City of Appleton

100 North Appleton Street
Appleton, WI 54911-4799
www.appleton.org

Meeting Agenda - Final

Utilities Committee

Tuesday, December 7, 2021 | **5:00 PM** | **Council Chambers, 6th Floor**

1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

21-1473 Approval of the October 12, 2021 Utilities Committee Meeting Minutes.

Attachments: October 12, 2021 Utilities Committee Meeting Minutes.pdf

4. Public Hearings/Appearances

5. Action Items

21-1634 Approve update to Municipal Code Chapter 20, Article II Water Utility, creating new Section 20-44 Lead and Galvanized Water Service Line Replacement.

Attachments: 0028 - Sec 20-44 - Lead Pipe Replacement.pdf

21-1660 Award of 2022A Stormwater Consulting Services Contract for 2022 Stormwater Management Plan Reviews to Brown and Caldwell in an amount not to exceed $47,500.

Attachments: 2022A Plan Review Award Util Memo BC.pdf

21-1661 Award of 2022B Stormwater Consulting Services Contract for 2022 Stormwater Management Plan Reviews to raSmith in an amount not to exceed $47,500.

Attachments: 2022B Plan Review Award Util Memo raSmith.pdf

21-1662 Amend 2020D Stormwater Consulting Services Contract for the City-wide Stormwater Management Plan Update with Brown and Caldwell by an increase of $14,430 for a total contract amount not to exceed $214,411.

Attachments: 2020D Citywide SWMP Update BC Amendment Memo Util Cmte.pdf

6. Information Items

21-1663 Sole Sourcing of three contracts for stormwater management services approved by Finance Department, per Procurement and Contract Management Policy.

Attachments: 2021 Stormwater Funds Finance request.pdf

21-1475 Monthly Reports for July, August, and September 2021:
- Wastewater Treatment Plant Synopsis and Receiving Station Revenue Report
- Water Treatment Facility Synopsis
- Water Distribution and Meter Team Monthly Report - September

Attachments: 2021 Q3 Wastewater Synopsis.pdf
3rd Qrt 2021 Effluent Quality Summary.pdf
Receiving Station Revenue Report.pdf
2021 Q3 Water Synopsis.pdf
Water Main Breaks September 2021.pdf

21-1664 Monthly Reports for October 2021:
- Water Distribution and Meter Team Monthly Report

Attachments: Water Main Breaks October 2021.pdf

7. Adjournment

Notice is hereby given that a quorum of the Common Council may be present during this meeting, although no Council action will be taken.

Reasonable Accommodations for Persons with Disabilities will be made upon Request and if Feasible.

For questions on the agenda, contact Chris Shaw at 920-832-5945 or Paula Vandehey at 920-832-6474.

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Meeting Minutes - Final
Utilities Committee

Tuesday, October 12, 2021 | **5:00 PM** | **Council Chambers, 6th Floor**

1. Call meeting to order

Chairperson Meltzer called the Utilities Committee Meeting to order at 5:00 p.m.

2. Roll call of membership

Present: 4 - Meltzer, Smith, Doran and Thao

Excused: 1 - Martin

3. Approval of minutes from previous meeting

21-1376 Approval of the August 24, 2021 Utilities Committee Meeting Minutes.

Attachments: August 24, 2021 Utilities Committee Meeting Minutes.pdf

Smith moved, seconded by Thao, that the Minutes be approved. Roll Call. Motion carried by the following vote:

Aye: 4 - Meltzer, Smith, Doran and Thao

Excused: 1 - Martin

4. Public Hearings/Appearances

5. Action Items

21-1378 Approve Wastewater Rate Increase of 4% to be effective January 1, 2022.

Attachments: WW Rate Increase memo Oct 2021.pdf
Rate Sheet 2022.pdf
Comparison of Annual Wastewater Bills.pdf

Doran moved, seconded by Thao, that the Report Action Item be recommended for approval. Roll Call. Motion carried by the following vote:

Aye: 4 - Meltzer, Smith, Doran and Thao

Excused: 1 - Martin

21-1379 Request to Approve Change Order #1 for 2020G Stormwater Consulting Services Contract for Lightning Drive Culverts and Stormwater Practices 60% Preliminary Design with raSmith in an amount not to exceed $20,000.

Attachments: 2020G Lightning 60% Design Contract CO1 Memo Util Cmte 10-06-2021.pdf

Smith moved, seconded by Thao, that the Report Action Item be recommended for approval. Roll Call. Motion carried by the following vote:

Aye: 4 - Meltzer, Smith, Doran and Thao

Excused: 1 - Martin

6. Information Items

21-1377 Monthly Reports for August 2021:
- Water Distribution and Meter Team Monthly Report

Attachments: Water Main Breaks August.pdf

The report was reviewed.

7. Adjournment

Smith moved, seconded by Thao, that the Utilities Committee meeting be adjourned at 5:19 p.m.. Roll Call. Motion carried by the following vote:

Aye: 4 - Meltzer, Smith, Doran and Thao

Excused: 1 - Martin

Section 20-44. Lead and galvanized water service line replacement.

