



City of Appleton

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

Meeting Agenda - Final Utilities Committee

Tuesday, November 10, 2020

5:00 PM

Council Chambers, 6th Floor

1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

[20-1475](#) Approval of the November 4, 2020 Special Utilities Committee Meeting minutes.

Attachments: [November 4, 2020 SPECIAL Utilities Committee Meeting Minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

[20-1476](#) Approval to Single-Source and Award 2020H Stormwater Consulting Services Contract for Edgewood Drive (CTH JJ) Drainage Study to raSmith, Inc. in an amount not to exceed \$47,500.

Attachments: [2020H Edgewood Drive CTH JJ Drainage Study Approval Memo raSmith final 1](#)

6. **Information Items**

[20-1495](#) Resolution authorizing staff to finalize land transaction terms with the City of Menasha.

Attachments: [Finance Utilities - CRB Memo - 11-2020 - Authorizing Resolution.pdf](#)

[Authorizing Resolution \(with Menasha regarding Water Plant land needs\) - 11-5](#)

[20-1439](#) Update on Service Line Warranty Program

[20-1490](#) Overview of Appleton's Water Distribution System

Attachments: [Distribution System Schematc.pdf](#)

[20-1437](#)

Monthly Reports for July, August, and September 2020:

- Wastewater Treatment Plant Synopsis and Receiving Station Revenue Report
- Water Treatment Facility Synopsis
- Water Distribution and Meter Team Monthly Report - September

Attachments: [3rd Qrt 2020 Quarterly WW Synopsis.pdf](#)

[3rd Qrt 2020 Effluent Quality Summary.pdf](#)

[Receiving Station Revenue Report.pdf](#)

[2020 Q3 Water Synopsis.pdf](#)

[Water Main Breaks September 2020.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.



City of Appleton

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

Meeting Minutes - Final Utilities Committee

Wednesday, November 4, 2020

5:45 PM

Council Chambers, 6th Floor

SPECIAL

1. Call meeting to order

Chairperson Meltzer called the Utilities Committee meeting to order at 5:45 p.m.

2. Roll call of membership

Present: 5 - Meltzer, Fenton, Otis, Prohaska and Smith

3. Approval of minutes from previous meeting

[20-1434](#)

Approval of the October 13, 2020 Utilities Committee Meeting minutes.

Attachments: [October 13, 2020 Utilities Committee Meeting minutes.pdf](#)

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

Aye: 5 - Meltzer, Fenton, Otis, Prohaska and Smith

4. **Public Hearings/Appearances**

5. **Action Items**

[20-1438](#)

Revisions to: Chapter 20, Section 20-203(2) and Chapter 20, Section 20-69, Definitions, Pollutant

Attachments: [Amend Sec 20-69 .pdf](#)
[Amend Sec 20-203\(2\).pdf](#)
[Amend Sec 20-204\(b\).pdf](#)

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

Aye: 5 - Meltzer, Fenton, Otis, Prohaska and Smith

[20-1440](#)

Approve 2019 AWWTP Improvements Project Engineering Services Amendment #1 increasing the McMahon total contract amount by \$49,630 from \$169,886 to \$219,516.

Attachments: [2019 AWWTP Improvements Project McMahon Contract Amendment No1.pdf](#)

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

Aye: 5 - Meltzer, Fenton, Otis, Prohaska and Smith

6. Information Items

7. Adjournment

Otis moved, seconded by Smith, that the Utilities Committee Meeting be adjourned at 5:49 p.m.. Roll Call. Motion carried by the following vote:

Aye: 5 - Meltzer, Fenton, Otis, Prohaska and Smith

Department of Public Works – Engineering Division

MEMO

TO: Utilities Committee

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

DATE: November 10, 2020

RE: Approval to Single-Source and Award 2020H Stormwater Consulting Services Contract for Edgewood Drive (CTH JJ) Drainage Study to raSmith, Inc. in an amount not to exceed \$47,500.

