPSOIL		CL		2	
	6	1	SSA	6	5.3			Brown-light brown fine to medium sand with silt, damp to moist GRANULAR ALLUVIUM		SP-SM		1010.9	
		2	SSA	3	7.2 23.3			Gray-brown lean clay, trace sand, very moist COHESIVE ALLUVIUM Dark gray very sandy lean clay after 11.5'		CL		9 1003.9	
	12	3	SSA	14	10.6			Gravel with sand, trace clay, saturated GRANULAR ALLUVIUM		GP		14 998.9	
	18							End of Boring				15 997.9	
990	24												
984	30												
978	36												
972													
*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: 13 ft.  ft.  ft. 								ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.					

BORING LOG NO. <u>4</u> NORTHING <u>8573501</u> EASTING <u>14778509</u>								Project No.: <u>211124</u>				
Project: <u>Forcemain & Preliminary WWTF Imps.</u> <u>E Ohio St. Extending South of Highway 20</u> <u>Webster City, Iowa</u>								Client: <u>City of Webster City</u> <u>400 2nd Street, P.O. Box 217</u> <u>Webster City, Iowa 50595</u>				
Surface Elevation: <u>1017.3'</u> Datum: <u>Site Survey</u>								Date Drilled: <u>2/17/2021</u> Drilling Depth, ft.: <u>15</u>				
								Drilling Method: <u>4" CFA</u> Page: <u>1</u> of <u>1</u>				
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.
1014	0							Dark brown silty sand, moist to very moist Dark brown clayey sand after 1.5'		SM SC		
	6	1	SSA	5	12.5			Brown after 5' GRANULAR ALLUVIUM				8.5
1008		2	SSA	9	22.1			Brown trace gray sandy lean clay, very moist COHESIVE ALLUVIUM		CL		1008.8 10.5
	12							Brown silty fine to medium sand, saturated Brown clayey medium to coarse sand, trace gravel after 12'		SP-SM SW-SC		1006.8
1002		3	SSA	12				GRANULAR ALLUVIUM Gravel with sand and clay after 14'		GP		15
	18							End of Boring				1002.3
996												
990	24											
984	30											
978	36											
*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: <u>12</u> ft.  ft.  ft. 								ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.				

BORING LOG NO. <u>5</u> NORTHING <u>8573073</u> EASTING <u>14778329</u>								Project No.: <u>211124</u>					
Project: <u>Forcemain & Preliminary WWTF Imps.</u> <u>E Ohio St. Extending South of Highway 20</u> <u>Webster City, Iowa</u>								Client: <u>City of Webster City</u> <u>400 2nd Street, P.O. Box 217</u> <u>Webster City, Iowa 50595</u>					
Surface Elevation: <u>1013.0'</u> Datum: <u>Site Survey</u>								Date Drilled: <u>2/17/2021</u> Drilling Depth, ft.: <u>15</u>					
								Drilling Method: <u>4" CFA</u> Page: <u>1</u> of <u>1</u>					
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.	
1008	0							Dark brown sandy lean clay, trace gravel and organics, very moist TOPSOIL		CL		1.5	
		1	SSA	4				Very dark brown sandy lean clay, moist COHESIVE ALLUVIUM		CL			1011.5
	6							Gray clayey fine to medium sand, saturated GRANULAR ALLUVIUM		SP-SC			3.5
1002		2	SSA	2	36.8			Gray lean clay, trace sand, very moist		CL		1009.5	
	12							Saturated clayey sand seam 10' to 11' COHESIVE ALLUVIUM		CL			6.5
		3	SSA	22	34.2			Dark gray lean clay with sand, very moist					1006.5
								Sandy after 13.5'				15	
								End of Boring				998	
996	18												
990	24												
984	30												
978	36												
972													

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.



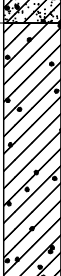

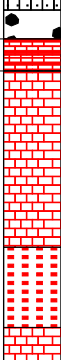
Water Level Observation Time: at completion hrs. days Depth to water: <u>8</u> ft.  ft.  ft. 	ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.
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BORING LOG NO. 6		NORTHING 8572300		EASTING 14778322		Project No.: 211124																																																																																																																															
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa				Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595																																																																																																																																	
Surface Elevation: 1053.7' Datum: Site Survey				Date Drilled: 2/17/2021 Drilling Depth, ft.: 30		Drilling Method: 4" CFA Page: 1 of 1																																																																																																																															
<table border="1"> <thead> <tr> <th>Elevation ft.</th> <th>Depth ft.</th> <th>Sample No.</th> <th>Type</th> <th>SPT bpf</th> <th>Moisture Content, %</th> <th>Dry Density pcf</th> <th>Unconfined Compressive Strength psf</th> </tr> </thead> <tbody> <tr> <td>1050</td> <td>6</td> <td>1</td> <td>ST</td> <td></td> <td>21.1</td> <td>103</td> <td>5140</td> </tr> <tr> <td>1044</td> <td>12</td> <td>2</td> <td>ST</td> <td></td> <td>17.4</td> <td>106</td> <td>2520</td> </tr> <tr> <td>1038</td> <td>18</td> <td>3</td> <td>ST</td> <td></td> <td>18.7</td> <td>106</td> <td>2340</td> </tr> <tr> <td>1032</td> <td>24</td> <td>4</td> <td>ST</td> <td></td> <td>19.8</td> <td>104</td> <td>2230</td> </tr> <tr> <td>1026</td> <td>30</td> <td>5</td> <td>SSA</td> <td>45</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1020</td> <td>36</td> <td>6</td> <td>SSA</td> <td>75</td> <td>10.9</td> <td></td> <td></td> </tr> </tbody> </table>				Elevation ft.	Depth ft.	Sample No.	Type	SPT bpf	Moisture Content, %	Dry Density pcf	Unconfined Compressive Strength psf	1050	6	1	ST		21.1	103	5140	1044	12	2	ST		17.4	106	2520	1038	18	3	ST		18.7	106	2340	1032	24	4	ST		19.8	104	2230	1026	30	5	SSA	45				1020	36	6	SSA	75	10.9			<table border="1"> <thead> <tr> <th>Material Description*</th> <th>Graphic Log</th> <th>USCS</th> <th>Water Level</th> <th>Depth Elevation ft.</th> </tr> </thead> <tbody> <tr> <td>Dark brown sandy lean clay, trace organics, moist TOPSOIL</td> <td></td> <td>CL</td> <td></td> <td>1</td> </tr> <tr> <td>Dark brown to brown sandy lean clay, trace gravel, moist</td> <td></td> <td>CL</td> <td></td> <td>1052.7</td> </tr> <tr> <td>Sand seam near 5.5'</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>WISCONSINAN SUPRAGLACIAL TILL</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Brown-gray after 10'</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Dark gray sandy lean clay, trace gravel, moist</td> <td></td> <td>CL</td> <td></td> <td>1038.7</td> </tr> <tr> <td>WISCONSINAN SUBGLACIAL TILL</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Very sandy and very moist after 21'</td> <td></td> <td></td> <td></td> <td>22</td> </tr> <tr> <td>Brown coarse sand with gravel, saturated</td> <td></td> <td>SP</td> <td></td> <td>1031.7</td> </tr> <tr> <td>GLACIAL OUTWASH With large limestone pieces after 24'</td> <td></td> <td></td> <td></td> <td>26</td> </tr> <tr> <td>Dark gray sandy lean clay with limestone fragments, damp</td> <td></td> <td>CL</td> <td></td> <td>1027.7</td> </tr> <tr> <td>WISCONSINAN SUBGLACIAL TILL</td> <td></td> <td></td> <td></td> <td>30</td> </tr> <tr> <td>End of Boring</td> <td></td> <td></td> <td></td> <td>1023.7</td> </tr> </tbody> </table>				Material Description*	Graphic Log	USCS	Water Level	Depth Elevation ft.	Dark brown sandy lean clay, trace organics, moist TOPSOIL		CL		1	Dark brown to brown sandy lean clay, trace gravel, moist		CL		1052.7	Sand seam near 5.5'					WISCONSINAN SUPRAGLACIAL TILL					Brown-gray after 10'					Dark gray sandy lean clay, trace gravel, moist		CL		1038.7	WISCONSINAN SUBGLACIAL TILL					Very sandy and very moist after 21'				22	Brown coarse sand with gravel, saturated		SP		1031.7	GLACIAL OUTWASH With large limestone pieces after 24'				26	Dark gray sandy lean clay with limestone fragments, damp		CL		1027.7	WISCONSINAN SUBGLACIAL TILL				30	End of Boring				1023.7
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BORING LOG NO. 7 NORTHING 8571847 EASTING 14779063								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1051.8' Datum: Site Survey								Date Drilled: 2/18/2021 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.
1050	0							Dark brown sandy lean clay, trace gravel, moist		CL		
		1	SSA	8	16.5			FILL Very dark brown and brown mixed after 2'				4
1044	6							Brown-gray sandy lean clay, trace gravel, moist		CL		1047.8
		2	ST		19.9	101	1970	WISCONSINAN SUPRAGLACIAL TILL With interbedded sand seams after 10'				
1038	12											15.5
		3	ST		18.0	105	4660					
1032	18							Brown silty fine to medium sand, saturated		SP-SM		1036.3
		4	SSA	17	18.7			GLACIAL OUTWASH				19.3
1026	24							Dark gray sandy lean clay, trace gravel, moist		CL		1032.5
		5	ST		12.1	123	15,260	Moisture seepage near 21.5' WISCONSINAN SUBGLACIAL TILL Hard to very hard and damp after 23.5'				25
1020	30							Gray silty fine to medium sand, trace gravel, saturated		SP-SM		1026.8
		6	SSA	84	10.2			GLACIAL OUTWASH Large gravel/cobbles near 28'				29
								Dark gray sandy lean clay, trace gravel, damp		CL		1022.8
								WISCONSINAN SUBGLACIAL TILL				30
								End of Boring				1021.8
1014	36											

*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.



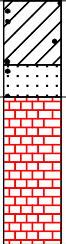
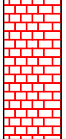



Water Level Observation Time: at completion hrs. days Depth to water: 23 ft. ft. ft.		ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.	
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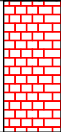



BORING LOG NO. 8 NORTHING 8571284 EASTING 14779522								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1050.8' Datum: Site Survey								Date Drilled: 2/18/2021 Drilling Depth, ft.: 39.1				
								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.
1050	0							Dark brown clayey sand, trace gravel, moist		SC		
		1	SSA	9	18.6			FILL Brown silty medium to coarse sand with gravel after 2'		SW-SM		3.5
1044	6							Brown-gray sandy lean clay, trace gravel, moist		CL		1047.3
		2	SSA	23	19.4			Very sandy with gravel after 7.5'				
1038	12							WISCONSINAN SUPRAGLACIAL TILL				14
		3	SSA	20	17.1			Dark gray sandy lean clay, trace gravel, moist		CL		1036.8
1032	18							WISCONSINAN SUBGLACIAL TILL				
		4	SSA	13	20.1							22
1026	24							Silty fine to medium sand, trace gravel, moist		SP-SM		1028.8
		5	SSA	41				Moisture seepage near and saturated after 24'				
								GLACIAL OUTWASH				
								Boulder encountered near 28.5'				29
1020	30	6	SSA	100	7.4			Yellow fractured limestone, damp				1021.8
								WEATHERED BEDROCK				30
								Yellow limestone, damp				1020.8
								BEDROCK				
1014	36							Gray-brown sandstone, moist after 35.5'				
		7	SSA	94	10.2							
								Yellow limestone, damp after 38.5'				39.1
		8	SSA	50/1"				End of Boring				1011.7
*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: 24 ft. ft. ft.								ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.				

















BORING LOG NO. 9 NORTHING 8570759 EASTING 14779771							Project No.: 211124						
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa							Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595						
Surface Elevation: 1045.6' Datum: Site Survey							Date Drilled: N/A Drilling Depth, ft.: 40		Drilling Method: N/A 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.
1044	0							After discussion with Bolton & Menk, Boring No. 9 was removed from the geotechnical scope due to the shallow depth of limestone bedrock encountered in Boring No. 8 resulting in unlikely forcemain crossing at this location					
	6												
1038													
	12												
1032													
	18												
1026													
	24												
1020													
	30												
1014													
	36												
1008													
								End of Boring				40	
1005.6													
*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: ft. ft. ft.								ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.					

BORING LOG NO. 10							NORTHING 8570753			EASTING 14779454			Project No.: 211124		
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa							Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595								
Surface Elevation: 1052.4' Datum: Site Survey							Date Drilled: 2/22/2021 Drilling Depth, ft.: 29.2			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.			
1050	0							Dark brown sandy lean clay, moist		CL					
		1	SSA	7				Brown very sandy clay with gravel and concrete pieces, moist after 2.5' FILL				5.5			
1044	6				19.7	104	3360	Brown sandy lean clay, trace gravel after 3.5' Brown-gray sandy lean clay, trace gravel, moist WISCONSINAN SUPRAGLACIAL TILL		CL		1046.9			
		2	ST									10.5			
1038	12				18.1	107	3750	Dark gray sandy lean clay, trace gravel, moist Moisture seepage near 13' WISCONSINAN SUBGLACIAL TILL		CL		1041.9			
		3	ST												
1032	18				14.7			Gray silty fine to medium sand seam 18.5' to 19.5'				22			
		4	SSA	27											
1026	24							Gray clayey fine to coarse sand with gravel, saturated GLACIAL OUTWASH		SC		1030.4			
		5	SSA	30								25.5			
1020	30							Yellow fractured limestone. moist WEATHERED BEDROCK				1026.9			
		6	SSA	50/ 0.25"				Yellow limestone. damp BEDROCK				27			
								End of Boring				1025.4			
1014	36											29.2			
												1023.2			
*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: 24 ft. _____ ft. _____ ft.								<div style="text-align: center;"> <h2>ALLENDER BUTZKE ENGINEERS, INC.</h2> <p>Geotechnical Environmental Construction Q.C.</p> </div>							




BORING LOG NO. 11 NORTHING 8570170 EASTING 14779664								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1050.0' Datum: Site Survey								Date Drilled: 3/2/2021 Drilling Method: 4" CFA				
Drilling Depth, ft.: 15								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.
1044	0							Dark brown sandy lean clay, trace gravel, very moist FILL		CL		3
	6	1	SSA	7	5.8			Brown fine to medium sand with clay, damp Brown fine to medium sand, trace gravel after 3.5' GLACIAL OUTWASH		SP-SC SP		1047
								Brown fine to coarse sand with silt after 6'		SW- SM		7
		2	SSA	31	20.0			Brown sandy lean clay, trace gravel, moist WISCONSINAN SUPRAGLACIAL TILL		CL		1043
								Brown-gray after 9'				10.5
1038	12							Dark gray sandy lean clay, trace gravel, moist Saturated silty sand seam 12' to 13.5' WISCONSINAN SUBGLACIAL TILL		CL		1039.5
		3	ST		20.3	104	1560					15
								End of Boring				1035
1032	18											
1026	24											
1020	30											
1014	36											
*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: 12 ft. ft. ft.								ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.				













BORING LOG NO. 12 NORTHING 8569550 EASTING 14779889								Project No.: 211124					
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595					
Surface Elevation: 1041.9' Datum: Site Survey								Date Drilled: 3/2/2021 Drilling Depth, ft.: 18.6					
								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.	
1038	0							Very dark brown sandy lean to fat clay, very moist Moisture seepage near surface		CL-CH CL CL		3	
		1	SSA	6	20.1			FILL					
		2	SSA	7	22.6			Dark gray and brown mixed sandy lean clay, trace gravel, very moist after 2'					1038.9
		3	ST		19.8	103	3460	Brown-gray sandy lean clay, trace gravel, moist					
		4	ST		16.9	109	3310	WISCONSINAN SUPRAGLACIAL TILL					
		5	SSA	120				Dark gray silty clay seam, very moist 10' to 11'					11
1026	12							Dark gray sandy lean clay, trace gravel, moist		CL		1030.9	
		6	SSA	50/1"				WISCONSINAN SUBGLACIAL TILL				14	
								Sand with gravel after 13'				1027.9	
1020	18							Yellow limestone, moist to damp				18.6	
		6	SSA	50/1"				BEDROCK				1023.3	
1014	24							End of Boring					
	30												
	36												
	1002												
*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. 13 NORTHING 8569082 EASTING 14779889								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1036.5' Datum: Site Survey								Date Drilled: 3/2/2021 Drilling Depth, ft.: 14.1				
								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.
1032	0							Very dark brown sandy lean clay, very moist TOPSOIL		CL		1
		1	SSA	7	18.7			Dark brown sandy lean clay, trace gravel, very moist		CL		1035.5
								Brown-gray, moist after 4'				
		2	SSA	7	23.9			WISCONSINAN SUPRAGLACIAL TILL				
	6							Very sandy after 6'				8.3
		3	ST		22.5	104	4000**					
1026		4	SSA	16				Gray clayey fine to medium sand, saturated GLACIAL OUTWASH		SP-SC		1028.2
								Yellow limestone, damp				10
	12	6	SSA	50/1"				BEDROCK				1026.5
1020								End of Boring				14.1
		5	SSA	50/0.2"				**Estimated using calibrated hand penetrometer				1022.4
	18											
1014	24											
1008	30											
1002	36											
996												
*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.				



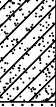









BORING LOG NO. 14 NORTHING 8569353 EASTING 14779392								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1048.0' Datum: Site Survey								Date Drilled: 3/2/2021 Drilling Depth, ft.: 30.5				
								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.
1044	0							Very dark brown sandy lean clay, very moist TOPSOIL		CL		1
		1	SSA	7	29.0			Dark brown very sandy clay, trace gravel, very moist		CL		1047.3
		2	SSA	12	10.6			WISCONSINAN SUPRAGLACIAL TILL		SP-SC		1045
								Brown clayey sand, saturated after 3'		SP		5.5
	6	3	SSA	16	20.5			Light brown fine to medium sand after 4' GLACIAL OUTWASH		CL		1042.5
								Brown-gray sandy to very sandy clay, trace gravel, moist		CL		1040.5
		4	SSA	18	17.3 23.1			WISCONSINAN SUPRAGLACIAL TILL				
								Dark gray sandy lean clay, trace gravel, moist				
1038	12							Gray clayey sand seam 12.5' to 13.5' WISCONSINAN SUBGLACIAL TILL				
		5	SSA	13	17.3							
	18	6	SSA	8	14.5							21
												
1026								Dark gray, gray, and light brown clay shale, moist				1027
	24	7	SSA	12	32.7			Yellow fractured limestone, damp after 25.5' WEATHERED BEDROCK				
1020												30.5
	30	8	SSA	62	14.4			End of Boring				1017.5
1014	36											
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: 10 ft.  ft.  ft. 	ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.
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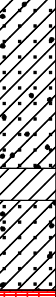






BORING LOG NO. 15		NORTHING 8569547		EASTING 14778888		Project No.: 211124									
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa				Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595											
Surface Elevation: 1052.1' Datum: Site Survey				Date Drilled: 2/22/2021		Drilling Method: 4" CFA									
				Drilling Depth, ft.: 27.2		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.			
1050	0	1	SSA	15	20.7			Very dark brown lean clay with sand, trace organics, moist TOPSOIL		CL		1.5			
		2	SSA	11	21.5			Dark brown sandy lean clay, trace gravel, moist Brown-gray with interbedded sand seams throughout after 3. 5' WISCONSINAN SUPRAGLACIAL TILL		CL		1050.6			
1044	6	3	ST		18.9	105	5060					9			
		4	ST		18.0	106	5240	Dark gray sandy lean clay, trace gravel, moist		CL		1043.1			
1038	12	5	ST		17.8	108	4050	WISCONSINAN SUBGLACIAL TILL				17.5			
1032	18	6	SSA	40				Gray clayey fine to coarse sand with gravel, saturated GLACIAL OUTWASH		SW-SC		1034.6			
								Dark gray sandy lean clay, trace gravel, moist with sand seams throughout WISCONSINAN SUBGLACIAL TILL		CL		1032.4			
1026	24	7	SSA	74	13.3			Light gray limestone, damp BEDROCK				24.8			
		8	SSA	50/ 0.25"				Light brown after 26' End of Boring				1027.3			
1020	30											27.2			
1014	36											1024.9			
*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.															
Water Level Observation													ALLENDER BUTZKE ENGINEERS, INC.		
Time: at completion hrs. 7 days															
Depth to water: 18 ft. 10.5 ft.													Geotechnical Environmental Construction Q.C.		









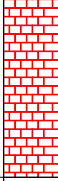
BORING LOG NO. 16 NORTHING 8569085 EASTING 14778884								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1051.0' Datum: Site Survey								Date Drilled: 2/22/2021 Drilling Depth, ft.: 29.8				
								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.
1050	0							Dark brown sandy lean clay, trace organics, moist		CL		1
		1	SSA	25	11.7			TOPSOIL Brown clayey sand, trace gravel, damp		SC		1050
		2	SSA	9	12.2			Brown silty fine to medium sand, trace gravel, damp after 2.5'		SP-SM		
1044	6	3	SSA	11	9.6			GLACIAL OUTWASH				
		4	SSA	26	15.3			Moist after 8.5'				
								Saturated after 11'				
1038	12	5	SSA	31	13.8			Dark gray sandy lean clay, trace gravel, moist with sand seams throughout		CL		1038.5
								Very moist near 17'				
1032	18	6	SSA	56	11.3			WISCONSINAN SUBGLACIAL TILL				
								Saturated sand after 22'				
1026	24	7	SSA	171				Yellow fractured limestone, moist				1028
								WEATHERED BEDROCK Yellow limestone, damp				23.5
								BEDROCK				1027.5
												
1020	30	8	SSA	200				End of Boring				29.8
												1021.2
												
												
												
												
												
												
												
												

BORING LOG NO. 17 NORTHING 8571702 EASTING 14778958								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1052.7' Datum: Site Survey								Date Drilled: 2/18/2021 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.
1050	0							Dark brown sandy lean clay, trace gravel, moist FILL		CL		3.5
	6	1	SSA	7	13.2			Brown-gray sandy lean clay, trace gravel, moist		CL		1049.2
1044		2	ST		17.8	105	3550	WISCONSINAN SUPRAGLACIAL TILL				
	12							With interbedded sand seams after 11.5'				
1038		3	SSA	23	18.4							15.5
	18							Dark gray sandy lean clay, trace gravel, moist		CL		1037.2
1032		4	ST		18.3	110	3700	With interbedded sand seams throughout after 19.7'				
	24							WISCONSINAN SUBGLACIAL TILL				
1026		5	SSA	31	11.0			Moisture seepage near 23'				26
	30							Gray silty fine to medium sand, saturated GLACIAL OUTWASH		SP-SM		1026.7
		6	SSA	31								30
								End of Boring				1022.7
1020												
	36											
1014												




*The stratification lines represent the approximate boundary lines between material types: in-situ, the transition may be gradual.

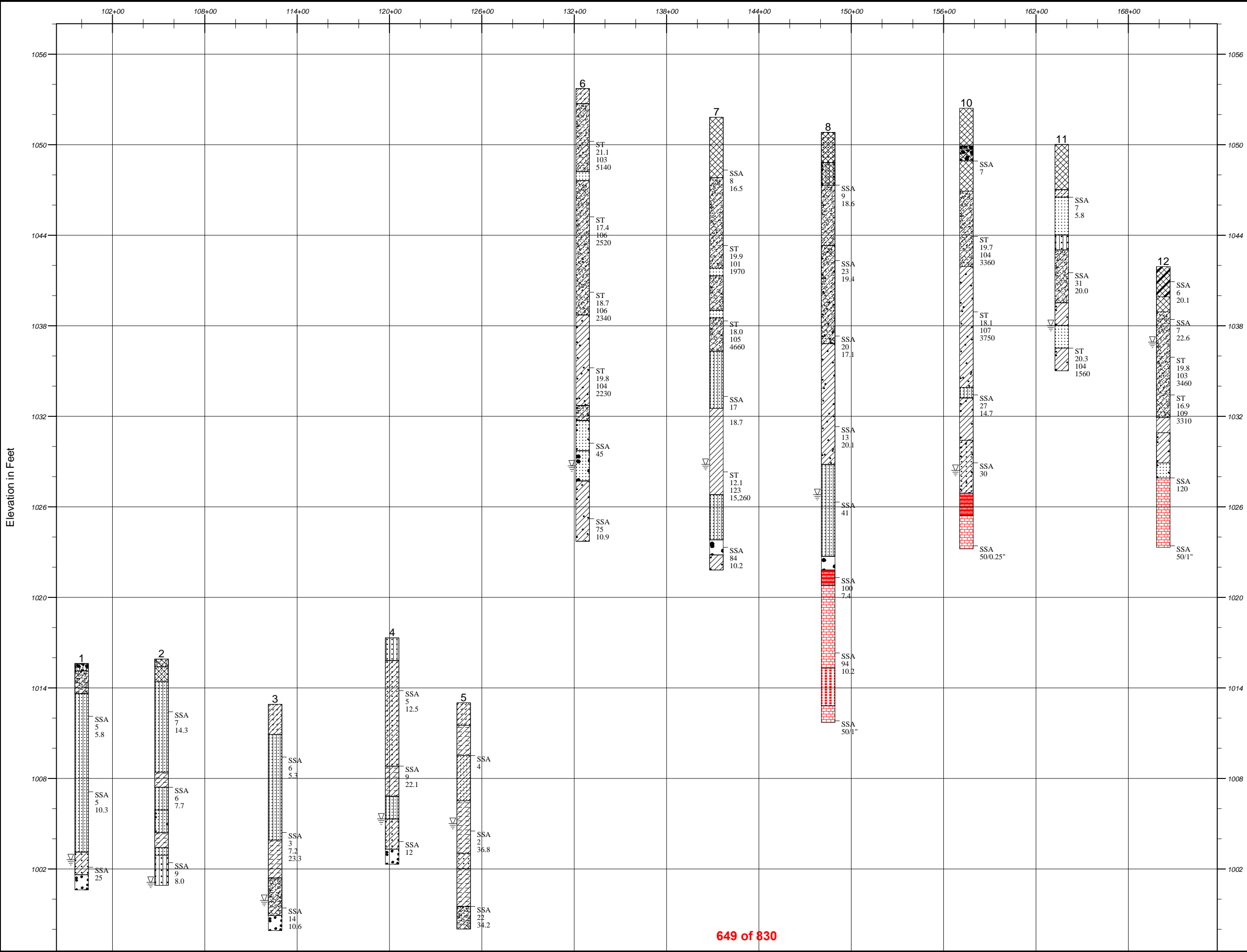
Water Level Observation Time: at completion hrs. days Depth to water: 20 ft.  ft.  ft. 	ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.
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BORING LOG NO. 18 NORTHING 8571337 EASTING 14778836								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa								Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595				
Surface Elevation: 1050.3' Datum: Site Survey								Date Drilled: 3/2/2021 Drilling Depth, ft.: 27.2		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.
1050	0							Dark brown sandy lean clay, trace gravel, moist FILL		CL		4
		1	ST		17.0	101	2450	Brown-gray sandy lean clay, trace gravel, moist		CL		1046.3
1044	6							WISCONSINAN SUPRAGLACIAL TILL				
		2	SSA	3	19.9							
1038	12							Dark gray sandy lean clay, trace gravel, moist WISCONSINAN SUBGLACIAL TILL		CL		1037.3
		3	ST				3000**					15.5
1032	18							Brown clayey medium to coarse sand with gravel, saturated		SC		1034.8
		4	SSA	23				GLACIAL OUTWASH Clay seam 21' to 22'				
1026	24							Yellow fractured limestone, moist WEATHERED BEDROCK				1025.5
		6	SSA	50/0.2"				Yellow limestone, damp BEDROCK				1024.3
1020	30							End of Boring **Estimated using calibrated hand penetrometer				1023.1
1014	36											
*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: 16 ft.  ft.  ft. 								ALLENDER BUTZKE ENGINEERS, INC. Geotechnical Environmental Construction Q.C.				

BORING LOG NO. 19 NORTHING 8570753 EASTING 14778899								Project No.: 211124				
Project: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa						Client: City of Webster City 400 2nd Street, P.O. Box 217 Webster City, Iowa 50595						
Surface Elevation: 1051.5'± Datum: Site Survey						Date Drilled: 3/2/2021 Drilling Depth, ft.: 29.2				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.
1050	0							Very dark brown lean to fat clay, trace sand, moist LOCAL ALLUVIUM		CL-CH		2
		1	SSA	5	8.8			Brown-gray sandy lean clay, trace gravel, moist WISCONSINAN SUPRAGLACIAL TILL		CL		1049.5 3.5
								Gray medium to coarse sand with gravel, damp GLACIAL OUTWASH		SW		1048 5.5
1044	6							Brown-gray sandy to very sandy lean clay, moist to very moist WISCONSINAN SUPRAGLACIAL TILL		CL		1046 8.5
		2	SSA	19	19.2			Dark gray sandy lean clay, trace gravel, moist		CL		1043
	12							WISCONSINAN SUBGLACIAL TILL				
1038		3	SSA	10	20.9							
	18											
1032		4	ST		9.3	114	3070					
	24	5	SSA	150		12.2		Saturated sand seam 23' to 23.5'				23.5
1026								Light gray limestone, moist				1028
								BEDROCK				
	30	6	SSA	50/2"								
1020								End of Boring				1022.3
	36											
1014												

*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.
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PROFILE OF BORINGS

Profile of Borings Legend

Symbol	Description
Strata symbols	
	Crushed Rock With Fines
	Alluvial Sandy Lean Clay
	Poorly Graded Sand With Silt
	Well-graded Sand With Clay
	Poorly graded gravel
	Sandy Lean Clay Fill
	Sand Fill
	Lean Clay Alluvium
	Poorly Graded Sand With Silt and Gravel
	Well graded sand with silt
	Lean Clay Topsoil
	Silty Sand
	Clayey Sand
	Poorly Graded Sand With Clay
	Sandy Lean Clay
	Poorly Graded Sand
	Sandy Lean Clay with Gravel
	Sandy Lean Clay With Gravel
	Sand with Gravel
	Sand With Boulders
	Lean Clay Fill
	Lean Clay
	Cobbles
	Clayey Sand Fill
	Silty Sand Fill
	Weathered Limestone

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ENGINEERS, INC.

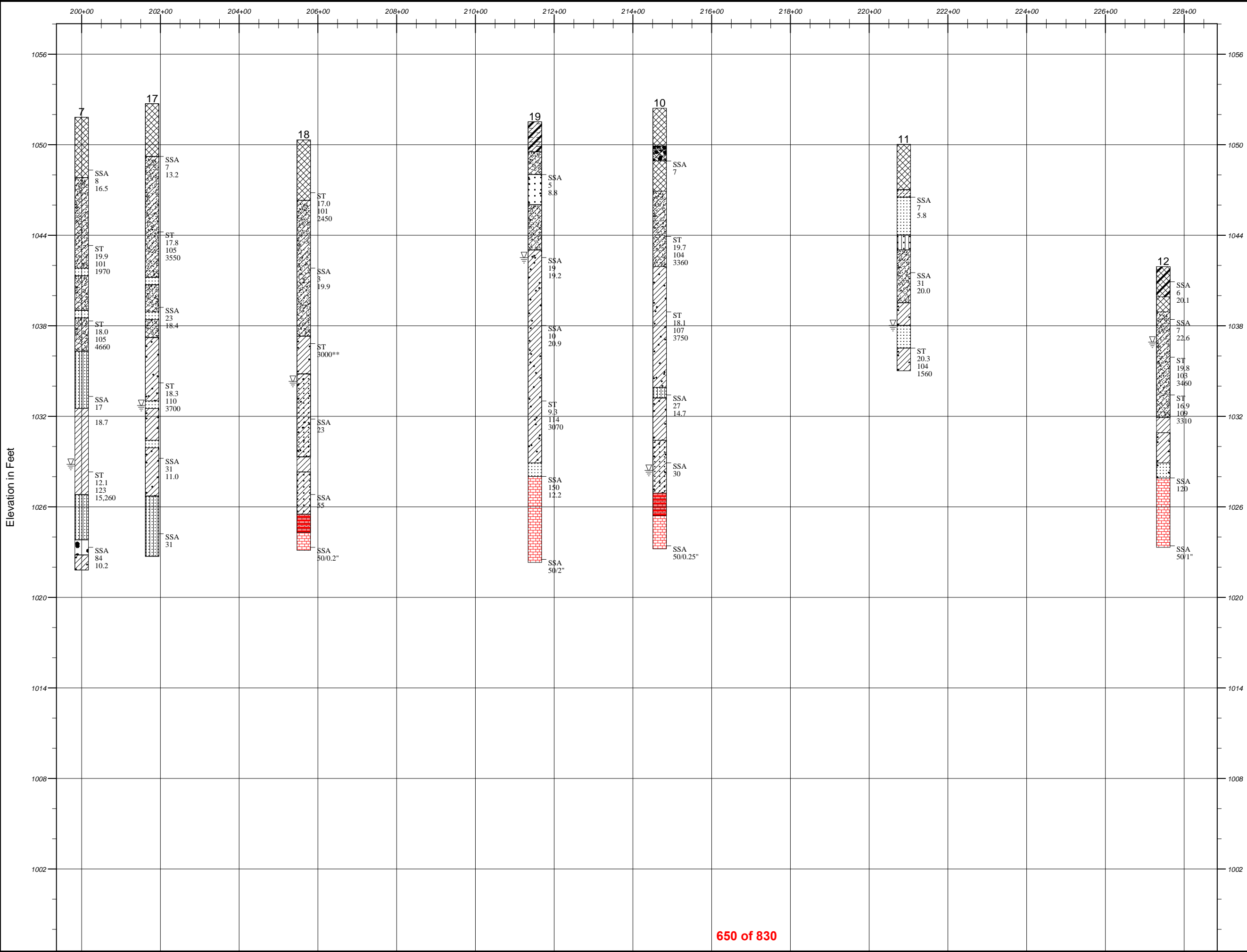


Forcemain & Preliminary WWTF Imps.
E Ohio St. Extending South of Highway
Webster City, Iowa

PN 211124

Vertical Scale: 1 inch = 6 feet

Plate: A-1



PROFILE OF BORINGS

Profile of Borings Legend

Symbol Description

Strata symbols

- Lean Clay Fill
- Sandy Lean Clay
- Poorly Graded Sand
- Poorly Graded Sand With Silt
- Lean Clay
- Cobbles
- Sandy Lean Clay with Gravel
- Clayey Sand With Gravel
- Well-graded Sand With Clay
- Weathered Limestone
- Limestone
- Lean to Fat Clay Alluvium
- Well Graded Sand With Gravel
- Very Sandy Clay Fill with Concrete
- Poorly Graded Sand With Clay
- Well graded sand with silt
- Lean to Fat Clay Fill
- Sand with Gravel

Misc. Symbols

- Water table at completion

ALLENDER BUTZKE
ENGINEERS, INC.