(a) ***Intent and purpose***. The Common Council of the City finds that it is in the public interest to establish a comprehensive program for the removal and replacement of lead and/or galvanized water service lines in use within the city water utility system and in private systems, and to that end, declares the purposes of this section to be as follows:

(1) To ensure that the water quality at every tap of utility customers meets the water quality standards specified under the federal law;

(2) To reduce the lead in city drinking water to meet the Environmental Protection Agency (EPA) standards in city drinking water for the health of city residents;

(3) To meet Wisconsin Department of Natural Resources (WDNR) requirements for local compliance with EPA's Lead and Copper Rule.

(b) ***Authorization***. This Section is enacted pursuant to §62.11(5) and §281.12(5), Wis. Stats., and as mandated by 42 U.S.C. Sec. 300g, of the Federal Safe Drinking Water Act, enforced by the EPA and with WDNR.

(c) ***Definitions***. The following words, terms, and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Customer-side water service line means the water conduit pipe running from the customer's meter to the curb stop which is the water utility shut-off valve usually located behind the curb on public property.

Director means the City of Appleton's Director of Public Works or their authorized representative.

EPA means the United States Environmental Protection Agency.

Lead and/or Galvanized Water Service Line means a water service line comprised of lead and/or galvanized piping.

Licensed contractor means a person, firm, corporation, or other entity licensed to perform plumbing work in the State of Wisconsin.

Notice means written notification provided to the property owner and, if different, the tenant or occupant of the property identified on the water utility bill.

Utility means the City of Appleton Water Utility.

Water Utility System Construction Project means a utility project whereby the lead and/or galvanized water service lines may be replaced as part of a utility project.

Water Service Line Replacement Program means a program developed by the City and/or Utility to offer financial assistance to property owners for the purpose of replacing lead and/or galvanized water service lines. It shall also be referred to as the "Replacement Program" within this section.

WDNR means the Wisconsin Department of Natural Resources.

(d) ***Identification of lead and galvanized service lines.***

(1) Upon notice from the Utility, any person or entity who owns, manages or otherwise exercises control over a property connected to the Utility distribution system shall allow the Director to inspect the customer-side service line to determine the material of construction as authorized pursuant to Wis. Stats. §196.171 et. seq.

(2) The Utility and/or the Director shall have the right to request entry at any reasonable time to examine any property served by a connection to the public water system of the utility for inspection of the service line. If entry is refused, the Director may obtain a special inspection warrant under Wis. Stats. §66.0119. Upon request, the owner, lessee or occupant of any property so served shall furnish to the Utility any pertinent information regarding the piping on such property.

(3) The Utility shall create and maintain a record of the location of all identified lead and/ or galvanized service lines in the City of Appleton.

(4) If the property has been identified as having lead and/or galvanized water service lines, the Utility shall provide written notice of the presence of lead and/or galvanized water service line.

(e) ***Replacement of lead and/or galvanized service lines.***

(1) All lead and/ or galvanized water service lines must be replaced regardless of whether on the Utility-side or the customer-side. As of the effective date of the ordinance from which this division is derived, no lead and/or galvanized service line will be allowed to connect to a Utility line once replaced.

a. **Owner to Replace Lead and/ or Galvanized Service Line.** Known existing lead and/or galvanized water service lines connected to the Utility shall be replaced with water service lines made of suitable material and at the owner's expense. Replacement shall be completed within one year (365 days) of written notification

by the Utility unless an exception is granted pursuant to section (f)(2) of this section.

b. **Service Line Replacement in conjunction with Water Utility System Construction.**

1. *Notification to Property Owners*. Notice shall be provided detailing the utility-side replacement of lead and/or galvanized service lines. The notification shall occur in the calendar year prior to commencement of the construction.

2. *Inspection Required*. The Director or their designee shall endeavor to inspect all water service line connections in which the material comprising the water service lines are unknown to the Utility. The Director may perform the inspection of the customer-side water service line for the presence of lead or galvanized pipe prior to the time that the Water Utility system is to be reconstructed. If there is a refusal or failure to permit the Director access to inspect the service line, the Director may pursue a special inspection warrant to compel inspection of the property, may discontinue service pursuant to section (h), and/or may impose a forfeiture pursuant to section (l), of this section.

3. *Replacement*. In the event that a customer-side water service line is found to contain lead and/or galvanized pipe, the Director shall notify the owner, in writing, of that fact.

i. The affected property may contract with a licensed contractor to complete the replacement; or

ii. The property owner may request to be included in the Water Utility System Construction Project. The Utility shall include an alternative to the contract requesting unit bid prices for the calculation of the cost for customer-side water service line replacement. The property owner will be charged the entire cost of the removal and replacement if funded by the Utility. In addition, all restoration of the owner's property shall be the responsibility of the property owner (including, but not limited to top soil, concrete, steps, asphalt, bushes, porches, and the like).