The Department of Public Works is requesting approval to single-source and award the 2020H Stormwater Consulting Services Contract for the Edgewood Drive (CTH JJ) Drainage Study to raSmith, Inc. in an amount not to exceed \$47,500. After this contract, \$185,619 will remain in the 2020 stormwater consulting services budget.

In 2020, the City has continued to experience pressure within the North Side Development Corridor area to serve potential development in areas east of Ballard Road, west of French Road, south of Broadway Drive, and north of Edgewood Drive. DPW anticipates that Edgewood Drive (CTH JJ) from French Road to 600 feet east of Lightning Drive will be urbanized within the next six years, in coordination with Outagamie County. The proposed contract will allow the City to continue planning and preliminary engineering for the stormwater infrastructure required to serve this area, and includes preparing a drainage study for the planned urbanization of Edgewood Drive from French Road to approximately 600 feet west of Lightning Drive, and developing 30% concept engineering plans for the planned roadway urbanization and its stormwater management/conveyance practices. The report will also consider potential options to manage post-development runoff for future adjacent tributary parcel areas.

On behalf of DPW, raSmith is currently engaged in, or has recently completed, several study and design contracts within the North Side Development Corridor Area, including: Lightning Drive Study update (2019D contract), French Road Urbanization Study (2019G contract), Lightning Drive Extension 60% Design (2020G contract), and Lightning-French Drainage Corridor Study (2019R contract). Based on raSmith's excellent work on the referenced projects, as well as their familiarity with this area, the City obtained a single-source quote from raSmith. raSmith's prior and ongoing work in this area makes them uniquely qualified to cost-effectively perform the proposed work, and staff considers the costs, hours, and scope provided by raSmith to be in line with expectations based on similar work.



LEGAL SERVICES DEPARTMENT

Office of the City Attorney


100 North Appleton Street

Appleton, WI 54911

Phone: 920/832-6423

Fax: 920/832-5962

TO: Members of the Finance Committee
Members of the Utilities Committee

FROM: Christopher R. Behrens, City Attorney 

DATE: November 5, 2020

RE: Resolution regarding Appleton-Menasha Water Plant Land Agreement
Our File No. A18-0684

Staff from the City of Appleton and City of Menasha have been engaging in ongoing discussions regarding mutual land needs. In particular, Menasha is interested in connecting its existing developments by developing the vacant southern most portion of the Appleton Water Treatment Plant. Appleton has a need to construct a second raw water line to its water plant that will require easements from Menasha.

In order to move forward with developing terms for a formal agreement, Menasha needs to incur the expense of some preliminary plat work on the subject property. In consideration of this pending expense, Menasha has requested some formal assurance that Appleton will continue working in good faith with Menasha to finalize terms of a formal agreement. Once a final agreement is reached, it will be subject to approval by the Common Council.

Accordingly, in order to assure Menasha that it may move forward with preliminary platting so that a finalized agreement may be approved by Appleton and Menasha in the near future, staff recommends:

APPROVAL of the resolution authorizing City of Appleton staff to continue its work with the City of Menasha in order to finalize terms of an agreement addressing the land needs of each municipality.

**RESOLUTION
CITY OF APPLETON**

**RESOLUTION AUTHORIZING CITY OF APPLETON STAFF TO FINALIZE TERMS
OF AN AGREEMENT WITH THE CITY OF MENASHA**

WHEREAS, the Appleton Water Treatment Plant, located within the City of Menasha, has identified a need to install a redundant raw water line extending from the Plant to Lake Winnebago; and

WHEREAS, the Appleton Water Treatment Plant sits upon multiple vacant acres of land that were acquired for potential future expansion; and

WHEREAS, the City of Menasha and the City of Appleton have been in discussion for several years about Menasha's interest in connecting its residential developments on each side of the Appleton Water Treatment Plant by constructing a roadway through the southern portion of the vacant Appleton Water Treatment Plant property; and

WHEREAS, after careful consideration, City staff has determined that if such a roadway were to be developed, the Appleton Water Treatment Plant would retain sufficient vacant land to accommodate any potential future expansion; and

