



City of Appleton

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

Meeting Agenda - Final Utilities Committee

Tuesday, April 23, 2019

5:00 PM

Council Chambers, 6th Floor

1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

[19-0523](#) Approval of the April 9, 2019 Utilities Committee Meeting Minutes.

Attachments: [April 9, 2019 Utilities Committee Meeting Minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

[19-0524](#) Confirm the following:
- Elect Vice-Chair
- Designate a "Contact Person" who can answer specific questions about agenda items

[19-0525](#) Request to sole source contract to Patrick Engineering for professional services needed to complete the Wastewater Electrical Distribution Upgrades Phase 3, for a contract fee of \$296,500 and a contingency of 5% to not exceed a total contract of \$311,325.

Attachments: [2019 Electrical Distribution System Upgrades Design for PDC Building Transfor](#)

[19-0535](#) Award Engineering Services Contract for the Lindbergh Standpipe Project to Strand Associates, Inc. in the amount of \$63,900 with a 10% contingency of \$6,390 for a project total not to exceed \$70,290

Attachments: [LindberghProject - Engineering Award 04-17-19.doc](#)

- [19-0603](#) Award the 2019 AWWTP Improvements Project Engineering Phase to McMahon in the amount of \$169,886 with a 10% contingency of \$16,989 for a Project Total not to exceed \$186,875

Attachments: [2019 AWWTP Improvements Project-McMahon.doc](#)

- [19-0604](#) Award Construction of a Receiving Station to Highway Landscapers, Inc., in the amount of \$61,497 and a 5% contingency of \$3,075 for a total cost not to exceed \$64,572

Attachments: [Receiving Station Construction 04-17-19.doc](#)

6. Information Items

- [19-0581](#) Set the Utilities Committee Meeting Date and Time

- [19-0526](#) Monthly Reports for January, February, March 2019:
- Wastewater Treatment Plant Synopsis and Receiving Station Revenue Report
 - Water Treatment Facility Synopsis
 - Water Distribution and Meter Team Monthly Report - March

Attachments: [2019 Qrt 1 WW Synopsis.pdf](#)

[2019 Q1 Water Synopsis.docx](#)

[Water Main Breaks-March.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, April 9, 2019

5:00 PM

Council Chambers, 6th Floor

1. Call meeting to order

Vice Chairpersn Dvorachek called the Utilities Committee meeting to order at 5:00 p.m.

2. Roll call of membership

Aldersperson Reed arrived at 5:04 p.m.

Present: 4 - Meltzer, Reed, Dvorachek and Raasch

Excused: 1 - Baranowski

3. Approval of minutes from previous meeting

[19-0396](#)

Approval of the March 12, 2019 Utilities Committee Meeting Minutes.

Attachments: [March 12, 2019 Utilities Committee Meeting Minutes.pdf](#)

**Meltzer moved, seconded by Raasch, that the Minutes be approved. Roll Call.
Motion carried by the following vote:**

Aye: 3 - Meltzer, Dvorachek and Raasch

Absent: 2 - Baranowski and Reed

4. Public Hearings/Appearances

5. Action Items

[19-0445](#)

Approve single source and award of Raw Water Line Contaminated Materials Contract to OMNNI Associates, Inc. in an amount not to exceed \$35,900.

Attachments: [Contaminated Materails Raw Water Line Award.pdf](#)

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

Aye: 3 - Meltzer, Dvorachek and Raasch

Absent: 2 - Baranowski and Reed

[19-0469](#)

Anticipated award for Unit F-19, Sanitary and Storm Sewer Cleaning & Televising (bids opened Monday, April 8, 2019).

Attachments: [Unit F-19.pdf](#)

Recommend for approval as amended that the Award of Unit F-19, Sanitary and Storm Sewer Cleaning & Televising be awarded to Green Bay Pipe & TV LLC in an amount not to exceed \$257,500.

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

Aye: 3 - Meltzer, Dvorachek and Raasch

Absent: 2 - Baranowski and Reed

[19-0473](#)

Award Phase 1 Engineering Services Contract for the Lake Intake Shorewell Project to McMahon Associates in the amount of \$411,000 with a 10% contingency of \$41,000 and a project cost not to exceed \$452,000.