(f) ***Exceptions.***

(1) The Utility may modify the inspection requirement set forth under section (d) if the customer submits a request in writing to the Director of Public Works. The Director of Public Works or their designee shall have sole discretion in whether to grant a request to modify the inspection requirements.

(2) The Utility may modify the 365-day replacement requirement set forth under section (e)(1)a. if the customer submits a request in writing to the Director of Public Works detailing reasons for the delay. The Director of Public Works shall have sole discretion in whether to grant an extension of time for compliance.

(g) ***Financial Assistance***. In the event funding is made available for the purpose of replacing customer-side water service lines, the City will establish a Water Service Line Replacement Program. A property owner may opt into the Program for the replacement of the lead and/ or galvanized customer- side water service line under the terms of the Replacement Program. Eligibility requirements as well as conditions of participation for the Replacement Program will be kept on file in the Department of Public Works. Disputes regarding eligibility for financing may be appealed to the Utilities Committee, unless otherwise noted in the Replacement Program eligibility and participation policy.

(h) ***Authority to discontinue service***. The Water Utility is authorized to discontinue water service to such property served by a lead and/or galvanized water service line after reasonable notice and in a manner consistent with the rules and regulations of the City of Appleton Utility and the Public Service Commission of Wisconsin governing discontinuance of water service.

(i) ***Penalties***. Any person who violates any provision of this chapter, including failing to comply with the applicable customer-side water service line replacement requirements as set forth in this section, or directly or indirectly preventing or hindering the Appleton Water Utility employee from making an inspection, examination, removal, or installation, shall be fined not more than $25 for each offense. Each day a violation continues may be considered a separate offense.

(j) ***Severability***. If any subsection or portion of this chapter is for any reasons held to be invalid or unconstitutional by a decision of a court of competent jurisdiction, that subsection or portion shall be deemed severable and shall not affect the validity of the remaining portions of this chapter.

Department of Public Works – Engineering Division

MEMO

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works
Sue Olson, Staff Engineer
Pete Neuberger, Staff Engineer

DATE: November 30, 2021

RE: Award of 2022A Stormwater Consulting Services Contract for 2022 Stormwater Management Plan Reviews to Brown and Caldwell in an amount not to exceed $47,500.

The Department of Public Works is requesting approval of the 2022A Stormwater Consulting Services Contract with Brown and Caldwell (BC) for 2022 Stormwater Management Plan reviews in an amount not to exceed $47,500. This is half of the approved budget for this work.

The scope of work provided will vary based on submittals received for review and includes erosion control plan review for large projects over an acre, as needed. Actual costs will be charged to the City on a time and material basis.

This would be the fourth year of a potential 5-year approval for this work. The Request for Proposals specifically stated: *"With satisfactory performance on this contract by the selected consultant and consistent staffing, the selected consultant may be contracted for this same work in 2020-2023 (five year maximum) without an RFP process."* BC has provided excellent service during 2021, working efficiently with City staff and developers' engineers.

Department of Public Works – Engineering Division

MEMO

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works
Sue Olson, Staff Engineer
Pete Neuberger, Staff Engineer

DATE: November 30, 2021

RE: Award of 2022B Stormwater Consulting Services Contract for 2022 Stormwater Management Plan Reviews to raSmith in an amount not to exceed $47,500.

The Department of Public Works is requesting approval of the 2022B Stormwater Consulting Services Contract with raSmith for 2022 Stormwater Management Plan reviews in an amount not to exceed $47,500. This is half of the budget amount for this work.

The scope of work provided will vary based on submittals received for review and includes review of erosion control plans for large projects over an acre, as needed. Actual costs will be charged to the City on a time and material basis.

In fall 2018, DPW solicited proposals from five engineering firms and received proposals from three of the firms. Both Brown and Caldwell and raSmith scored well and slight differences in pricing resulted in the 2019 award to Brown and Caldwell. However, due to several projects carried over from 2018 into 2019, two contracts were administered, one with each firm. The 2020 and 2021 plan review work was also awarded to both consultants due to the number and extent of plan reviews needed.

Due to the number of submittals that have been received over the past few years, the number of projects currently in the development stage and the length of time that many of these projects take to reach approval, staff continues to find that two contracts are an efficient way to provide timely service and cost effectiveness to developers. Both firms are equally qualified for this work and hourly rates are comparable, as demonstrated in the RFP process and work completed in 2020 and 2021.

Department of Public Works – Engineering Division

MEMO

TO: Utilities Committee

FROM: Paula Vandehey, Director of Public Works
Sue Olson, Staff Engineer
Pete Neuberger, Staff Engineer

DATE: November 30, 2021

RE: Amend 2020D Stormwater Consulting Services Contract for the City-wide Stormwater Management Plan Update with Brown and Caldwell by an increase of $14,430 for a total contact amount not to exceed $214,411.