WHEREAS, in exchange for the sale of this southern most portion of the vacant Water Treatment Plant property, Menasha would grant the Appleton Water Treatment Plant the necessary easement to allow for installation of a second raw water line; and

WHEREAS, the Menasha Common Council has approved this agreement in concept; and

WHEREAS, both Appleton and Menasha staff wish to move forward with the next steps that include some preliminary platting south of the proposed roadway, in order to finalize terms of a formal agreement for approval by both the Appleton and Menasha Common Council; and

WHEREAS, the formalized support of the Appleton Common Council is a necessary assurance so that staff of both municipalities may continue working towards a final agreement that would be approved in the first quarter of 2021;

NOW, THEREFORE, BE IT RESOLVED, by the City of Appleton Common Council does hereby support Appleton staff continuing to work with staff of the City of Menasha to reach an agreement wherein a southern portion of the vacant Appleton Water Treatment Plant land is sold to the City of Menasha and, in exchange, the City of Menasha provides the City of Appleton with an easement necessary for the installation of a second raw water line to its Water Treatment Plant.

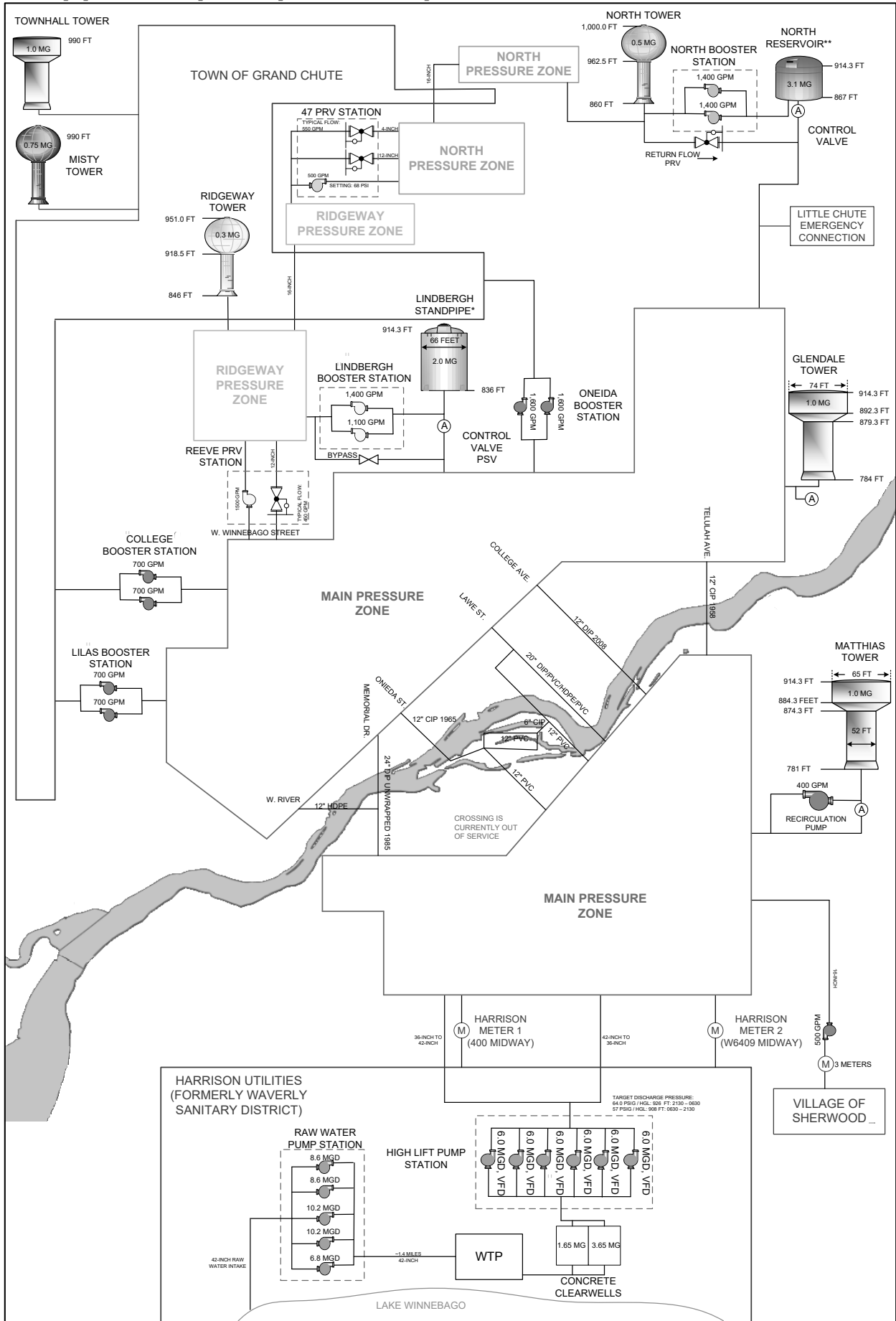
Adopted this _____ day of _____, 2020.