Attachments: [2019 Engineering Lake Intake Project 04-04-19.pdf](#)

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

Aye: 4 - Meltzer, Reed, Dvorachek and Raasch

Absent: 1 - Baranowski

6. Information Items

[19-0398](#)

Monthly Reports for February 2019
- Water Distribution and Meter Team Monthly Report

Attachments: [Water Main Breaks February 2019.pdf](#)

This item was reviewed.

7. Adjournment

Meltzer moved, seconded by Raasch, that the Utilities Committee meeting be adjourned at 5:07 p.m. Roll Call. Motion carried by the following vote:

Aye: 4 - Meltzer, Reed, Dvorachek and Raasch

Absent: 1 - Baranowski



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**PARKS, RECREATION & FACILITIES
MANAGEMENT**

Dean R. Gazza, Director

1819 East Witzke Boulevard

Appleton, Wisconsin 54911-8401

(920) 832-5572 FAX (920) 993-3103

Email - dean.gazza@appleton.org

To: Utilities Committee

From: Dean R. Gazza, Director of Parks, Recreation and Facilities Management

Date: April 23, 2019

Re: Action: Request to sole source contract to Patrick Engineering for professional services needed to complete the Wastewater Electrical Distribution Upgrades Phase 3, for a contract fee of \$296,500 and a contingency of 5% to not exceed a total contract of \$311,325.

This memo is a request to sole source a contract to Patrick Engineering to fully design and create construction documents for the Wastewater Electrical Distribution Upgrades Phase 3 project.

This project includes a complete upgrade of the electrical distribution at the Wastewater Plant. The current system is over 40 years old and the plant has experienced so many changes that an upgrade is necessary to continue operation and to ensure dependability of the plant.

Due to the size and complexity of this project it was broken into multiple phases over multiple years. The City of Appleton selected Patrick Engineering for the entire project. Phase 3 will cost \$296,500 for design and construction management fees which is competitive for this type of work which includes: Bid Review, Approval Drawing Review, Power System Relay Settings Study, Power System Study, Factory Acceptance Testing, Commissioning of all Components, Arch Flash Study, Assistance with Startup, and Onsite Construction Oversight Services. On a large complex multi-year project the process of issuing contracts is different than issuing a one-time contract. In this case PRFMD and the Utilities Department fully evaluated and selected a company from the beginning to see the City through the entire project. The City issues contracts as the work is being performed year to year to align with the City of Appleton's budget. Unless the design firm does not deliver or meet expectations and if their fees are responsible, the City will sole source the contracts that follow the original contract until the work is completed. For the project to be successful it is necessary to only have one design firm involved from beginning to end.

Patrick Engineering has as unsurpassed knowledge of the current electrical system from the three previous projects and the design work completed to date. Based upon Patrick Engineering's previous experience along with the proposals and selection process from the two previous years, PRFMD is requesting sole sourcing. PRFMD believes that the departments choice of Patrick Engineering will ensure that the investment is fully maximized based on their past work and continued continuity throughout a highly complex and technical project.

RECOMMENDATION:

Award Wastewater Electrical Distribution Upgrades Phase 3 professional services to Patrick Engineering in the amount of \$296,500 with a contingency of 5% only to be utilized as needed.

Please feel free to contact me at 832-5572 with any questions, or by email at dean.gazza@appleton.org.



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Department of Utilities
Water Treatment Facility
2281 Manitowoc Rd.
Menasha, WI 54952
920-997-4200 tel.
920-997-3240 fax

TO: Chairperson and Members of the Utilities Committee

FROM: Chris Shaw, Utilities Director

DATE: April 16, 2019

RE: *Award Engineering Services Contract for the Lindbergh Standpipe Project to Strand Associates, Inc., in the amount of \$63,900 with a 10% contingency of \$6,390 for a project total not to exceed \$70,290*

BACKGROUND:

The Appleton Water Utility includes the 2.0 million gallon Lindbergh Standpipe. To date, the tank has had little maintenance other than scheduled cleanings and inspections. During the 2014 regulatory inspection it was noted that a number of maintenance items need to be attended to preserve this asset. To prevent the spread of corrosion, the report also included a recommendation to have the tank interior and exterior repainted.

Invitations for professional services proposals were sent to four engineering firms. The firms were selected for their project familiarity and project team members that had a history of similar water industry project work. Robert E. Lee and Associates as well as Donohue did not propose.