The Department of Public Works is requesting an amendment to the 2020D Stormwater Consulting Services Contract for the City-wide Stormwater Management Plan Update with Brown and Caldwell (BC) by an increase of $14,430 for a total contact amount not to exceed $214,411.

This budget for this work was developed in 2019 for a two-year project in 2020 and 2021. The City received a Wisconsin Department of Natural Resources (DNR) grant of $75,000 for this project and was recently given an extension for a third year, to December 31, 2022.

The kick-off meeting for this project was held via Teams, a few days after City staff began to work from home for the Covid-19 pandemic. Although significant progress has been made on the project, the restrictions to date have resulted in the need for additional meetings and coordination to complete the project.

Additionally, the DNR has experienced staff changes assigned to this project and we were recently notified of the third DNR staff engineer assigned to review our plan and associated modeling. With each new DNR person, BC spends additional time with them to ensure previous DNR approvals and modeling assumptions are clearly understood. The proposed amendment includes the necessary effort to work with the latest DNR staff person assigned to our project.

Based on the work completed by BC to date and DNR approval of that work, staff recommends approval of this amendment to complete the final steps and obtain DNR approval of the project.

Department of Public Works – Engineering Division

MEMO

TO: Jeff Fait, Purchasing Manager

FROM: Paula Vandehey, Director of Public Works
Pete Neuberger, Staff Engineer
Sue Olson, Staff Engineer

DATE: November 22, 2021

RE: Request to Sole Source contracts for stormwater management services with Brown and Caldwell, raSmith and Martenson & Eisele

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The Department of Public Works is requesting approval to sole source the following contracts for stormwater management services:

- Brown and Caldwell (BC) in an amount not to exceed $24,500
- raSmith in an amount not to exceed $19,000
- Martenson & Eisele (M&E) in an amount not to exceed $14,705

The City is currently under contract with BC to update the City-wide Stormwater Management Plan. After this project was budgeted (in spring of 2019), the Wisconsin Department of Natural Resources (DNR) informed the City that WinSLAMM models of all regional stormwater ponds are required in order for the City to take credit for them toward the State and Federal water quality goals. The City did not require ownership of the models until approximately 2009. Furthermore, many older ponds were designed for water quality with rule-of-thumb methodology (assumed TSS removal rates based on meeting DNR Wet Pond geometry standards in place at the time). The project scope included development of 10 regional stormwater pond models and many more are needed.

The City-wide Stormwater Management Plan also included model development for approximately 10 hydrodynamic separation devices (HSDs), which are large diameter manholes with sumps. The City continues to construct these devices prior to paving projects and has been working with DNR to develop a baseline for water quality credit for these devices with needing a model for each device. Additional modeling is needed to establish this baseline of credit.

Additionally, the regional stormwater pond located at Horizon Plaza (Walmart area on east Calumet Street) is privately owned. This stormwater pond was designed in 2003, is owned and maintained by Commercial Horizons and provides considerable credit toward water quality goals in the Garners Creek watershed. The City needs not only a current WinSLAMM model for this pond, but it must also be certified as functioning as designed per the latest MS4 permit section 2.5:

2.5.4 *Long-term maintenance, inspections and enforcement. Written procedures that will be used by the permittee through its ordinance jurisdiction, approval process, and authority to, at a minimum, track and enforce the long-term maintenance of storm water management facilities implemented to meet the applicable post-construction performance standards in section 2.5.1.c and d of this permit. The procedures shall include:*

a. *A mechanism for tracking regulated sites.*
b. *At a minimum, long-term maintenance inspections shall occur once per permit term.*
c. *Inspection documentation.*
d. *Follow up enforcement with timeframes for corrective maintenance.*

To address this requirement, in early 2020 the following ordinance language was adopted:

20-314(d) ***Long term maintenance stormwater management report.***

(1) Every property owner that has been granted a stormwater management permit, constructed on-site stormwater management practices and signed and recorded the required maintenance agreement, shall submit to the Director of Public Works a report on the condition of the site's stormwater management devices and a certification that the SMPs are functioning per the approved plan.

(2) Owners shall be notified by the City of the requirements and the deadline for reporting.

The report and certification shall be completed and sealed by a Professional Engineer currently licensed in the State of Wisconsin, on forms provided by the City.

(3) The requirement that the report and certification be sealed by a Professional Engineer may be omitted in the case of a stormwater management plan consisting solely of storm sewer inlet filters and/or catch basin sumps, provided that the applicant can provide the appropriate documentation of cleaning activities and dated photos.

(4) For sites with more extensive stormwater management systems, the requirements may include, but are not limited to:

a. Photos of the management device at the time of inspection. This shall include photos of existing conditions and photos after the completion of any required maintenance.
b. Bathometric survey.
c. Topographic survey.
d. Infiltration testing.
e. Completed inspection forms.
f. Documentation of the completion of the required annual maintenance, including copies of receipts (actual prices paid need not be reported) from agents hired to perform the work and the date the work was completed.