Jacob A. Woodford, Mayor

ATTEST:

Kami Lynch, City Clerk

City Law A18-0684



NOTES:
 * TANK CONTAINS A MIXER.
 ** TANK CONTAINS TWO MIXERS.



**FIGURE 2-4
 EXISTING WATER
 SYSTEM SCHEMATIC
 APPLETON, WISCONSIN**

OCTOBER 2019

60578987

**Appleton Wastewater Treatment Plant
Operations Synopsis
July 2020 – September 2020**

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 eight days. Dewatering processes functioned well and converted 17.8 Million Gallons (MG) of primary digested sludge to biosolids.

Summary of Treatment

| Parameter | July | August | September | Average |
|---|-------------|---------------|------------------|----------------|
| Industrial Flow (MG) | 30.1 | 33.8 | 36.6 | 33.5 |
| Domestic Flow (MG) | 324.9 | 205.2 | 212.4 | 247.5 |
| Total Flow (MG) | 355.0 | 239.0 | 249.0 | 281.0 |
| Influent CBOD Load (Avg Daily lbs) | 21,583 | 21,796 | 21,094 | 21,491 |
| Influent TSS Load (Avg Daily lbs) | 44,656 | 43,872 | 44,675 | 44,401 |
| Influent Phosphorous Load (Avg Daily lbs) | 395 | 431 | 441 | 422 |
| Influent Ammonia Load (Avg Daily lbs) | 1,995 | 2,028 | 1,796 | 1,940 |
| Effluent CBOD Load (Avg Daily lbs) | 460 | 402 | 408 | 423 |
| Effluent TSS Load (Avg Daily lbs) | 311 | 189 | 191 | 230 |
| Effluent Phosphorous Load (Avg Daily lbs) | 30 | 19 | 23 | 24 |
| Effluent Ammonia Load (Avg Daily lbs) | 72 | 73 | 57 | 67 |
| % Treatment Removal of CBOD | 97.9 | 98.2 | 98.1 | 98.0 |
| % Treatment Removal of TSS | 99.3 | 99.6 | 99.6 | 99.5 |
| % Treatment Removal of Phosphorous | 92.4 | 95.6 | 94.8 | 94.3 |
| % Treatment Removal of Ammonia | 96.4 | 96.4 | 96.8 | 96.5 |

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): Start-up of High-Pressure Blower #3 and new WAS pumps occurred during the first half of 2020. The installation and successful start-up of the new gas mix compressor glycol cooling system occurred during the current reporting period. The contractor continues to work on remaining punchlist items with final project completion set to occur during the final quarter of 2020.
- 2019 Appleton Wastewater Plant Improvement Projects: McMahon under professional engineering service contract for the multi-process improvements project. The project includes replacement of the Return Activated Sludge (RAS) pumps, process piping modifications (e.g. blended sludge, waste gas flare, and filtrate tank), primary clarifier concrete recoating, and outside secondary containment repairs for iron salt chemical offloading.
 - Filtrate Tank Repairs: Contracts were approved by Common Council in early March 2020 with Great Lakes Mechanical and R-Industries. These contracts were separated into two categories based on the discipline of work, filtrate tank piping modifications and filtrate tank concrete joint leak repairs. That work was advanced

ahead of the other project elements because of the consequences work proceeding during the months with low-level ammonia effluent limits. Work was successfully completed in May 2020.