An evaluation team completed their review of two proposals and scored according to the results in the table below. Of the submitted proposals, the evaluation team found that Strand Associates had scored the highest and provided a proposal that best met the City's needs. Although not least cost, the team found that the Strand firm had provided a competitive proposal. The evaluation team completed the value evaluation to provide whether or not the additional costs for the Strand Associates proposal were worth justifying. The formula produced results that Strand Associates provided the best overall project value. In addition, Strand Associates had recently been the engineer on the construction of the 1.0 MG Glendale Tower.

COMPANY	QUOTE	SCORE	VALUE
McMAHON Associates, Inc.	\$54,157	98	\$552
Robert E Lee and Associates, Inc.	DNP	NA	NA
Strand Associates	\$63,900	127	\$503
Donohue and Associates	DNP	NA	N/A

*DNP – Did Not Propose

RECOMMENDATION:

I recommend awarding an Engineering Services Contract for the Lindbergh Standpipe Project to Strand Associates, Inc., in the amount of \$63,900 with a 10% contingency of \$6,390 for a project total not to exceed \$70,290

If you have any questions regarding this project please contact me, Chris Shaw, at ph: 832-5945.



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Department of Utilities
Wastewater Treatment Plant
2006 E Newberry Street
Appleton, WI 54915
920-832-5945 tel.
920-832-5949 fax

TO: Chairperson Vered Meltzer and Members of the Utilities Committee

FROM: Chris Stempa, Utilities Deputy Director

DATE: April 18, 2019

RE: *Award the 2019 AWWTP Improvements Project Engineering Phase to McMahon in the amount of \$169,886 with a 10% contingency of \$16,989 for a Project Total not to exceed \$186,875*

BACKGROUND:

Appleton Wastewater Treatment Plant (AWWTP) has five projects identified in the 2019 budget that involve the rehabilitation, replacement, or improvements to address immediate needs and long term reliability. The project includes Return Activated Sludge (RAS) pump replacement, piping modifications (e.g. blended sludge, waste gas, and filtrate), primary clarifier concrete recoating, and outside secondary containment (chemical offload) repairs.

RFP PROCESS

Request for Proposals (RFPs) were submitted to three engineering firms for professional services. Each of the firms were selected based on an extensive resume of wastewater industry work and past successful project work at the AWWTP.

The Utility organized an evaluation team to critically review each firm's written proposal based on established weighted criteria described in the RFP. Each proposal was given a score by team members based on content and independent of costs. Sealed fees were revealed following the tally of each team member scores. The table below summarizes the proposal review team's tallied scores, engineering firm's proposed fee, and the calculated value score which incorporates the proposed fee to determine the best overall proposal. The higher the final value score, the greater the value of the proposal.

RFP Evaluation Results

COMPANY	SCORE	QUOTE	VALUE
Donohue and Associates	186	\$177,840	105
McMAHON Associates, Inc.	188	\$169,886	111
Strand Associates	130	\$203,700	64

Notes

1. "Total Score" represents the combined total from each of the three evaluation team members.
2. Point Value Factor Method = (Qualitative Proposal Score/ Quote Price) x 100,000. The highest point value factor derived is considered the best value proposal.

The McMahon Associates, Inc. (McMahon) proposal received the highest overall evaluation score by the review team and provided the greatest overall value using the point value calculation. The McMahon project team proposal demonstrated a comprehensive understanding of project needs and an approach to deliver a successful project.

RECOMMENDATION:

Approval of an Engineering contract for 2019 AWWTP Improvements Project to McMahon in the amount of \$169,886 with a 10% contingency of \$16,989 for a Project Total not to exceed \$186,875.

If you have any questions or require additional information regarding this project please contact Chris Stempa at 920-832-5945.



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Department of Utilities
Wastewater Treatment Plant
2006 E Newberry Street
Appleton, WI 54915
920-832-5945 tel.
920-832-5949 fax

TO: Chairperson Vered Meltzer and Members of the Utilities Committee

FROM: Chris Shaw, Utilities Director

DATE: April 10, 2019

RE: *Award Construction of a Receiving Station to Highway Landscapers, Inc., in the amount of \$61,497 and a 5% contingency of \$3,075 for a total cost not to exceed \$64,572*

BACKGROUND:

KL Engineering has completed engineering work providing specifications and project drawings for the construction of a new hauled waste off-loading station. The station will allow tanker trucks to discharge receiving station waste that is not bound for anaerobic digestion into the plant's east interceptor. The station will be constructed of concrete that is sloped and curbed to provide containment for leaks and spills. The drain system will have 48 inch manhole that will be chemically resistant. The concrete pad will also be protected with an epoxy coating. When construction is complete the plant roadway will be flush with the entrance to the station.