(5) Upon receipt of the report and certification, if requested on the cover letter accompanying the report or by separate email, City Engineering staff shall provide an email response to the contact listed on the reporting forms stating that the report was received. This response from the City shall be made within 20 workings days of receiving the report.

Because the Horizon Plaza Pond was designed and constructed prior to the original 2004 ordinance, the City cannot compel the owner to hire a professional engineer to certify that the pond is functioning per the approved design.

Staff has requested scopes of services from different consultants based on their familiarity with each project area from historic work and plan review. The proposed scope of services for each of consultants is as follows:

Brown and Caldwell

- Develop WinSLAMM models for 8 regional stormwater ponds
- Assemble the regional pond models that BC develops as well as those from raSmith and M&E into the city-wide model and reporting format required by DNR
- Develop HSD models and obtain approval from DNR for the use of a credit baseline for future structures

raSmith

- Develop the WinSLAMM model for the Horizon Plaza Pond
- Perform an existing conditions survey of the pond bottom to determine sediment accumulation
- Perform a survey of the pond bottom after cleaning of the pond by the property owner to determine restoration to approved design
- Provide a certification from a professional engineer that that pond is functioning as designed

Martenson & Eisele

- Develop WinSLAMM models for 10 regional ponds in Apple Hill Farms subdivision

The Department of Public Works is requesting to sole source this work as described above because these consultants have the most experience in the areas of work identified and therefore would be most effective.

Appleton Wastewater Treatment Plant
Operations Synopsis
July 2021 – September 2021

Wastewater Treatment Program

- The Appleton Wastewater Treatment Plant (AWWTP) final effluent met Wisconsin Department of Natural Resources (WDNR) discharge monitoring reporting limits for carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), phosphorous, and ammonia. The plant maintained good treatment and a healthy microbiological population with a sludge retention time of 10.5 days. Dewatering processes functioned well and converted 19.2 million gallons (MG) of primary digested sludge to biosolids.

Summary of Treatment

Parameter	July	August	September	Average
Industrial Flow (MG)	27.3	29.2	26.6	27.7
Domestic Flow (MG)	437.9	384.3	260.6	360.9
Total Flow (MG)	465.1	413.5	287.2	388.6
Influent CBOD Load (Avg Daily lbs)	26,539	22,959	24,272	24,590
Influent TSS Load (Avg Daily lbs)	47,126	47,116	43,176	45,806
Influent Phosphorous Load (Avg Daily lbs)	513	460	498	490
Influent Ammonia Load (Avg Daily lbs)	1,861	1,620	1,966	1,816
Effluent CBOD Load (Avg Daily lbs)	557	430	296	428
Effluent TSS Load (Avg Daily lbs)	382	260	90	244
Effluent Phosphorous Load (Avg Daily lbs)	22	23	15	20
Effluent Ammonia Load (Avg Daily lbs)	74	28	9	37
% Treatment Removal of CBOD	97.9	98.1	98.8	98.3
% Treatment Removal of TSS	99.2	99.4	99.8	99.5
% Treatment Removal of Phosphorous	95.7	95.0	97.0	95.9
% Treatment Removal of Ammonia	96.0	98.3	99.5	97.9

Work in Progress:

- 2019 Appleton Wastewater Plant Improvement Projects: The project includes replacement of the Return Activated Sludge (RAS) pumps, process piping modifications (e.g., blended sludge, filtrate, waste gas flare), outside secondary chemical offloading containment repairs, primary clarifiers #5 & #6 drive replacements (2020 CIP), and H-Building effluent pump replacements (2020 CIP). Staab Construction (Staab) proceeded with construction activities during the reporting period. Although work has advanced, ongoing supply chain disruptions have impeded progress on the replacement of the primary clarifier drives and RAS pumps. Staab believes they can still meet the final project completion date of March 2022 if suppliers can deliver major equipment and parts during the early half of the final quarter of this year.
- Appleton Wastewater Plant Sludge Storage Building Addition: Applied Technologies, Inc. (ATI) advanced preliminary design work on the concept selected by Project Team staff which best met the needs of the AWWTP from a regulatory, functionality, reliability, efficiency, and capital cost standpoint. ATI is to present 30% design plans for review during the final quarter of 2021. The public bidding phase is projected to occur during the 1st quarter of 2022.