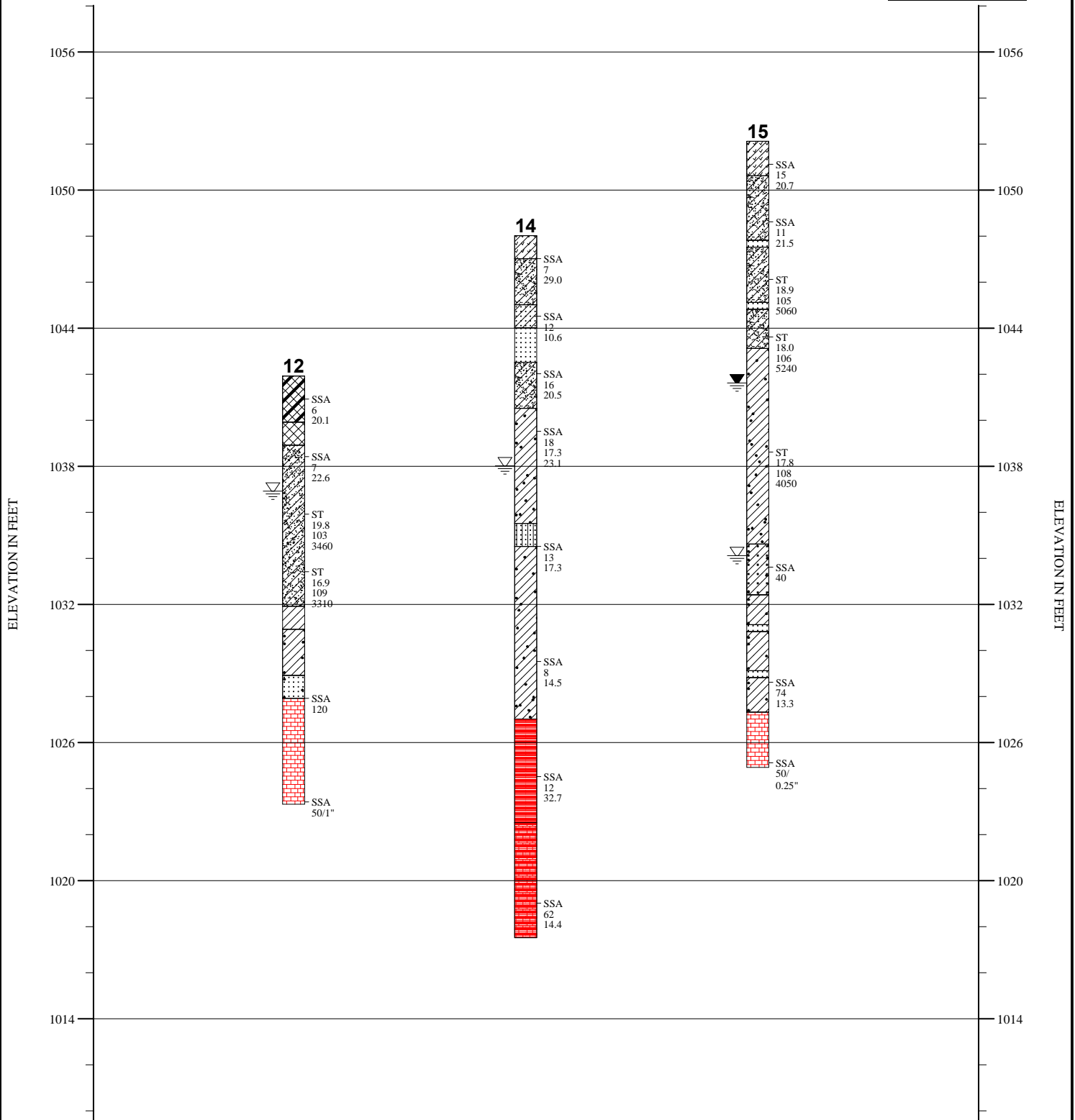
Forcemain & Preliminary WWTF Imps.
E Ohio St. Extending South of Highway
Webster City, Iowa

PN 211124

Vertical Scale: 1 inch = 6 feet

Plate: A-2

PROFILE OF BORINGS



- | | | |
|-----------------------|--------------------------------|-------------------|
| Lean to Fat Clay Fill | Sandy Lean Clay with Gravel | Limestone |
| Lean Clay Fill | Poorly Graded Sand With Gravel | Lean Clay Topsoil |
| Sandy Lean Clay | Poorly Graded Sand With Clay | |
| Lean Clay | | |

PROJECT NO.:

211124

DATE:

6/1/2021

PROJECT: Forcemain & Preliminary WWTF Imps.
E Ohio St. Extending South of Highway 20
Webster City, Iowa

PLATE:

A-3

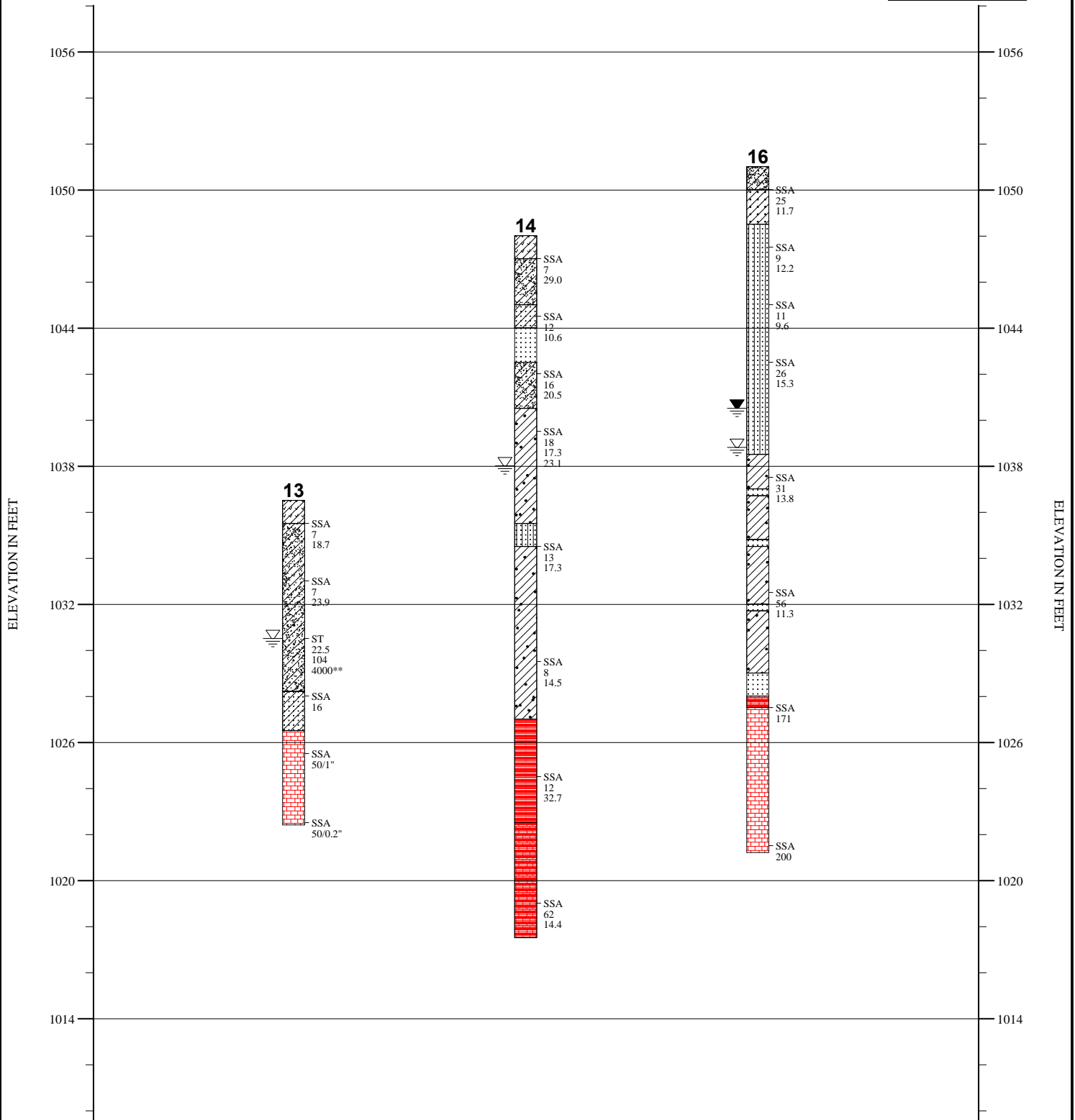
SCALE:

6 feet/in.

ALLENDER BUTZKE ENGINEERS, INC.

651-81-836

PROFILE OF BORINGS



- | | | |
|-------------------|------------------------------|------------------------------|
| Lean Clay Topsoil | Poorly Graded Sand With Clay | Sandy Lean Clay with Gravel |
| Sandy Lean Clay | Limestone | Poorly Graded Sand With Silt |
| | Poorly Graded Sand | |

PROJECT NO.: 211124	DATE: 6/1/2021
PROJECT: Forcemain & Preliminary WWTF Imps. E Ohio St. Extending South of Highway 20 Webster City, Iowa	
PLATE: A-4	SCALE: 6 feet/in.

ALLENDER BUTZKE ENGINEERS, INC.
652-61-836

**Site Plan
Webster City Forcemain
and Preliminary WWTF**



NOTES

Appendix L: Design Variance Request

VIA Email: Satya.Chennupati@idnr.iowa.gov

August 29, 2022

Satya Chennupati, P.E.
Iowa Department of Natural Resources
502 E. 9th Street
Des Moines, IA 50319

RE: City of Webster City Wastewater Treatment Facility Improvements
Bolton & Menk Project No.: A21.119239
DNR No.: S2017-0216
NPDES Permit No.: 406-3001
Variance Request – Wastewater Facility Design Standards

Dear Mr. Chennupati:

A wastewater Facility Plan for the City of Webster City is planned to be submitted to DNR September 2022. The Facility Plan includes a planned variance from state design standards for maximum return activated sludge (RAS) flowrate for an extended aeration activated sludge process as detailed below.


The following information is provided per the IDNR Variance Request Guidance document:

1. Name, address and telephone number of entity requesting variance:
 - a. City of Webster City
Daniel Ortiz-Hernandez, City Manager
400 Second St
PO Box 217
Webster City, IA 50595
Phone: (515) 832-9151
2. Description of citation or specific rule from which variance is requested:
 - a. Wastewater Facility Design Standards Chapter 18B.5.1
“The minimum permissible return sludge rate of withdrawal from settling tank is a function of the concentration of suspended solids in the mixed liquor entering it, the sludge volume index of these solids and the length of time these solids in the final settling tanks may be deleterious to both the aeration and sedimentation phases of the activated sludge process, the rate of sludge return expressed as a percentage of the AWW design flow of sewage shall be variable between limits of 25 to 100 percent. This requirement shall apply to all activated sludge processes except extended aeration, single stage nitrification and the nitrification stage of separate stage nitrification where the return sludge rate shall be variable from 50 to 150 percent.”



3. Specific variance requested, scope, and operative period which the variance will extend:
 - a. The requested variance requested is to provide return activated sludge rate variable from 25 to 100 percent for an extended aeration with University of Cape Town (UCT) nutrient removal process for biological nitrogen and phosphorus removal.
 - b. Scope of the variance is for all return activated sludge pumps at the Webster City wastewater treatment facility.
 - c. The variance will extend from construction through the design life of the proposed wastewater treatment facility improvements.
4. Relevant facts justifying the variance:
 - a. Wastewater Facility Design Standards:
 - i. The purpose of requiring RAS flow rates of up to 150 percent of influent flow for extended aeration facilities is to provide the ability to rapidly remove sludge from the clarifiers to prevent possible floating solids in the clarifiers due to denitrification (conversion of nitrate to nitrogen gas).
 - ii. Plants that do not nitrify are required to have RAS flow rates for 25-100 percent of influent flow.
 - iii. Design standards do not address nutrient removal treatment processes that include anoxic basins for nitrate removal.
 - b. Proposed Process:
 - i. The proposed process includes extended aeration with UCT process for biological nitrogen and phosphorus removal. The inclusion of complete mix anoxic basins and recycle pumping allows for efficient removal of nitrate and thus eliminating concern for floating solids in the clarifiers due to denitrification.
 - c. Technical References Supporting Variance Request:
 - i. Wastewater Engineering Treatment and Reuse (Metcalf & Eddy) (Fourth Edition) – Table 8-26 Typical design parameters for commonly used biological phosphorus removal processes (page 814). The table states the typical design parameter for UCT process RAS flow rate as percent of influent flow is 80-100 percent.
 - ii. Biological Wastewater Treatment (Second Edition) – Excerpt from page 501: “The incorporation of an anoxic zone in the bioreactor can also minimize denitrification problems in the secondary clarifier by reducing nitrate-N concentrations, making it impossible to generate sufficient nitrogen gas to cause sludge flotation.”
 - d. Economic Impact if Variance is Not Granted:
 - i. Clarifier tanks and mechanism would need to be increased to handle additional solids loading due to higher RAS flowrate.
 - ii. RAS pump size, horsepower, flowmeter, and valves would need to be increased due to higher RAS flowrate.
 - iii. The following pipe sizes would need to be increased due to increased RAS flowrate:
 - From clarifier to RAS pump
 - From RAS pump to control structure at anoxic basin
 - From anoxic basin control structure to anoxic basin
 - From anoxic basin to aeration basin control structure

- From aeration basin control structure to rapid mix basin
 - From clarifier control structure to clarifier
 - iv. The size increase of items listed above results in a significant cost increase to the project with no benefit to the environment or the community of Webster City.
5. Contact history with DNR.
a. (none)
6. Known department's treatment of similar cases:
a. City of Perry WWTF – DNR# S2019-0057A – Facility Plan Approved 4/22/20
7. Name, address, and telephone number of any public agency or political subdivision(s) that might be affected by granting the variance:
a. (none)
8. Name, address, and telephone number of any person or entity that might be affected by granting the variance:
a. (none)
9. Identify those having knowledge of relevant facts concerning the variance
a. Daniel Ortiz-Hernandez, City of Webster City
b. Gregory Sindt, P.E., Bolton & Menk, Inc.
c. Andrew Sindt, P.E., Bolton & Menk, Inc.
10. Signed release:

I attest to the accuracy of the facts provided in the petition and reason as listed to justify issuance of the variance request.

 8/29/22
Daniel Ortiz-Hernandez, City Manager for the City of Webster City (Date)

I attest to the accuracy of the facts provided in the petition and reason as listed to justify issuance of the variance request.

	I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.	
		8/29/22
	(Signature)	(Date)
	Printed or typed name: <u>Andrew D. Sindt</u>	
	My license renewal date is: <u>12-31-2023</u>	
Pages or sheets covered by this seal:		
<u>Entire document</u>		

Please contact me with any questions or comments regarding this variance request, phone (515) 233-6100 or email Andrew.Sindt@ bolton-menk.com.

Sincerely,

Bolton & Menk, Inc.



Andrew D. Sindt, P.E.
Environmental Engineer

C: James Opelt, Iowa DNR
Daniel Ortiz-Hernandez – City of Webster City
Biridiana Bishop – City of Webster City
Nick Knowles – City of Webster City
Greg Sindt – Bolton & Menk, Inc.

Enclosures:

1. Excerpt from Wastewater Engineering Treatment and Reuse (Metcalf & Eddy) (Second Edition)
2. Excerpt from Biological Wastewater Treatment (Second Edition)

FOURTH EDITION

Wastewater Engineering

Treatment and Reuse

METCALF & EDDY

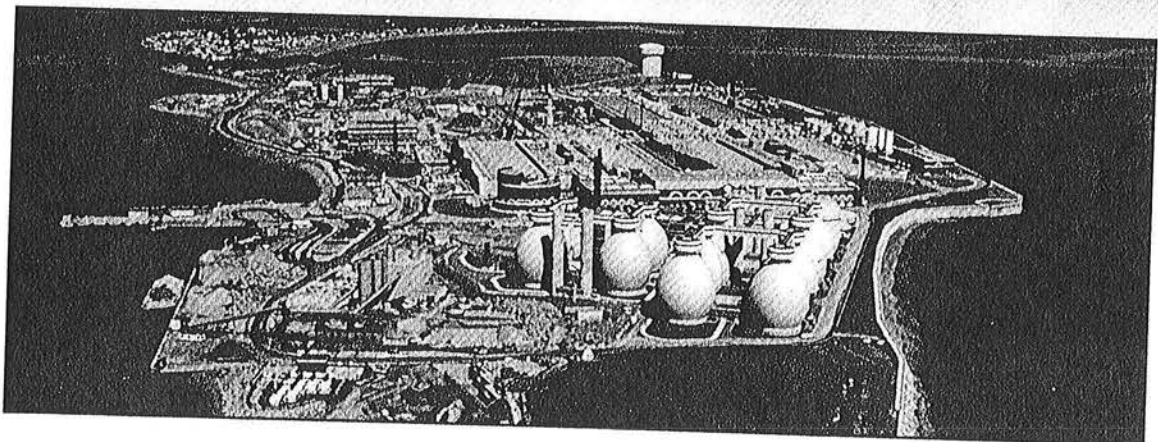


Table 8-22

Typical design parameters for commonly used nitrogen-removal processes

Design parameter/ process	SRT, d ^a	MLSS, mg/L	τ , h			RAS, % of influent	Internal recycle, % of influent
			Total	Anoxic zone	Aerobic zone		
MLE	7-20	3000-4000	5-15	1-3	4-12	50-100	100-200
BR	10-30	3000-5000	20-30	Variable	Variable		
Ordenpho (4-stage)	10-20	3000-4000	8-20	1-3 (1st stage) 2-4 (3rd stage)	4-12 (2nd stage) 0.5-1 (4th stage)	50-100	200-400
Oxidation ditch	20-30	2000-4000	18-30	Variable	Variable	50-100	
Ordenpho™	20-40	3000-4000	20-30	Variable	Variable	50-100	
Orbal™	10-30	2000-4000	10-20	6-10	3-6 (1st stage) 2-3 (2nd stage)	50-100	Optional

^aTemperature-dependent.

Table 8-23

Advantages and limitations of nitrogen-removal processes

Process	Advantages	Limitations
Anoxic- aerobic	<p>Saves energy; BOD is removed before aerobic zone</p> <p>Alkalinity is produced before nitrification</p> <p>Design includes an SVI selector</p> <p>Very adaptable to existing activated-sludge processes</p> <p>5 to 8 mg/L TN is achievable</p>	<p>Nitrogen-removal capability is a function of internal recycle</p> <p>Potential <i>Nocardia</i> growth problem</p> <p>DO control is required before recycle</p>
Step-feed	<p>Adaptable to existing step-feed activated-sludge processes</p> <p>With internal recycle in last pass, nitrogen concentrations less than 5 mg/L are possible</p> <p>5 to 8 mg/L TN is achievable</p>	<p>Nitrogen-removal capability is a function of flow distribution</p> <p>More complex operation than MLE; requires flow split control to optimize operation</p> <p>Potential <i>Nocardia</i> growth problem</p> <p>Requires DO control in each aeration zone</p>

(continued)

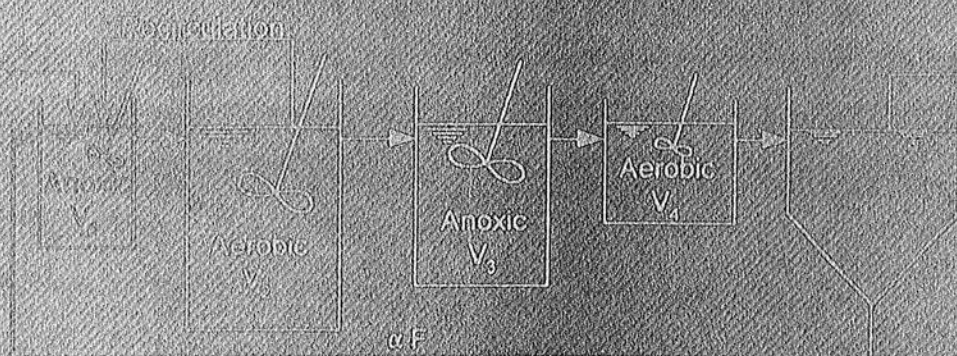
Table 8-26Typical design parameters for commonly used biological phosphorus-removal processes^a

Design parameter/process	SRT, d	MLSS, mg/L	τ , h			RAS, % of influent	Internal recycle, % of influent
			Anaerobic zone	Anoxic zone	Aerobic zone		
A/O	2-5	3000-4000	0.5-1.5	—	1-3	25-100	
A ² /O	5-25	3000-4000	0.5-1.5	0.5-1	4-8	25-100	100-400
UCT	10-25	3000-4000	1-2	2-4	4-12	80-100	200-400
							(anoxic)
							100-300
VIP	5-10	2000-4000	1-2	1-2	4-6	80-100	(aerobic)
							100-200
							(anoxic)
							100-300
							(aerobic)
							200-400
Bardenpho (5-stage)	10-20	3000-4000	0.5-1.5	1-3 (1st stage)	4-12 (1st stage)	50-100	
				2-4	0.5-1		
				(2nd stage)	(2nd stage)		
PhoStrip	5-20	1000-3000	8-12		4-10		10-20
SBR	20-40	3000-4000	1.5-3	1-3	2-4	50-100	

^aAdapted from WEF (1998).

BIOLOGICAL WASTEWATER TREATMENT

Second Edition, Revised and Expanded



C. P. LESLIE GRADY, JR.
GLEN T. DAIGGER
HENRY C. LIM

Fermentation of primary sludge to generate an influent stream high in VFAs for use in systems that remove both nitrogen and phosphorus is a recent, and exciting, development.¹¹ It offers significant potential for enhancing the performance and improving the reliability of BNR systems.^{52,53,64} The impact of fermentation on the performance of BNR facilities is described in Section 11.2.3, while the basic principles of sludge fermentation and the design of fermenters are discussed in Chapter 13.

11.1.4 Comparison of Process Options

Table 11.2 summarizes the primary benefits and drawbacks of several BNR systems. The MLE process offers good nitrogen removal, moderate bioreactor volume requirements, alkalinity recovery, good sludge settleability, reduced oxygen requirements compared to traditional activated sludge systems, and simple control. However, a high level of nitrogen removal cannot generally be achieved, as discussed previously. Practical MLR flow rates limit nitrate-N removal to between 60 and 85%. As illustrated in Figure 7.36, this constraint does not exist for the four-stage Bardenpho process, which includes a second anoxic zone. Performance data from full-scale wastewater treatment plants demonstrates this difference.⁵⁷ Processes with one anoxic zone typically produce effluents with total nitrogen concentrations ranging between 5 and 10 mg/L as N, while processes with two anoxic zones typically produce effluents with total nitrogen concentrations ranging between 1.5 and 4 mg/L as N.⁵⁷ However, this improved performance is at the expense of a larger bioreactor volume. Another benefit of the MLE and four-stage Bardenpho processes is alkalinity production by denitrification in the initial anoxic zone, which off-sets some of the alkalinity consumed by nitrification in the aerobic zone. Denitrification also reduces the oxygen requirement in the aerobic zone because nitrate-N serves as the electron acceptor during oxidation of some of the biodegradable organic matter, thereby removing the need for oxygen to do so. These effects are discussed in Sections 6.3, 6.4, 7.5, and 7.6, and illustrated in Figure 7.30. The reduced power requirements for oxygen transfer in the aerobic zone off-set some or all of the energy required to mix the anoxic zone and to pump the MLR. Good sludge settleability can be obtained with both the MLE and four-stage Bardenpho processes because the initial anoxic zone acts as a selector to control the growth of filamentous bacteria, as discussed previously. The incorporation of an anoxic zone in the bioreactor can also minimize denitrification problems in the secondary clarifier by reducing nitrate-N concentrations, making it impossible to generate sufficient nitrogen gas to cause sludge flotation.

Systems that encourage denitrification in an aerobic bioreactor provide the benefits of alkalinity recovery and oxygen requirement reduction associated with the MLE and four-stage Bardenpho processes. In fact, the total energy requirements in such systems are smaller since mixing and MLR facilities are generally not required. Some existing activated sludge facilities can easily be retrofitted. However, relatively large bioreactor volumes may be required since the microbial environment is not optimized, control can be more complex to restrict oxygen input to allow the anoxic regions to develop, and poor sludge settleability may result due to the growth of Group IV filamentous bacteria.

Appendix M: Intended Use Plan Application

- Exhibit 9B
- Exhibit 8
- Schedule A
- Schedule F
- Schedule G
- Exhibit 5



Iowa Department of Natural Resources
Wastewater Engineering Section
Exhibit 9B - Preliminary Review of Facility Plan Checklist

“Facility Plan” means a report certified by a professional engineer licensed to practice in Iowa and prepared in conformance with Chapter 11 of the Iowa Wastewater Facilities Design Standards (IWWFDS). A Facility Plan will not be required for non-funded minor sewer extensions, minor trunk and interceptor sewers, and minor pump stations where comprehensive planning is not completed, necessary or required. Facility planning submittals may be returned if they are deemed incomplete by the Department.

The transmittal letter referenced in Section 11.2.2 of the IWWFDS and a completed Exhibit 9B checklist by the engineer shall be bound with the engineering report. The transmittal letter must:

- Describe fully the scope of the project identified in Design Schedule A.
- Provide a statement on the feasibility of the project.
- Include a statement that this report has been accepted by the client.
- Indicate that the proposed project is in conformance with the long range planning of the area.
- Reference all information and approved planning reports necessary for a review.
- Clearly indicate the purpose of the submittal.

Exhibit 9B is divided into four sections as follows:

- Section 1 – All Projects
- Section 2 – New or Expanded Wastewater Treatment Facility Projects
- Section 3 – Earthen Basin Projects
- Section 4 – SRF Funded Projects

Section 1 must be completed for all projects. Sections 1 and 2 must be completed for projects involving new or expanded wastewater treatment facilities. Sections 1, 2, and 3 must be completed for projects that consist of new or expanded wastewater treatment lagoon facilities. Sections 1 and 3 must be completed for projects involving new or expanded equalization with earthen basins. In addition, complete Section 4 if the project is SRF funded.

Responses of **“Yes”, “No”, “?”, or Not Applicable (“N/A”)** may be used by DNR in completing Exhibit 9B Preliminary Review with explanations given, as appropriate. A “?” mark may be used by DNR staff where additional follow-up, or the consideration of additional information may be warranted before a comment is offered. Every attempt should be made to complete the Exhibit 9B preliminary review checklist using good engineering judgment and as accurately as possible for the benefit of decision makers. If the response is “No” by the engineer for location maps and/or geotechnical report, the transmittal letter must acknowledge that the Facility Plan is incomplete and provide adequate need and justification for the Department to initiate a concept review.

Section 1 – All Projects

1. A work initiation meeting determination has been made. If the meeting was determined to be necessary, the meeting has been held. The scope and milestones for the project have been clearly established.
2. A project location and a recommended alternative have been proposed by the A/E and the conclusion accepted by the Owner in accordance with Step 17, Section 11.2 of the Iowa Wastewater Facilities Design Standards and Design Schedule A.
3. A completed and signed Design Schedule A has been submitted in accordance with Section 11.1 of the Iowa Wastewater Facilities Design Standards.
4. Any proposed variation from the design standards contained in Chapter 567 IAC 64 is identified by the Engineer in accordance with Design Schedule A with justification provided in accordance with DNR rules.
5. A complete and achievable project implementation schedule has been provided identifying all project milestones in accordance with Section 11.2.5.3(k) of the Design Standards.
6. The Appendix (Technical Information and Design Criteria) is provided per Design Standard 11.2.11.
7. The facility plan is signed and certified by a professional engineer licensed in the State of Iowa.

Section 1 – Comment Box:

Section 2 – New or Expanded Wastewater Treatment Plant Projects

8. The Owner has filed an application for a new or amended NPDES permit as needed for the improvements described in the Facility Plan and has notified the review engineer of this submission.
9. Completed Design Schedules F and G have been submitted in accordance with Section 11.1 of the Iowa Wastewater Facilities Design Standards.
10. The location maps are prepared by the Engineer in accordance with Design Schedule F to the recommended scale and provide all requested detail to conduct a site survey investigation for the proposed new or expanded wastewater treatment facilities.
11. All hydraulic and organic design loadings in Design Schedule G and the Facility Plan are consistent with the preliminary design loadings concurred by the Department.
12. The project has conformed to the Waste Load Allocation (WLA) determination and the effluent limits which have been established by the DNR through Steps 9, 11, 12, 13, and 14 of the wastewater construction permitting procedures.
13. Where anti-degradation requirements apply, the recommended alternative is consistent with the anti-degradation alternatives analysis approved by the Department.
14. New Process Evaluation - all required engineering data and design basis formulated from the data for New Process Evaluation has been approved by the Department under Section 14.4.3 and was prepared by a licensed professional engineer other than the one employed by the manufacturer or patent holder.

Section 2 – Comment Box:

Section 3 – Projects with Earthen Basins (Lagoon and Equalization Basins)

15. A completed geotechnical investigation engineering report is provided as a supplement to the engineer's report.

Section 3 – Comment Box:

Section 4 – State Revolving Fund (SRF) Loan Projects

16. The proposed project is a fundable category (Refer to Subrule 567 IAC 90.2) for receipt of a CWSRF loan.
17. The Intended Use Plan application (Exhibit 8) is enclosed with the Facility Plan and the "Assurance with Respect to Real Property Acquisition" form.
18. The Property/Easement Acquisition Schedule is included.
19. The Owner has submitted all required Exhibit 5 information to the Environmental Review Services Coordinator in order to initiate the SRF environmental review.

Section 4 – Comment Box:

This page for DNR Use Only

DNR Decisions:

9B Complete

Concept Review Request

Conclusions by DNR:

CLEAN WATER STATE REVOLVING FUND INTENDED USE PLAN (IUP) APPLICATION



[Application Packet Checklist](#)
[Application Packet Instructions](#)
[IUP Application Form](#)
[Real Property Assurance Form](#)

The application for inclusion on the Clean Water State Revolving Fund (CWSRF) IUP can be submitted only when the wastewater project is at the right stage of the construction permitting process. This packet outlines the requirements of the permitting process that must be met and includes the materials and information needed to complete the IUP application. Please use the checklist and instructions to make sure your application is complete before submitting it.