- McMahan continued design and engineering services associated with bidding documents for RAS pumps replacement, process piping modifications, primary clarifier concrete recoating, and outside secondary containment repairs for iron salt chemical. Mid-November 17, 2020 was established as the public construction bid closing date.

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.
- Successful Analysis of Single-Blind Proficiency samples for laboratory recertification occurred during the reporting period.

Staffing & Training

- In response to COVID-19, adjustments have been made to staff schedules and work areas, as well as virtual meetings which limit group sizes and face-to-face contact among employees.

EFFLUENT QUALITY SUMMARY
July 2019/2020 – September 2019/2020

Table 1 – 2019 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.) |
|---|----------------|---------------|-----------------------------|-------------|-------------------------------|--------------------------------|---|---|----------------------------------|
| <i>Permit Limit</i> | <i>25</i> | <i>30</i> | <i>1,322 ⁽³⁾</i> | <i>1</i> | <i>23 ⁽³⁾</i> | <i>10, 11, 4.4, 18</i> | <i>400 col/100ml Geo.Mean</i> | <i>0.038 mg/L daily</i> | <i>6.0 - 9.0 daily limit</i> |
| April 2019 | 7 | 3 | 408 | 0.16 | 24 | 5.11 | NA | NA | 7.1/8.1 |
| May 2019 | 5 | 2 | 257 | 0.13 | 19 | 2.88 | 5 | <0.032 | 6.9/7.2 |
| June 2019 | 4 | 2 | 224 | 0.15 | 18 | 1.46 | 3 | <0.032 | 6.7/7.1 |
| July 2019 | 5 | 2 | 150 | 0.14 | 13 | 1.85 | 4 | <0.032 | 6.8/7.1 |
| August 2019 | 4 | 1 | 98 | 0.17 | 14 | 1.60 | 10 | <0.032 | 6.8/7.2 |
| September 2019 | 5 | 3 | 525 | 0.17 | 21 | 2.33 | 53 | <0.032 | 7.1/7.3 |
| May - October Period Average⁽³⁾ | | | | | 17 | | | | |

Table 2 – 2020 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 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 | 4 | 2 | 204 | 0.16 | 17 | 1.72 | 1 | <0.032 | 6.6/6.8 |
| 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 |
| May - October Period Average⁽³⁾ | | | | | 22 | | | | |

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 2020 RECEIVING STATION REVENUE

| Hauler | January | February | March | April | May | June | July | August | September | October | November | December | Y-T-D Total |
|--------------------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|--------------|---------------|-----------------|
| A & B Leist Trucking | \$ 78,336.68 | \$ 78,457.11 | \$ 88,498.49 | \$ 92,808.40 | \$ 99,535.11 | \$ 100,563.41 | \$ 103,701.53 | \$ 107,300.47 | \$101,620.13 | | | | \$ 850,821.33 |
| Buttles Custom Ag * | \$ 4,350.46 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | | | | \$ 4,350.46 |
| Dean Foods | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | | | | \$ - |
| Hickory Meadows | \$ 36,386.43 | \$ 26,652.57 | \$ 52,134.86 | \$ 47,032.79 | \$ 37,834.45 | \$ 47,374.78 | \$ 52,505.79 | \$ 24,017.66 | \$ 25,463.54 | | | | \$ 349,402.87 |
| Holland Sanitary Dist. 1 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | | | | \$ - |
| Jeff Waldvogel Trkg. | \$ 32,158.85 | \$ 30,912.64 | \$ 33,131.12 | \$ 37,695.30 | \$ 41,634.20 | \$ 51,895.76 | \$ 46,871.88 | \$ 41,576.05 | \$ 41,167.54 | | | | \$ 357,043.34 |
| Movin Materials | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | | | | \$ - |
| Waldvogel Trucking | \$ 2,194.20 | \$ 1,954.49 | \$ 2,113.56 | \$ 2,350.76 | \$ 2,554.51 | \$ 2,295.43 | \$ 2,477.14 | \$ 2,677.33 | \$ 2,428.05 | | | | \$ 21,045.47 |
| | | | | | | | | | | | | | |
| 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 | \$ - | \$ - | \$ - | \$ 1,582,663.47 |
| 2019 Total | \$271,217.51 | \$240,466.77 | \$301,788.32 | \$301,125.30 | \$327,779.40 | \$311,857.27 | \$354,997.19 | \$328,472.17 | \$307,790.57 | \$292,411.49 | \$256,462.25 | \$ 188,614.75 | \$ 3,482,982.99 |