- 2021 Appleton Wastewater Plant Solids Dewatering Equipment Upgrades: McMahon Associates, Inc. (McMahon) continued engineering services as part of the Solids Dewatering Equipment Upgrades project. McMahon has continued to advance preliminary design work associated with the replacement and upgrade of the belt filter presses (BFP). The AWWTP will be adding one additional BFP (for a total of four new) which will provide the required dewatering capacity based on future growth projections and redundancy to facilitate critical maintenance events. McMahon is to present 30% design plans for review during the final quarter of 2021. The public bidding phase is projected to occur during the 1st quarter of 2022.
- 2021 Secondary Clarifier Drive Rebuild Project: On June 2, 2021, Common Council approved contract award for the removal, rebuilding, and reinstallation of drive equipment on Secondary Clarifiers #1 through #6 to Sabel Mechanical. Common Council also approved the sole source purchase of the associated rebuild parts through the original equipment manufacturer, Evoqua. Work was anticipated to commence during the current reporting period. Unfortunately, supply chain disruptions contributed to significant delays with delivery of major parts and equipment. Complete shipments were finally received late in September which allowed Sabel to commence with the removal of drives on Secondary Clarifiers #3 and #6 on October 5, 2021. Final project completion is not anticipated to occur until the spring of 2022.

Regulatory Summary

- Monthly Discharge Monitoring reports for July, August, and September were filed electronically on time for regulatory compliance.

Laboratory

- All sampling and laboratory testing procedures were performed in accordance with requirements outlined in the AWWTP Wisconsin Pollutant Discharge Elimination System (WPDES) permit.
- Discharge Monitoring Report (DMR) and Health Department testing program objectives associated with sampling and analysis were met during the reporting period.
- Analysis of Single-Blind Proficiency samples for laboratory recertification occurred during the reporting period.
- Sampling of influent in support of Wisconsin State Lab of Hygiene COVID Sewage Surveillance continued during the reporting period.
- Analytical testing schedule was reviewed by Laboratory Staff and Supervisors. Changes were implemented in August 2021 and will be reviewed in the fourth quarter.

Staffing & Training

- The hiring process to fill the vacancy left by Liquids Operator Elizabeth Martin concluded with the hiring of Liquids Operator Travis Squires on July 19th.

EFFLUENT QUALITY SUMMARY
April 2020/2021 – September 2020/2021

Table 1 – 2020-2021 Monthly Permit Summary

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P[3] (lbs/day)	NH3-N [1] (mg/L)	Fecal[2] Coliform Colonies/ (100 ml)	Chlorine[2] Residual (mg/L)	pH (s.u.)
Permit Limit	*25*	*30*	*1,322 [3]*	*1*	*23 [3]*	*10, 11, 4.4, 18*	*400 col/100ml Geo.Mean*	*0.038 mg/L daily*	*6.0 - 9.0 daily limit*
April 2020	6	2	218	0.11	12	4.51	NA	NA	6.9/7.1
May 2020	6	3	413	0.16	20	4.33	4	<0.100	6.7/7.1
June 2020	9	3	586	0.11	17	5.45	2	<0.032	6.9/7.2
July 2020	4	2	311	0.25	30	0.73	4	<0.032	6.7/6.9
August 2020	6	3	189	0.30	19	1.15	11	<0.032	6.6/7.2
September 2020	6	3	191	0.34	23	0.81	8	<0.032	6.8/7.2
		Nov - April Period Average[3]			14				
		May - October Period Average[3]			23				

Table 2 – 2020-2021 Monthly Permit Summary

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P[3] (lbs/day)	NH3-N [1] (mg/L)	Fecal[2] Coliform Colonies/ (100 ml)	Chlorine[2] Residual (mg/L)	pH (s.u.)
April 2021	5	3	344	0.19	21	1.62	NA	NA	7.1/7.2
May 2021	5	2	180	0.21	21	1.00	4	<0.032	6.9/7.1
June 2021	5	2	206	0.25	22	0.52	4	<0.032	6.9/7.2
July 2021	4	2	382	0.16	22	0.36	5	<0.032	7.1/7.4
August 2021	4	2	259	0.21	23	0.25	28	<0.032	7.1/7.3
September 2021	4	1	90	0.19	15	0.12	4	<0.032	7.1/7.3
		Nov - April Period Average[3]			21				
		May - October Period Average[3]			21				

NOTES:

1) Seasonal NH3-N limits: 10 mg/L Jan. 1 – Mar. 31, 11 mg/L Apr. 1 – May 31, 4.4 mg/L June 1 – Sep 30, 18 mg/L Oct 1 – Dec 31.

2) Seasonal fecal and residual chlorine limits are in effect May 1st through September 30th. Limit of Detection 0.032 mg/L.

3) April 1, 2017 WPDES Reissuance with new TSS limits expressed as monthly concentration limit (mg/L) and loading limit (lbs).

The future TMDL phosphorus limit will be 23 lbs/day expressed as a 6-month average during the months of May – October and November – April.