APPLICATION PACKET CHECKLIST

A. Construction Permitting Information -- To Be Completed by Applicant

Applicant Name City of Webster City

1. DNR Number (e.g. W2014-#### or S2014-####) S2017-0216

2. DNR Project Manager Name James Oppelt

3. Project Identification: Wastewater Treatment Facility Improvements

4. Project Initiation Meeting Held (date) 12/13/2016

5. Flows and Loads Concurrence by DNR (date or N/A) 6/2/2022
 If N/A, state reason: _____

6. Wasteload Allocation Completed (date or N/A – see 5. above) 7/29/2022 & 8/11/2022

7. Antidegradation Alternatives Analysis Required (if no, go to 8.) Yes ☒ No ☐

7a. Alternatives Analysis Approved by DNR (date or N/A) In Review

8. Three Copies of Certified Facility Plan Yes ☒

8a. If Already Submitted (submitted date) Certification Date: _____

9. Iowa Construction Permit Application Schedule A Yes ☒

10. Schedules F and G (if needed for the project) Yes ☒ N/A ☐
 If N/A, state reason: _____

For DNR Use

Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>

For DNR Use: The Applicant has followed the DNR Wastewater Construction Permitting Process and the project is eligible to be placed on the IUP pending review of the SRF information requirements.

DNR Project Manager: _____ Date: _____

B. State Revolving Fund Information -- To Be Completed by Applicant

11. IUP Application Signed Yes ☒

12. DUNS Number Included (note: Form 4700-4 no longer required) Yes ☒

13. Property Assurance Form Signed Yes ☒

14. SRF Environmental Review Checklist and Attachments Completed and Submitted Yes ☒

For SRF Use

Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>

For SRF Use: The IUP application materials are complete.

The application will be placed on the IUP _____ (IUP Year), _____ (IUP Quarter) with CWSRF Number CS1920 _____.

DNR SRF: _____ Date: _____

CLEAN WATER STATE REVOLVING FUND

INTENDED USE PLAN (IUP) APPLICATION INSTRUCTIONS



ITEMS 1 – 9: Wastewater Permitting

The Clean Water SRF Intended Use Plan Application will only be accepted when Items 1-9 have been completed through the Wastewater Construction Permitting Process of the DNR Wastewater Engineering Section. Please refer to the [Wastewater Permitting Process Manual](#) for detailed information on these steps.

1. DNR Number (e.g. W2014-#### or S2014-####): All wastewater construction projects are assigned unique numbers for tracking by DNR. A number beginning with W and the fiscal year indicates a Work Record. A number beginning with S and the fiscal year indicates a Project.
2. DNR Project Manager Name: A project manager from the DNR Wastewater Engineering Section is assigned to each project.
3. Project Identification: A brief description of the project is required in Design Schedule A, General Information. The project description must fall under the project scope established at the project initiation meeting. An accurate description is necessary because multiple construction contracts may have the same project numbers.
4. Project Initiation Meeting Held (date): A project initiation meeting must be held with the DNR, Owner, Consulting engineer (licensed professional engineer), and other parties.
5. Flows and Loads Concurrence by DNR (date): If flows and loadings will change due to the project, the DNR Project Manager must concur with the proposed design flows and loadings prior to preparing the Facility Plan.
6. Wasteload Allocation Completed (date): If a Wasteload Allocation is required for the project, it must be received by the Owner before preparing the Facility Plan.
7. Antidegradation Alternatives Analysis Required; 7a. Alternatives Analysis Approved by DNR (date): If an antidegradation alternatives analysis is required for the project, it must be approved by the DNR Project Manager before the Owner prepares the Facility Plan. If a Facility Plan is submitted prior to DNR approval of Antidegradation Alternatives Analysis, it will not be accepted for review.
8. Three Copies of Certified Facility Plan; 8a. If Already Submitted (date) and Certification Date: After completing all applicable planning steps as discussed above, the Facility Plan may be submitted to DNR. If three copies of the Facility Plan have already been submitted, please note the date submitted and certified and do not send additional copies.
9. Iowa Construction Permit Application Schedule A: Design Schedule A must be certified by both the Owner and the Consulting engineer (licensed professional engineer). It is required for all wastewater projects. Schedule A must indicate that Clean Water SRF financing will be requested to be considered as part of this IUP application.
10. Schedules F and G (if needed for the project): Schedule G provides Wastewater Treatment Plant project design information and Schedule F provides site information for treatment process site selection.

ITEMS 11 – 14: Clean Water SRF

11. IUP Application Signed: The Intended Use Plan application must be signed by the Owner's authorized representative.

12. DUNS Number Included: The Dun and Bradstreet Number (DUNS) was collected as part of EPA 4700-4 form. That form is no longer required for SRF applicants. If the Owner does not have a DUNS number, go to <http://fedgov.dnb.com/webform> to request one. While loan recipients no longer have to fill out the 4700-4 form, it is important to note that they are still required to comply with Title VI of the Civil Rights Act of 1964. Title VI provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.
13. Property Assurance Form Signed: This form is required whether or not the Owner currently intends to purchase land using SRF funds. Land for siting treatment facilities is an eligible cost as of October 1, 2014.
14. [SRF Environmental Review Checklist](#) and Attachments Completed and Submitted: The ER checklist outlines the information needed to start the SRF ER Services.

Supporting materials may be requested to document funding requests and system needs.

Please include the following items with your application:

- Three official copies of the Facility Plan (unless previously submitted)
- Iowa Construction Permit Application Schedules A (and F and G where applicable).
- Materials included in Exhibit 5: SRF Environmental Review Checklist
- Real Property Assurance Form with authorized signature

Application materials should be sent to: srf-iup@dnr.iowa.gov

[Quarterly Application Deadlines](#)

For More Information about the Clean Water SRF IUP Application, contact Theresa Enright, 515-725-0498 or Theresa.enright@dnr.iowa.gov.

CLEAN WATER STATE REVOLVING FUND INTENDED USE PLAN (IUP) APPLICATION FORM

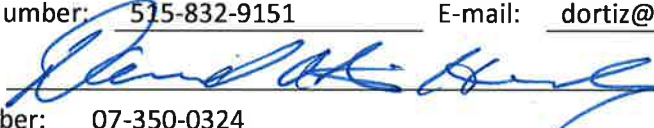
This form may be used to apply for inclusion on the project priority list of the Clean Water SRF IUP at the time a complete Facility Plan is submitted. IUPs are developed on an annual basis with quarterly updates as needed. **This form is not an application for a loan.** SRF loan application materials may be obtained at www.iowaSRF.com. The loan application should not be completed until after bids are received.

Instructions:

Complete the requested information in the following sections to the best of your ability. Please print or type the information on the form. If a particular item does not apply to your system, enter n/a for "not applicable." Attach supporting documentation as needed. Keep a copy of the completed application for your records, submit a copy to your engineer, and submit the signed form to the following e-mail address: srf-iup@dnr.iowa.gov

For more information about the Clean Water SRF IUP Application, contact Theresa Enright at 515-725-0498 or Theresa.Enright@dnr.iowa.gov

Section 1: Applicant and Consulting Engineer Information

Applicant Name: City of Webster City
Applicant Address: 400 Second Street, PO Box 217
City: Webster City State: IA Zip: 50595
Authorized Representative: Daniel Ortiz-Hernandez
Telephone Number: 515-832-9151 E-mail: dortiz@webstercity.com
Signature:  Title: City Manager
*DUNS Number: 07-350-0324
Consulting Engineer: Bolton & Menk, Inc.
Firm: (specify branch where consulting engineer is located) Ames, IA
Firm Address: 1519 Baltimore Drive
City: Ames State: IA Zip: 50010
Telephone Number: 515-233-6100 E-mail: Andrew.Sindt@bolton-menk.com
NPDES Facility No.: 4063001

Section 2: Project Schedule

Anticipated final plans and specifications submittal date: June 2023
Anticipated construction start date: October 2023

Section 3: Brief Project Summary (Attach additional pages if necessary.)

Describe the reasons for the proposed project: (i.e. specific water quality problem or system improvement)

Current RBC and Trickling Filter plant has reached the end of it's usefull life. Construction of a new activated sludge process is proposed for meeting total nitrogen and total phosphorus discharge goals inlcuded in the Iowa Nutrient Reduction Strategy. East lift station below grade pump dry well is failing and standby power is not currently provided.

Describe the proposed project: (i.e., specific solution to the water quality problem, or proposed system improvement)

Renovate lift station at existing treatment plant site. Construct forcemain to proposed treatment plant site south of town. Construct flow equalization lagoon, preliminary treatment building, activated sludge process, clarifiers, sludge thickening, aerobic digesters, sludge dewatering and dewatered sludge stroage, operations building with lab and garage, outfall to Boone River. Replace dry pit pumps at east lift station with submersile pumps. Replace valves, electrical and controls, and install standby generator.

Which other funding programs are you considering to assist in completion of this project? (Check all that apply)

☐ Community Development Block Grant (CDBG)

☒ Rural Development Grant and/or Loan

☒ Reserve Funds

☐ Other: _____

Compliance Status

☐ Has been referred to the Iowa Attorney General

☐ Has received administrative order from DNR

☐ Under compliance schedule in the NPDES permit

☐ Other: _____

Section 4: Project Environmental Outcomes

Primary Impacted Waterbody

NHD Reach Code: 07100005000027

Designated Surface Water Uses (e.g. A1, BWW): A1, B(WW-1), HH

Project Will Contribute to Water Quality... (check one)

☒ Improvement

☐ Maintenance

☐ Not Applicable

Project Will Allow the System to... (check one)

☒ Achieve Compliance

☐ Maintain Compliance

☐ Not Applicable

Project Will Allow the System to Address... (check all that apply)

☒ Existing TMDL

☐ Projected TMDL

☐ Watershed Management Plan

Section 5: Project Cost

Cost Category	Estimated Total Cost in \$
Legal Expenses	125,000
Land and Easements	+ 200,000
Engineering Planning Fees	+ 180,000
Engineering Design Fees	+ 3,800,000
Engineering Construction Fees	+ 5,000,000
Construction	+ 56,830,000
Equipment	+
Other:	+
Other:	+
PROJECT SUBTOTAL	= 66,135,000
Contingencies	+ 12,482,000
Planning and design loan proceeds, if rolling into construction loan	+
Less Any Funds Requested from Other Sources	- 2,000,000
LOAN SUBTOTAL	= 76,617,000
Loan Initiation Fee (Loan Subtotal x .005)	+ 384,000
TOTAL IUP REQUEST (Round to the nearest \$1,000)	= 77,001,000

Section 6: ConsultantsBond Counsel Firm: Dorsey & Whitney, LLPContact Person: John DanosMailing Address: 801 Grand Avenue, Ste 4100City: Des Moines State: IA Zip: 50306Telephone Number: 515-283-1000 E-mail: Danos.John@dorsey.comMunicipal Advisor Firm: Public Financial ManagementContact Person: Susanne GerlachMailing Address: 801 Grand AvenueCity: Des Moines State: IA Zip: 50309Telephone Number: 515-724-5734 E-mail: GERLACHS@pfm.com

*Please provide these contacts if known at the time of application. The requirement to engage a [Municipal \(Financial\) Advisor](#) is new to SRF for projects starting in fiscal year 2015.

Section 7: Acquisition of Property by SRF Applicants

US ENVIRONMENTAL PROTECTION AGENCY
ASSURANCE WITH RESPECT TO REAL PROPERTY ACQUISITION
OF TITLE III OF THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY
ACQUISITION POLICIES ACT OF 1970 AS AMENDED

The City of Webster City (Applicant) hereby assures that it has authority under applicable State and local law to comply with Section 213 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, 84 Stat. 1894 (42 U.S.C. 4601) as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987, Title IV of Public Law 100-17, 101 Stat. 246-256 (42 U.S.C. 4601 note) and 49 CFR 1.48(cc); and certifies, assures and agrees that, notwithstanding any other provision set forth in the application.

1. For projects resulting in the displacement of any person:
 - a. It will adequately inform the public of the relocation payments and services which will be available as set forth in Subparts A, C, D and E of 49 CFR 24.
 - b. It will provide fair and reasonable relocation payments to displaced persons as required by Subparts D and E of 49 CFR 24.
 - c. It will provide a relocation assistance program for displaced persons offering services described in Subpart C of 49 CFR 24.
 - d. Comparable replacement dwellings will be available pursuant to Subpart F of 49 CFR 24, or provided if necessary, a reasonable period in advance of the time any person is displaced.
 - e. In acquiring real property, it will provide at least 90 days written notice to each lawful occupant of real property acquired, stating the date such occupant is required to move from a dwelling or to move his business or farm operation.
2. For projects resulting in the acquisition of real property:
 - a. It will fully comply with the requirements of Subpart B of 49 CFR 24.
 - b. It will adequately inform the public of the acquisition policies, requirements and payments which apply to the project.
 - c. It will make every effort to acquire real property expeditiously through negotiation.
 - d. Before the initiation of negotiations it will have the real property appraised and give the owner or his representative an opportunity to accompany the appraiser during inspection of the property, except as provided in 49 CFR 24.102(c)(2).
 - e. Before the initiation of negotiations it will establish an amount which it believes to be just compensation for the real property, and make a prompt offer to acquire the property for that amount; and at the same time it will provide the owner a written statement of the basis for such amount in accordance with 49 CFR 24.102.
 - f. Before requiring any owner to surrender possession of real property it will pay the agreed purchase price; or deposit with the court, for the benefit of the owner, an amount not less than the approved appraisal of the fair market value of the property; or pay the amount of the award of compensation in a condemnation proceeding for the property.
 - g. If interest in real property is to be acquired by exercise of the power of eminent domain, it will institute formal condemnation proceedings and not intentionally make it necessary for an owner to institute legal proceedings to prove the fact of the taking of this real property; and
 - h. It will offer to acquire the entire property, if acquisition of only part of a property would leave its owner with an uneconomic remnant.

References to 49 CFR are citations to Title 49, Code of Federal Regulations, Part 24, published in the Federal Register Vol. 54, No. 40, March 2, 1989.

This document is hereby made part of and incorporated in any contract or agreement, or any supplements and amendments thereto, relating to the above-identified application and shall be deemed to supersede any provision therein to the extent that such provisions conflict with the assurances or agreements provided therein.

Daniel Ortiz-Hernandez

(Legal Name of Applicant)

By



(Signature of Authorized Representative)

08/26/2022

(Date)



Exhibit 11A
Iowa Department of Natural Resources
Wastewater Section
Construction Permit Application
SCHEDULE A, Construction Permit Application

APPLICANT	ENGINEER
Owner: <u>City of Webster City</u>	Firm: <u>Bolton & Menk</u>
Address: <u>400 Second Street, PO Box 217</u>	Address: <u>1519 Baltimore Drive, Ames, IA</u>
Representative: <u>Daniel Ortiz-Hernandez</u>	Project Officer: <u>Andrew Sindt, P.E.</u>
Phone Number: <u>515-832-9151</u>	Phone Number: <u>515-233-6100</u>
Email: <u>dortiz@webstercity.com</u>	Email: <u>Andrew.Sindt@bolton-menk.com</u>
Project Identification: <u>Wastewater Treatment Facility Improvements</u>	
Estimated Start Date*: <u>October 2023</u> Estimated Completion Date: <u>October 2025</u>	

PLEASE RESPOND TO ALL QUESTIONS		Yes	No
1. Has an engineering report, facilities plan or other information previously been submitted for this project? If Yes: Project Identity: _____ Date Submitted: _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Does the project and construction permit application, as submitted, follow the recommendations, design loadings, construction schedule, permit limits, and conclusions of the approved engineering report or facilities plan? If No: Provide the design basis and technical information justifying all changes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are there three complete sets of plans and specifications accompanying this application? For a minor gravity sewer extension within the meaning of 455B.183.3 Code of Iowa and Design Standard 11.1, two complete sets will be adequate for expeditious approval. For more complex projects, three sets of plans and specifications may be requested.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Are approved standard specifications a part of this application? If Yes: Approved Standard Specifications of _____ (municipality or firm): _____ Date Approved: _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Does each set of plans and specifications or engineering report accompanying this application contain a "professional engineering seal" executed in conformance with 542B.16, Code of Iowa? If No: Processing will be delayed pending receipt of applicable design schedules and certified plans, specifications or engineering report.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is this a joint wastewater and water supply project? If Yes: A construction permit application for the water supply project should be submitted separately to the Water Supply Section. A Water Supply permit fee may be required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Is the applicant to provide treatment of effluent resulting from this construction? If No: A Sewage Treatment Agreement executed by the authority providing treatment must accompany this form.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is a new or amended operation permit necessary to use the facilities described in this application? If Yes: A new or amended permit to operate may be requested prior to the receipt of a construction permit.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is any waterline located within 10 feet; or any private or public well, lake, or public recreation area located within 400 feet of the proposed construction? If Yes: Identify and locate the facility(ies) relative to the proposed construction.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Will construction inspection be conducted by a licensed engineer employed by the applicant? If No: Name of Engineering Firm Conducting Inspection: <u>Bolton & Menk, Inc.</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Will this project utilize CWSRF loan funds?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CERTIFICATION

APPLICANT	ENGINEER
I certify that I am the authorized representative of the owner and state that the project identified above is approved by the owner.	I certify that all aspects of the design included in this application conform to applicable standards contained in Chapter 567 IAC 64, or that an explanation and justification for any proposed variations from such standards is attached. I am familiar with the information contained in this application and, to the best of my knowledge, such information is complete and accurate.
Signature: <u></u> Date: <u>8/29/22</u>	Signature: <u></u> Date: <u>8/29/22</u>
*Estimated Construction Start Date: Complete applications must be submitted at least 120 days in advance of the date for starting construction in accordance with Rules 567 IAC 60.4 and 64.2	

Please complete the Schedule Checklist on the following page of this form.

DOCUMENT CHECKLIST

Identify all categories included in this project. Also, identify schedules attached to this application.

Schedule	Title	Attached	Included in Project	Submittal Date
B	Collection System	<input type="checkbox"/>	<input type="checkbox"/>	_____
C	Lateral Sewer Extension	<input type="checkbox"/>	<input type="checkbox"/>	_____
D	Trunk & Interceptor Sewer	<input type="checkbox"/>	<input type="checkbox"/>	_____
E	Wastewater Pump Station	<input type="checkbox"/>	<input type="checkbox"/>	_____
F	Treatment Project Site Selection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>7/13/2022</u>
G	Treatment Project Design Data	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>5/23/2022</u>
H1	Schematic Flow Diagram	<input type="checkbox"/>	<input type="checkbox"/>	_____
H2	Treatment Process Loading and Removal Efficiency	<input type="checkbox"/>	<input type="checkbox"/>	_____
H3	Mechanical Plant Reliability	<input type="checkbox"/>	<input type="checkbox"/>	_____
I	Screening, Grit Removal and Flow Measurement	<input type="checkbox"/>	<input type="checkbox"/>	_____
J	Septic Tank System	<input type="checkbox"/>	<input type="checkbox"/>	_____
K1	Controlled Discharge Pond	<input type="checkbox"/>	<input type="checkbox"/>	_____
K2	Aerated Pond	<input type="checkbox"/>	<input type="checkbox"/>	_____
K3	Anaerobic Lagoon	<input type="checkbox"/>	<input type="checkbox"/>	_____
L	Setting Tanks	<input type="checkbox"/>	<input type="checkbox"/>	_____
M	Fixed Film Reactor-Stationary Media	<input type="checkbox"/>	<input type="checkbox"/>	_____
N	Rotating Biological Contactor	<input type="checkbox"/>	<input type="checkbox"/>	_____
O	Aeration Tanks or Basins	<input type="checkbox"/>	<input type="checkbox"/>	_____
P	Gas Chlorination	<input type="checkbox"/>	<input type="checkbox"/>	_____
Q	Sludge Digestion and Holding	<input type="checkbox"/>	<input type="checkbox"/>	_____
R1	Sludge Dewatering and Disposal	<input type="checkbox"/>	<input type="checkbox"/>	_____
R2 (A&B)	Low Rate Land Application of Sludge	<input type="checkbox"/>	<input type="checkbox"/>	_____
R3	Land Application of Sewage Sludge (To be developed)	<input type="checkbox"/>	<input type="checkbox"/>	_____
S	Land Application of Wastewater (To be developed)	<input type="checkbox"/>	<input type="checkbox"/>	_____
	Sewage Treatment Agreement	<input type="checkbox"/>	<input type="checkbox"/>	_____

Identify any categories included in this project which are not provided in the above list of schedules.



Real People. Real Solutions.

1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via Email James.Oppelt@dnr.iowa.gov

July 13, 2022

Mr. James Oppelt
Iowa Department of Natural Resources
Wallace State Office Building
502 East 9th Street
Des Moines, IA 50319-0034

RE: Webster City Wastewater Treatment Facility Improvements
Project No.: A21.119239
NPDES Discharge Permit No. 4063001
Treatment Project Site Selection – Schedule F Submittal

Dear Mr. Oppelt:

This is a submittal of the Webster City WWTF Schedule F Treatment Project Site Selection for DNR review and approval. The City is in the Wastewater Treatment Facility Planning phase for the construction of a new wastewater treatment facility.

Please contact me with any questions and discussion regarding this information.

Sincerely,

Bolton & Menk, Inc.

Andrew D. Sindt, P.E.
Environmental Engineer

c: Daniel Ortiz-Hernandez - City Manager, City of Webster City, w/ enclosures
Biridiana Bishop - Public Works Director, City of Webster City, w/ enclosures
Nick Knowles - Wastewater Superintendent, City of Webster City, w/ enclosures
Trent Lambert, DNR Mason City Field Office, w/ enclosures
Andrew Sindt, Bolton & Menk, Inc., w/ enclosures
Greg Sindt, Bolton & Menk, Inc., w/ enclosures
File, w/ enclosures

enclosures



Iowa Department of Natural Resources
Wastewater Section
Construction Permit Application
SCHEDULE F, Treatment Project Site Selection, Exhibit 11B

DNR USE ONLY

Project No. _____

Permit No. _____

Date Prepared

7-13-2022

Date Revised _____

Project Identity

City of Webster City Wastewater Treatment Facility Improvements

1. Project Location: County Hamilton County Section 007 Township 088 Range 025
Is this a: ☒ New Site ☐ Existing Site ☐ Expansion of Existing Site
2. Provide the following as attachments:
a) General plat layout of area within a five mile radius of proposed treatment works, noting all important features (USGS map may be used).
b) Site layout of area within a 1,500 foot radius of the proposed treatment works with a scale of 1 inch equal to 200 feet, noting proposed treatment works, existing treatment works and all features listed in Subrule 567 IAC 64.2(3): inhabitable residences, commercial buildings, inhabitable structures, public shallow wells, public deep wells, private wells, lakes and public impoundments, property lines and rights-of-way, etc. The radius distance from lagoons shall be measured from the water surface.
3. Does the project lie in a floodplain? ☐ Yes ☒ No
Elevation of 100 year flood (MSL): 1010 Elevation of 25 year flood (MSL): _____
Will the treatment works structures, including the electrical and mechanical equipment, be protected from physical damage by the 100-year flood? ☐ Yes ☒ No
Will the plant remain operational during the 25 year flood? ☒ Yes ☐ No
Method of flood protection: Elevation of structures above flood plain
4. Minimum distance to high water table: 8 feet
5. Describe geology of area: Wisconsinian glacial till and alluvium soils underlain by Mississippian bedrock system consisting primarily of undifferentiated formations of dolomite, limestone, and sandstone.
6. Describe soil conditions: Wadena Loam, Cylinder Loam, Biscay Loam
7. State the minimum distances and directions from proposed treatment works to:
a) Public shallow wells NA e) Lakes and public impoundments 1,560 ft SE
b) Public deep wells 2,740 ft S f) Property lines and rights-of-way 0 ft E, S, W
c) Private wells 1,275 ft NW g) Other _____
d) Inhabitable residences, commercial buildings, or other inhabitable structures 1,330 ft SE
8. Where any of the separation distance criteria of Subrule 567 IAC 64.2(3) will not be met, state the basis for requesting site approval (e.g. a written agreement with the owner of the inhabitable building has been obtained, the proposed separation distance is at least 90% of the existing separation distance and a problem has not existed or will be created, etc.)

9. Direction of the prevailing winds: NW, SE
10. Sulfate content of the raw water supply source: _____ mg/L. Identify source: _____
11. Is this area available for expansion? ☒ Yes ☐ No If yes, how much? 4 acres
Location of area: Onsite Identify owner of property: City of Webster City
12. Will site be accessible via an all-weather access road? ☒ Yes ☐ No Type: City Street
13. Source of STP water supply: Maintenance/Cleanup City Potable? ☒ Yes ☐ No
Laboratory/Sanitary City Potable? ☒ Yes ☐ No
Potable? ☐ Yes ☐ No
14. Receiving Stream: Boone River tributary to: Des Moines River
7-day 10-year Low Flow: 5.46 cfs. Source of stream flow data: _____
Drainage area above site: 844 square miles
Is stream: ☐ intermittent ☒ continuous flow (perennial)
Describe use designation of receiving stream: Boone River - A1, B(WW-1), HH

Instructions for Schedule F

1. Identify the project and location.
2. Important features which include public shallow wells, public deep wells, private wells, inhabitable residences, commercial buildings, or other inhabitable structures, lakes, public impoundments, and other public use or recreation areas, property lines, and rights-of-way, and any other feature affected by the water quality shall be included on the 1500 foot radius site layout.

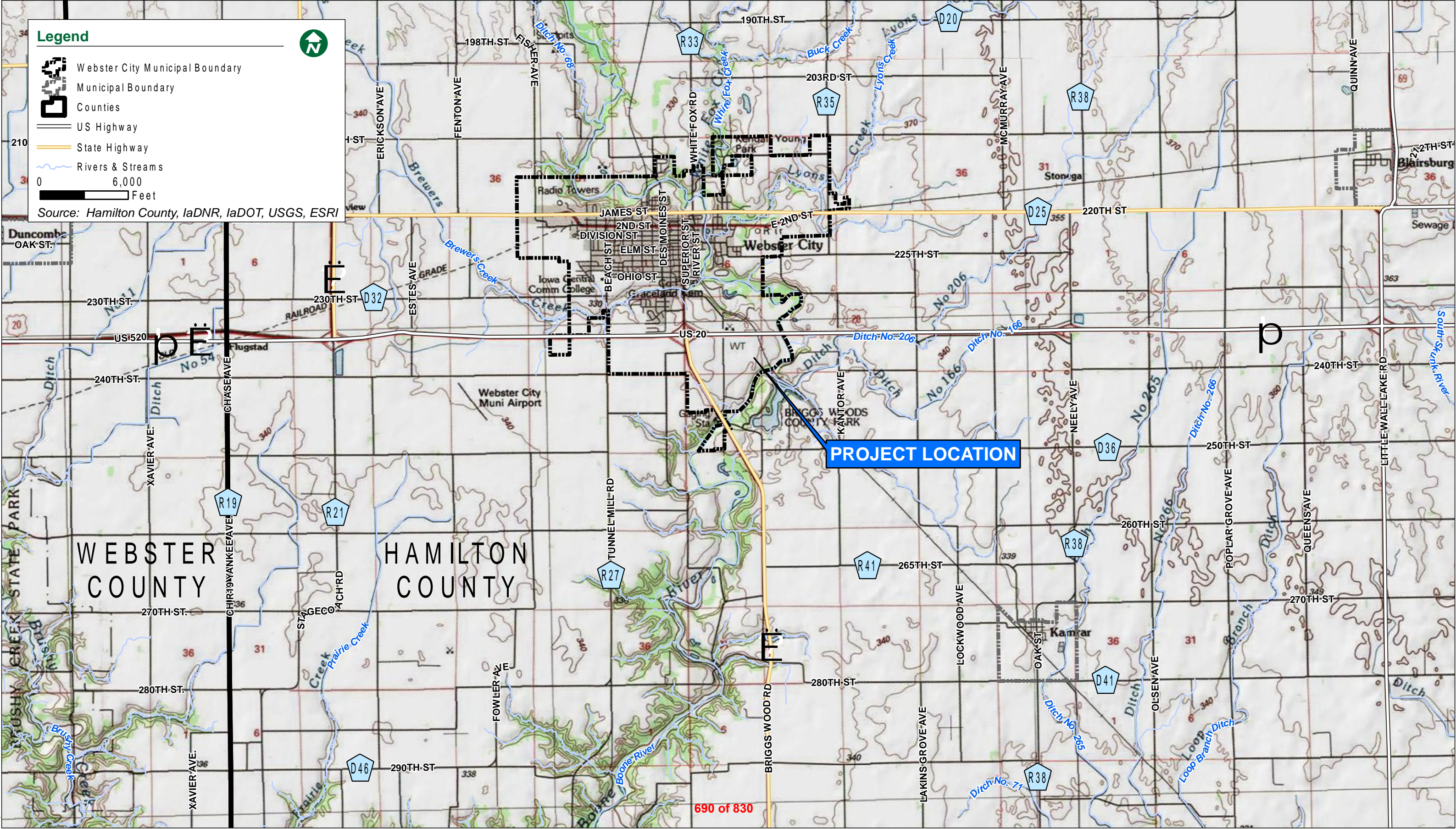
Site layout shall indicate final proposed layout (location) of all proposed treatment works.

3. Completely describe any adverse impact on the treatment facility caused by high water.
4. Indicate minimum distance to typical wet weather groundwater level.
5. Self-explanatory.
6. Self-explanatory.
7. See subrule 567 IAC 64.2(3) of the Iowa Administrative Code for the required separation distances. When the separation distances in the referenced subrule cannot be maintained for the expansion, upgrading or replacement of existing facilities, the separation distances shall be maintained at no less than 90 percent of the existing separation distance on the site, providing no data is available indicating that a problem has existed or will be created. If requesting the 90 percent exception, the proposed separation distance from each potentially affected item or structure shall be identified on Schedule F or an attachment to the form.

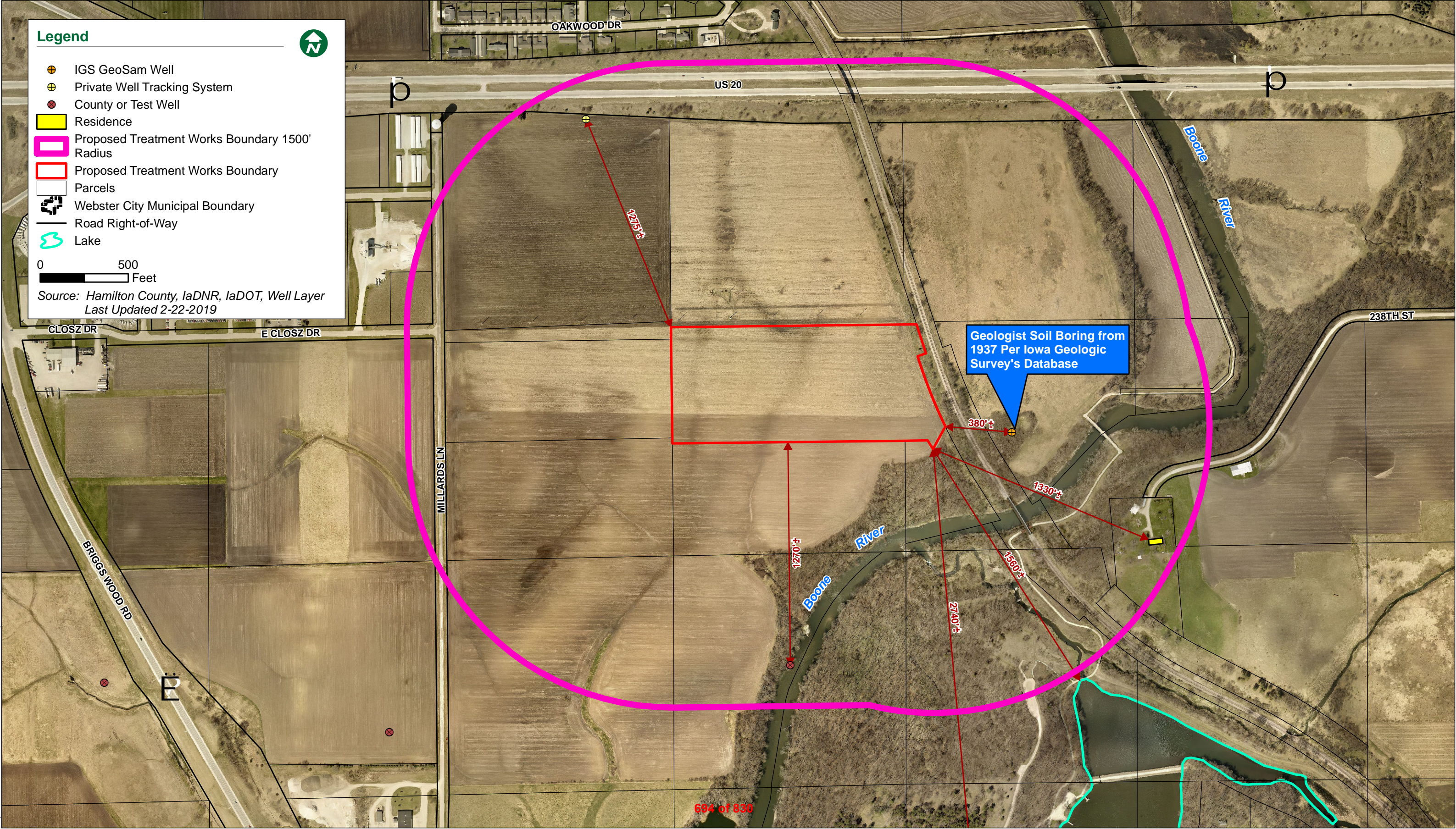
The 90 percent exception criteria does not apply to new treatment plants at a new site.