*Buttles Custom Ag new customer in November 2019

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

Effective 5/1/19 Dean Foods is billed with Jeff Waldvogel Trucking

Date: October 22, 2020
Copies: K. Rindt (via email)
C. Shaw (via email)
B. Kreski
Utilities Committee

**Appleton Water Treatment Plant
Operations Synopsis
July, August, and September 2020**

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 2020 (quarter over quarter or Q/Q), average water production increased by nearly 12%, however compared with Q3 of 2019 (year over year or Y/Y), average water production decreased slightly by about 1%.

Raw Water Quality. Q/Q lake turbidity more than doubled consistent with late summer and early fall lake conditions. Y/Y average raw water turbidity data were similar with substantial late September real-time turbidity spikes over 75 NTU from increased algae production and die-off.

Energy Efficiency. In terms of applied electrical energy, Q/Q efficiency declined by approximately 3% and Y/Y efficiencies declined by nearly 5% likely due to increased gravity filter backwashing in response to increased raw water turbidities.

| WATER PLANT PARAMETERS | Previous (Q2 2020) | | | Current (Q3 2020) | | |
|---|--------------------|-------|-------|-------------------|--------|-----------|
| | April | May | June | July | August | September |
| Water Treated | | | | | | |
| Finished (million gallons), total | 236.6 | 271.2 | 271.2 | 297.3 | 313.6 | 267.1 |
| Finished (million gallons / day), average | 7.9 | 8.7 | 9.0 | 9.6 | 10.1 | 8.9 |
| Electrical Energy (WTF) | | | | | | |
| Consumption (Megawatt-hours) | 422.2 | 439.0 | 470.0 | 532.2 | 536.5 | 473.5 |
| MWH / million gallons produced | 1.78 | 1.62 | 1.73 | 1.79 | 1.71 | 1.77 |
| Lake Turbidity (NTU), average | 7.4 | 5.4 | 8.6 | 21.9 | 17.88 | 17.3 |
| Water System Microbial Quality | | | | | | |
| Total Coliform Samples | 81 | 81 | 81 | 81 | 81 | 81 |
| Compliance with Standard | 100% | 100% | 100% | 100% | 100% | 100% |
| Finished Water Quality | | | | | | |
| Water Temperature (Degrees F) | 43.2 | 55.6 | 71.5 | 79.6 | 76.1 | 65.5 |
| Turbidity (NTU), average | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 |
| %<0.15 NTU standard | 100 | 100 | 100 | 100 | 100 | 100 |
| pH (SU), average | 8.9 | 8.8 | 8.8 | 8.8 | 8.8 | 8.7 |
| Total Chlorine (mg/L) | 1.98 | 1.98 | 1.94 | 1.91 | 1.92 | 1.91 |
| Fluoride (mg/L) | 0.68 | 0.75 | 0.73 | 0.72 | 0.74 | 0.73 |
| Orthophosphate (mg/L) | 0.73 | 0.84 | 0.84 | 0.79 | 0.77 | 0.68 |

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.
- Implemented appropriate COVID-19 countermeasures as directed by city policy.