YEAR 2021 RECEIVING STATION REVENUE

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	$ 110,206.08	$ 99,576.28	$ 112,441.21	$ 114,069.65	$ 128,729.06	$ 118,096.94	$ 155,925.24	$ 165,601.61	$153,077.94				$ 1,157,724.01
Buttles Custom Ag	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -
Hickory Meadows	$ 20,276.34	$ 25,312.36	$ 29,607.87	$ 35,278.49	$ 27,916.08	$ 27,265.29	$ 41,158.16	$ 45,576.74	$ 36,397.10				$ 288,788.43
Holland Sanitary Dist. 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -
Jeff Waldvogel Trkg.	$ 28,287.42	$ 30,970.38	$ 34,544.27	$ 42,086.75	$ 39,497.32	$ 36,605.25	$ 41,926.97	$ 48,241.45	$ 40,306.58				$ 342,466.39
Movin Materials	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -
Waldvogel Trucking	$ 1,844.16	$ 1,556.53	$ 1,975.58	$ 1,869.36	$ 1,817.53	$ 1,893.85	$ 1,816.50	$ 1,645.17	$ 1,588.17				$ 16,006.85
2021 Total	$ 160,614.00	$157,415.55	$ 178,568.93	$ 193,304.25	$ 197,959.99	$ 183,861.33	$ 240,826.87	$ 261,064.97	$231,369.79	$ -	$ -	$ -	$ 1,804,985.68
2020 Total	$153,426.62	$137,976.81	$175,878.03	$179,887.25	$181,558.27	$202,129.38	$205,556.34	$175,571.51	$170,679.26	$195,882.29	$188,313.41	$ 180,651.32	$ 2,147,510.49

3% Rate Increase effective 1/1/18

1% Rate Increase effective 1/1/19

5% Rate Increase effective 10/1/20

Date: October 18, 2021

Copies: K. Rindt (via email)
C. Shaw (via email)
B. Kreski
Utilities Committee

Appleton Water Treatment Plant
Operations Synopsis
July, August, and September 2021

Performance Summary

The table below presents selected water production and quality performance metrics for the current and previous reporting periods.

Treated Water Quality. All compliance parameters met or exceeded regulatory requirements.

Water Production. Compared with Q2 of 2021 (Q/Q) average production increased by over 2% consistent with seasonal demand variation. Compared with Q3 of 2020 (Y/Y), average water production also increased by over 2%.

Raw Water Quality. Average Q/Q lake turbidity nearly tripled consistent with seasonal change. Y/Y levels also increased but not outside the range expected.

Energy Efficiency. Applied electrical energy efficiency Q/Q declined by nearly 3% and Y/Y efficiency declined by 4% consistent with increased plant discharge pressure.

WATER PLANT PARAMETERS	Previous (Q2 2021)			Current (Q3 2021)		
	April	May	June	July	August	September
Water Treated						
Finished (million gallons), total	253.6	291.3	317.1	302.1	310.0	283.6
Finished (million gallons / day), average	8.5	9.4	10.6	9.7	10.0	9.45
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	454.2	501.7	584.0	549.1	564.2	527.6
MWH / million gallons produced	1.79	1.72	1.84	1.82	1.82	1.86
Lake Turbidity (NTU), average	7.91	5.30	11.98	8.02	30.11	32.93
Water System Microbial Quality						
Total Coliform Samples	81	82	82	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
Finished Water Quality						
Water Temperature (Degrees F)	48.4	60.0	72.9	75.7	76.9	69.3
Turbidity (NTU), average	0.02	0.02	0.02	0.02	0.02	0.02
%<0.15 NTU standard	100	100	100	100	100	100
pH (SU), average	8.8	8.8	8.7	8.7	8.6	8.7
Total Chlorine (mg/L)	1.95	1.97	1.87	1.82	1.83	1.90
Fluoride (mg/L)	0.74	0.66	0.68	0.67	0.68	0.69
Orthophosphate (mg/L)	0.64	0.70	0.71	0.72	0.75	0.75

Laboratory

- In support of plant operations, staff conducted analyses according to method protocols for pH, turbidity, alkalinity, hardness, free/total chlorine, ammonia, phosphorus, potassium permanganate, and fluoride.
- In support of distribution operations, staff performed required 81+ monthly Coliform bacteria analyses along with heterotrophic plate count (HPC) testing.
- Staff collected and processed raw and finished water samples to comply with Disinfection By-Products Rule (DBPR) sampling requirements. Provided support to consecutive customers with shipping of DBPR2 samples.
- In support of OCCT demonstration project, completed daily samples and orthophosphate analyses along with stagnant / flowing samples and related water quality analyses.
- Completed self-assessment as required in response to a single positive bacteriological sample result on September 8. Additional investigative sampling revealed no system issues. Positive result was likely due to inadvertent sample contamination by the sampler.

Safety

- Maintained WTF Safety programs by completing scheduled safety inspections, fire prevention inspections, and monthly meetings. No significant incidents to report.
- Applied appropriate COVID-19 countermeasures as directed by city policy.

Operations

- Operated two UV Disinfection reactors continuously during the quarter. Completed lamp replacements as scheduled.
- Completed construction phase for the Lake Station mechanical/electrical rehabilitation.
- Continued the testing phase for Optimized Corrosion Control Treatment (OCCT) pipe loop testing apparatus.
- Completed gradual Main Pressure Zone pressure increases as recommended by Water Distribution System Master Plan.
- Continued cleaning #4 Softener.