8. Self-explanatory.
9. Self-explanatory.
10. Self-explanatory.
11. Self-explanatory.
12. Self-explanatory.
13. Self-explanatory.
14. Self-explanatory.

NOTE: Complete a separate Schedule F for each separate project site.









**BOLTON
& MENK**

Real People. Real Solutions.

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Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via Email James.Oppelt@dnr.iowa.gov

May 24, 2022

Mr. James Oppelt
Iowa Department of Natural Resources
Wallace State Office Building
502 East 9th Street
Des Moines, IA 50319-0034

RE: Webster City Wastewater Treatment Facility
Project No.: A21.119239
NPDES Discharge Permit No. 4063001
Design Flows and Loads Submittal
Waste Load Allocation Request
Revised Design Flows and Loads
Your May 18 Email

Dear Mr. Oppelt:

The following are answers to the questions in your May 18 email (copy enclosed) regarding the revised City of Webster City design flows submitted for your review on April 15, 2022:

1. Equalization Basin Design Calculations. The equalization basin design volume is based on operating the mechanical plant at a maximum daily flow equal to the AWW flow PLUS 0.50 MGD. Historical data is used in determining the storage volume required for the flow in excess of the maximum daily flow (AWW plus 0.50 MGD) to the mechanical plant. The maximum month (or maximum AWW) flow during the 2012-2019 period of data evaluation was 3.349 MGD. Therefore, 3.439 plus 0.500 MGD (3.939 MGD) was used as the maximum day flow to the mechanical plant in the model of 2012-2019 data for sizing the flow equalization basin. This approach provides the minimum basin volume required for storage of excess I/I flows while limiting the mechanical plant flow to the AWW flow plus 0.500 MGD. We used the 0.500 MGD flow in excess of AWW to reduce the required equalization basin volume. It was a trade off between much larger equalization basin volume for the extra 0.500 MGD storage versus slightly larger mechanical plant to handle the extra 0.500 MGD.
2. Mechanical Plant Design Flow Calculations with Storm Water Flow Equalization Basin. The AWW design flow to the new mechanical treatment plant is based on the projected design year AWW flows in Table 2.4 (4.586 MGD) PLUS 0.500 MGD. The maximum day design flow rate to the mechanical plant is 5.086 MGD as per Table 2.5.
3. Schedule G Flows. The April 11, 2022 revised Schedule G includes the RATED MWW design flow AFTER storm water flow equalization (5.086 MGD). As requested per your May 18 email, the Schedule G MWW design flow is revised to the design flow rate PRIOR TO flow equalization

May 24, 2022

Page 2

(9.430 MGD). See enclosed 5/23/2022 revised Schedule G. Thank you for the clarification on the Schedule G requirements regarding MWW flow data for facilities with flow equalization. The notation in line 2 of Schedule G "(with MWW wet weather flow equalization)" has been deleted. The 5.086 MGD mechanical plant maximum day design flow is included in the Facility Plan Table 2.5.

4. AWW Design Flow. The plant will be designed for the 4.586 MGD AWW flow as per Table 2.5.
5. RO Water Treatment Waste Load. There would be no BOD, TSS, TKN, or P loading from future reverse osmosis water treatment process reject water.
6. BOD Design Loads. All design loads are expressed as BOD as per DNR requirements. The Facility Plan Design Flows and Load Submittal at Page 2-2 (first paragraph) includes a statement that "DNR staff can assume for the purposes of process review and design organic loading rate that the BOD load is equivalent to the CBOD load for this facility". We used the historical CBOD raw wastewater monitoring data in the evaluation of design loads because DNR required CBOD monitoring in raw wastewater in the previous NPDES discharge permit. There is no historical raw wastewater BOD monitoring data.

Please contact me with any questions and discussion regarding this information.

Sincerely,

Bolton & Menk, Inc.



Gregory L. Sindt, P.E.

Senior Environmental Engineer

- c: Daniel Ortiz-Hernandez - City Manager, City of Webster City, w/ enclosures, via email
Biridiana Bishop - Public Works Director, City of Webster City, w/ enclosures, via email
Nick Knowles - Wastewater Superintendent, City of Webster City, w/ enclosures, via email
Ryan Olive - DNR NPDES Discharge Permits Section, via email
Katie Greenstein - DNR Waste Load Allocation Section, via email
DNR Mason City Field Office, via email
Andrew Sindt, Bolton & Menk, Inc., w/ enclosures
Greg Sindt, Bolton & Menk, Inc., w/ enclosures
File, w/ enclosures

Enclosures: Schedule G, May 23, 2022 Revised
James Oppelt May 18, 2022 Email



Iowa Department of Natural Resources
Wastewater Section
Construction Permit Application
SCHEDULE G, Treatment Project Design Data
Exhibit 11C

DNR USE ONLY
Project No. _____
Permit No. _____

Date Prepared <u>5/23/2020</u> Date Revised <u>5/23/2022</u>	Project Identity City of Webster City Wastewater Treatment Facility Improvements
---	---

1. Project Description		New Wastewater Treatment Facility									
2.	Design Flows	Present Year (2020)					Design Year (2040)				
	Design Condition →	AWW (MGD)		MWW (MGD)			AWW (MGD)		MWW (MGD)		
	Domestic/Commercial Flow	0.93		1.56			1.068		1.068		
	Industrial										
	Flow	0.63		0.74			0.704		0.883		
	Rated Flow						0.704		0.883		
	Other Flow (specify)	Future RO Reject		0			0.217		0.400		
	Infiltration/Inflow	0.80		1.80			2.597		7.079		
	Total										
	Flow	3.30		6.00			4.586		9.430		
	Rated Flow	3.30		6.00			4.586		9.430		
Average Dry Weather Flow (ADW): 1.50 MGD (present year) 1.989 MGD (design year)		Peak Hourly Wet Weather Flow (PHWW): 6.70 MGD (present year) 11.780 MGD (design year)					Demographic Data: Population 7,900 (present year) Population 11,609 (design year)				
3. Organic Design Loadings		Present Year (2020)					Design Year (2040)				
	Design Condition →	Max. 30 day (#/day)		Max. Day (#/day)			Max. 30 day (#/day)		Max. Day (#/day)		
Domestic/Commercial	BOD ₅	1,722		1,722			4,063		5,456		
	TSS						5,340		8,358		
	TKN	259		259			488		639		
Industrial	BOD ₅	2,428		2,428			3,383		5,209		
	TSS						2,764		4,487		
	TKN	141		141			357		516		
Other (Specify)	BOD ₅										
	TSS										
	TKN										
Total	BOD ₅	4,150		4,150			7,446		10,665		
	TSS						8,104		12,845		
	TKN	400		400			845		1,155		
4. Effluent Limitations		BOD ₅		TSS		NH ₃ -N (most stringent month)		Other		Other	
		Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
Operation Permit Effluent Limits*	mg/l										
	#/day										
*Date of Waste Load Allocation (WLA) determination: <u>4/11/22 Revised WLA Request</u> **Effluent Limitations entered shall be the more stringent value between the existing NPDES Permit and the WLA or an approved antidegradation analysis											
5. Major Industrial/Commercial contributors or Significant Industrial User: (Max. Day Loadings)											
Waste Contributors	Pre-Treat (Y/N)	Operation		Design Loadings							
		Hrs/Day	Days/Week	Flow		BOD ₅ #/day	Susp. Solids #/day	TKN #/day	Oil & Grease #/day	#/day	
				Ave. MGD	Max. MGD						
Mary Ann's Foods	Y	24	6	0.100	0.140	400	300	80			
Webster City Meats	Y	24	6	0.070	0.110	1,000	250	80			
6. SCHEDULE G SUPPLEMENTAL CHECKLIST MUST ACCOMPANY THIS FORM											

Gregory Sindt

From: Oppelt, James <james.oppelt@dnr.iowa.gov>
Sent: Wednesday, May 18, 2022 1:53 PM
To: Andrew Sindt; Gregory Sindt
Subject: Revised Flows and Loads for Webster City

Andrew and Greg:

I'm confused about what the proposed mechanical plant capacity is (I'm not sure we discussed in the first version). Reading one portion of the document I'm thinking that the mechanical plant capacity (after EQ) is 5.086 MGD because you say that increasing this decreases required EQ capacity. But then it goes on to describe using 3.939 MGD in the model used to size EQ.

On Sch. G the design MWW is 9.43 MGD but the "rated" flow is 5.086 MGD, which makes me think your concept of rated flow is different from that we give in the instructions in Sch. G. That is, our "rated" flow in Sch. G is a flow where we consider industrial wastewater production shifts as opposed to just the average industrial flows. Rated flows on Sch. G should always be equal to or higher than the "Flow". Yours is lower, which makes me think you are stating the rated flow for the mechanical facility which is a different concept entirely that is not explicitly listed in Sch. G. Nowadays we try to remember to note the difference between the mechanical plant rated flow and the total flow (or "rated" flow on Sch. G) in facility plan approvals and construction permits but Sch. G is only for total raw influent values prior to EQ.

Is the AWW for the plant going to be 4.586 MGD? If so, it sounds like the plan is to provide less mechanical plant capacity than the AWW flow? We don't like to see plants sized for less than AWW even if there is EQ.

Does the proposed RO waste have any loadings to be concerned with?

To be clear, the BOD5 loads on schedule G will be what we use to verify plant capacity. Not CBOD loads.

I can probably approve the flows and loads that are on your schedule G. Some of what I am asking for here can be worked out in the FP stage, but just want to be clear before I approve these.

Thanks.



www.iowadnr.gov

JAMES C. OPPELT • Environmental Engineer, Senior

Water Quality Bureau

Iowa Department of Natural Resources

515-725-8428

502 E 9th St, Des Moines, IA 50319





June 2, 2022

Daniel Ortiz-Hernandez
400 Second Street
P.O. Box 217
Webster City, IA 50595

Re: Wastewater Treatment Facility Improvements
DNR Project No. S2017-0216

Subject: Revised Flows and Loads Approval

Dear Mr. Ortiz-Hernandez:

The Iowa Department of Natural Resources has reviewed the Revised Design Flows and Loads Submittal dated May 24, 2022 for the above-referenced project. The Flows and Loads are approved.

Design Waste Loadings

Design Flows			Max 30-day Design Loadings		
ADW	1.989	MGD	BOD5	7,446	lbs./day
AWW	4.586	MGD	TSS	8,104	lbs./day
MWW	9.430*	MGD	TKN	845	lbs./day
PHWW	11.780*	MGD			

*The hydraulic capacity of the mechanical plant is 5.086 MGD after wet weather flow equalization.

Department approval does not eliminate the need for the facility to comply with all federal, state and local regulations. This department must be notified of any change in your proposal and approve the change prior to incorporation in plans and specifications.

If you have any questions or comments concerning this project, please feel free to contact me at 515/725-8428 or email james.oppelt@dnr.iowa.gov.

Sincerely,

James C. Oppelt, P.E.
Project Manager
Wastewater Engineering Section

cc: Bolton & Menk, Inc. / Greg Sindt, P.E.
DNR Field Office 2
DNR Sewage File 6-40-63-0-01


SRF Environmental Review Checklist



The following checklist outlines the information needed to start the SRF Environmental Review (ER) Services. Please provide the following to: srf-iup@dnr.iowa.gov

*Environmental Review Services will not be initiated until after all items marked **REQUIRED** are received.

Applicant Name: _____

✓ Other federal funding sources that will be used for the proposed project. (Check ALL that apply) 

☐ No other federal funding sources are planned.

☐ CDBG


- What amount was requested? \$ _____
- Has the funding amount been awarded? ☐ Yes ☐ No
- Who is preparing the environmental review documents for this funding source? Please provide contact information. _____

☐ USDA-RD

- What amount was requested? \$ _____
- Has the funding amount been awarded? ☐ Yes ☐ No
- Who is preparing the environmental review documents for this funding source? Please provide contact information. _____

☐ Other: Please specify program _____

- What amount was requested? \$ _____
- Has the funding amount been awarded? ☐ Yes ☐ No
- Who is preparing the environmental review documents for this funding source? Please provide contact information. _____

✓ The anticipated construction start date for the proposed project. (Check ALL that apply) 

☐ The anticipated construction start date on the current IUP application is correct.

☐ The anticipated construction start date has changed from the date listed in the IUP application.


- What is the new anticipated construction start date for the project? _____








☐ The proposed project schedule is dependent on other funding source(s).


- Will the construction start date be delayed if other funding is not awarded? ☐ Yes ☐ No

☐ The proposed project schedule is dependent on an existing compliance schedule.


- What is the construction start date listed in the compliance schedule? _____

✓ A description of the current project scope including: what is proposed to be constructed, specific construction methods that will be used, estimated dimensions (length, width, depth) of excavated areas and the proposed construction schedule if construction will be phased (**REQUIRED**). 

- ✓ Indicate if any of the following ancillary impacts will result from the proposed project. (Check ALL that apply) 
- ☐ Abandonment or demolition (partial or entire) of existing building/structures
 - ☐ Borrow pits
 - ☐ Staging areas for equipment and materials
 - ☐ Temporary and/or permanent easement areas
 - ☐ Pavement replacement (street, driveway, sidewalk)
 - ☐ New access for roads/utility lines
- ✓ A recent aerial map with the marked boundaries of the project area. The map should also include labeled location(s) of all proposed construction boundaries (include any ancillary impacts listed above as applicable). If a specific area has yet to be defined, please mark a larger area that will include the final project area. 
- ☐ An aerial map of the project area map is included **(REQUIRED)**:
- What is the approximate size of the total project area? _____ acres
 - How much of the total project area will be impacted by ground-disturbing (excavation, grading, tree removal, etc.) construction activity? _____ acres
- ☐ A site sketch of the project area map is included with the following **(REQUIRED)**:
- All locations of ground disturbance and staging areas marked
 - North arrow
 - A minimum of one labeled street
- ☐ Shape files have been provided
- ✓ Photos with a descriptive caption (include location & direction) of the project area showing current land use and habitat. 
- ☐ Photos with captions are included (digital files are preferred).
- ✓ Indicate which of the following impacts are anticipated as a result of the proposed project. (Check ALL that apply) 
- ☐ Demolition, abandonment or rehabilitation of any building/structure over 50 years old. Picture(s) showing the interior and exterior façade of the building/structure should be provided. Provide the following information for each building/structure over 50 years old that will be impacted. 
- What year was the building/structure originally constructed? If the exact year is unknown, provide an estimate **(REQUIRED)**. _____
 - What material(s) is the building/structure made of? _____
 - Have any additions or substantial alterations to the building/structure occurred? If so, describe what was done and when. _____
- ☐ Brick sewers or street surfaces will be disturbed by construction activity. 
- Has a historic context (including Iowa Site Inventory Forms) been prepared for the brick sewers/street surfaces? ☐ Yes ☐ No
 - Describe any planned steps to minimize adverse effect to the brick sewers/streets.
- ☐ Existing prairie will be disturbed by construction activity. 
- How much prairie will be disturbed? _____ acres
 - Has a floral study been conducted of the prairie area? ☐ Yes ☐ No
 - Describe any planned steps to minimize adverse effect to the prairie.


☐ Trees (greater than 4" diameter breast height) will be removed. 

- Will tree removal occur between October 1 and March 31 to avoid impacting federally threatened or endangered bat species during the summer maternity period? ☐ Yes ☐ No

☐ Wetlands will be disturbed by construction activity. 

- How much of the wetland area will be permanently impacted? _____ acres
- Has a Joint Application been submitted to determine permit requirements? ☐ Yes ☐ No

**In the interest of keeping your project on schedule, SRF recommends submitting the Joint Application prior to or immediately following the submission of this document.

☐ Planned stream/creek crossings. 

- What is the name of the stream/creek crossing? _____
- What construction method(s) are planned for the crossing? _____
- Will excavation activity take place to the bed, bank of the stream/creek? ☐ Yes ☐ No
- Has a Joint Application been submitted to determine permit requirements? ☐ Yes ☐ No

☐ Planned work within a mapped 100-year flood plain. 

- What construction activity is planned within the flood plain? _____
- If ground disturbance will occur, will pre-construction contours be restored after construction activity is completed? ☐ Yes ☐ No
- Has a Joint Application been submitted to determine permit requirements? ☐ Yes ☐ No

☐ Planned work within state or federal owned and/or managed land. 

- What construction activity is planned within state/federal land? _____
- Has a Joint Application been submitted to determine permit requirements? ☐ Yes ☐ No

☐ Farmland will be permanently converted to non-agricultural uses. 

- What is the total size of the farm unit(s) that contains the project area? _____ acres
- How much of the project area has been farmed (managed for a scheduled harvest or timber activity) more than 5 of the last 10 years? _____ acres
- How much of the project area will be permanently converted from agricultural use as a result of the proposed project? _____ acres

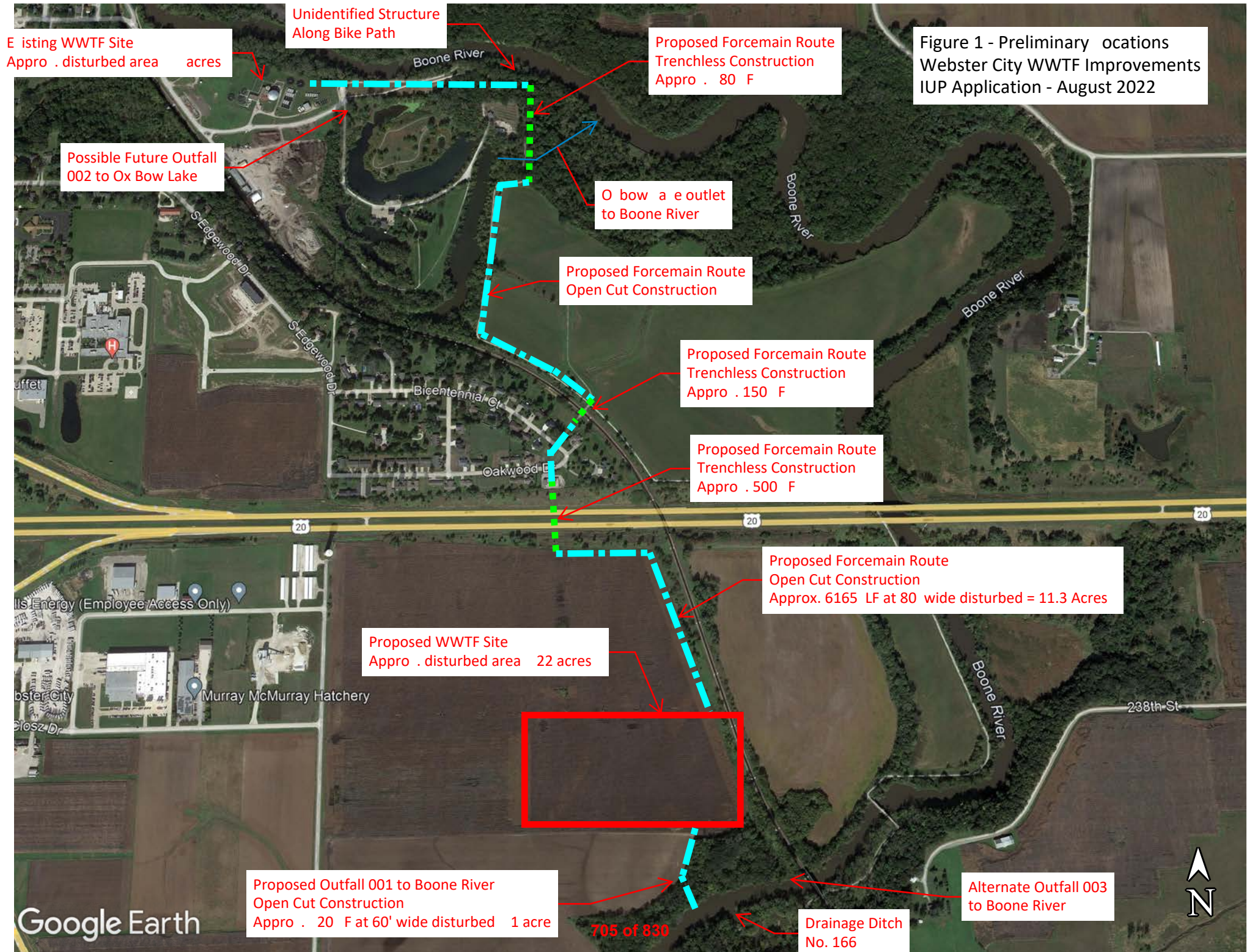
✓ Landowner permission is required for archaeological survey on private property, if needed. *Please note that archaeological survey will not begin until this permission is obtained.

☐ Yes, landowner permission has been obtained (documentation is provided). 

- Does the landowner(s) have any specific requests or requirements for archeological work to be conducted (for example, before/after harvest)? _____ acres

☐ No, landowner permission has not been obtained at this time.

- When is landowner permission anticipated to be obtained? _____



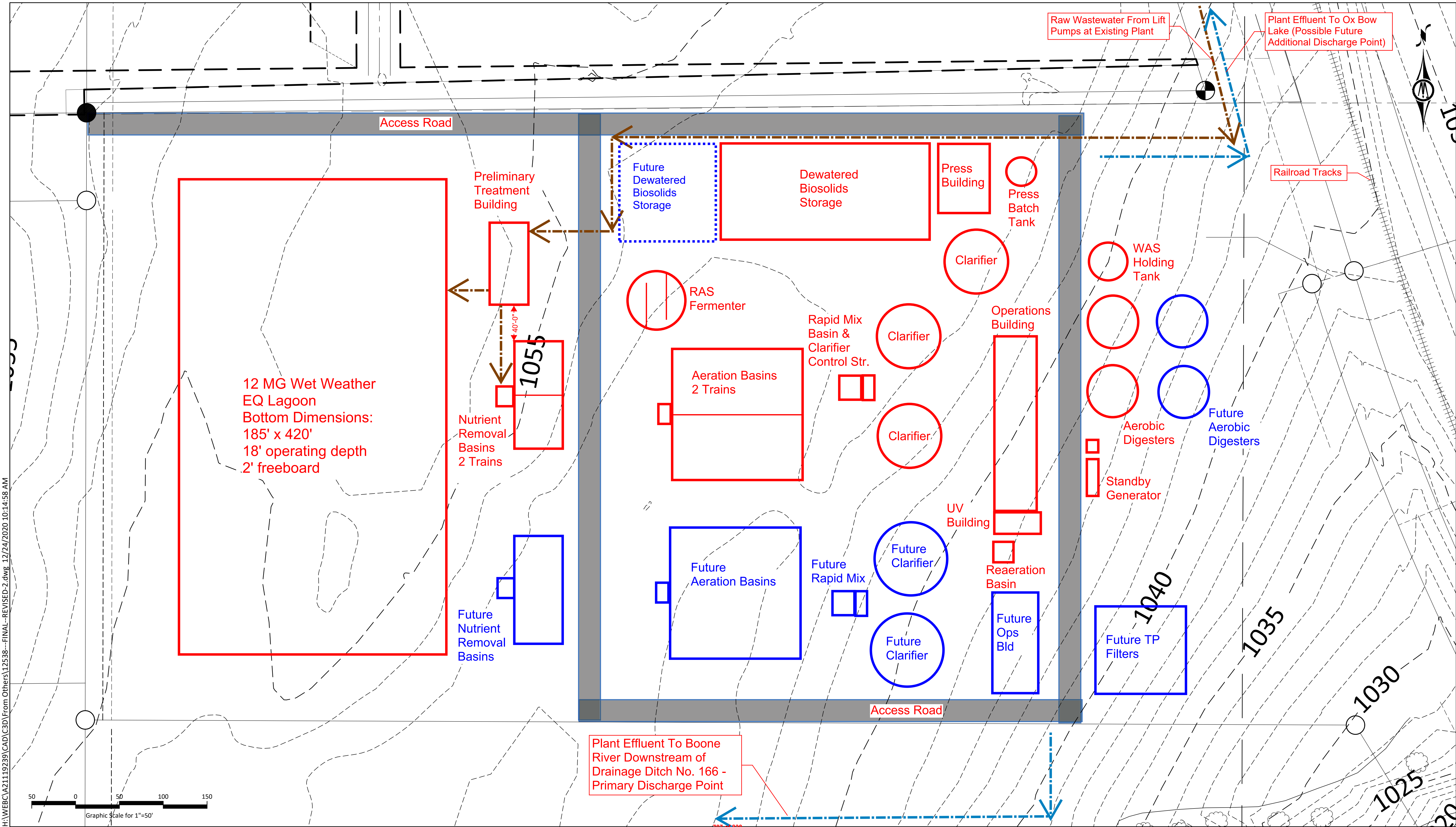


Figure - East lift Station
Webster City WWTF Improvements
IUP Application - August 2022





Photo looking west



Photo looking South

Figure 4 - East Lift Station Photos
Webster City WWTF Improvements
IUP Application - August 2022

Webster City WWTF Improvements

IUP Application – August 2022

SRF Environmental Review Checklist

Demolition Summary:

Item No.	Name	Date Constructed	Date of Substantial Alteration	Materials
1.	Primary Clarifier #1 Tank (north tank)	1939	2017 – rebuilt walls	Reinforced concrete
2.	Primary Clarifier #2 Tank (south tank)	1962		Reinforced concrete
3.	Trickling Filter	1962		Reinforced concrete
4.	Primary Anaerobic Digester Tank	1939		Reinforced concrete with brick facade

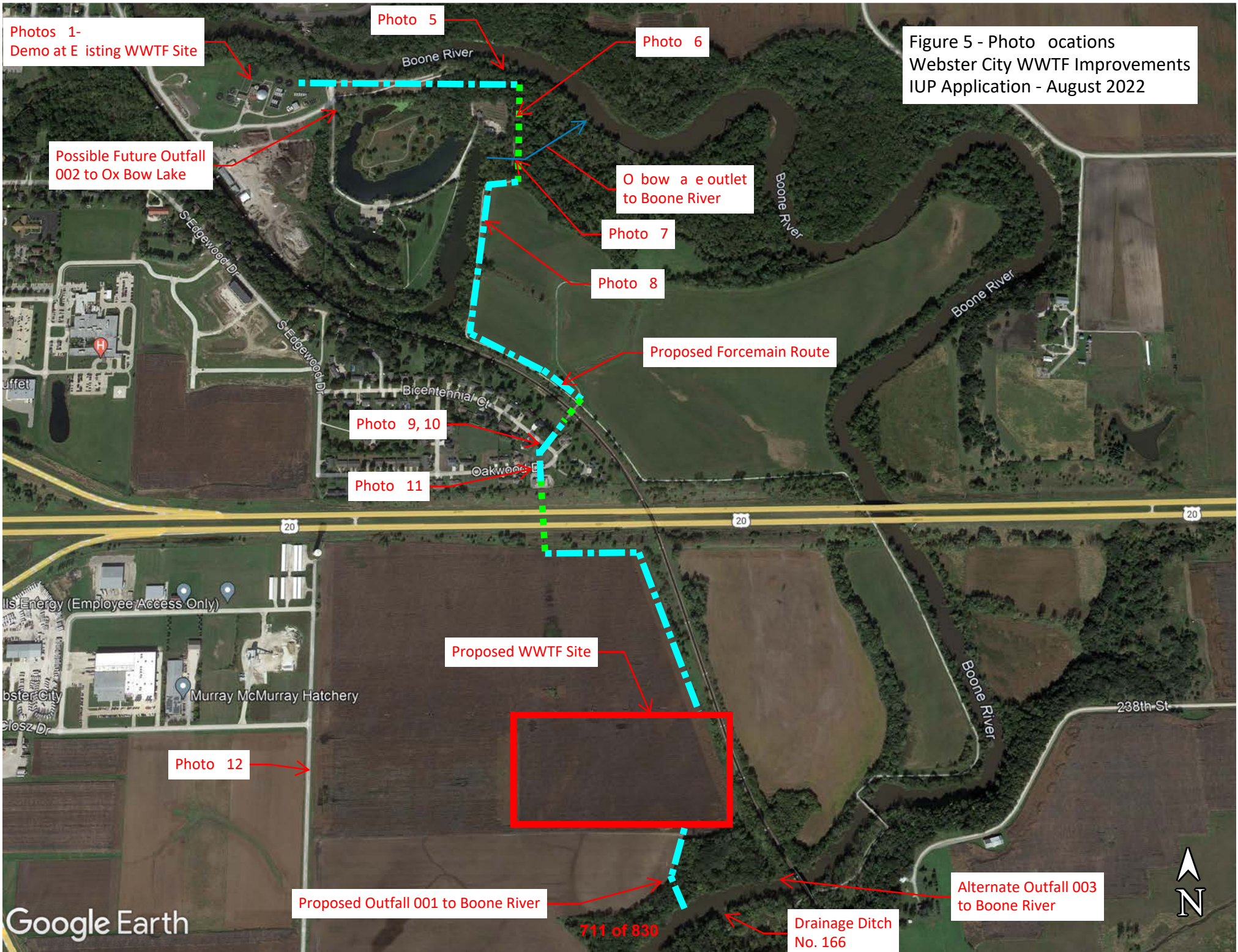


Figure 5 - Photo locations
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking north.

Photo #1 - Existing WWTF Site Demo
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking southwest.

Primary Clarifier #2

Photo #2 - Existing WWTF Site Demo
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking north.

Photo #3 - Existing WWTF Site Demo
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking northeast.

Photo #4 - Existing WWTF Site Demo
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking north. Structure is located along existing bike path that forcemain route is planned to follow. Plan for structure to be protected during construction.

Photo #5 - Existing Conditions
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking south.

Photo #6 - Existing Conditions
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking northeast.

Photo #7 - Existing Conditions
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking south.



Photo taken looking northeast.

Photo #9 - Existing Conditions
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking south.

Photo #10 - Existing Conditions
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking south. Utility is planning to decommission and demo existing substation.

Photo #11 - Existing Conditions
Webster City WWTF Improvements
IUP Application - August 2022



Photo taken looking east.

Photo #12 - Existing Conditions
Webster City WWTF Improvements
IUP Application - August 2022

Appendix N: Antidegradation Alternatives Analysis

Antidegradation Alternatives Analysis

City of Webster City
August 2022

DRAFT

Prepared by:

Bolton & Menk, Inc.
1519 Baltimore Drive
Ames, Iowa 50010
P: 515-233-6100
F: 515-233-4430



Real People. Real Solutions.

Certification

Antidegradation Alternatives Analysis

City of Webster City, Iowa
A21.119239

August 2022

	I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
	<div style="text-align: center;">DRAFT</div>
	(Signature) _____ (Date) _____
	Printed or typed name: <u>Andrew D. Sindt, P.E.</u>
	My license renewal date is <u>December 31, 2022</u>
	Pages or sheets covered by this seal:
	<div style="text-align: center;">All</div>

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Appendix

Appendix A: Pubic Notice, Distribution List and Letters

Appendix B: DNR Inspection Reports

I. EXECUTIVE SUMMARY

A. General

The City of Webster City is in the Facility Planning stage of a wastewater treatment facility improvements project. The existing treatment facility has reached the end of its useful life and requires repairs, equipment replacement and modifications for increased design year 2040 flows and loads. Additionally, the existing treatment process of primary clarification, trickling filters and RBC's is not conducive to meeting total nitrogen (TN) and total phosphorus (TP) discharge goals set forth in the Iowa Nutrient Reduction Strategy and included in the City's NPDES discharge permit. Webster City submitted a Nutrient Reduction Feasibility Report in February 2018 to fulfil the requirement for POTWs to evaluate and implement economically and practicably feasible nutrient removal technologies. After further evaluation and consideration for future needs, the City of Webster City has decided to build a new wastewater treatment facility south of town with provisions included to achieve TN and TP removal. This Antidegradation Alternatives Analysis is required by the Iowa water quality standards as part of the Facility Plan process.