Operations

- Operated two UV Disinfection reactors continuously during the quarter.
- Switched to North Recarbonation basin in preparation to clean the South basin next quarter.
- Commenced construction phase for the Lake Station mechanical/electrical rehabilitation.
- Commenced maintenance and required upgrades project for the Ridgeway Tower.
- Commenced contract for Optimized Corrosion Control Treatment (OCCT) pipe loop testing apparatus and related plant sampling and supply water modifications.
- Continued gradual Main Pressure Zone pressure increase as recommended by Water Distribution System Master Plan.
- Completed final workshop of compliance project for America's Water Infrastructure Act (AWIA).

Staffing & Training

- Adjusted staff schedules and work areas to limit group sizes and face-to-face contact among employees.

WATER MAIN BREAK/ JOINT LEAK REPORT - SEPTEMBER 2020

YEARLY WATER MAIN BREAK COMPARISON

| <u>MONTH 19</u> | <u>MONTH 20</u> | <u>YTD 19</u> | <u>YTD 20</u> |
|-----------------|-----------------|---------------|---------------|
| 3 | 8 | 57 | 66 |

| LOCATION | WORK ORDER | TYPE OF PIPE | SIZE | YEAR | BREAK | ESTIMATED DURATION | ESTIMATED WATER LOSS IN GALLONS | DOLLAR VALUE OF WATER REVENUE LOSS** |
|--|------------|--------------|------|------|-----------|--------------------|---------------------------------|--------------------------------------|
| 907 W. Oklahoma St. | 275475 | CIP | 6" | 1924 | 5" Hole | 6 Hours | 983,495 | \$5,979.65 |
| NOTES: Break called in by APD of water coming through street. | | | | | | | | |
| 3311 N. McDonald St. | 275508 | DIP | 12" | 1977 | 3" Hole | 4 Hours | 371,894 | \$2,261.12 |
| NOTES: Break called in by APD of water coming through street. | | | | | | | | |
| Kensington Dr. & Warehouse Rd. | 275783 | DIP | 12" | 1977 | 3" Hole | 5 Hours | 479,640 | \$2,916.21 |
| NOTES: Break called in as water was bubbling in street. | | | | | | | | |
| 2619 E. Henry St. | 275819 | DIP | 8" | 1972 | 4" Hole | 5 Hours | 810,382 | \$4,927.12 |
| NOTES: Break called in as water was bubbling in street. | | | | | | | | |
| 1821 W. Reid Dr. | 275894 | CIP | 6" | 1957 | 1.5" Hole | 2 Hours | 33,375 | \$202.92 |
| NOTES: Break occurred when we were flushing hydrants in this area. | | | | | | | | |

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

| LOCATION | WORK ORDER | TYPE OF PIPE | SIZE | YEAR | BREAK | ESTIMATED DURATION | ESTIMATED WATER LOSS IN GALLONS | DOLLAR VALUE OF WATER REVENUE LOSS** |
|---|------------|--------------|------|------|---------|--------------------|---------------------------------|--------------------------------------|
| 2920 S. Carpenter St. | 276058 | DIP | 8" | 1971 | 1" Hole | 4 Hours | 33,000 | \$200.64 |
| NOTES: Break was called in by resident to our after hours answering service. Estimating 4 hours based on site conditioning. | | | | | | | | |
| 2901 S. Carpenter St. | 276067 | DIP | 8" | 1971 | 3" Hole | 3 Hours | 150,000 | \$912.00 |
| NOTES: Break occurred at the same time as 2920 S. Carpenter but didn't notice until we turned off mid-block valve. | | | | | | | | |
| 3115 N. Roemer Rd. | 276253 | DIP | 12" | 1978 | 4" Hole | 3 Hours | 541,442 | \$3,291.97 |
| NOTES: Break called in to after hours answering service. Estimated duration is based on site condition upon arrival. | | | | | | | | |

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