Staffing & Training

- Staffing levels reduced by long-term medical absence of one Water Plant Operator.
- Maintained normal staff schedules and work assignments.

WATER MAIN BREAK/ JOINT LEAK REPORT - SEPTEMBER

YEARLY WATER MAIN BREAK COMPARISON

SEPT. 20	SEPT. 21	YTD 20	YTD 21
8	5	66	88

LOCATION	BREAK DATE	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
1310 S. Madison St.	9/3/2021	293134	CIP	6"	1929	6" Hole	4 Hours	1,632,830	$9,927.61
NOTES: Break was called in as water was bubbling out of the road. Duration is based on time of customer call and the soil saturation.									
216 E. Capitol Dr.	9/5/2021	293157	DIP	12"	1978	5" Hole	6 Hours	1,488,767	$9,051.70
NOTES: Break was found as water was bubbling out of the road. Duration is based on soil saturation.									
1609 N. Charlotte St.	9/9/2021	293283	CIP	8"	1940	6" X 1/4" Split & 6" X 1" Hole	9 days	3,117,000	$18,951.36
NOTES: Break was called in for water bubbling up. Duration is based on saturation of the soil.									
3535 N. Windward La.	9/27/2021	293915	DIP	8"	1980	2" X 7" Hole	4 Hours	782,000	$4,754.56
NOTES: Break was called in by APD. The duration of break was based on the soil saturation									
825 N. Rankin St.	9/28/2021	293989	CIP	8"	1949	7" Split	9 Months	20,492,010	$124,591.42
NOTES: Break was found by the Water Construction crew as they found City water in storm inlet. Duration was based on the type of break, deterioration of the pipe, soil saturation, and the washout around the catch basin.									

In addition to the dollar value of water revenue lost, there is an average cost of $9,000 to repair each water main break (including final restoration) and a average cost of $630 to produce the lost water for each main break.

**Water Loss is calculated at the residential rate of $6.08 per 1000 gallons.

WATER MAIN BREAK/ JOINT LEAK REPORT - OCTOBER 2021

YEARLY WATER MAIN BREAK COMPARISON

OCT 20	OCT 21	YTD 20	YTD 21
5	10	71	98

LOCATION	BREAK DATE	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
1623 N. Superior St.	10/7/2021	294566	CIP	6"	1922	2" Hole	3 Hours	94,158	$572.48
NOTES: Break was called in by resident. Water loss duration is based on the time of call.									
E. Northwood Dr. & N. Park Drive La.	10/8/2021	294577	DIP	8"	1977	4" Hole	4 Hours	721,922	$4,389.29
NOTES: Break was called in by the PD. Duration was based on time of call the soil saturation.									
1017 E. Capitol Dr.	10/12/2021	294714	DIP	12"	1977	5" Hole	3 Hours	759,733	$4,619.18
NOTES: Break was found as water was bubbling out of the road. Duration was determined from when caller said it started till we were able to turn it down.									
2711 E. Lourdes Dr.	10/16/2021	294871	DIP	12"	1972	5" Hole	4 Hours	1,012,977	$6,158.90
NOTES: Break was called in by APD. The duration is based on the amount of mud blown out and the water on the road.									
1217 N. Bay Ridge Rd.	10/18/2021	294888	CIP	8"	1966	1/8" Crack	7 Hours	216,938	$1,318.98
NOTES: Break was found as water was on the road. Duration is based on the time of call and soil saturation.									

**Water Loss is calculated at the residential rate of $6.08 per 1000 gallons.

LOCATION	BREAK DATE	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
Reid Dr. & Douglas St.	10/25/2021	295155	CIP	6"	1940	1/8" Crack	6 Hours	125,335	$762.04
NOTES: The break was found as water was bubbling out of the road. Duration is based on soil saturation and time of being notified.									
3501 N. Windward La.	10/28/2021	295353	DIP	8"	1980	3" Hole	6 Hours	501,341	$3,048.15
NOTES: The break was called in. The duration is based on the time of call and soil saturation.									
509 E. Taft Ave.	10/28/2021	295352	CIP	6"	1957	4" Hole	5 Hours	742,727	$4,515.78
NOTES: Break was called in. The duration is based on time of call and soil saturation.									
McDonald St. & Northwood Dr.	10/31/2021	295457	DIP	8"	1977	6" Hole	6 Hours	2,475,474	$15,050.88
NOTES: The break was found as water was bubbling out of the road. The duration is determined based on the amount of wash out.									
1115 S. Theodore St.	10/31/2021	295429	DIP	8"	1975	4" Hole	4 Hours	594,182	$3,612.63
NOTES: Break was found as water was bubbling out of the road. Duration is based on time of call till it was repaired.									

In addition to the dollar value of water revenue lost, there is an average cost of $9,000 to repair each water main break (including final restoration) and an average cost of $630 to produce the lost water for each main break.

**Water Loss is calculated at the residential rate of $6.08 per 1000 gallons.