A prebid meeting was held on April 9 with four contractors in attendance. On April 16, 2019 one bid was received during the bid opening. Highway Landscapers, Inc. submitted a bid in the amount of \$61,497. I believe this bid to be of good value considering the extent of the project. In addition, Highway Landscapers, Inc, is currently under contract as a subcontractor for concrete construction work at the plant.

I am recommending a 5% contingency due to unforeseen issues that may arise with the project. In terms of schedule, the construction phase of this project should be completed within 12 weeks from approval.

RECOMMENDATION:

Award Construction of a Receiving Station to Highway Landscapers, Inc., in the amount of \$61,497 and a 5% contingency of \$3,075 for a total cost not to exceed \$64,572. If you have any questions regarding this project please contact Chris Shaw at ph: 832-5945.

**Appleton Wastewater Treatment Plant
Operations Synopsis
January 2019 – March 2019**

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), and phosphorous. Ammonia limits were met in January and February, but exceeded in March as a result of planned plant maintenance activities. (See Effluent Quality Summary). The plant maintained good treatment and a healthy microbiological population with a sludge retention time of eight days. Dewatering processes functioned well and converted 14.4 Million Gallons (MG) of primary digested sludge to biosolids.

Summary of Treatment

Parameter	January	February	March	Average
Industrial Flow (MG)	54.9	49.6	49.9	51.5
Domestic Flow (MG)	327.2	205.3	470.7	334.4
Total Flow (MG)	382.1	254.9	520.6	385.9
Influent CBOD Load (Avg Daily lbs)	23,469	24,986	26,324	24,926
Influent TSS Load (Avg Daily lbs)	41,500	43,193	43,173	42,622
Influent Phosphorous Load (Avg Daily lbs)	444	415	514	458
Influent Ammonia Load (Avg Daily lbs)	2,261	2,158	2,161	2,193
Effluent CBOD Load (Avg Daily lbs)	764	782	2,025	1,190
Effluent TSS Load (Avg Daily lbs)	480	1,253	1,169	967
Effluent Phosphorous Load (Avg Daily lbs)	24	35	38	32
Effluent Ammonia Load (Avg Daily lbs)	156	275	1,350	594
% Treatment Removal of CBOD	96.7	96.9	92.3	95.3
% Treatment Removal of TSS	98.8	97.1	97.3	97.7
% Treatment Removal of Phosphorous	94.6	91.6	92.6	92.9
% Treatment Removal of Ammonia	93.1	87.3	37.5	72.6

Work in Progress:

- 2017 Appleton Wastewater Plant Improvement Projects** (WAS Pumping System Replacement, High Pressure Blower #3 Replacement, Digester Biogas Mix Compressor Glycol Cooling System): A Pre-Construction meeting was held on March 3, 2019 at the AWWTP with Donohue & Associates and August Winter and Sons Inc. Work proceeding.
- Chemical Storage Room Rehab/Improvements Project:** August Winter & Sons Inc. initiated construction activities in January 2018. Project completed during the reporting period.
- Biogas Utilization Study Update:** Project complete. Donohue provided the final report in early January 2019.
- Briarcliff and Midway Improvement Projects:** Pre-construction meeting was held January 25, 2019. Start of construction is projected to occur in early May 2019.
- Compost Site Evaluation:** Work in progress on final draft report by Coker Composting and Consulting (Coker).

Regulatory Summary

- Monthly Discharge Monitoring reports for January, February, and March were filed electronically on time for regulatory compliance.
- Effluent ammonia monthly average limit of 10 mg/l was exceeded in March with an average concentration of 11.12 mg/l reported. A temporary shutdown of the BFP filtrate line was required in March to facilitate piping modifications. This work was necessitated by excessive struvite formation (hard mineral scale) that restricted flow through the pipe. Ammonia rich (average 450 mg/l) filtrate flow was redirected to a point in the liquids process that is not as effective at removing ammonia. BFP filtrate flow was redirected back to the normal process addition point following the successful completion of the piping work on April 10, 2019.

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.
- Successfully submitted monthly DMR reports for January, February, and March.
- During the period conducted analysis of proficiency samples required for laboratory recertification under Wisconsin Administrative Code NR 149.