The Antidegradation Alternatives Analysis is a summary of wastewater treatment and disposal alternatives that are considered during the Facility Planning process. The alternatives are broad categories of alternative process design concepts. The emphasis of this evaluation is the review of impacts of alternative treatment and disposal processes on degradation of receiving stream quality as a result of the increase in discharge over the current facility basis of design (IDNR Schedule G design capacity). The evaluation includes economic and technical feasibility components.

A Base Pollution Control Alternative (BPCA) is selected based on application of conventional technology. Other, less degrading alternatives are compared with the BPCA in an economic evaluation. A less degrading alternative is considered economically feasible if the net present cost of the alternative is less than 115% of the BPCA.

Three alternatives were considered in addition to the BPCA:

1. Recycle /Reuse
2. Land Application
3. Regional Treatment

The preferred alternative (BPCA) is an extended aeration activated sludge treatment facility with biological nitrogen and phosphorus removal with optional future chemical phosphorus removal. Proposed point of discharge is a new outfall to Boone River. The potentially less degrading alternatives are not selected due to failure to pass the economic feasibility criteria and reasonableness criteria.

Compared to the existing facility, the proposed BPCA alternative will decrease the current and future degradation to the Boone River. The proposed extended aeration activated sludge treatment facility will be designed to meet 20-year projected design flows and loadings, including nitrogen and phosphorus removal as required by the Iowa Nutrient Reduction Strategy.

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II. EXISTING CONDITIONS AND DESIGN PARAMETERS

A. Existing Conditions

The wastewater treatment plant has been constructed under several major projects from 1939 through 1999. Most of the process equipment and mechanical equipment was replaced during the 1995 and 1999 plant improvement projects.

The plant is a biological treatment facility with primary clarification for raw solids removal and anaerobic digestion with the following major components:

- aerated grit removal
- raw lift pumps (4)
- primary clarifiers (3)
- trickling filter
- intermediate lift pumps (3)
- rotating biological contactors (RBCs) (20)
- final clarifiers (2)
- chlorine disinfection
- sodium metabisulfite dechlorination
- anaerobic biosolids digesters (2)
- biosolids storage tank
- liquid biosolids land application

The plant was constructed and improved in several stages. The following is a summary of the existing facility construction dates:

- 1939 Original Plant Construction
 - operations building
 - Primary Clarifier No. 1 (north) tank
 - primary anaerobic biosolids digester tank
 - intermediate lift wet well
- 1962 Trickling Filter Expansion
 - trickling filter tank and media
 - Primary Clarifier No. 2 (south) tank
- 1977 Tertiary Treatment, Disinfection, and Sludge Treatment Expansion
 - aerated grit removal tanks
 - raw wet well
 - Primary Clarifier No. 3 (west) tank
 - RBC biological treatment tanks
 - final clarifier tanks

- chlorine contact basin and building
- outfall pipe to river
- secondary anaerobic biosolids digester
- electrical control panels
- 1995 Phase I Plant Improvements
 - intermediate lift pumps
 - trickling filter recirculation piping
 - RBC covers (demolish RBC building)
 - RBC equipment (12 of 20 units)
- 1999 Phase II Plant Improvements
 - raw lift pumps
 - maintenance garage
 - biosolids storage tank
 - RBC equipment (8 of 20 units)
 - RBC and final clarifier diversion structure (peak flow split)
 - primary sludge pumps and piping
 - primary clarifier equipment
 - trickling filter distributor
 - final clarifier equipment
 - primary anaerobic digester cover
 - secondary anaerobic digester cover
 - HVAC equipment – all buildings
 - biosolids treatment equipment and pumps
 - biosolids treatment piping
 - biosolids treatment control system
 - biosolids treatment boilers
 - biogas piping and waste gas burner
 - process area lighting fixtures and wiring
 - chemical feed equipment
 - roofing system – all buildings
 - masonry tuck pointing (partial) all buildings
- 2016-17 Renovation Project
 - replace primary digester cover
 - replace primary digester mixing system
 - renovate Primary Clarifier No. 1 tank

Table 2.1 is a summary of the construction dates and ages of the significant assets.

The rated plant capacity as summarized in Table 2.2. The discharge limits are summarized in Table 2.3.

Table 2.1 – Wastewater Treatment Facility – Summary of Significant Asset Ages		
Component	Construction Date	Age Years
Operations Building	1939	83
Primary Clarifier No. 1 Tank	1939	83
Primary Digester Tank	1939	83
Intermediate Wet Well	1939	83
Trickling Filter Tank and Media	1962	60
Primary Clarifier No. 2 Tank	1962	60
Raw Wet Well and Grit Removal	1977	45
Primary Clarifier No. 3 Tank	1977	45
RBC Tanks	1977	45
Final Clarifier Tanks	1977	45
Chlorine Contact Tank	1977	45
Secondary Digester Tank	1977	45
Electrical Equipment	1977	45
Intermediate Lift Pumps and Piping	1995	27
RBC Covers	1995	27
RBC Equipment (12 of 20 Units)	1995	27
Raw Lift Pumps and Piping	1999	23
Biosolids Storage Tank	1999	23
RBC Equipment (8 of 20 Units)	1999	23
Primary Clarifier Equipment	1999	23
Primary Sludge Pumps and Piping	1999	23
Trickling Filter Distributor	1999	23
Final Clarifier Equipment	1999	23
Digester Covers and Equipment	1999	23
Chemical Feed Equipment	1999	23
Roofing Systems	1999	23
HVAC Equipment	1999	23
Process Area Electrical and Lighting	1999	23
Primary Digester Cover Replacement	2017	5
Primary Digester Mixing System	2017	5
Primary Clarifier No. 1 Tank Renovation	2017	5

A schematic diagram of the existing wastewater treatment process is presented in Figure 2.1.

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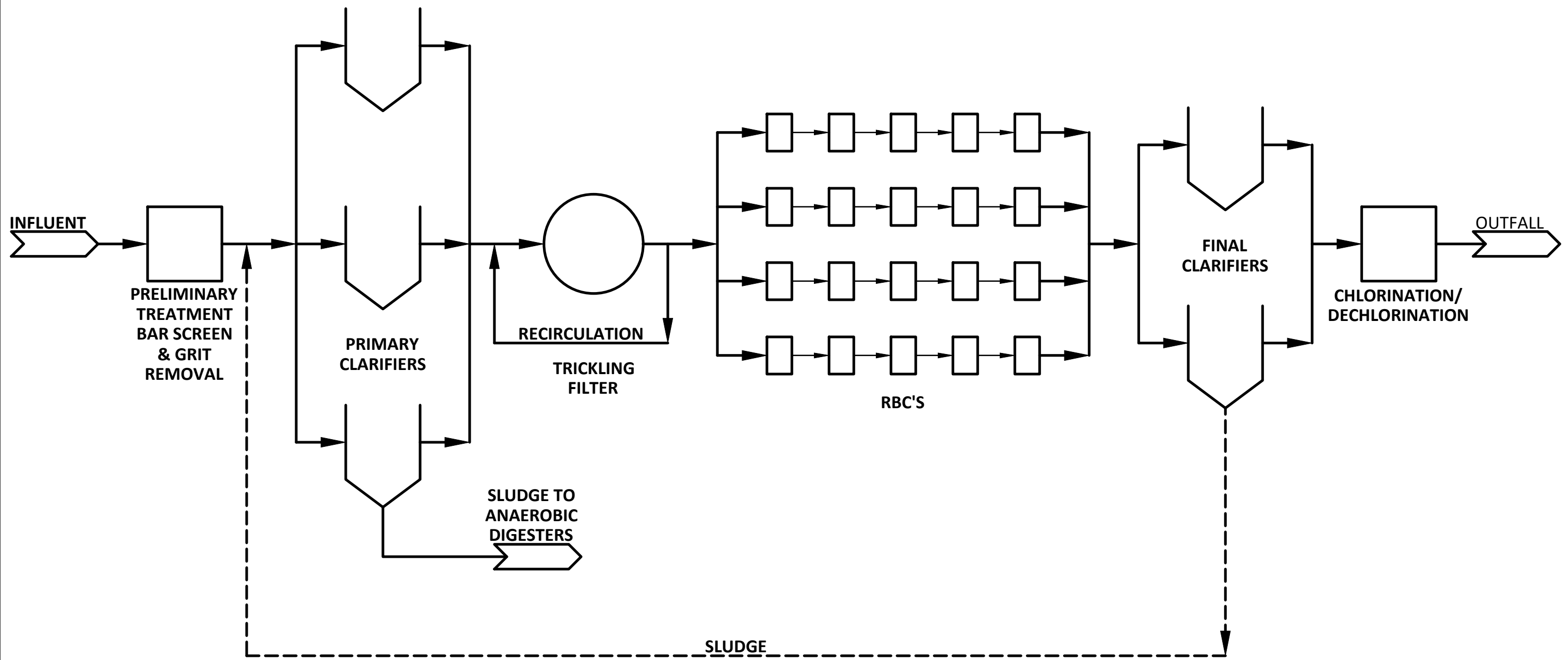


FIGURE 2.1
EXISTING PROCESS DIAGRAM

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The Webster City wastewater treatment facility currently receives wastewater from three significant industrial users (SIUs), summarized in Table 2.2. Discharges are from food processing facilities and one metals finisher. Monitoring parameters include flow, CBOD, TSS and TKN loadings for the food processors and typical metals for the metals finishing company.

Table 2.2 – Summary of SIUs			
Industry	Description	Waste Load Monitoring Parameters	Planned Expansion
Mary Ann's Specialty Foods	Food Processor	CBOD, TSS, TKN, O&G, pH	Yes
Webster City Custom Meats	Food Processor	CBOD, TSS, TKN, O&G, pH	No
Mertz Engineering, Inc.	Metal Finisher	Zn, Cd, Cr, CN, Ni, Ag, TTO, Cu, Pb, pH	No

Information for two additional industries that do not cross the threshold for SIU classification but have treatment agreements in place with the City are presented in Table 2.3.

Table 2.3 – Summary of Other Industries with Treatment Agreements			
Industry	Description	Waste Load Monitoring Parameters	Planned Expansion
Cactus Family Farms	Truck Wash Facility	CBOD, TSS, TKN	Yes
Natural Shrimp	Food Processor	CBOD, TSS, TKN	No

The City of Webster City is planning for residential population increase of 49% over the next 20 years. Future industrial growth is unknown but the City has elected to include 25% of the total plant capacity as reserve capacity for potential allocation to future industrial users.

B. Permit Violations

The Webster City WWTF incurred the following exceedances of NPDES permit limits over the review period of March 2016 through December 2020.

- August, September, October 2016 – TSS maximum concentration.
- November 2016 – TSS average and maximum concentration, Copper concentration and mass
- March 2017 – pH maximum limit.
- May 2017 – Copper concentration and mass.
- October, August 2017 – E. Coli geometric mean.
- October 2017 – E. Coli geometric mean, Total Residual Chlorine
- November 2017 – Total Residual Chlorine
- February 2021 – Ammonia Nitrogen Average and Maximum Concentration

IDNR wastewater facility inspection reports from August 2017, July 2019, and March 2021 are located in Appendix B for reference.

Webster City Custom Meats and Mary Ann's Specialty Foods had periodic violations of treatment agreement limits over the review period. Both industries have requested increases in their discharge limits. The following is a brief summary of Treatment Agreement violations over the review period:

- Webster City Custom Meats
 - Several violations of treatment agreement limits over the review period including: Flow, BOD, TSS, TKN, O&G, and pH.
 - February 2020 – Webster City Custom Meats – Notice of Violation issued for treatment agreement limit violations.
- Mary Ann's Specialty Foods
 - Several violations of treatment agreement limits over the review period including: Flow, BOD, TSS, TKN, O&G, and pH.
 - November 2020 – Letter of Noncompliance issued for treatment agreement limit violations.

C. Design Parameters

1. Current Rated Plant Flows and Loadings

Table 2. provides a summary of the rated design capacity of the existing wastewater treatment facility as stated on Construction Permit Number 2000-2-s issued 10/05/1999.

Table 2.4 – Current Plant Rated Design Flows and Loadings	
Parameter	Design Capacity
Flow	
ADW	1.5 MGD
AWW	3.3 MGD
MWW	6.0 MGD
PHWW	--
BOD Loading	
Max. month	4,150 lbs/d
Max. Day	4,150 lbs/d
TSS Loading	
Max. month	--
Max. Day	--
TKN Loading	
Max. month	400 lbs/d
Max. Day	400 lbs/d
Phosphorus	
Max. month	--
Max. Day	--

2. Design Flows and Loadings

Table 2.5 provides a summary of the design flows and loadings that are used as the basis of the design for the proposed wastewater treatment facility improvements.

Table 2.5 – Design Year 2040 Flows and Loadings	
Parameter	Design Capacity
Flow	
ADW	1.989 MGD
AWW	4.586 MGD
MWW	9.430 MGD
PHWW	11.78 MGD
CBOD Loading	
Max. Month	7,446 lbs/d
Max. Day	10,665 lbs/d
TSS Loading	
Max. Month	8,104 lbs/d
Max. Day	12,845 lbs/d
TKN Loading	
Max. Month	845 lbs/d
Max. Day	1,155 lbs/d
Phosphorus	
Max. Month	145 lbs/d
Max. Day	334 lbs/d

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III. RECEIVING STREAM NETWORK

A. General

The existing treatment facility discharges treated wastewater to either the Boone River via an unnamed creek and ox bow lake (Outfall 001) or direct to the Boone River (Outfall 003). The Boone River is a tributary to the Des Moines River. The Des Moines River is a tributary to the Mississippi River.

Proposed improvements include constructing a new outfall to discharge directly to the Boone River downstream of Drainage Ditch No. 166 located approximately 1.5 miles downstream of the existing Outfall 003. The City may also consider continued use of existing Outfall 001. Table 3.1 presents stream designation for the Boone River. Based on the pollutants of concern, the use designations of waterbodies further downstream will not impact the resulting limits for this facility.

Table 3.1 – Stream Network Designation

Stream	Designation
Boone River	A1, B(WW-1), HH

The following is a summary of the designated uses as defined by the Iowa Water Quality Standards (IAC 567 Chapter 61):

- A1 – Primary contact recreational use – suitable for activities such as, but not limited to, swimming, diving, water skiing, and water contact recreational canoeing.
- B(WW-1) – Warm Water Type 1. Waters suitable to maintain warm water game fish populations along with a variety of native nongame fish and invertebrate species.
- HH – Human Health – Waters from which fish are harvested for human consumption on a routine basis or designated as a drinking water supply.

DNR developed a TMDL for one segment of the Des River that addresses impairments for nitrate nitrogen. EPA approved this TMDL in 2009. The Webster City WWTF has a nitrate nitrogen load allocation from this TMDL and no other allocations.

The Boone River is listed on the 2018 impaired waters list along with the following waterbodies in the discharge route:

- Boone River – bacteria (indicator bacteria, E. coli)
- Des Moines River – bacteria (indicator bacteria, E. coli), nutrients (nitrate nitrogen), fish kill (caused by other , and fish kill (due to unknown toxicity)
- Saylorville Reservoir – turbidity (Secchi disk transparency)
- Red Rock Reservoir – bacteria (indicator bacteria, E. coli and turbidity)

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I . EFFLUENT LIMITATIONS

A. General

The treatment facility is operated under NPDES Permit No. 4063001. The City's current NPDES permit was issued October 1, 2021 and last amended February 1, 2022. Current permit limits are summarized in Table 4.1 for discharge to an unnamed creek to an oxbow lake, the City's current primary discharge point. The oxbow lake discharges to the Boone River.

**Table 4.1 – NPDES Discharge Limits – Webster City
Current Permit Issued 10/21 – Outfall 001 (Oxbow Lake)**

Parameter	Season	Limit Type	Limit
CBOD ₅	Yearly	7-day Ave.	40 mg/L (1,101 lbs/day)
	Yearly	30-day Ave.	25 mg/L (688 lbs/day)
TSS	Yearly	7-day Ave.	45 mg/L (1,238 lbs/day)
	Yearly	30-day Ave.	30 mg/L (826 lbs/day)
NH ₃ -N	Jan.	30-day Ave.	3.4 mg/L (94 lbs/day)
	Jan.	Daily Max.	15.2 mg/L (418 lbs/day)
	Feb.	30-day Ave.	4.0 mg/L (109 lbs/day)
	Feb.	Daily Max.	14.2 mg/L (391 lbs/day)
	Mar.	30-day Ave.	3.4 mg/L (94 lbs/day)
	Mar.	Daily Max.	14.7 mg/L (404 lbs/day)
	Apr.	30-day Ave.	1.5 mg/L (42 lbs/day)
	Apr.	Daily Max.	15.7 mg/L (432 lbs/day)
	May	30-day Ave.	1.7 mg/L (48 lbs/day)
	May	Daily Max.	15.2 mg/L (418 lbs/day)
	Jun.	30-day Ave.	1.3 mg/L (36 lbs/day)
	Jun.	Daily Max.	14.4 mg/L (397 lbs/day)
	Jul.	30-day Ave.	1.0 mg/L (28 lbs/day)
	Jul.	Daily Max.	17.6 mg/L (484 lbs/day)
	Aug.	30-day Ave.	1.0 mg/L (26 lbs/day)
	Aug.	Daily Max.	16.2 mg/L (447 lbs/day)
	Sep.	30-day Ave.	1.1 mg/L (29 lbs/day)
	Sep.	Daily Max.	16.5 mg/L (454 lbs/day)
	Oct.	30-day Ave.	1.6 mg/L (43 lbs/day)
	Oct.	Daily Max.	15.7 mg/L (432 lbs/day)
	Nov.	30-day Ave.	2.3 mg/L (64 lbs/day)
	Nov.	Daily Max.	14.7 mg/L (404 lbs/day)
	Dec.	30-day Ave.	2.5 mg/L (68 lbs/day)
	Dec.	Daily Max.	16.0 mg/L (439 lbs/day)
Total Cadmium	Yearly	30-day Ave.	0.0004523 mg/L (0.01245 lbs/day)
	Yearly	Daily Max.	0.004316 mg/L (0.1188 lbs/day)
Total Residual Chlorine	Yearly	30-day Ave.	0.008 mg/L (0.216 lbs/day)
	Yearly	Daily Max.	0.019 mg/L (0.523 lbs/day)
Nitrate Nitrogen	Yearly	30-day Ave.	760 lbs/d
	Yearly	Daily Max.	1,244 lbs/d
Total Copper	Yearly	30-day Ave.	0.01687 mg/L (0.4642 lbs/d)
	Yearly	Daily Max.	0.02690 mg/L (0.7403 lbs/d)
Acute Toxicity, Ceriodaphnia	Yearly	Daily Max.	No Toxicity
Acute Toxicity, Pimephales	Yearly	Daily Max.	No Toxicity
pH	Yearly	Daily Max.	9.0
	Yearly	Minimum	6.5
E. Coli	Mar. – Nov.	Geo. Mean	630#/100 mL

Current permit limits are summarized in Table 4.2 for discharge to the Boone River, the City's current primary discharge point.

Table 4.2 – NPDES Discharge Limits – Webster City Current Permit Issued 10/21 – Outfall 003 (Boone River)			
Parameter	Season	Limit Type	Limit
CBOD ₅	Yearly	7-day Ave.	40 mg/L (1,101 lbs/day)
	Yearly	30-day Ave.	25 mg/L (688 lbs/day)
TSS	Yearly	7-day Ave.	45 mg/L (1,238 lbs/day)
	Yearly	30-day Ave.	30 mg/L (826 lbs/day)
NH ₃ -N	Jan.	30-day Ave.	8.2 mg/L (214 lbs/day)
	Jan.	Daily Max.	16.1 mg/L (429 lbs/day)
	Feb.	30-day Ave.	9.4 mg/L (246 lbs/day)
	Feb.	Daily Max.	15.2 mg/L (403 lbs/day)
	Mar.	30-day Ave.	4.9 mg/L (128 lbs/day)
	Mar.	Daily Max.	15.4 mg/L (413 lbs/day)
	Apr.	30-day Ave.	3.6 mg/L (95 lbs/day)
	Apr.	Daily Max.	16.3 mg/L (439 lbs/day)
	May	30-day Ave.	3.2 mg/L (86 lbs/day)
	May	Daily Max.	15.8 mg/L (359 lbs/day)
	Jun.	30-day Ave.	2.2 mg/L (59 lbs/day)
	Jun.	Daily Max.	15.0 mg/L (234 lbs/day)
	Jul.	30-day Ave.	2.2 mg/L (58 lbs/day)
	Jul.	Daily Max.	12.2 mg/L (179 lbs/day)
	Aug.	30-day Ave.	2.0 mg/L (53 lbs/day)
	Aug.	Daily Max.	12.9 mg/L (184 lbs/day)
Total Cadmium	Yearly	30-day Ave.	0.0006277 mg/L (0.01464 lbs/d)
	Yearly	Daily Max.	0.004474 mg/L (0.1208 lbs/d)
Total Residual Chlorine	Yearly	30-day Ave.	0.012 mg/L (0.274 lbs/d)
	Yearly	Daily Max.	0.020 mg/L (0.536 lbs/d)
Nitrate Nitrogen	Yearly	30-day Ave.	760 lbs/d
	Yearly	Daily Max.	1,244 lbs/d
Total Copper	Yearly	30-day Ave.	0.02177 mg/L (0.5256 lbs/d)
	Yearly	Daily Max.	0.02773 mg/L (0.7507 lbs/d)
Acute Toxicity, Ceriodaphnia	Yearly	Daily Max.	No Toxicity
Acute Toxicity, Pimephales	Yearly	Daily Max.	No Toxicity
pH	Yearly	Daily Max.	9.0 Std. Units
	Yearly	Minimum	6.5 Std. Units
E. Coli	Mar. – Nov.	Geo. Mean	126 #/100 mL

A Waste Load Allocation completed July 2022 includes the following additional effluent requirements:

- Less stringent effluent ammonia limits.
- New limits for dissolved oxygen, chloride, and sulfate.

Compliance with Iowa's Nutrient Reduction Strategy will also be required in the next NPDES discharge permit. The Web wastewater treatment facility must be upgraded to meet future effluent E. coli limits and to implement TN and TP removal to comply with the Iowa Nutrient Reduction Strategy.

Total nitrogen and phosphorus discharge limits will be established after eighteen months of new treatment process operations as per the Iowa Nutrient Reduction Strategy provisions.

Table 4.3 is a summary of projected discharge limits for the proposed outfall at the Boone River based on July 29, 2022 Waste Load Allocation calculations by IDNR staff.

Table 4.3 – WLA Limits – Webster City
WLA Completed July 29, 2022

Parameter	Season	Limit Type	Limit
CBOD ₅ and TSS	Secondary Treatment Levels Will Not Violate WQs		
Total D.O.	Yearly	Minimum	4.2 mg/L
NH ₃ -N	Jan.	30-day Ave.	11.1 mg/L (257.7 lbs/day)
	Jan.	Daily Max.	15.9 mg/L (593.2 lbs/day)
	Feb.	30-day Ave.	12.7 mg/L (296.9 lbs/day)
	Feb.	Daily Max.	15.0 mg/L (556.3 lbs/day)
	Mar.	30-day Ave.	6.6 mg/L (154.7 lbs/day)
	Mar.	Daily Max.	15.4 mg/L (573.7 lbs/day)
	Apr.	30-day Ave.	4.9 mg/L (114.6 lbs/day)
	Apr.	Daily Max.	16.3 mg/L (611.1 lbs/day)
	May	30-day Ave.	5.6 mg/L (130.9 lbs/day)
	May	Daily Max.	15.8 mg/L (592.4 lbs/day)
	Jun.	30-day Ave.	4.2 mg/L (98.7 lbs/day)
	Jun.	Daily Max.	15.1 mg/L (563.6 lbs/day)
	Jul.	30-day Ave.	3.2 mg/L (75.6 lbs/day)
	Jul.	Daily Max.	18.3 mg/L (686.0 lbs/day)
	Aug.	30-day Ave.	3.1 mg/L (71.8 lbs/day)
	Aug.	Daily Max.	16.9 mg/L (633.2 lbs/day)
	Sep.	30-day Ave.	3.4 mg/L (79.5 lbs/day)
	Sep.	Daily Max.	17.1 mg/L (642.4 lbs/day)
	Oct.	30-day Ave.	5.0 mg/L (117.4 lbs/day)
	Oct.	Daily Max.	16.3 mg/L (611.4 lbs/day)
	Nov.	30-day Ave.	7.5 mg/L (175.4 lbs/day)
	Nov.	Daily Max.	15.3 mg/L (571.8 lbs/day)
	Dec.	30-day Ave.	8.0 mg/L (186.7 lbs/day)
	Dec.	Daily Max.	16.6 mg/L (621.1 lbs/day)
Total Cadmium	Yearly	30-day Ave.	0.003237 mg/L (0.1015 lbs/d)
	Yearly	Daily Max.	0.01059 mg/L (0.3952 lbs/d)
Total Residual Chlorine*	Yearly	30-day Ave.	0.013 mg/L (0.403 lbs/d)
	Yearly	Daily Max.	0.022 mg/L (0.827 lbs/d)
Nitrate Nitrogen	Yearly	30-day Ave.	760 lbs/d
	Yearly	Daily Max.	1,244 lbs/d
Total Copper	Yearly	30-day Ave.	0.04111 mg/L (1.289 lbs/d)
	Yearly	Daily Max.	0.04773 mg/L (1.782 lbs/d)
Acute Toxicity, Ceriodaphnia	Yearly	Daily Max.	No Toxicity
Acute Toxicity, Pimephales	Yearly	Daily Max.	No Toxicity
pH	Yearly	Daily Max.	9.0 Std. Units
	Yearly	Minimum	6.5 Std. Units
E. Coli	Mar. – Nov.	Geo. Mean	126 #/100 mL
Chloride	Yearly	30-day Ave.	629 mg/L (19,940 lbs/day)
	Yearly	Daily Max.	735 mg/L (27,489 lbs/day)
Sufate	Yearly	30-day Ave.	2,142 mg/L (80,028 lbs/day)
	Yearly	Daily Max.	2,142 mg/L (80,028 lbs/day)

*TRC limits included because the current facility uses chlorine disinfection. Proposed improvements include UV disinfection in lieu of chlorine disinfection.

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V. POLLUTANTS OF CONCERN AND TIER PROTECTION LEVEL

A. General

Table 5.1 provides a summary of the pollutants of concern for the proposed wastewater treatment facility improvements.

Table 5.1 – Pollutants of Concern				
Pollutant of Concern	Secondary Std. or WQBEL ¹	Beneficial Use Affected	Tier	Notes
Organic Matter (CBOD)	Secondary Std.	Aquatic life	2	See Table 6.2 for discharge alternative determinations of degradation
Suspended Solids (TSS)	Secondary Std.	General uses	2	See Table 6.2 for discharge alternative determinations of degradation
Ammonia-N	WQBE	Aquatic life	2	Compliance with WQBEL will not cause degradation.
Bacteria (E. coli)	WQBE	Contact recreation	1	Boone River currently impaired – treat to standard.
Total Residual Chlorine (TRC)	WQBE	Aquatic life	2	Treat to standard (if chlorine disinfection utilized)
Chloride	WQBE	Aquatic life	2	No effluent limits based on reasonable potential to exceed standards.
Sulfate	WQBE	Aquatic life	2	No effluent limits based on reasonable potential to exceed standards.
Nitrate Nitrogen	WQBE	Aquatic life (indirect) General uses (nuisance aquatic life)	1	Tier 1 DL for one segment of Des Moines River
Total Nitrogen	--	Aquatic life (indirect) General uses (nuisance aquatic life)	2	No numeric standard. Pending effluent limits per Iowa Nutrient Reduction Strategy
Phosphorus	--	Aquatic life (indirect) General uses (nuisance aquatic life)	2	No numeric standard. Pending effluent limits per Iowa Nutrient Reduction Strategy
Organic Priority Pollutants	WQBE	Aquatic life	2	No effluent limits based on reasonable potential to exceed standards.
Cyanide	WQBE	Aquatic life	2	No effluent limits based on reasonable potential to exceed standards.
Metals	WQBE	Aquatic life Human health (indirect)	2	No effluent limits based on reasonable potential to exceed standards.

Notes: 1. WQBEL refers to water quality (standards based effluent limit).

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VI. IDENTIFICATION AND DISCUSSION OF ALTERNATIVES

A. General

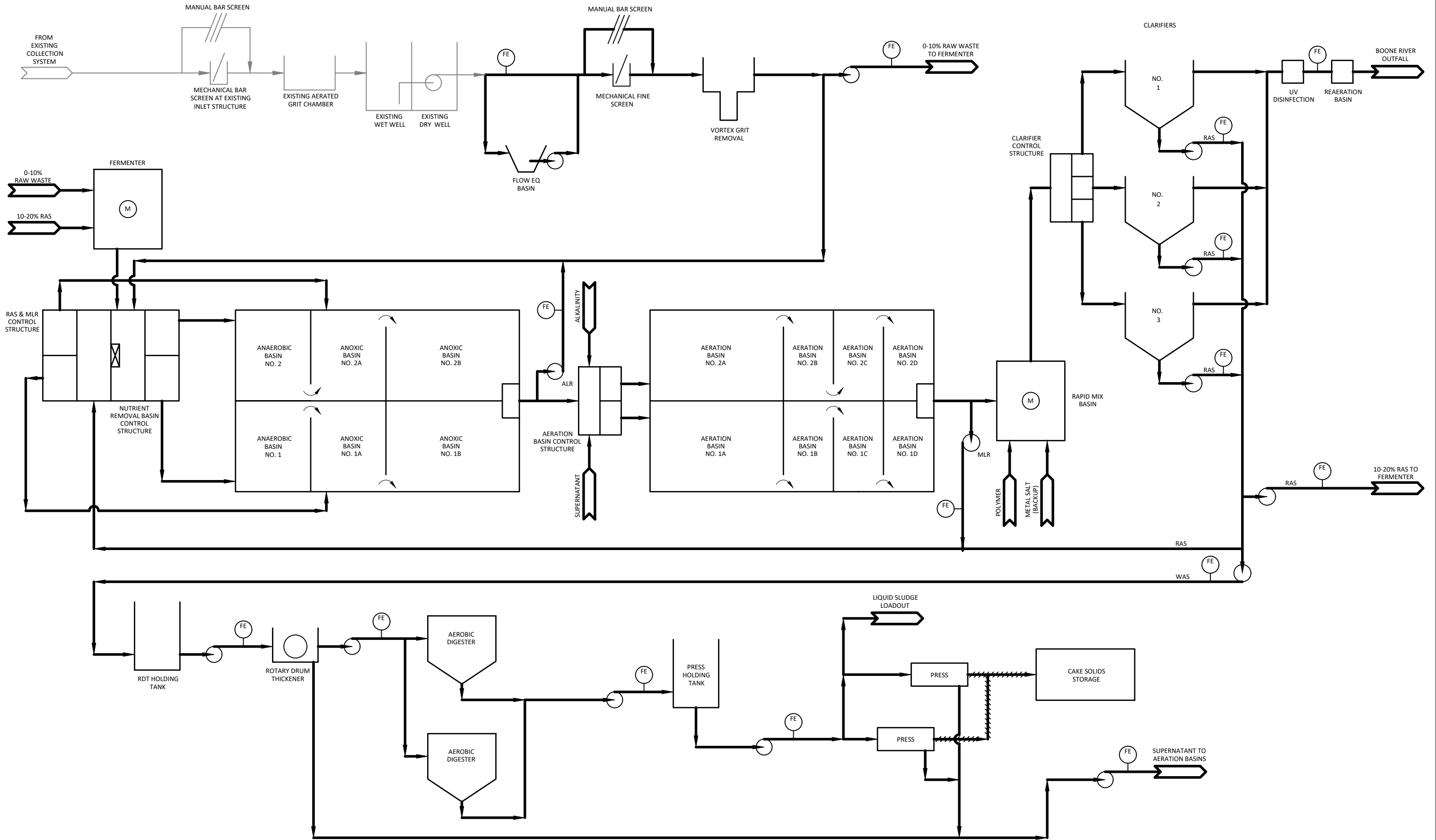
The existing trickling filter and RBC treatment process is not suitable to meet all proposed discharge limits. The existing process includes primary clarifiers that remove approximately 40% of influent CBOD which results in insufficient carbon for denitrification. A new activated sludge treatment process (without primary treatment) is proposed to treat for TN and TP to meet Iowa Nutrient Reduction Strategy Criteria.