EFFLUENT QUALITY SUMMARY
October 2017/2018 – March 2018/2019

Table 1 – 2017/2018 Monthly Permit Summary

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P (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
October 2017	4	5	408	0.23	20.7	0.56	NA	NA	7.2/7.4
November 2017	6	5	386	0.21	17.6	2.01	NA	NA	7.1/7.3
December 2017	6	5	408	0.25	20.1	5.80	NA	NA	7.1/7.3
January 2018	8	4	331	0.16	12.4	2.82	NA	NA	7.0/7.3
February 2018	6	4	337	0.31	26.0	3.47	NA	NA	7.0/7.3
March 2018	6	2	211	0.39	34.6	4.63	NA	NA	7.2/7.5

Table 2 – 2018/2019 Monthly Permit Summary

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P (lbs/day)	NH3-N ⁽¹⁾ (mg/L)	Fecal ⁽²⁾ Coliform Colonies/ (100 ml)	Chlorine ⁽²⁾ Residual (mg/L)	pH (s.u.)
October 2018	5	4	510.00	0.26	31.8	0.89	NA	NA	7.4/7.6
November 2018	7	3	304.60	0.22	21.0	1.59	NA	NA	7.4/7.5
December 2018	5	4	672.90	0.30	27.9	3.25	NA	NA	6.2/7.5
January 2019	8	5	480.00	0.23	24.0	1.37	NA	NA	6.8/7.1
February 2019	10	16	1,253.00	0.46	35.0	3.58	NA	NA	6.8/7.2
March 2019	13	6	1,169.00	0.25	38.0	11.12	NA	NA	7.0/7.4

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.

YEAR 2019 RECEIVING STATION REVENUE

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 192,964.32	\$171,666.63	\$ 206,654.56										\$ 571,285.51
Dean Foods	\$ -	\$ -	\$ -										\$ -
Hickory Meadows	\$ 38,366.69	\$ 36,715.45	\$ 55,880.13										\$ 130,962.27
Holland Sanitary Dist. 1	\$ -	\$ -	\$ -										\$ -
Jeff Waldvogel Trkg.	\$ 37,371.58	\$ 30,251.53	\$ 36,648.35										\$ 104,271.46
Movin Materials	\$ -	\$ -	\$ -										\$ -
Waldvogel Trucking	\$ 2,514.92	\$ 1,833.16	\$ 2,603.28										\$ 6,953.36
2019 Total	\$ 271,217.51	\$240,466.77	\$ 301,788.32	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 813,472.60
2018 Total	\$230,054.73	\$225,457.71	\$278,712.95	\$330,081.94	\$416,028.68	\$333,628.29	\$322,323.96	\$276,553.18	\$328,181.16	\$302,376.00	\$274,097.90	\$ 258,720.18	\$ 3,576,216.68

Holland Sanitary District 1 new customer in March 2018

Dean Foods new customer in April 2018

3% Rate Increase effective 1/1/18

1% Rate Increase effective 1/1/19

Date: April 15, 2019

Copies: K. Rindi (via email)

C. Shaw (via email)

B. Kreski

Utilities Committee

**Appleton Water Treatment Plant
Operations Synopsis
January, February, and March 2019**

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. On January 18, 2019, failure of a hypochlorite pump resulted in a 3-hour window during which the CT ratio was less than 1.0.

Water Production. Compared with Q4 of 2018 (quarter over quarter or Q/Q), average water production increased slightly by 1.5%. Compared with Q1 of 2018 (year over year or Y/Y), average water production was flat.

Raw Water Quality. Q/Q average raw water turbidity substantially decreased consistent with ice cover on Lake Winnebago. Y/Y average raw water turbidity decreased by about 1 NTU.

Energy Efficiency. In terms of applied electrical energy, Q/Q efficiency declined by less than 1%. However, Y/Y performance improved by over 2%.