The Iowa Department of Natural Resources (IDNR) and the Iowa Department of Agriculture and Land Stewardship (IDALS) finalized the State of Iowa Nutrient Reduction Strategy in May 2013. The plan aims to reduce nitrogen and phosphorus discharge into Iowa waters and, ultimately, the Mississippi River and Gulf of Mexico. Increasingly stringent discharge limits for total nitrogen and phosphorus are anticipated. As numeric total nitrogen and phosphorus water quality standards are developed in order to accommodate more stringent future TP and TN discharge limits, the wastewater treatment facility improvements will be designed with provisions for future facility and process control modifications for more extensive nitrogen and phosphorus removal.

Figure 6.1 is a process flow diagram for the proposed wastewater facility improvements – the Base Pollution Control Alternative (BPCA). The BPCA is the construction of a new extended aeration activated sludge facility with biological nitrogen and phosphorus removal. Specific facility improvements include construction of the following:

- Renovate existing main lift station and aerated grit removal.
- Wastewater forcemain from existing plant site to proposed plant site.
- Preliminary treatment building with screenings and grit removal.
- Wet weather flow equalization basin.
- Anaerobic and Anoxic nutrient removal basins for University of Capetown (UCT) biological TN and TP removal process.
- Rapid mix basin for chemical phosphorus removal (backup process).
- Metal salt chemical feed for phosphorus removal (back-up process)
- Three (3) final clarifiers.
- UV disinfection
- New outfall to the Boone River
- Sludge thickening.
- Aerobic sludge digestion.
- Sludge dewatering and dewatered sludge storage bunker.
- Operations building including lab, offices and garage

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B. Alternative No. 1 – Recycle and Reuse

1. Industrial Applications

In industrial applications, the primary use of wastewater treated by secondary technologies is for non-contact applications such as cooling water. Both demand and practicality are important when evaluating the potential for this type of reuse.

The City of Webster City does not have any significant industrial users (SIUs) in town that could reuse effluent from the WWTF in their process.

From a practicality standpoint, wastewater is not the ideal source for cooling water applications. The cooling process typically generates an evaporative load that results in the concentration of minerals contained within the reused wastewater. This can lead to scaling issues in the cooling process equipment at the industry and also creates issues with the eventual discharge of the concentrated waste stream.

Due to low demand and potential issues with using treated wastewater as cooling water, industrial reuse is not considered feasible.

2. Non-Potable Domestic Applications

Non-potable domestic applications may include lawn and golf course irrigation, toilet flushing, car washing, and miscellaneous domestic outdoor uses. The primary downfall of these applications is the need for a separate non-potable distribution system and associated high infrastructure costs. Additionally, the demand for major outdoor reuse applications (i.e. irrigation) is highly seasonal and inconsistent on a day-to-day basis. Indoor uses such as toilet flushing are more consistent, but come with high costs to retrofit indoor plumbing systems.

Overall, the demand for reclaimed wastewater in non-potable domestic applications is a small percentage of the annual facility output. Coupled with high infrastructure costs related to constructing a non-potable water distribution and storage system, this type of reuse is not considered feasible.

3. Aquifer Injection

Under Iowa Administrative Code 567 IAC 62.9, disposal of pollutants into wells is prohibited within Iowa. This is interpreted to include the injection of treated wastewater effluent.

C. Alternative No. 2 – Land Application

Alternative No. 2 Land Application involves constructing a lagoon storage and a transmission system for land application of all wastewater produced in Webster City. Because the existing treatment system cannot achieve future WQBELs for ammonia and nutrient reduction, all wastewater must be land applied in order for this alternative to be considered Less-Degrading compared to the BPCA. It is assumed all wastewater is land applied so this alternative can be considered Non-Degrading.

The existing RBC facility would be renovated and modified with the addition of lift stations and storage lagoons for land application. The proposed system includes construction of the following items:

- Renovate existing main lift station.
- Renovate existing trickling filter and RBC plant.
- Effluent lift station and forcemain to storage lagoons

- 7 storage lagoons
- Land application lift station
- Forcemain to application sites
- Spray irrigation equipment
- Purchase 320 acres for lagoons
- Acquire use of 5,950 acres for land application sites

The wastewater would be distributed by City-owned center pivot irrigation equipment and distributed onto City-owned agricultural land at agronomic nitrogen application rates based on 15 mg/L total nitrogen concentration. For this report, the application rate is assumed to be hydraulically limited at 10-inches/acre/year.

This alternative requires significant land purchases (320 acres) for storage lagoons as summarized in Table 6.1. A significant quantity of land (5,240 acres) must also be secured for land application. Obtaining permission for land application of wastewater to this amount of land near the storage lagoon facility is likely not feasible. If wastewater needs to be pumped long distances for land application, costs will be even further prohibitive. These factors generate significant uncertainty towards the reasonableness of this alternative, therefore this alternative was determined to be not practicable.

Table 6.1 – Alternative No. 2 – Land Application Lagoon Summary					
	Number	Volume, Each (MG)	Total Volume (MG)	Retention Time (Days)	Total Area Required (Acres)
Storage Cells*	7	123	861	220	320

*Based on 85% AWW

D. Alternative No. 3 – Regional Treatment

1. Pump Wastewater to Neighboring Community

Alternative No. 3 Regional Treatment is only considered a non-degrading alternative (NDA) if the authority receiving Webster City's raw wastewater has adequate surplus capacity to treat the additional flows and loadings within their permitted design capacity. In this case, a separate anti-degradation review is not required.

Webster City is located near the northern boundary of Hamilton County. Cities located within 10 miles of Webster City include:

- Kamrar, 8.9 miles, controlled discharge three cell lagoon system.
- Blairsburg, 9.5 miles, controlled discharge two cell lagoon system.
- Duncombe, 9.2 miles, controlled discharge three cell lagoon system.
- Woolstock, 7.8 miles, controlled discharge three cell lagoon system.

None of the nearby towns have adequate treatment capacity to treat wastewater from the City of Webster City. Therefore, this alternative cannot be considered a non-degrading alternative because degradation will increase somewhere within or surrounding the watershed.

Regional treatment can potentially be considered a less degrading alternative (LDA) if

Webster City's wastewater is treated elsewhere in the watershed i.e. larger segment of the river . However, this would require the construction of a new facility. Due to their high proportion of total flows and loadings, the City of Webster City would have to pay a majority of the construction costs, as well as costs to build a pumping station, equalization basin, and force main in order to convey the wastewater to the new facility. This alternative has no economic advantages for the City; therefore, this alternative is not considered to be feasible.

E. Selection of Preferred Alternative

Table 6.2 presents a summary of the capital and operating cost opinions for the proposed new treatment facility concept (BPCA) and the three less-degrading alternatives. Table 6.3 presents a summary of the BPCA and alternatives regarding degree of water quality degradation, economic efficiency, and practicality. The present worth cost analysis indicates that the less degrading alternatives did not pass the 115 percent of BPCA cost for consideration in lieu of the BPCA.

Table 6.2 – Alternatives and Present Worth Costs		
Alt. No.	Description	Present Worth Cost ¹
BPCA	Activated Sludge (Extended Aeration)	\$11 ,309.00
1	Recycle/Reuse	Not Practicable
2	Land Application	Not Practicable
3	Regional Treatment	Not Practicable

1. Present Worth Cost is based on 2.25% discount rate and 20 years of service life. Discount rate is based on 18 CFR 704.39 as published at http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/econ/costs/ cid=nrcs143_009685

Table 6.3 – Impact of Reasonable Alternatives on Pollutants					
Alt. No.	Degree of Degradation ¹	Reasonable Test			
		Practicable	Economic Efficiency ²	Cost % of BPCA	Reasonable
BPCA	BPCA	Yes	Yes	--	Yes
1	NDA	No	N/A	N/A	N/A
2	NDA	Yes	No	N/A	No
3	NDA	No	N/A	N/A	N/A

1. BPCA refers to Base Pollution Alternative, NDA refers to Non Degrading Alternative, LDA refers to Less Degrading Alternative

2. Affordability of Less Degrading Alternatives is based on present worth costs of less than or equal to 115% of BPCA.

The BPCA – Extended Aeration Activated Sludge – is the only practicable alternative; thus, it is the most reasonable selection. Therefore, even though there may be some environmental benefits associated with the alternatives, the economic values of the potential environmental benefits are not greater than the increased capital costs of the alternatives.

Table 6.4 is a summary of the review of the BPCA on a pollutant-by-pollutant basis.

Table 6.4 – Summary of the Review of the BPCA on a Pollutant -by-Pollutant Basis		
Pollutant of Concern	Degradation Potential BPCA	Comments
CBOD	Yes	Effluent limits based on Secondary Standards. Removal efficiencies for CBOD are expected to increase when comparing the existing system to the BPCA. However, due to significant increase in design flow rate (+39% AWW), it is not certain that mass loading to the stream will decrease.
TSS	Yes	Effluent limits based on Secondary Standards. Removal efficiencies for TSS are expected to remain consistent with the existing system. However, due to design flow increase, it is likely that mass loading to the Boone River will increase.
Ammonia-N	No	Effluent limits for ammonia nitrogen are less stringent than the current limits due to increased background flow at the proposed outfall location but the actual ammonia N discharge may be reduced from current discharge quantities due to the improved performance of the proposed treatment process. The BPCA is designed with sufficient solids retention time to achieve nitrification. Ammonia removal efficiency for the BPCA will increase compared to the existing system, particularly at lower ambient temperatures. Enhanced ammonia removal is required to meet Total Nitrogen removal goals.
<i>E. coli</i>	No	Chlorine disinfection is currently provided and has shown to be slightly unreliable with a few <i>E. Coli</i> and TRC violations in the past. The BPCA includes a new UV disinfection system.
Chloride	Yes	Neither the existing treatment system nor the BPCA are designed to remove chloride or sulfate. The mass of these pollutants discharged to the Boone River will increase proportionally with flow over the design period.
Sulfate	Yes	
Total Nitrogen	No	The proposed extended aeration activated sludge alternative incorporates biological nitrogen and phosphorus removal – greatly increasing removal efficiencies compared to the existing system. Overall, there should be no degradation despite an increase in flow over the design period.
Total Phosphorus	No	
Priority Pollutants	Yes	The IAC includes numeric standards for 88 priority pollutants. The existing plant is required to test for cadmium (Cd) and copper (Cu). Proposed effluent limits for these two parameters are less stringent than current limits due to increased background flow at the proposed outfall location.

VII. JUSTIFICATION OF DEGRADATION

A. General

The proposed BPCA alternative will reduce the current and future degradation to the Boone River compared to the existing system through lower ammonia, total nitrogen, and total phosphorous loadings and improved disinfection. The extended aeration activated sludge treatment facility will be designed to meet 20-year projected design flows and loadings, including nutrient removal of nitrogen and phosphorus as required by the Iowa Nutrient Reduction Strategy. The facility will be designed to be readily expandable in order to accommodate additional flow and loadings as Webster City expands in the future.

The proposed increase in the design flowrate will result in an increase in the permitted discharge of the following pollutants: CBOD, TSS, Ammonia-Nitrogen, copper and mass cadmium.

The impacts of these increases in permitted pollutant discharges will have an insignificant impact on the receiving streams. The actual discharges of some of these pollutants will be less than current discharge rates due to the improved treatment facility performance. The increases in design flowrate and subsequent minor degradation in receiving stream quality are justified by the City of Webster City economic viability and growth that results in increased wastewater generation by expanding population and industrial activity.

Since there is a potential for water quality degradation attributed to some pollutants of concern (due to increase in mass discharge limits for some regulated pollutants attributed to increases in the design flowrate for all pollutants), the social and economic impacts of the proposed plant expansion must be evaluated.

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VIII. PROJECT SOCIAL AND ECONOMIC IMPORTANCE

A. General

The City of Webster City anticipates an increase in population over the next 20 years of 3,795 people (increase of 49%) which will require additional treatment capacity beyond what is presently needed. It is more efficient to design and construct the additional capacity at this time, however, it is critical this project is economically feasible to provide reasonable rates for the current users so that the City's major industrial and commercial users may remain viable and provide employment opportunities to the residents of Webster City. There is significant competition for residential, commercial and industrial investment in rural Iowa and providing affordable and effective wastewater treatment is key to attracting future employment and residents to the community.

The project has social benefits to the City as it will decrease degradation to the Boone River, which has recreational and economic value. The project allows the City to meet NPDES permit requirements and provides critical infrastructure for future compliance. A summary of important social and economic parameters for the City of Webster City is provided in Table 8.1.

Table 8.1 – Social and Economic Factors for City of Webster City				
Factor	Status	Notes	Source	Statistical Average
Rate of Unemployment	2.7%	Population 16 years and over in civilian labor force Hamilton County June, 2022	U.S. Bureau of Labor Statistics	2.6
Median Household Income	\$54,531	2020	U.S. Census Bureau	\$61,836
Poverty Level	6.15%	2020	U.S. Census Bureau	10.2%
Population Trends	-0.6	From 2010 to 2020	US Census Bureau	+4.7%
Sewer Revenue	Current \$2,100,000 Projected \$3,020,000	Projected monthly user bill with improvements: \$150	City Financial Report (2022-23)	Unknown

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Appendix A: Pubic Notice, Distribution List and Letters

Public Notice

Antidegradation Alternatives Analysis for the City of Webster City, Iowa

Notice Date: August 12, 2022

Notice is hereby given that the City of Webster City, Iowa has completed a draft antidegradation alternatives analysis for discharge of treated wastewater to the Boone River. The action being considered is construction of an extended aeration activated sludge wastewater treatment facility with biological nutrient removal. The Boone River is protected for Class A1 primary contact recreational, B(WW-1) warm water beneficial uses, HH human health.

Anyone wishing to comment on the proposed treatment alternative must do so in writing within 30 days of the date shown at the top of this notice. Comments may be submitted to the City Manager by mail: City of Webster City, Attn: Daniel Ortiz-Hernandez, 400 Second Street, PO Box 217, Webster City, IA 50595.

Copies of this notice, the draft antidegradation alternatives analysis and supporting information are on file and available for public inspection from 8:00 AM to 4:30 PM Monday through Friday at the above address. Copies of this information may be requested by contacting the City Administrator at (515) 832-9151 or at the address above. The City will submit a summary of comments received and the City's responses to the Iowa Department of Natural Resources with the final alternatives analysis subject to IDNR review and approval.

Distribution Sheet Addresses (May 2022)					
Agency/Interested Party	Contact	Address	City/State/ZIP	Email	Notes
Notify all of these (see notes)					
US EPA Region VII	Tanya Nix	11201 Renner Blvd.	Lenexa, KS 66219	nix.tanya@epa.gov	
US Fish and Wildlife Service	US Fish and Wildlife Service			rockisland@fws.gov	
Iowa Environmental Council	Ingrid Gronstal Anderson Michael Schmidt	505 5th Avenue, Suite 850	Des Moines, IA 50309	iecmal@iaenvironment.org gronstal@iaenvironment.org schmidt@iaenvironment.org	Notify by email with electronic copy of draft analysis if possible.
Environmental Law & Policy Center	Joshua T. Mandelbaum	505 5th Avenue, Suite 333	Des Moines, IA 50309	jmandelbaum@elpc.org	Notify by email with electronic copy of draft analysis if possible.
Iowa League of Cities	Alan Kemp	500 SW 7th Street, Suite 101	Des Moines, IA 50309-4111	alankemp@iowaleague.org	Municipal projects only
Notify the Field Office in which the facility is/will be located					
Iowa DNR Field Office 1	Shane Dodge, Supervisor	1101 Commercial Ct, Suite 10	Manchester, IA 52057		
Iowa DNR Field Office 2	Trent Lambert, Supervisor	2300 15th Street SW	Mason City, IA 50401		
Iowa DNR Field Office 3	Scott Wilson, Supervisor	1900 North Grand Ave., Suite E17	Spencer, IA 51301		
Iowa DNR Field Office 4	Jessica Montana, Supervisor	1401 Sunnyside Lane	Atlantic, IA 50022		
Iowa DNR Field Office 5	Ted Petersen, Supervisor	502 E. 9th Street	Des Moines, IA 50319-0034		
Iowa DNR Field Office 6	Kurt Levetzow, Supervisor	1023 West Madison Street	Washington, IA 52353		
Notify the County in which the facility is/will be located					
https://docs.google.com/spreadsheets/d/e/2PACX-1vSN9_vM3stf69X3-4gqjMfxrkIGuP4dkCFZo1DI9g8FSyJrs4SbfrYuDRPuIMxStPClHPxdB1io1GR/pubhtml					
If the discharge impacts/will impact waters of another state, notify that state					
State of Illinois	Illinois Environmental Protection Agency, Water Pollution Control, Permit Section No. 15	1021 North Grand Ave. East, PO Box 19276	Springfield, IL 62794-9276		
State of Missouri	John Rustige, Department of Natural Resources, Division of Environmental Quality	1101 Riverside Drive	Jefferson City, MO 65101		
State of South Dakota	South Dakota Department of Environment & Natural Resources, Surface Water Quality Program	Joe Foss Building, 523 East Capitol Avenue	Pierre, SD 57501		
State of Nebraska	Department of Environmental Quality	1200 N Street, PO Box 98922	Lincoln, NE 68509-8922		
State of Minnesota	Minnesota Pollution Control Agency, Dave Sahli, P.E.	520 Lafayette Road North	St. Paul, MN 55155		
State of Wisconsin	Department of Natural Resources	Box 7921	Madison, WI 50307		



Real People. Real Solutions.

1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

August 12, 2022

Iowa DNR Field Office 2
Trent Lambert, Supervisor
2300 15th Street SW
Mason City, IA 50401

RE: City of Webster City Wastewater Facility Plan
Project No. A21.119239
Antidegradation Review – Public Notice

Dear Potentially Interested Party:

The Public Notice for the availability of a draft antidegradation alternatives analysis for discharge of treated water from the City of Webster City wastewater treatment facility to the Boone River is enclosed.

Please contact me with any questions regarding this Public Notice.

Sincerely,

Bolton & Menk, Inc.

Andrew D. Sindt, P.E.
Environmental Engineer

c: Daniel Ortiz-Hernandez – City of Webster City, w/enclosure
Biridiana Bishop – City of Webster City, w/enclosure
File

Enclosure



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1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via email: rockisland@fws.gov

August 12, 2022

US Fish and Wildlife Service
1511 47th Avenue
Moline, IL 61265

RE: City of Webster City Wastewater Facility Plan
Project No. A21.119239
Antidegradation Review – Public Notice

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c: Daniel Ortiz-Hernandez – City of Webster City, w/enclosure
Biridiana Bishop – City of Webster City, w/enclosure
File

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1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via email: iecmail@iaenvironment.org; gronstal@iaenvironment.org; schmidt@iaenvironment.org

August 12, 2022

Iowa Environmental Council
Attn: Ingrid Gronstal Anderson
521 E Locust Street, Ste 220
Des Moines, IA 50309

RE: City of Webster City Wastewater Facility Plan
Project No. A21.119239
Antidegradation Review – Public Notice

Dear Potentially Interested Party:

The Public Notice for the availability of a draft antidegradation alternatives analysis for discharge of treated water from the City of Webster City wastewater treatment facility to the Boone River is enclosed. An electronic copy of the draft analysis is also enclosed for your information.

Please contact me with any questions regarding this Public Notice.

Sincerely,

Bolton & Menk, Inc.

Andrew D. Sindt, P.E.
Environmental Engineer

c: Daniel Ortiz-Hernandez – City of Webster City, w/enclosure
Biridiana Bishop – City of Webster City, w/enclosure
File

Enclosure



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1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via email: james.oppelt@dnr.iowa.gov

August 12, 2022

Iowa Department of Natural Resources
James Oppelt
Wallace State Office Building
502 East 9th Street
Des Moines, IA 50319-003

RE: City of Webster City Wastewater Facility Plan
Project No. A21.119239
Antidegradation Review – Public Notice

Dear Mr. Oppelt:

The Public Notice for the availability of a draft antidegradation alternatives analysis for discharge of treated water from the City of Webster City wastewater treatment facility to the Boone River is enclosed.

Please contact me with any questions regarding this Public Notice.

Sincerely,

Bolton & Menk, Inc.

Andrew D. Sindt, P.E.
Environmental Engineer

c: Daniel Ortiz-Hernandez – City of Webster City, w/enclosure
Biridiana Bishop – City of Webster City, w/enclosure
File

Enclosure



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1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via email: nix.tanya@epa.gov

August 12, 2022

US EPA Region VII
Attn: Tanya Nix
11201 Renner Blvd.
Lenexa, KS 66219

RE: City of Webster City Wastewater Facility Plan
Project No. A21.119239
Antidegradation Review – Public Notice

Dear Potentially Interested Party:

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Bolton & Menk, Inc.

Andrew D. Sindt, P.E.
Environmental Engineer

c: Daniel Ortiz-Hernandez – City of Webster City, w/enclosure
Biridiana Bishop – City of Webster City, w/enclosure
File

Enclosure



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1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via email: jmandelbaum@elpc.org

August 12, 2022

Environmental Law & Policy Center
Attn: Joshua T. Mandelbaum
505 5th Ave, Ste. 333
Des Moines, IA 50309

RE: City of Webster City Wastewater Facility Plan
Project No. A21.119239
Antidegradation Review – Public Notice

Dear Potentially Interested Party:

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Please contact me with any questions regarding this Public Notice.

Sincerely,

Bolton & Menk, Inc.

Andrew D. Sindt, P.E.
Environmental Engineer

c: Daniel Ortiz-Hernandez – City of Webster City, w/enclosure
Biridiana Bishop – City of Webster City, w/enclosure
File

Enclosure



Real People. Real Solutions.

1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via email: Alankemp@iowaleague.org

August 12, 2022

Iowa League of Cities
Attn: Alan Kemp
500 SW 7th Street, Ste 101
Des Moines, IA 50309-4111

RE: City of Webster City Wastewater Facility Plan
Project No. A21.119239
Antidegradation Review – Public Notice

Dear Potentially Interested Party:

The Public Notice for the availability of a draft antidegradation alternatives analysis for discharge of treated water from the City of Webster City wastewater treatment facility to the Boone River is enclosed.

Please contact me with any questions regarding this Public Notice.

Sincerely,

Bolton & Menk, Inc.

Andrew D. Sindt, P.E.
Environmental Engineer

c: Daniel Ortiz-Hernandez – City of Webster City, w/enclosure
Biridiana Bishop – City of Webster City, w/enclosure
File

Enclosure



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1519 Baltimore Drive
Ames, IA 50010-8783

Ph: (515) 233-6100
Fax: (515) 233-4430
Bolton-Menk.com

Via email: bradb@hamiltoncountypublichealth.com

August 12, 2022

Hamilton County Public Health
Attn: Brad Berg
1610 Collins Street, Suite 1
Webster City, IA 50595

RE: City of Webster City Wastewater Facility Plan
Project No. A21.119239
Antidegradation Review – Public Notice

Dear Potentially Interested Party:

The Public Notice for the availability of a draft antidegradation alternatives analysis for discharge of treated water from the City of Webster City wastewater treatment facility to the Boone River is enclosed.

Please contact me with any questions regarding this Public Notice.

Sincerely,

Bolton & Menk, Inc.

Andrew D. Sindt, P.E.
Environmental Engineer

c: Daniel Ortiz-Hernandez – City of Webster City, w/enclosure
Biridiana Bishop – City of Webster City, w/enclosure
File

Enclosure

The Daily Freeman-Journal

Affidavit of Publication

STATE OF IOWA, Hamilton County, ss.

LEGAL PUBLICATION

Public Notice Antidegradation Alternatives Analysis for the City of Webster City, Iowa

Notice Date: August 12, 2022
Notice is hereby given that the City of Webster City, Iowa has completed a draft antidegradation alternatives analysis for discharge of treated wastewater to the Boone River. The action being considered is construction of an extended aeration activated sludge wastewater treatment facility with biological nutrient removal. The Boone River is protected for Class A1 primary contact recreational, B(WW-1) warm water beneficial uses, HH, human health.

Anyone wishing to comment on the proposed treatment alternative must do so in writing within 30 days of the date shown at the top of this notice. Comments may be submitted to the City Manager by mail:

City of Webster City, Attn: Daniel Ortiz-Hernandez, 400 Second Street, PO Box 217, Webster City, IA 50595.

Copies of this notice, the draft antidegradation alternatives analysis and supporting information are on file and available for public inspection from 8:00 AM to 4:30 PM Monday through Friday at the above address. Copies of this information may be requested by contacting the City Administrator at (515) 832-9151 or at the address above. The City will submit a summary of comments received and the City's responses to the Iowa Department of Natural Resources with the final alternatives analysis subject to IDNR review and approval.

L8415 8/18/22

I, Leanne Darr being duly sworn, do depose and say that I am clerk of The Daily Freeman-Journal, a Daily Newspaper of general circulation published at Webster City, Iowa, in said county of Hamilton, that the notice hereto attached was published in said newspaper on 8-18-22

and that the charge for the same was \$ 23.81
Twenty three dollars 81/100 Dollars

Sworn and subscribed to by Leanne Darr
before me this 18 day of August, 2022.
Annette Mackay

Notary Public for Hamilton County, Iowa.



Appendix B: DNR Inspection Reports



August 18, 2017

Ed Sadler, City Manager
City of Webster City
PO Box 217
Webster City, IA 50595

Subject: Wastewater Treatment Facility Inspection
Permit No. 4063001
Letter of Noncompliance – Sludge Recordkeeping

ATTENTION: Honorable Mayor and Council Members

Enclosed is a report of an inspection of your facility, which was conducted by Mr. Jeremy Klatt, Environmental Specialist of this office on August 9, 2017. I concur with the content of the report.

At the end of his report, Mr. Klatt has summarized his recommendations for facility operation improvements and stated required actions that must be completed in order to comply with the Iowa Administrative Code.

Please submit the monitoring report for the month of February 2017 no later than September 1.

If you have any questions concerning the report, please contact Mr. Klatt.

Sincerely,

FIELD SERVICES & COMPLIANCE BUREAU

A handwritten signature in black ink, reading "Jeffrey B. Vansteenburgh". The signature is written in a cursive style with a large, sweeping "J" and "V".

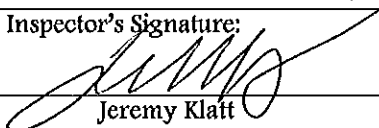
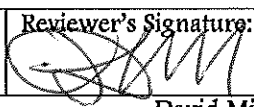
Jeffrey B. Vansteenburgh
Field Office Supervisor

JBV/jk

c: DNR Records Center

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL SERVICES DIVISION
WASTEWATER TREATMENT FACILITY INSPECTION

FACILITY NO. 4063001
PAGE 1

FACILITY	Name: Wastewater Treatment Plant		Owner: City of Webster City	
	Address: 400 2 nd St. PO Box 217		City: Webster City, Iowa 50595	Phone: 515-832-3141
PLANT GRADE	<input type="checkbox"/> IL <input type="checkbox"/> I <input type="checkbox"/> IIL <input type="checkbox"/> II <input checked="" type="checkbox"/> III <input type="checkbox"/> IV			
RESPONSIBLE OPERATOR	Name: Tim Danielson		Grade: III	Certification No. 9349
TREATMENT PROCESS	<input checked="" type="checkbox"/> Trickling Filter <input type="checkbox"/> Lagoon <input checked="" type="checkbox"/> Disinfection <input type="checkbox"/> Activated Sludge => Modification: <input checked="" type="checkbox"/> Other /Supplementary: RBC			
	Process Waste Description: Domestic and Industrial			
DESIGN CAPACITY	MGD: 3.3		Pounds BOD: 4150	PE (BOD): 24,412
NOW TREATING	MGD (Ave. Daily): 1.79 (3/16-6/17)		Pounds BOD: 2847 (3/16-6/17)	PE (BOD): 17,048
	Population Served: 8070 (2010 census)		Significant Industrial Contributors: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Treatment Agreement(s) Adequate <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
RECEIVING STREAM	Stream Name: Oxbow Lakes Tributary to Boone River			
INSPECTION INFORMATION	Date of This Inspection: 08/09/2017		Time of This Inspection: 10 AM	Date of Previous Inspection: 09/21/2015 (EPA)
	Purpose of Inspection: Compliance Evaluation Inspection			
PERSONS INTERVIEWED	Name: Tim Danielson		Title: Public Works Director	
	Name:		Title:	
	Name:		Title:	
SIGNATURES	Inspector's Signature: 		Date: 8/18/17	Reviewer's Signature:  Date: 1800417
	Jeremy Klatt		David Miller	
PERMIT COMPLIANCE SUMMARY				
SELF-MONITORING	Operation Reports Submitted: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg* <input type="checkbox"/> Unsat.* <input type="checkbox"/> N/A		Required Data Entered on Reports: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg* <input type="checkbox"/> Unsat.* <input type="checkbox"/> N/A	
EFFLUENT LIMITATIONS	Self-Monitoring Results: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg. <input type="checkbox"/> Unsat.* <input type="checkbox"/> N/A			
SAMPLES THIS INSPECTION	Type: None		Lab Data Attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Results: <input type="checkbox"/> Sat. <input type="checkbox"/> Marg. <input type="checkbox"/> Unsat.* <input checked="" type="checkbox"/> N/A			
	Visual Appearance of Effluent: Clear		Visual Appearance of Receiving Stream: Clear	
COMPLIANCE SCHEDULE	Compliance with Schedule: <input checked="" type="checkbox"/> Sat <input type="checkbox"/> Marg* <input type="checkbox"/> Unsat.* <input type="checkbox"/> N/A		Next Item Due: Progress Report Date Due: 9/1/2017	

Revised 01/09/13

IOWA DEPARTMENT OF NATURAL RESOURCES
WASTEWATER TREATMENT FACILITY INSPECTION

FACILITY NO. 4063001
PAGE 2

FACILITY EVALUATION

Were deficiencies noted or significant observations made during the inspection?

Yes = See Comments Section for details

No = No deficiencies or significant observations were noted.

Lack of entry = Item not applicable or not observed.

ITEM	YES	NO		YES	NO
1. COLLECTION SYSTEM			9. SLUDGE HANDLING AND DISPOSAL		
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Dry Weather Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Infiltration/Inflow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. By-pass	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	e. Final Disposal, Solids	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			f. Final Disposal, Liquids	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. LIFT STATION(S) (COLLECTION SYSTEM)					
a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10. LAGOON STRUCTURES ()		
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Reliability/Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. INDUSTRIAL WASTE PRE-TREATMENT			d. Cell Configuration	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Waste Toxicity/Compatibility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Storage/Drawdown Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Strength Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. FLOW MEASUREMENT		
c. Affect on Treatment Plant	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. PRE-TREATMENT UNITS (this facility)			b. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Continuity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Location/Method/Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. PUMPING		
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. PRIMARY TREATMENT			b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Reliability/Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. MISCELLANEOUS		
d. Sludge/Scum Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Location	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Odors	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. SECONDARY TREATMENT			c. Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. By-pass(es)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Equipment	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Buildings & Grounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Recirculation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Other (Lab Certification)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Freezing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. STAFFING, OPERATOR CERTIFICATION		
f. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operator, Direct Responsibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. FINAL SETTLING			b. Shift Operator(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. General Staffing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. SUPPLEMENTARY		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Permit Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Operation Reports Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. SUPPLEMENTARY TREATMENT			c. Equipment Records Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation & Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Previously Noted Deficiencies	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	e. Improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Domestic/Industrial Growth	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Recommendations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			h. Required Actions	<input checked="" type="checkbox"/>	<input type="checkbox"/>

FACILITY DESCRIPTION

The wastewater treatment facility consists of 2 barscreens, comminutor (Muffin Monster), 2 aerated grit chambers, 2 pumping stations, 3 primary clarifiers, 1 trickling filter, 20 RBC units, 2 final clarifiers, chlorine detention tank (2 chlorinators), dechlorination with sodium bisulfite, 1 fixed-cover primary anaerobic digester (heated), 1 floating cover secondary digester, gas recirculation, heat exchanger, 2 sludge drying beds and a 1.2 million gallon sludge storage tank. Specifications for process equipment are on file at the treatment plant and at the DNR Field Office in Mason City.

PERMIT COMPLIANCE SUMMARY

Discharge from this facility is authorized by NPDES Permit No. 40-63-0-01, which was issued March 1, 2016, and will expire on February 28, 2021. The City has the ability to discharge at two separate locations; this is reflected in the new permit. Outfall 001 is the discharge to the Oxbow Lakes, which flow to the Boone River while Outfall 003 is a direct discharge to the Boone River. Limits for some parameters change based on the location of discharge.

The monthly operation reports (MOR's) were reviewed for compliance since the issuance of the new permit (March 2016-June 2017). During this period, the City discharged exclusively to Outfall 001. The following permit effluent violations were reported during the reviewed period:

Copper – Concentration and mass violations occurred in November of 2016 and May of 2017.

E. coli – The geometric limit was exceeded in August of 2016.

pH – The maximum pH limit was exceeded in March of 2017.

Total Suspended Solids – The average and maximum concentration limits were exceeded in November of 2016. Additionally, the maximum TSS concentration limit was exceeded in August, September and October 2016. Lastly, the maximum mass limit was exceeded in September of 2016.

Annual toxicity testing was completed in July of 2016; the effluent passed both toxicity tests. The 2017 toxicity was recently taken and results have not been received.

The City inadvertently sent a blank monitoring report for February of 2017. Please update and resubmit the February 2017 monitoring report.

Compliance Schedule

The new permit has a compliance schedule for meeting limits for cadmium, copper, silver, zinc, and total residual chlorine. The facility was required to submit a compliance strategy by September of 2016. This report was submitted in February of 2017 and indicated that the existing equipment will be evaluated to determine if the TRC limit can be met without upgrades. For metals, a site-specific study will be conducted in hopes of revising the limits. However, the City is currently contemplating a plant upgrade to an activated sludge treatment system (see item 15e).

Nutrient Reduction Strategy

The City of Webster City is also subject to the State's Nutrient Reduction Strategy. The permit requires that the City submit a report that evaluates the feasibility and reasonableness of reducing the amounts of nitrogen and phosphorus discharged into surface water. The report is due by March 1, 2018.

FACILITY EVALUATION

1-e Bypassing

Bypassing occurred on March 7, 2017, due to a power outage at the plant. The power was out for about 60 minutes and sewage flowed out of a manhole near the plant. Once power was restored the bypass subsided.

3-a Industrial Pretreatment

The City has TAs with Mary Ann's Specialty Foods (Mary Ann's) and Webster City Custom Meats (Custom Meats). The monitoring data for both industries was reviewed for the period of March 2016 to June 2017. Custom Meats exceeded BOD loading limits in two months, flow limits in two months, pH limits during seven months and TKN during one month. Mary Ann's exceeded BOD limits during two months, flow limits during four months, pH limits during eight months, TKN limits during two months and TSS limit during one month.

VeroBlue, a fish grower/processor has purchased a portion of the old Electrolux facilities in Webster City and is currently growing fish. The City has a treatment agreement with the industry, though the industry is not a 'Significant Industrial User' and therefore, the agreement was not incorporated into the permit. VeroBlue does plan to begin processing fish in the facility. If the processing results in being designated as a Significant Industrial User, the treatment agreement must be submitted to the DNR wastewater section for review and inclusion in the permit

Mr. Danielson indicated that he anticipates reworking the agreements for Mary Ann's and Custom Meats in the near future as plans to expand the facility progress.

4a Pre-treatment

Grit is placed in a drying bed for dewatering and then is mixed with woodchips and stockpiled across the street and the City's compost operation. There was a significant accumulation of grit in the drying beds at the time of inspection. Grit must be ultimately disposed either by land application in accordance with Chapter 567 IAC 121, after meeting pathogen reduction and vector reduction requirements, or by disposal at the landfill. If the City decides to land apply the grit, contact the DNR field office for land application requirements.

5a Primary Clarifier

One of the City's three primary clarifiers is being rebuilt with new concrete walls, weirs, and troughs and is currently out of service. Mr. Danielson indicated that the construction crew is waiting on baffles and weirs to finish the project. Construction Permit No. 2016-0356-S was obtained for the project.

6-a,b Secondary Treatment

Four of the 20 RBC units are currently not operational. As of now, the City is not intending to make repairs to these units as they prepare to upgrade secondary treatment to activated sludge. Should the City decide against the plant upgrade, these units will need to be repaired.

9-b,e Biosolids Disposal

The primary digester is also under repair and is currently not being used; this work was also authorized by Construction Permit No. 2016-0356-S. Past sludge report records have indicated that the pathogen reduction is met by achieving the required detention time in the anaerobic digester; however, Mr. Danielson reported that he has never seen the calculation to document that the detention time is adequate.

With the primary digester out of commission, it is unlikely that the required detention time is being achieved. The City must either demonstrate that the required detention time is achieved or meet the pathogen reduction requirement by other means.

The 5-year application was completed by V & K Engineering in May of 2016 and the report recommends that the City demonstrate pathogen reduction by calculating the geometric mean of fecal coliform of seven samples of the sewage sludge and showing a concentration of less than 2,000,000 MPN/gram. I recommend that the City begin using this method annually, as the City has not calculated the detention time in the digester.

Sludge was hauled in the fall of 2016 and the sludge application records were reviewed. The sludge was sampled for pollutants required in Chapter 67 and all pollutants were below ceiling concentrations. Vector reduction was met by injecting the sludge below the soil surface. The report indicated that pathogen reduction was met by detention time in the anaerobic digester.

Mr. Danielson was not able to locate the 2015 sludge application records, although the results of the sludge sampling were located in the May 2016, 5-year sludge plan. All pollutants were below ceiling limits in the samples taken both in March and October of 2015. The City must ensure that all sludge application records are maintained on-site for five years (the required recordkeeping items are attached to this report).

9f Sludge Drying Beds

The previous inspection report noted that the City also disposes of grit, etc. from sewer cleaning in the sludge drying beds. In March of 2013, the City asked the Department about disposal of this material in their dead animal (road kill) compost pile. At that time the Department notified the City that this material must be handled in accordance with the sewage sludge regulations. See Item 4a above regarding disposal options.

13-g Laboratory Certification

There has been no change in the laboratories used for the various analyses required by this facility. The City's lab, AgSource Labs, and SHL, are all being used and remain certified.

14-c General Staffing

Tim Danielson was named Public Works Director in July 2011 and is the responsible operator for the facility. Mr. Danielson currently is certified as a Grade III wastewater operator.

15e Improvements

The City is making plans to expand their wastewater treatment facility. A project initiation meeting between the City and the DNR occurred in December of 2016 (DNR Project # 2017-0216A). Mr. Danielson reported that the City currently is hoping to construct new secondary treatment facilities at a new location, south of Highway 20. Preliminary treatment and primary clarification would occur at the current facilities.

RECOMMENDATION

1. To meet pathogen reduction requirements, take seven fecal coliform samples during sludge hauling and calculate a geomean.
2. Contact the DNR Field Office if grit from the drying beds will be land applied.

REQUIRED ACTIONS

1. Comply with all effluent limitations in the permit per Subrule 567 IAC 64.3(1).
2. Submit the monitoring report for February 2017 per Subrule 567 IAC 64.3(1).
3. Continue to enforce the treatment agreement with industrial contributors per Subrules 567 IAC 64.3(1) and 567 IAC 62.1(6).
4. Ensure the pathogen reduction requirement is being met for application of sewage sludge per Subrule 567 IAC 67.8(1).
5. Maintain sludge application records for five years per Subrule 567 IAC 67.8(4).
6. Properly dispose of grit accumulations in the drying bed by either land application or at the landfill per Rule 567 IAC 100.4 (455B).



October 14, 2019

City of Webster City
City Hall, P.O. Box 217
Webster City, IA 50595

Subject: Wastewater Treatment Facility Inspection, Permit No. 4063001
Notice of Violation – Compliance Schedule, Effluent Limits

ATTENTION: Honorable Mayor and Council Members

Sheila Kenny, Environmental Specialist with this office, conducted an inspection of your facility on July 16, 2019. A field inspection report was completed and is enclosed for your file. I concur with the content of the report.

At the end of this report, Ms. Kenny has summarized her recommendations for facility operation improvements and stated required actions that must be completed in order to comply with the Iowa Administrative Code. Failure to comply can result in referral to the Department's Legal Services Section for consideration of enforcement action.

Please submit a written response to this office within **30 days of receipt** of this letter, stating the measures you have taken, or will take, to comply with the required actions.

If you have any questions concerning the report, please contact Ms. Kenny at 641-424-4073.

Sincerely,

FIELD SERVICES & COMPLIANCE BUREAU

Trent Lambert
Field Office Supervisor

TL/sk

Enclosure: Effluent Limits Violations Reports
Section 13.11 of the Iowa Wastewater Facilities Design Standards

c: DNR Records Center

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

NPDES Permit #: 4063001

Page 1

FACILITY INFORMATION

Facility:	Name: <u>Webster City Wastewater Treatment Facility</u>	Plant Grade: <u>WW-III</u>
	Responsible Authority/Owner: <u>City of Webster City</u>	
Responsible Operator:	Address: <u>City Hall, P.O. Box 217</u>	Phone: <u>515-832-9185</u>
	City: <u>Webster City</u>	State: <u>IA</u> Zip: <u>50595</u>
	Name: <u>Tim Danielson</u>	Grade: <u>WW-III</u> Certification Number: <u>9349</u>
General Description:	<p>This facility consists of a collection system with 3 lift stations and a treatment plant comprised of the following units or processes: a comminutor, a bypass channel with a bar screen, an aerated grit chamber, cyclone grit removal and grit washer, 3 primary clarifiers, 1 uncovered trickling filter, 20 rotating biological contactors (RBCs) arranged in 5 trains of 4 with aeration, 2 final clarifiers, a chlorine contact chamber with gas chlorination, and sodium bisulfite feed for dechlorination. Sludge is stabilized in a primary anaerobic digester with a fixed cover and a secondary digester with a floating cover. Sludge may be dried in the sludge drying bed or stored in a 1.2 million gallon storage tank prior to disposal by land application.</p>	
Design Capacity:	<p>Average MGD: <u>3.300</u> Maximum MGD: <u>6.00</u> Pounds BOD/Day: <u>4150</u> PE (BOD): <u>24,850</u></p>	
Now Treating:	<p>Average MGD: <u>1.910</u> Maximum MGD: <u>7.887</u> Pounds BOD/Day: <u>3714</u> PE (BOD): <u>22,237</u></p>	
Receiving Stream:	<p>Period Reviewed: <u>August 2017-June 2019</u> Population Served: <u>8070 (2010 Census)</u> <u>Outfall 001 - Unnamed tributary to Oxbow Lake, Tributary to the Boone River</u> <u>Outfall 003 - Boone River</u></p>	

INSPECTION INFORMATION

Inspection:	Date and Time of Inspection: <u>07/16/19 - 1pm</u>	Purpose: <u>Compliance Evaluation</u>
	Date of Last Inspection: <u>08/09/17</u>	
Persons Interviewed:	Name: <u>Tim Danielson</u>	Title: <u>Wastewater Superintendent</u>

NPDES PERMIT COMPLIANCE SUMMARY

Self-Monitoring: Effluent Limitations: Samples this Inspection:	Operation Reports Submitted:	Required Data on Reports:	Testing Adequacy:
	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*
	Self-Monitoring Results:		
	<input type="checkbox"/> Compliance <input checked="" type="checkbox"/> Infrequent Non-Compliance* <input type="checkbox"/> Significant Non Compliance*		
	Type: <u>None</u>	Lab Data Attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Results: <input type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*
	Visual Appearance of Effluent: <u>Clear</u>		
	Visual Appearance of Receiving Stream: <u>Clear</u>		
Compliance Schedule:	Compliance w/Schedule: <input type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input checked="" type="checkbox"/> Unsat.* <input type="checkbox"/> NA		<p>Submit Progress Report for Nutrient Reduction Schedule by 03/01/2020.</p> <p>Progress reports for the metals schedule were due 06/01/18 and 06/01/19.</p>
	* Additional details in the narrative report		

AUTHENTICATION

Inspector:	<u>Sheila Kenny</u>	Date: <u>10/14/19</u>
Reviewer:	<u>David Miller</u>	Date: <u>17 OCT 19</u>

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

NPDES Permit #: **4063001**

Page 2

FACILITY EVALUATION

Were deficiencies noted or significant observations made during the inspection?

Yes = See Comments Section for details

No = No deficiencies or significant observations were noted

Lack of Entry = Item not applicable or not observed.

Item	Yes	No	Item	Yes	No
1. Collection System			9. Sludge Handling and Disposal		
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Dry Weather Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Infiltration/Inflow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Bypass(es)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Final Disposal, Solids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Lift Station(s) (Collection System)			f. Final Disposal, Liquids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Lagoon Structures		
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Maintenance	<input type="checkbox"/>	<input type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input type="checkbox"/>
d. Reliability/Emergency Operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input type="checkbox"/>
3. Industrial Waste Pre-Treatment			d. Cell Configuration	<input type="checkbox"/>	<input type="checkbox"/>
a. Significant Industrial Users	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Storage/Drawdown Management	<input type="checkbox"/>	<input type="checkbox"/>
b. Waste Toxicity/ Compatibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. Flow Measurement		
c. Strength Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Effect on Treatment Plant	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Preliminary Treatment			c. Continuity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Location. Method/ Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. Pumping		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Primary Treatment			c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Reliability/ Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. Miscellaneous		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Location	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Sludge/Scum Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Odors	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Emergency Operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Secondary Treatment			d. Bypass(es)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Equipment	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Buildings & Grounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Lab Certification	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Recirculation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	h. Other	<input type="checkbox"/>	<input type="checkbox"/>
e. Freezing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. Staffing, Operator Certification		
f. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operator, Direct Responsibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Final Settling			b. Shift Operator(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. General Staffing	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. Supplementary		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Permit Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Operation Reports Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Supplementary Treatment			c. Equipment Records Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Previously Noted Deficiencies	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	e. Improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Domestic/Industrial Growth	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Recommendations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			h. Required Actions	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form

Facility Name: Webster City Wastewater Treatment Facility

Page 3

NPDES Permit #: 4063001

Inspection Date: 07/16/19

INTRODUCTION

A compliance inspection was conducted at the Webster City WWTP on July 16, 2019. The inspection involved a review of City records, discussions with the operator identified above, and a walk through of the treatment plant. The purpose of the inspection was to determine the compliance status of the facility.

NPDES PERMIT COMPLIANCE SUMMARY

Discharge from this facility is authorized by NPDES permit #4063001. The NPDES permit was issued on March 1, 2016, and has an expiration date of February 28, 2021.

Self-Monitoring Results

Refrigerated composite samplers are used to collect 24-hour composite samples of the influent and effluent flow at this facility. There are effluent samplers pre- and post-disinfection, but Mr. Danielson reported that the post-disinfection sampler was down for a few weeks while they awaited the necessary parts to repair it. In the interim, they have been reporting result from the pre-disinfection sampler. The City should work to repair the sampler and return it to service as soon as possible. The tubing in the composite samplers should be watched closely for bacterial growth as dirty lines may lead to higher sample results that are not representative of the typical wastewater at this facility. Mr. Danielson stated that they clean the tubing on both samplers as needed.

Operational monitoring and compliance sample analysis for BOD₅, CBOD₅, TSS, SS, NH₃-N, TRC, pH, DO, and temperature is conducted at the certified in-house laboratory (Iowa Lab #314). Samples for NO₃-N, TKN, Total N, Total P, metals, toxicity, and *E. coli* are taken to the State Hygienic Laboratory in Ankeny (Iowa Lab #397) for analysis. Samples are hand-delivered to comply with the 6-hour maximum hold time for *E. coli*.

To ensure accurate readings, Mr. Danielson reported that they perform a three-point (4.0, 7.0, and 10.0) calibration of the pH meter and measure a known TRC standard five days per week. They also have a certified thermometer in the lab. Proper calibration logs are being maintained to document these calibration activities in accordance with Subrule 567 IAC 63.2(1).

The operation reports submitted for this facility since August 2017 indicate that there were two minor violations of the effluent TRC limits and three significant violations of the effluent *E. coli* limit. See the enclosed Effluent Limit Violations report for details. The discharge of untreated or partially treated wastes which exceed permit effluent limits is a violation of Subrule 567 IAC 64.3(1), and is prohibited by Section 455B.186 of the Code of Iowa. Action should be taken to ensure that further violations do not occur. Mr. Danielson reported that they made some physical changes to the chlorine room in April 2019 as the piping layout and equipment failures were the primary causes of these violations. **As a reminder, Rules 567 IAC 63.12(455B) and 63.15(455B) require that all permittees report instances of non-compliance, including violations of effluent limitations, to the Department.** See permit conditions 13 and 14 for additional information.

Operation Reports Submitted; Required Data Entered on Reports

The operation reports were submitted on time and all required data was reported. All operation records, including Monthly Operation Reports (MORs), lab results, and chain-of-custody documents must be maintained for a minimum of three years. The City is maintaining both paper and electronic records for this facility. The MORs have been signed in accordance with the rules, but Mr. Danielson was encouraged to also date the MORs so that an accurate timeline can be established in the records.

Compliance Schedules

The current NPDES permit for Webster City contains a compliance schedule to meet more stringent effluent limits for metals and a construction schedule for nutrient reduction. Mr. Danielson reported that they have been working with Greg Pitt, P.E. from Bolton & Menk, on designing a new activated sludge plant.

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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DES Permit #: 4063001

Inspection Date: 07/16/19

The metals compliance schedule requires annual progress reports on June 1 of each year; however, to date, the Department has not received the progress reports for 2018 or 2019. The implementation schedule and the first progress report were both submitted more than 90 days after the due date as well. **Therefore, the City is current in significant non-compliance for failure to follow the compliance schedule and must submit a progress report immediately.** Mr. Danielson indicated that the City is in the process of collecting stream sampling data in order to request site-specific limits for metals. The City should ensure that they are moving forward with this project in order to meet the final compliance deadline of February 1, 2021.

The construction schedule for nutrient reduction requires annual progress reports on March 1 of each year. The 2019 report indicates that the City is working with industrial users to determine appropriate design flows and loading rates. The City must complete construction of the necessary upgrades by March 1, 2024. The City will then have a six-month optimization period followed by a one-year monitoring period before final nutrient limits are established.

FACILITY EVALUATION

1d. COLLECTION SYSTEM – Infiltration/Inflow

Infiltration is the entrance of extraneous clear water into the collection system via loose joints, cracked or broken pipes, poorly constructed manholes, etc. Inflow is the entrance of extraneous clear water into the collection system via improper connections such as storm sewers, foundation drains, roof drains, etc. Infiltration and inflow (I/I) increase the cost of operation and maintenance of the lift stations and treatment facility. Influent flows exceeding the facility's design capacity shorten the detention time and may make compliance with your permit's effluent limits more difficult. Mr. Danielson indicated that they do see increased flows after rainfall events and the data provided since the previous inspection indicates flows of up to 7.519 MGD, which exceeds the maximum wet weather design flow for this facility. Therefore, it is recommended that the City continue to identify and eliminate sources of infiltration/inflow to the collection system. City ordinances that prohibit sump pumps and roof drains from being discharged into the sanitary sewer are also recommended and should be enforced. Mr. Danielson reported that the City conducted sump pump inspections about 4-5 years ago and disconnected any illegal connections they discovered. He also stated that the City has money budgeted each year for televising and repairs to the collection system.

1e. COLLECTION SYSTEM – Bypasses

A wastewater bypass occurred in April 2018 due to a power outage. As a reminder, bypassing is prohibited under Rule 567 IAC 63.6(455B); therefore, the City should work to prevent all future bypasses. Written bypass reports are now required to be submitted within five days following a bypass event. An electronic report form is now available for use upon request.

2a. and 2d. LIFT STATION

There are three lift stations in town to pump all wastewater to the treatment plant. Mr. Danielson reported that each lift station is equipped with two pumps that are automatically alternated to distribute the wear between the pumps and ensure that both pumps are working properly. The lift stations are equipped with autodialer alarm systems which will call the operator should a problem arise, but Mr. Danielson reported that they do not have emergency generators at the lift stations. **Section 13.11 of the Iowa Wastewater Facilities Design Standards requires that all lift stations have an emergency means of operation such as a generator or redundant power supply, which can be in place within 30 minutes following a power outage.** The City must submit information detailing how they will comply with this requirement.

3a. SIGNIFICANT INDUSTRIAL USERS (SIUs)

The City currently has treatment agreements for two significant industrial users – Mary Ann's Specialty Foods and Webster City Custom Meats, Inc. Review of the data submitted for these industries since August 2017 shows that both industries have frequent violations of the established treatment agreement limits. See the enclosed Effluent Limits Violations reports for details. The discharge of wastewater into a publicly owned treatment works in volumes or quantities in excess of those to which a major contributing industry is committed in a treatment agreement is a violation of Subrule 567 IAC 62.1(6). The discharge limits established in the treatment agreement have also been incorporated into the NPDES permit issued to the City. Failure to enforce treatment agreement limits constitutes a violation of Subrule 567 IAC 64.3(1). The City must either enforce the limits in the treatment agreements, or negotiate new treatment agreements with limits the industries can meet.

Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

Mr. Danielson indicated that the City signed a new treatment agreement with Mary Ann's Specialty Foods this spring. If you have not already done so, the City must submit this new agreement to Ben Hucka, IDNR Pretreatment Coordinator in Des Moines, and to IDNR Field Office 2 in Mason City. Once the agreement has been approved, the new limits will be incorporated into the City's NPDES permit. Mr. Danielson also stated that the City issues monetary penalties for exceedances of the treatment agreement limits; however, additional action may be needed to ensure industrial compliance is maintained.

It is recommended that periodic industrial surveys be completed to ensure that all SIUs are identified and properly regulated. See page 31 of the NPDES permit for more information on SIUs.

5a. PRIMARY TREATMENT and 7a. FINAL SETTLING – Operation and Maintenance

Even flow of wastewater was noted over the weirs in each of the primary and final clarifiers. Heat lamps are present on the scum boxes in all clarifiers to help prevent freezing in the winter. The skimmer arms appeared to adequately remove scum. Mr. Danielson reported that the clarifiers are cleaned monthly in the winter and every 1-2 weeks in the summer to remove any solids or filamentous growth.

6a. SECONDARY TREATMENT – Operation and Maintenance

The trickling filter distributor arms are hydraulically driven to distribute wastewater over the rock media. Mr. Danielson reported that the recirculation pump was recently repaired. No mud balls were observed and no pooling or ponding of water was evident in the trickling filter during this inspection. Mr. Danielson stated that the openings in the distributor arms are cleaned about once every two weeks in the summer and about monthly in the winter to prevent plugging.

8a. SUPPLEMENTARY TREATMENT – Operation and Maintenance

Only one half of the chlorine contact chamber is in use. The chlorine and sodium bisulfite are fed automatically. Mr. Danielson reported that a new chlorinator and injector were installed the month prior to this inspection.

9a. SLUDGE HANDLING AND DISPOSAL

Sludge is automatically pulled from the primary clarifiers. Mr. John West reported that they pump about 1400-1800 gallons per day from each of the clarifiers and maintain sludge blankets of about 18-24". Sludge from the final clarifiers is automatically pulled and flows by gravity back to the headworks of the plant. The sludge blanket in the final clarifiers is approximately 3-6" deep. They pull supernatant from the digesters every Friday and return a total of about 100,000 gallons per month to the head of the plant.

Mr. Danielson reported that the south sludge drying bed was removed and filled in. The remaining drying bed is used primarily for grit. The City also utilizes the services of HydroKleen to clean out sections of the sanitary sewer. Any waste from this process is also placed in the drying bed.

All municipalities disposing of sewage sludge by land application must comply with the requirements of Chapter 67 of the Iowa Administrative Code (IAC) and the National Sewage Sludge Program contained in Title 40 Code of Federal Regulations Part 503. The City's biosolids management plan and application records were reviewed during this inspection. Overall, it appears that proper sludge records are being maintained; however, records indicate that this facility land applied about 50 dry tons of sludge in 2018, but the biosolids plan, which was developed in 2016, indicates production levels of about 220 dry tons. **As a reminder, Rule 567 IAC 67.4(455B) requires that the City's biosolids management plan be reviewed and updated annually.**

11a. FLOW MEASUREMENT

The influent and effluent flows at this facility are measured by Parshall Flumes with ultrasonic flow meters. The meters should be calibrated in accordance with the manufacturer's recommendations. Mr. Danielson stated that an outside company calibrates the meters each year. Documentation of such calibration activities must be kept in the facility records for a minimum of three years.

MISCELLANEOUS – Emergency Operation

There is no emergency generator at the treatment plant, but Mr. Danielson stated that they have a redundant power supply.

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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DES Permit #: 4063001

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SUMMARY

Overall, the facility appears to be properly operated and maintained, but it is nearing its design capacity. The City is in the process of planning facility upgrades to an activated sludge plant to meet more stringent effluent metals limits and the nutrient reduction construction schedule. The City is in significant non-compliance for failure to submit annual progress reports for the metals compliance schedule. Infrequent effluent violations and numerous treatment agreement violations from both industrial users were noted since the last inspection.

REQUIREMENTS

1. Comply with all permit effluent limits per Subrule 567 IAC 64.3(1) and provide proper notification of any non-compliance issues per Subrules 567 IAC 63.12(455B) and 63.15(455B).
2. Submit the delinquent progress reports regarding the metals compliance schedule and comply with all other deadlines in the schedule per the permit and Subrule 567 IAC 64.3(1).
3. Submit information detailing how the City will comply with the emergency operation requirements for all lift stations pursuant to Section 13.11 of the Iowa Wastewater Facilities Design Standards.
4. Review and update the biosolids management plan annually in accordance with Rule 567 IAC 67.4(455B).

RECOMMENDATIONS

1. Budget funds annually for I/I work as the collection system will deteriorate with age.
 2. Work to eliminate all wastewater bypasses.
- Work with existing industrial users to ensure compliance with all treatment agreement limits. Conduct periodic industrial surveys to ensure that all SIUs are identified and properly regulated.

13.11 EMERGENCY OPERATION

Pumping stations and collection systems shall be designed to prevent or minimize bypassing of wastewater. For use during possible periods of extensive power outages, mandatory power reductions, or uncontrolled storm events, an emergency means of operation shall be provided, such as a second, independent power source connected to the station, an engine-driven generator, engine-driven standby pumps or portable pumps or portable generator. The standby facilities must be capable of being placed in operation at the site within 30 minutes of the onset of the emergency condition (preferably before the liquid level in the wet well rises to the overflow level).

Engine-driven pumps must meet all applicable requirements in Section 13.4 of these standards. Provisions for backup power sources must comply with the requirements of Section 14.5.3 of these standards.

In addition to the required emergency means of operation, where overflows affect public water supplies, a high level wet well overflow and a storage/detention basin, or tank, shall be provided having 2-hour detention capacity at the anticipated overflow rate. Storage/detention tanks, or basins, shall be designed to drain by gravity or pumping to the station wet well.

Consideration should be given to providing a high level wet well overflow to supplement alarm systems and required standby facilities in order to prevent backup of wastewater into basements, or other discharges which may cause severe adverse impacts on public interests, including public health and property damage.

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY EPA #:IA0036625		DAILY MAXIMUM - MG/L		AVERAGE - GEOMEAN	
		Limit	DMR	Limit	DMR
Outfall: 001					
10/2017	E. COLI			630	1343.89
8/2018	E. COLI			630	4829.23
10/2018	E. COLI			630	11,093.33
	TRC	0.336	0.34		
11/2018	TRC	0.336	0.34		

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY		DAILY MAXIMUM - MG/L		AVERAGE - GEOMEAN	
EPA #:1A0036625		Limit	DMR	Limit	DMR
Outfall: 001					
10/2017	E. COLI			630	1343.89
8/2018	E. COLI			630	4829.23
10/2018	E. COLI			630	11,093.33
	TRC	0.336	0.34		
11/2018	TRC	0.336	0.34		

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY
EPA #:1A0036625

MARY ANN'S SPECIALTY FOODS
Outfall: 001

	AVERAGE - LBS/DAY		DAILY MAXIMUM - LBS/DAY		AVERAGE - MGD		DAILY MAXIMUM - MGD		DAILY MAXIMUM - STD UNITS		DAILY MINIMUM - STD UNITS	
	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR
8/2017			400	457.2977457								
9/2017	300	362.5544575	400	629.0850991					11	11.56		
10/2017	300	879.9033057	400	3027.290146			0.04	0.043602				
	30	86.9418082	40	303.596433	0.03	0.0382463	0.04	0.34669				
			125	144.56973								
	150	214.503232	250	809.590488					11	11.93	6	5.33
11/2017												
12/2017												
1/2018												
2/2018												
3/2018												
4/2018												
5/2018												
6/2018												
7/2018												
8/2018												
9/2018			40	42.5470104			0.04	0.040706				
10/2018	300	376.026414	400	430.674264							6	5.98
11/2018	300	476.7657744	400	748.86111								
	30	41.0213908	40	53.144982								
			125	346.8917916								
12/2018												
			400	444.0216	0.03	0.030767	0.04	0.042268			6	5.79
1/2019			40	41.627025			0.04	0.19652				
2/2019							0.04	0.054489				
3/2019												
4/2019												
5/2019												
6/2019												

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY
EPA #:1A0036625

MARY ANN'S SPECIALTY FOODS

Outfall: 001

	AVERAGE - LBS/DAY			DAILY MAXIMUM - LBS/DAY			AVERAGE - MGD			DAILY MAXIMUM - MGD			DAILY MAXIMUM - STD UNITS			DAILY MINIMUM - STD UNITS		
	Limit	DMR		Limit	DMR		Limit	DMR		Limit	DMR		Limit	DMR		Limit	DMR	
8/2017				400	457.2977457													
			BOD5															
			PH										11	11.56				
9/2017			BOD5	300	362.5544575													
			FLOW															
10/2017			BOD5	300	879.9033057													
			FLOW															
			TKN	30	86.9418082													
			K&G															
			PH															
			TSS	150	214.503232													
11/2017			PH															
12/2017			PH															
1/2018			PH															
2/2018			PH															
3/2018			PH															
4/2018			PH															
5/2018			PH															
6/2018			PH															
7/2018			PH															
8/2018			PH															
9/2018			PH															
10/2018			PH															
11/2018			PH															
12/2018			PH															
1/2019			PH															
2/2019			PH															
3/2019			PH															
4/2019			PH															
5/2019			PH															
6/2019			PH															

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY
EPA #:1A0036625

WEBSTER CITY CUSTOM MEATS

Outfall: 001

		AVERAGE - LBS/DAY		DAILY MAXIMUM - LBS/DAY		AVERAGE - MGD		DAILY MAXIMUM - MGD		DAILY MAXIMUM - STD UNITS		DAILY MINIMUM - STD UNITS	
		Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR
9/2017	BOD5			125	317.9013427								
11/2017	FLOW					0.08	0.0800903	0.11	0.12312				
	TSS			300	349.5318936								
12/2017	BOD5	600	853.4107703	900	1397.184254								
	FLOW							0.11	0.124317				
	TKN			80	91.4823023								
	PH											6	5.1
6/2018	PH									11	12.99		
7/2018	BOD5			900	1085.48019								
8/2018	BOD5	600	645.512764	900	1967.492736								
	FLOW							0.11	0.42224				
	PH											6	4.63
10/2018	FLOW							0.11	0.128551				
11/2018	FLOW							0.11	0.121475				
	PH									11	12.63		
12/2018	FLOW							0.11	0.12989				
1/2019	PH									11	11.29		
3/2019										11	12.1		
4/2019	BOD5			900	1004.489616							6	4.72
	PH												

Effluent Limit Violations 8/1/2017 - 6/30/2019

WEBSTER CITY, CITY OF STP - 4063001

WEBSTER CITY
EPA #:1A0036625

WEBSTER CITY CUSTOM MEATS

Outfall: 001

WEBSTER CITY											
EPA #1A0036625											
WEBSTER CITY CUSTOM MEATS											
Outfall: 001											
AVERAGE - LBS/DAY		DAILY MAXIMUM - LBS/DAY		AVERAGE - MGD		DAILY MAXIMUM - MGD		DAILY MAXIMUM - STD UNITS		DAILY MINIMUM - STD UNITS	
Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR	Limit	DMR
9/20/17		125		317.9013427							
11/1/2017						0.08		0.0800903		0.11	
TSS		300		349.5318936						0.12312	
12/2/2017		600		853.4107703		900		1397.184254			
FLOW										0.11	
TKN		80		91.4823023						0.124317	
PH											
5/2018										6	
7/2018		900		1085.48019				11		12.99	
8/2018		600		645.512764		900		1967.492736			
FLOW										0.11	
PH										0.42224	
10/2018										6	
11/2018										4.63	
FLOW											
PH											
12/2018										11	
1/2019										12.63	
2/2019											
3/2019										11	
4/2019										11.29	
5/2019		900		1004.489616						11	
6/2019										12.1	
7/2019											
8/2019											
9/2019										6	
10/2019										4.72	



April 12, 2021

City of Webster City
City Hall, P.O. Box 217
Webster City, IA 50595

Subject: Wastewater Treatment Facility Inspection, Permit No. 4063001
Letter of Noncompliance – Compliance Schedule Reporting

ATTENTION: Honorable Mayor and Council Members

Jeremy Klatt, Environmental Specialist with this office, conducted an inspection of your facility on March 10, 2021. A field inspection report was completed and is enclosed for your file. I concur with the content of the report.