WATER PLANT PARAMETERS	Previous (Q4 2018)			Current (Q1 2019)		
	October	November	December	January	February	March
Water Treated						
Finished (million gallons)	268.6	254.3	263.5	267.1	246.6	271.0
Finished (million gallons / day)	8.7	8.5	8.5	8.6	8.8	8.7
Electrical Energy (WTF)						
Consumption (Megawatt-hours)	441.6	441.3	460.6	440.3	427.2	476.2
MWH / million gallons produced	1.64	1.73	1.75	1.65	1.73	1.76
Turbidity						
Lake (NTU)	27.8	25.5	4.8	2.8	1.4	2.8
Finished (NTU)	0.02	0.02	0.03	0.02	0.02	0.02
Finished (<0.15 NTU standard)	100%	100%	100%	100%	100%	100%
Water System Microbial Quality						
Total Coliform Samples	81	81	81	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
Disinfectant Contact Time						
Minimum CT Ratio Provided	1.8	1.3	1.3	0.5	1.3	1.0
Hardness						
Lake Total (mg/L)	168	179	187	194	201	202
Finished Total (mg/L)	84	98	107	106	110	105
Finished Water Quality						
Total Chlorine (mg/L)	1.94	1.90	1.94	1.93	1.90	1.88
pH (SU) Min/Max	8.7/9.0	8.8/9.0	8.8/8.9	8.8/8.9	8.8/8.9	8.8/8.9
Water Temperature (Degrees F)	53.1	38.8	34.7	33.4	34.9	36.5
Fluoride (mg/L)	0.67	0.68	0.68	0.64	0.67	0.70
Orthophosphate (mg/L)	0.81	0.75	0.71	0.70	0.70	0.70

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.

Safety

- Maintained WTF Safety programs by completing scheduled safety inspections, fire prevention inspections, and monthly meetings. No significant incidents to report.

Operations

- Cleaned Softener #3 and South Recarbonation basin.
- Successfully completed annual WPPI generator capacity test.
- Operated two UV Disinfection reactors continuously during the quarter.
- Continued database development for the implementation of the new plant data management and reporting system (Hach WIMS).
- Completed the assessment/concept design phase for the Lake Station upgrade and Second Intake project.
- Continued the Chemical Systems Upgrade Project Phase 1 with completion scheduled for the first half of 2019.
- Continued update to the Distribution System Master Plan in collaboration with DPW. Study completion scheduled for Q2 of 2019.

Staffing & Training

- All staff have completed City Safety as well as Utilities Department Safety training requirements for the year.
- The new Water Plant Operator completed OJT and began normal shift coverage on Saturday, March 2.

WATER MAIN BREAK/JOINT LEAK REPORT MARCH 2019

YEARLY WATER MAIN BREAK COMPARISON

<u>MAR 18</u>	<u>MAR 19</u>	<u>YTD 18</u>	<u>YTD 19</u>
10	15	34	38

LOCATION	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
2617 Oakwood Court	253354	CIP	8"	1960	1/16" crack	2 hours	29,148	\$177.22
Prospect Avenue / Hillcrest Drive	253398	CIP	8"	1957	1/16" crack	7 hours	87,709	\$533.27
Bona Avenue / Fidelis Street	253507	CIP	8"	1970	8" hole	2 hours	2,000,000	\$12,160.00
College Avenue / Buchanan Street	253657	CIP	12"	1961	1/8" crack	8 hours	392,764	\$2,388.01
905 E. Meadow Grove Boulevard	253658	DIP	12"	1979	5" hole	6 hours	1,359,052	\$8,263.04
1519 N. Douglas Street	253659	CIP	6"	1958	1/16" crack	1 day	218,803	\$1,330.32
825 S. Summit Street	254039	CIP	6"	1927	1/32" crack	30 days	2,721,329	\$16,545.68
241 E. Frances Street	254071	CIP	8"	1947	1/8" crack	1 day	601,432	\$3,656.71

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

WATER MAIN BREAK/Joint LEAK REPORT MARCH 2019

LOCATION	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
115 E. Winnebago Street	254072	CIP	4"	1930?	.0076 split	79 days	1,296,013	\$7,879.76
Story Street / Summer Street	254079	CIP	8"	1937	1/4" crack	12 hours	601,432	\$3,656.71
1624 Moon Beam Trail	254206	DIP	8"	1984	2" hole	5 hours	176,619	\$1,073.84
620 W. Glendale Avenue	254250	CIP	8"	1945	1/4" crack	6 hours	309,434	\$1,881.36
Outagamie Street / Prospect Avenue	254382	CIP	6"	1928	1/16" crack & 10" split	7 days	885,456	\$5,383.57
North Street / Union Street	254383	CIP	6"	1930's	1/8" crack	1 hour	25,680	\$156.13
1919 E. Frances Street	254395	CIP	8"	1955	2" hole	2 hours	79,401	\$482.76
								\$0.00
								\$0.00
								\$0.00

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