At the end of this report, Mr. Klatt has summarized his recommendations for facility operation improvements and stated required actions that must be completed in order to comply with the Iowa Administrative Code.

If you have any questions concerning the report, please contact Mr. Klatt at 641-424-4073.

Sincerely,

FIELD SERVICES & COMPLIANCE BUREAU

A handwritten signature in black ink, appearing to be "Trent Lambert", written over a horizontal line.

Trent Lambert
Field Office Supervisor

TL/jk

c: DNR Records Center

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

NPDES Permit #: 4063001

Page 1

FACILITY INFORMATION

Facility:	Name: <u>Webster City Wastewater Treatment Facility</u>	Plant Grade: <u>WW-III</u>
	Responsible Authority/Owner: <u>City of Webster City</u>	
	Address: <u>City Hall, P.O. Box 217</u>	Phone: <u>515-832-9185</u>
Responsible Operator:	City: <u>Webster City</u>	State: <u>IA</u>
	Zip: <u>50595</u>	
	Name: <u>Tim Danielson</u>	Grade: <u>WW-III</u>
General Description:	Certification Number: <u>9349</u>	
	This facility consists of a collection system with 3 lift stations and a treatment plant comprised of the following units or processes: a comminutor, a bypass channel with a bar screen, an aerated grit chamber, cyclone grit removal and grit washer, 3 primary clarifiers, 1 uncovered trickling filter, 20 rotating biological contactors (RBCs) arranged in 5 trains of 4 with aeration, 2 final clarifiers, a chlorine contact chamber with gas chlorination, and sodium bisulfite feed for dechlorination. Sludge is stabilized in a primary anaerobic digester with a fixed cover and a secondary digester with a floating cover. Sludge may be dried in the sludge drying bed or stored in a 1.2 million gallon storage tank prior to disposal by land application.	
Design Capacity:	Average MGD: <u>3.300</u>	Maximum MGD: <u>6.00</u>
	Pounds BOD/Day: <u>4150</u>	PE (BOD): <u>24,850</u>
Now Treating:	Average MGD: <u>1.45</u>	Maximum MGD: <u>7.27</u>
	Pounds BOD/Day: <u>3629</u>	PE (BOD): <u>21,730</u>
Receiving Stream:	Period Reviewed: <u>Jul. 2019 – Dec. 2020</u>	Population Served: <u>8070 (2010 Census)</u>
	<u>Outfall 001 - Unnamed tributary to Oxbow Lake, Tributary to the Boone River</u>	
	<u>Outfall 003 – Boone River</u>	

INSPECTION INFORMATION

Inspection:	Date and Time of Inspection: <u>03/10/21</u>	Purpose: <u>Compliance Evaluation</u>
	Date of Last Inspection: <u>07/16/19</u>	
Persons Interviewed:	Name: <u>Tim Danielson</u>	Title: <u>Wastewater Superintendent</u>

NPDES PERMIT COMPLIANCE SUMMARY

Self-Monitoring: Effluent Limitations: Samples this Inspection:	Operation Reports Submitted:	Required Data on Reports:	Testing Adequacy:
	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*	<input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*
	Self-Monitoring Results:		
	<input checked="" type="checkbox"/> Compliance <input type="checkbox"/> Infrequent Non-Compliance* <input type="checkbox"/> Significant Non Compliance*		
Compliance Schedule:	Type: <u>Influent & Effluent</u>	Lab Data Attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Results: <input checked="" type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input type="checkbox"/> Unsat.*
	Visual Appearance of Effluent: <u>Clear</u>		
	Visual Appearance of Receiving Stream: <u>Clear</u>		
	Compliance w/Schedule: <input type="checkbox"/> Sat. <input type="checkbox"/> Marg.* <input checked="" type="checkbox"/> Unsat.* <input type="checkbox"/> NA Next Items Due: <u>Delinquent progress report.</u>		
* Additional details in the narrative report		Compliance schedule completed.	

AUTHENTICATION

Inspector:	<u>Jeremy Klatt</u>	Date: <u>4/12/21</u>
Reviewer:	<u>David Miller</u>	Date: <u>14 APRIL 21</u>

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

NPDES Permit #: 4063001

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FACILITY EVALUATION

Were deficiencies noted or significant observations made during the inspection?

Yes = See Comments Section for details

No = No deficiencies or significant observations were noted

Lack of Entry = Item not applicable or not observed.

Item	Yes	No	Item	Yes	No
1. Collection System			9. Sludge Handling and Disposal		
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Dry Weather Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Infiltration/Inflow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Bypass(es)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Final Disposal, Solids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Lift Station(s) (Collection System)			f. Final Disposal, Liquids	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Lagoon Structures		
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Maintenance	<input type="checkbox"/>	<input type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input type="checkbox"/>
d. Reliability/Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Capacity	<input type="checkbox"/>	<input type="checkbox"/>
3. Industrial Waste Pre-Treatment			d. Cell Configuration	<input type="checkbox"/>	<input type="checkbox"/>
a. Significant Industrial Users	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Storage/Drawdown Management	<input type="checkbox"/>	<input type="checkbox"/>
b. Waste Toxicity/ Compatibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. Flow Measurement		
c. Strength Reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Effect on Treatment Plant	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Preliminary Treatment			c. Continuity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Location, Method/ Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12. Pumping		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Primary Treatment			c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Reliability/ Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. Miscellaneous		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Location	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Sludge/Scum Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Odors	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Emergency Operation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Secondary Treatment			d. Bypass(es)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Equipment	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Buildings & Grounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Lab Certification	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Recirculation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	h. Other	<input type="checkbox"/>	<input type="checkbox"/>
e. Freezing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. Staffing, Operator Certification		
f. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Operator, Direct Responsibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Final Settling			b. Shift Operator(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. General Staffing	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15. Supplementary		
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Permit Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Operation Reports Availability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Supplementary Treatment			c. Equipment Records Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Operation and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Previously Noted Deficiencies	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Physical Condition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	e. Improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	f. Domestic/Industrial Growth	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Effectiveness	<input type="checkbox"/>	<input checked="" type="checkbox"/>	g. Recommendations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			h. Required Actions	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

INTRODUCTION

A compliance inspection was conducted at the Webster City WWTP on March 10, 2021. The inspection involved a review of City records, discussions with the operator identified above, and a walk through of the treatment plant. The purpose of the inspection was to determine the compliance status of the facility.

NPDES PERMIT COMPLIANCE SUMMARY

Discharge from this facility is authorized by NPDES permit #4063001. The NPDES permit was issued on March 1, 2016, and expired on February 28, 2021. An application for permit renewal was received on August 27, 2020, therefore, the City should continue to operate under the conditions of the expired permit until the new permit is issued.

Self-Monitoring Results

Monitoring reports for the period of July 2019 to December 2020 were reviewed for compliance with the permit. Effluent violations on the report in August 2019 (E. coli), October 2019 (ammonia) and November 2020 (pH and CBOD) were found to be data entry errors. Mr. Danielson resubmitted the reports to correct errors. After correcting for the reporting errors, no effluent violations occurred during the reviewed period.

Standard Conditions #13 & #14

Please note that permit conditions 13 and 14 require that effluent violations be reported either verbally (condition #13) or in writing at the time of MOR submittal (condition #14). The four effluent violations above were not reported at the time of the report submittal as required

Toxicity Testing

Toxicity testing was completed in October of 2019 and October of 2020; the effluent passed the test in both years. Please note that your permit requires submittal of the toxicity test results (DNR Form 542-1381) with the monthly operation report.

Compliance Sample

Influent and effluent samples were taken by Travis Morarend with the State Hygienic Laboratory during the inspection and the results are summarized below:

Table 1. Sampling Results from Inspection				
	Influent		Effluent	
	mg/L	lbs/day	mg/L	lbs/day
BOD	310	3152	-	-
CBOD	-	-	17	192
TSS	140	1423	15	170
TKN	34	346	11	124
Ammonia	-	-	6.8	77
Nitrate	0.57	5.8	7.5	85
Total Nitrogen	34.6	351	18.9	213
Zinc	-	-	0.03	0.34
Cadmium	-	-	<0.00025	<0.0028
Silver	-	-	<0.001	<0.011
Copper	-	-	0.009	0.0102
Total P	9.9	101	9.4	106
DO	-	-	7.3	-
-	Not sampled			

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Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

Compliance Schedule

The NPDES permit for Webster City contains a compliance schedule to meet more stringent effluent limits for cadmium, copper, silver, zinc and total residual chlorine. This schedule called for submittal of a progress report on June 1, 2020, and compliance with final limits on February 1, 2021. This progress report had not been received at the time of the inspection, but was received following the inspection on March 16, 2021. The progress report indicates that City is currently meeting the more stringent metals limits. Review of the compliance data submitted for the reviewed period confirmed that the City is meeting the new, more stringent metal limits.

The report also indicated that the City does not have the capability to measure TRC concentrations low enough to demonstrate compliance with the new TRC limit. During the inspection Mr. Danielson confirmed that the City has not yet purchased the new equipment. The City was not disinfecting on the day of the inspection but would need to begin disinfection on March 15. Without the ability to demonstrate compliance with the new limit, the City will be in violation of the permit limit.

Nutrient Reduction Strategy Construction Schedule

The construction schedule for nutrient reduction requires annual progress reports on March 1 of each year. The 2021 report had not been received at the time of the inspection, but was received following the inspection on March 16, 2021. The report indicates the City is in the planning process for construction of a new facility that will be designed with biological nutrient removal with supplemental chemical phosphorus removal. During the inspection, Mr. Danielson indicated that construction of the new plant will likely begin in two years.

FACILITY EVALUATION

Items 1d & e. COLLECTION SYSTEM – Infiltration/Inflow & Bypassing

No bypassing was reported during the reviewed period. However, the City should continue to budget funds for infiltration and inflow (I/I) as the collection system will continue to deteriorate over time.

Item 2a. LIFT STATION

There are three lift stations in town to pump all wastewater to the treatment plant. Mr. Danielson reported that the two primary lift stations (East & North) had their pumps rebuilt during the reviewed period. Furthermore, Mr. Danielson reported that the East lift station may be replaced as part of the facility upgrade project.

3a. SIGNIFICANT INDUSTRIAL USERS (SIUs)

The City's permit currently includes three significant industrial users; Mary Ann's Specialty Foods, Webster City Custom Meats, and Mertz Engineering. Mary Ann's Specialty Foods was inspected in November of 2020 and received a Letter of Noncompliance due to violations of their treatment agreement following the inspection. Webster City Custom Foods was last inspected in February of 2020 and received a Notice of Violation for treatment agreement violations. Review of the Webster City Custom Foods monitoring since February 2020 show that the facility has substantially complied with its pretreatment limits since that time, though BOD violations occurred in October and December of 2020.

Mertz Engineering, was added to the City's permit as a significant industrial user in July of 2020. Mr. Danielson reported that Mertz Engineering has been submitting monitoring data and a review of their data shows no pretreatment violations, though there have been instances of non-reporting.

Mr. Danielson reported that the City recently signed a treatment agreement with an industry that plans to raise shrimp and will discharge to the City sewer. This treatment agreement should be sent to the DNR Des Moines office for review and inclusion in the new permit.

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

Item 3a. SIGNIFICANT INDUSTRIAL USERS (SIUs)

the Webster City Custom Foods monitoring since February 2020 shows that the facility has substantially complied with its pretreatment limits since that time, though BOD violations occurred in October and December of 2020.

Mertz Engineering, was added to the City's permit as a significant industrial user in July of 2020. Mr. Danielson reported that Mertz Engineering has been submitting monitoring data and a review of their data shows no pretreatment violations, though there have been instances of non-reporting for some parameters.

Mr. Danielson reported that the City recently signed a treatment agreement with an industry that plans to raise shrimp and will discharge to the City sewer. This treatment agreement should be sent to the DNR Des Moines office for review and inclusion in the new permit.

Mr. Danielson reported that the City is also working to allow an egg breaking facility to discharge to the City. Discussions have been begun with DNR to see if the City has the available capacity needed to allow the discharge.

6a. SECONDARY TREATMENT – Operation and Maintenance

Mr. Danielson reported that the trickling filter had recently become frozen during cold weather in February. The arm was operational at the time of inspection but sustained damage to the center well which was allowing some water to discharge to the filter prior to entering the arm. Mr. Danielson said plans are being made to repair the damage.

8a. SUPPLEMENTARY TREATMENT – Operation and Maintenance

Disinfection was not occurring at the time of inspection; Mr. Danielson indicated that the City planned to begin on March 15, as required by the permit.

9f. SLUDGE HANDLING AND DISPOSAL

Sludge was land applied in December of 2019 and November of 2020. The required pollutant testing was completed in both years and results in both years were below both the pollutant concentrations and ceiling concentrations in Tables 1 and 3 of Iowa Administrative Code. According to the sludge records, vector reduction requirement is met by incorporation and the pathogen reduction requirements was met by fecal coliform testing in 2020 and by detention time in the anaerobic digester in 2019. It is not clear if the City's sludge handling procedures meet the anaerobic digestion standard as it is not the mean cell residence time of the digester is not known. Mr. Danielson reported that pathogen reduction will be met with fecal coliform testing going forward.

11a. FLOW MEASUREMENT

The influent and effluent flows at this facility are measured by Parshall Flumes with ultrasonic flow meters. The meters should be calibrated in accordance with the manufacturer's recommendations. Mr. Danielson stated that an outside company calibrates the meters each year. Documentation of such calibration activities must be kept in the facility records for a minimum of three years.

13g. LAB CERTIFICATION

Operational monitoring and compliance sample analysis for BOD₅, CBOD₅, TSS, SS, NH₃-N, TRC, pH, DO, and temperature is conducted at the certified in-house laboratory (Iowa Lab #314). Samples for NO₃-N, TKN, Total N, Total P, metals, toxicity, and *E. coli* are taken to the State Hygienic Laboratory in Ankeny (Iowa Lab #397) for analysis. Samples are hand-delivered to comply with the 6-hour maximum hold time for *E. coli*.

**Iowa Department of Natural Resources
Wastewater Treatment Facility Inspection Form**

Facility Name: Webster City Wastewater Treatment Facility

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NPDES Permit #: 4063001

Inspection Date: 07/16/19

SUMMARY

Overall, the facility appears to be properly operated and maintained and no effluent violations were reported during the reviewed period. The City is in the process of planning facility upgrades.

REQUIREMENTS

1. Provide proper notification of any non-compliance issues per Rules 567 IAC 63.12(455B) and 63.15(455B).
2. Ensure that all future compliance schedule items are submitted in accordance with the specified schedules per Subrule 567 IAC 64.3(1).
3. Submit toxicity testing results with the monthly operation reports per Subrule 567 IAC 64.3(1).

RECOMMENDATIONS

- Budget funds annually for I/I work as the collection system will deteriorate with age.



Collection Location wwtp influent grab sample	Collector and Phone morarend uhl0023 515/72-516.38	Client Reference webster city csi	Accession # 1620276
WEBSTER CITY, IA	Collected 2021-03-10 10:35	Received 2021-03-10 14:21	Project 03wqcsi
Report To	JEREMY KLATT IDNR-FO 2 2300 15TH ST SW MASON CITY, IA 50401-5630		Sample Description wastewater
			Sample Type Non-Drinking Water
			Sample Source
			Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

<u>TEST</u>	<u>RESULT (No Units)</u>	<u>ANALYSIS NOTE(S)</u>
Field pH, SM 4500 H+ B pH	7.7	
<u>TEST</u>	<u>RESULT (degrees C)</u>	<u>ANALYSIS NOTE(S)</u>
Field Temperature, SM 2550 B Field Temperature	12.0	

SAMPLE AND ANALYSIS NOTES

1. Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

ANALYSIS INFORMATION

<u>TEST</u>	<u>ANALYZED</u>	<u>SITE</u>	<u>RELEASED</u>	<u>ANALYSIS PREP</u>
1. Field pH, SM 4500 H+ B	2021-03-10 10:35 EJO	3201	2021-03-12 07:25 TM	
2. Field Temperature, SM 2550 B	2021-03-10 10:35 EJO	3201	2021-03-12 07:25 TM	

DESCRIPTION OF UNITS

No Units = No Units
degrees C = Degrees Celsius

SITE(S) PERFORMING TESTING

3201 STATE HYGIENIC LABORATORY ANKENY, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Michael D. Schueller, M.S., Associate Director; Wade K. Aldous, Ph.D. (D)ABMM, Associate Director; IOWA ENVIRONMENTAL LAB ID #397

The result(s) of this report relate only to the items analyzed. Where the laboratory has not been responsible for the sampling stage the results apply only to the sample as received. This report shall not be reproduced except in full without the written approval of the laboratory. If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500.



Report To	Collection Location wwtp effluent grab sample	Collector and Phone morarend uhl0023 515/72-516,38	Client Reference webster city csi	Accession # 1620277
	WEBSTER CITY, IA	Collected 2021-03-10 11:20	Received 2021-03-10 14:21	Project 03wqcsi
	JEREMY KLATT IDNR-FO 2			Sample Description wastewater
	2300 15TH ST SW MASON CITY, IA 50401-5630			Sample Type Non-Drinking Water
				Sample Source
				Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

<u>TEST</u>	<u>RESULT (mg/L)</u>	<u>QUANT LIMIT</u>	<u>ANALYSIS NOTE(S)</u>
Field Dissolved Oxygen, ASTM D 888-09 C Dissolved Oxygen	7.3	0.1	
<u>TEST</u>	<u>RESULT (No Units)</u>		<u>ANALYSIS NOTE(S)</u>
Field pH, SM 4500 H+ B pH	7.6		
<u>TEST</u>	<u>RESULT (degrees C)</u>		<u>ANALYSIS NOTE(S)</u>
Field Temperature, SM 2550 B Field Temperature	12.8		

SAMPLE AND ANALYSIS NOTES

1. Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

ANALYSIS INFORMATION

<u>TEST</u>	<u>ANALYZED</u>	<u>SITE</u>	<u>RELEASED</u>	<u>ANALYSIS PREP</u>
1. Field Dissolved Oxygen, ASTM D 888-09 C	2021-03-10 11:20 EJO	3201	2021-03-12 07:26 TM	
2. Field pH, SM 4500 H+ B	2021-03-10 11:20 EJO	3201	2021-03-12 07:26 TM	
3. Field Temperature, SM 2550 B	2021-03-10 11:20 EJO	3201	2021-03-12 07:26 TM	

DESCRIPTION OF UNITS

mg/L = Milligrams per Liter
No Units = No Units
degrees C = Degrees Celsius

SITE(S) PERFORMING TESTING

3201 STATE HYGIENIC LABORATORY ANKENY, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Michael D. Schueller, M.S., Associate Director; Wade K. Aldous, Ph.D. (D)ABMM, Associate Director; IOWA ENVIRONMENTAL LAB ID #397

The result(s) of this report relate only to the items analyzed. Where the laboratory has not been responsible for the sampling stage the results apply only to the sample as received. This report shall not be reproduced except in full without the written approval of the laboratory. If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500.



Report To	Collection Location wwtp influent 24 hour composite	Collector and Phone morarend uhl0023 515/72-516.38	Client Reference webster city csi	Accession # 1622155
	WEBSTER CITY,	Collected 2021-03-11 10:40	Received 2021-03-11 13:39	Project 03wqcsi
	JEREMY KLATT IDNR-FO 2 2300 15TH ST SW MASON CITY, IA 50401-5630			Sample Description wastewater
				Sample Type Non-Drinking Water
				Sample Source
				Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

TEST	RESULT ([MGD])	QUANT LIMIT	ANALYSIS NOTE(S)
Field Flow Rate, ISCO 1989			
Flow Rate	1.219	0.001	

TEST	RESULT (mg/L)	QUANT LIMIT	MCL	ANALYSIS NOTE(S)
Nitrate as N, EPA 300.0				2
Nitrate nitrogen as N	0.57	0.1	10	
Nitrite as N, EPA 300.0				2
Nitrite nitrogen as N	<0.125	0.125	1.0	

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Total Phosphorus as P, LAC 10-115-01-2B			
Total Phosphorus as P	9.9	0.1	
Total Kjeldahl Nitrogen as N, LAC 10-107-06-2M			
Total Kjeldahl Nitrogen as N	34	0.1	
BOD, 5 Day, SM 5210 B			
BOD, 5 Day	310	2	
Total Suspended Solids, USGS I-3765-85			
Total Suspended Solids	140	1	

SAMPLE AND ANALYSIS NOTES

1. Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

Webster City WWTP Raw Influent 24 hour Time Composite. ISCO sampler was set to collect 150 mL every 20 minutes. ISCO sampler was iced and locked overnight. All samples collected equal in volume, and similar in appearance. All samples were composited.

2. The MCL (maximum contaminant level) is only applicable to compliance monitoring samples under the Safe Drinking Water Act (SDWA).

ANALYSIS INFORMATION

TEST	ANALYZED	SITE	RELEASED	ANALYSIS PREP
1. Field Flow Rate, ISCO 1989	2021-03-11 10:40 EJO	3201	2021-03-12 07:32 TM	
2. Nitrate as N, EPA 300.0	2021-03-11 18:24 MGB	3201	2021-03-12 15:12 DLS	
3. Nitrite as N, EPA 300.0	2021-03-11 18:24 MGB	3201	2021-03-12 15:12 DLS	
4. Total Phosphorus as P, LAC 10-115-01-2B	2021-03-23 10:39 SLS	3201	2021-03-24 11:28 MLS	



Collection Location	Collector	Client Reference	Accession #
wwtp influent 24 hour composite	morarend uhl0023	webster city csi	1622155

TEST	ANALYZED	SITE	RELEASED	ANALYSIS PREP
5. Total Kjeldahl Nitrogen as N, LAC 10-107-06-2M	2021-03-23 10:39 SLS	3201	2021-03-24 11:28 MLS	
6. BOD, 5 Day, SM 5210 B	2021-03-11 14:00 AMG	3201	2021-03-17 13:51 JAE	
7. Total Suspended Solids, USGS I-3765-85	2021-03-11 09:05 KAR	3201	2021-03-12 14:57 MLS	

DESCRIPTION OF UNITS

[MGD] = Million Gallons per Day

mg/L = Milligrams per Liter

SITE(S) PERFORMING TESTING

3201 STATE HYGIENIC LABORATORY ANKENY, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Michael D. Schueller, M.S., Associate Director; Wade K. Aidous, Ph.D. (D)ABMM, Associate Director; IOWA ENVIRONMENTAL LAB ID #397

The result(s) of this report relate only to the items analyzed. Where the laboratory has not been responsible for the sampling stage the results apply only to the sample as received. This report shall not be reproduced except in full without the written approval of the laboratory. If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500.



Report To	Collection Location wwtp effluent 24 hour composite	Collector and Phone morarend uhl0023 515-725-1638	Client Reference webster city csi	Accession # 1622156
	WEBSTER CITY,	Collected 2021-03-11 11:12	Received 2021-03-11 13:39	Project 03wqcsi
	JEREMY KLATT IDNR-FO 2 2300 15TH ST SW MASON CITY, IA 50401-5630			Sample Description wastewater
				Sample Type Non-Drinking Water
				Sample Source
				Sample Note(s) 1

RESULTS OF ANALYSIS - FINAL REPORT

TEST	RESULT ((MGD))	QUANT LIMIT	ANALYSIS NOTE(S)
Field Flow Rate, ISCO 1989 Flow Rate	1.355	0.001	

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Ammonia as N, LAC 10-107-06-1J Ammonia nitrogen as N	6.8	0.05	

TEST	RESULT (mg/L)	QUANT LIMIT	MCL	ANALYSIS NOTE(S)
Nitrate as N, EPA 300.0 Nitrate nitrogen as N	7.5	0.1	10	2
Nitrite as N, EPA 300.0 Nitrite nitrogen as N	0.38	0.025	1.0	2

TEST	RESULT (mg/L)	QUANT LIMIT	ANALYSIS NOTE(S)
Total Phosphorus as P, LAC 10-115-01-2B Total Phosphorus as P	9.4	0.1	
Total Kjeldahl Nitrogen as N, LAC 10-107-06-2M Total Kjeldahl Nitrogen as N	11	0.1	
BOD, Carbonaceous 5 Day, SM 5210 B CBOD, 5 Day	17	2	
Total Suspended Solids, USGS I-3765-85 Total Suspended Solids	15	1	
Metals, EPA 200.8			
Cadmium	<0.00025	0.00025	
Copper	0.009	0.005	
Silver	<0.001	0.001	
Zinc	0.03	0.02	

SAMPLE AND ANALYSIS NOTES

1. Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

Webster City WWTP Final Effluent 24 hour Time Composite. ISCO sampler was set to collect 150 mL every 20 minutes for 24 hours. ISCO sampler was iced, and locked overnight. All samples were collected equal in volume and similar in appearance. All samples were composited.



Collection Location	Collector	Client Reference	Accession #
wwtp effluent 24 hour composite	morarend uhl0023	webster city csi	1622156

2. The MCL (maximum contaminant level) is only applicable to compliance monitoring samples under the Safe Drinking Water Act (SDWA).

ANALYSIS INFORMATION

TEST	ANALYZED	SITE	RELEASED	ANALYSIS PREP
1. Field Flow Rate, ISCO 1989	2021-03-11 11:12 EJO	3201	2021-03-12 07:35 TM	
2. Ammonia as N, LAC 10-107-06-1J	2021-03-26 12:10 MLS	3201	2021-03-26 14:12 JAE	
3. Nitrate as N, EPA 300.0	2021-03-11 19:56 MGB	3201	2021-03-12 15:12 DLS	
4. Nitrite as N, EPA 300.0	2021-03-11 19:33 MGB	3201	2021-03-12 15:12 DLS	
5. Total Phosphorus as P, LAC 10-115-01-2B	2021-03-23 10:39 SLS	3201	2021-03-24 11:28 MLS	
6. Total Kjeldahl Nitrogen as N, LAC 10-107-06-2M	2021-03-25 09:07 SLS	3201	2021-03-25 15:11 JAE	
7. BOD, Carbonaceous 5 Day, SM 5210 B	2021-03-11 14:00 AMG	3201	2021-03-17 13:51 JAE	
8. Total Suspended Solids, USGS I-3765-85	2021-03-11 09:05 KAR	3201	2021-03-12 14:57 MLS	
9. Metals, EPA 200.8	2021-03-23 13:37 SGB	3201	2021-03-24 14:25 MRC	

DESCRIPTION OF UNITS

[MGD] = Million Gallons per Day
mg/L = Milligrams per Liter

SITE(S) PERFORMING TESTING

3201 STATE HYGIENIC LABORATORY ANKENY, IOWA LABORATORIES COMPLEX, 2220 S ANKENY BLVD, ANKENY, IA 50023; Phone 515/725-1600; Fax 515/725-1642; Michael D. Schueller, M.S., Associate Director; Wade K. Aldous, Ph.D. (D)ABMM, Associate Director; IOWA ENVIRONMENTAL LAB ID #397

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Appendix O: Council Resolution to Approve Facility Plan

RESOLUTION OF THE CITY COUNCIL OF WEBSTER CITY ACCEPTING AND ADOPTING THE AUGUST 2022 WASTEWATER TREATMENT FACILITY IMPROVEMENTS FACILITY PLAN PREPARED BY BOLTON & MENK, LLC AND AUTHORIZING THE SUBMITTAL OF THE FACILITY PLAN TO THE IOWA DEPARTMENT OF NATURAL RESOURCES

WHEREAS, the City of Webster City owns and operates a publicly owned treatment works (POTW);
and

WHEREAS, the City of Webster City is in the planning and design phase of the Wastewater Treatment Facility Improvements project and seeks to proceed into the construction phase of the project;
and

WHEREAS, the Iowa Department of Natural Resources (IDNR) requires the City obtain a construction permit to construct the Wastewater Treatment Facility Improvements Project; and

WHEREAS, the City must submit a Facility Plan for the project as part of the IDNR construction permit review process; and

WHEREAS, the City wishes to formally accept and adopt the August 2022 Wastewater Treatment Facility Improvements - Facility Plan prepared by consulting engineer, Bolton & Menk, LLC; and

WHEREAS, the City of Webster City wishes to designate the City Manager as the signing authority for permit applications; and

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

SECTION 1: Designates Daniel Ortiz-Hernandez, the City of Webster City's City Manager, as the signing authority for construction permit and related applications to the Iowa Department of Natural Resources.

SECTION 2: Accepts and Adopts the recommendations noted in the August 2022 Wastewater Treatment Facility Improvements Facility Plan prepared by Bolton & Menk, Inc.

SECTION 3: Authorizes the submittal of the August 2022 Wastewater Treatment Facility Improvements Facility Plan prepared by Bolton & Menk, Inc. to the Iowa Department of Natural Resources.

Passed and adopted this 6th of September, 2022.

John Hawkins, Mayor

ATTEST:

Karyl K. Bonjour, City Clerk



August 23, 2022

TO: Webster City City Council Members
FROM: Darcy Swon, LIFT WC Board Chair
RE: Street Closure Request

On behalf of the LIFT WC nonprofit organization, I am submitting a request to you for consideration and approval to close the 700 block of Second Street on September 18, 2022, from the intersection of Des Moines and Second Street to the intersection of Prospect Street and Second Street, for the LIFT WC 2022 Taste of Fall fundraising dinner event.

We are asking that the street be closed off from 9 am through 11 pm (at the latest) to allow us to set up and tear down the event.

To close off this space, and to keep those attending this fundraising event safe, we are also requesting to utilize City barricades and have signs placed in the street to notify residents of the upcoming street closure. In addition, we'd like to request the use of two trash cans from the City to assist with keeping the space clean.

We will be partnering with Briggs Woods Conference Center for the food and beverage service. They will be handling the liquor license request.

In the event of inclement weather, we will move our event out to the Briggs Woods Conference Center. We will make the decision no later than noon on the Friday before (September 16, 2022) and will notify the City Manager's office to allow for City Staff to be notified.

On behalf of the LIFT WC Board, I want to thank you for your continued support of our organization's mission and your consideration of our street closure request. Thank you!

LIFT WC Board of Directors:

President - Darcy Swon; Vice President - Lindsay Henderson; Treasurer – Zach Chizek; Secretary - Shannon Swon; Board Members - John Hawkins and Jake Pulis



WEBSTER CITY COMMUNITY HIGH SCHOOL

1001 Lynx Avenue
Webster City, IA 50595-1948
(515) 832-9210
Fax (515) 832-9215

August 18, 2022

Office of City Manager
400 Second Street
Webster City, IA 50595

To Whom It May Concern:

The Webster City High School National Honor Society would like to request a permit for the WCHS Homecoming parade. The parade will take place on Friday, September 16th. It will start at approximately 2:30 PM with parade entries arriving approximately at 1:30.

The proposed parade route would begin at West Twin Parks on Seneca Street at the Bank Street intersection. The participants would line up from north to south on Seneca Street from that intersection. The parade would travel north to Second Street and then turn west and travel to Des Moines Street and continue to the Webster City Middle School where the parade would conclude.

If you have any questions, please contact me, Karen Daniels, at 515-832-9210. Please provide me with a written confirmation of your approval which may be sent to the above address.

Your consideration is appreciated.

Karen Daniels
National Honor Society Advisor

1620 Superior Street Unit 1
Webster City, IA 50595
(515) 832-2885
(515) 832-2515 fax



GROVES & CHIZEK LAW OFFICE

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Gary J. Groves
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Raphael M. Montag
raph@groveslaw.net

August 31, 2022

TO: Members of the City Council

RE: Summary of Professional Services for August 2022

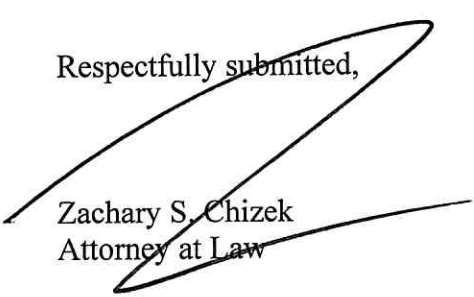
Dear Council Members:

Outlined below is a summary of professional services I have provided for the City of Webster City as City Attorney for the month of August 2022. The main issues I addressed this past month were (a) continued discussions with Lynx Development's attorney on ongoing punch list still needing to be completed; and (b) continued work on abandoned properties in town.

In regards to the Lynx Development, City staff and the City's engineer continue to work with the developer of Lynx Development and their attorney to work towards completion of their ongoing punch list items. There are a number of outstanding items, but we continue to review what information they've provided and respond to any comments/concerns they have.

In regards to the abandoned properties in town, four of them have had no work completed on them to date, but one, located on First Street, the property owner continues to make progress towards getting the issues outstanding addressed. If said owner continues to make progress we'll dismiss that matter, but the remaining four we'll continue proceeding forward on the abandonment side.

Respectfully submitted,



Zachary S. Chizek
Attorney at Law