



# City of Appleton

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

## Meeting Agenda - Final Utilities Committee

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Tuesday, July 27, 2021

5:00 PM

Council Chambers, 6th Floor

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1. Call meeting to order

2. Roll call of membership

3. Approval of minutes from previous meeting

[21-1041](#) Approval of the July 13, 2021 Utilities Committee Meeting Minutes.

**Attachments:** [July 13, 2021 Utilities Committee Meeting Minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

[21-1042](#) Amend 2021A Stormwater Management Plan Review contract with Brown and Caldwell by an increase of \$20,000 for a total contract amount not to exceed \$57,500.

**Attachments:** [2021A SWM Plan Review BC Amendment Memo Util Cmte.pdf](#)

[21-1043](#) Amend 2021B Stormwater Management Plan Review contract with raSmith by an increase of \$20,000 for a total contract amount not to exceed \$57,500.

**Attachments:** [2021B SWM Plan Review raSmith Amendment Memo Util Cmte.pdf](#)

6. **Information Items**

[21-1044](#)

Monthly Reports for April, May, and June 2021:

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

**Attachments:** [Q2 Wastewater Treatment Plant Synopsis.pdf](#)  
[Q2 Water Treatment Plant Synopsis.pdf](#)  
[Water Main Breaks June 2021.pdf](#)

[21-1046](#)

Department of Public Works 2021 Mid-Year Performance Reviews

**Attachments:** [DPW Mid Year Performance Reviews.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

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Tuesday, July 13, 2021

5:00 PM

Council Chambers, 6th Floor

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1. Call meeting to order

*Chairperson Meltzer called the Utilities Committee 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

[21-0935](#)

Approval of the June 22, 2021 Utilities Committee Meeting Minutes.

**Attachments:** [June 22, 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**

[21-0936](#)

Adopt Authorized Representative Resolution for the Environmental Improvement Fund.

**Attachments:** [Environmental Grant Fund Resolution for PAV.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

[21-0937](#)

Approve Department of Public Works Modified Operations Plan effective April 1, 2022.

**Attachments:** [Proposed Changes to DPW Operations.pdf](#)

*Smith moved, seconded by Meltzer to amend the item and change the number of bulky items picked up every other week for free from 2 items to 3 items and to remove the bulk pick up in April. Approved as amended. 3-1, Doran*

**Smith moved, seconded by Meltzer, that the Report Action Item be recommended for approval as amended. Roll Call. Motion failed by the following vote:**

**Aye:** 2 - Meltzer and Thao

**Nay:** 2 - Smith and Doran

**Excused:** 1 - Martin

## 6. Information Items

## 7. Adjournment

**Thao moved, seconded by Smith, that the Utilities Committee meeting be adjourned at 6:01 p.m.. Roll Call. Motion carried by the following vote:**

**Aye:** 4 - Meltzer, Smith, Doran and Thao

**Excused:** 1 - Martin

## 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:** July 20, 2021

**RE:** Amend 2021A Stormwater Management Plan Review contract with Brown and Caldwell by an increase of \$20,000 for a total contact amount not to exceed \$57,500.

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The Department of Public Works is requesting an amendment to the contract with Brown and Caldwell for 2021 Stormwater Management Plan Reviews by an increase of \$20,000 for a total contact amount not to exceed \$57,500. After this contract amendment, \$ 373,242 will remain in the 2021 stormwater consulting budget.

Due to the number of stormwater management plans submitted in the first half of 2021, the number of plans expected to be submitted yet this summer and the coordination needed for larger projects, the original contact amount of \$37,500 is anticipated to be expended within the next month.

Work under this contract is charged on an hourly basis and is therefore only used as needed. In order to keep projects moving forward, staff is requesting this amendment now, before the current contract is completely spent.

## 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:** July 20, 2021

**RE:** Amend 2021B Stormwater Management Plan Review contract with raSmith by an increase of \$20,000 for a total contact amount not to exceed \$57,500.

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The Department of Public Works is requesting an amendment to the contract with raSmith for 2021 Stormwater Management Plan Reviews by an increase of \$20,000 for a total contact amount not to exceed \$57,500. After this contract amendment, \$353,242 will remain in the 2021 stormwater consulting budget.

Due to the number of stormwater management plans submitted in the first half of 2021, the number of plans expected to be submitted yet this summer and the coordination needed for larger projects, the original contact amount of \$37,500 is anticipated to be expended within the next month.

Work under this contract is charged on an hourly basis and is therefore only used as needed. In order to keep projects moving forward, staff is requesting this amendment now, before the current contract is completely spent.

**Appleton Wastewater Treatment Plant  
Operations Synopsis  
April 2021 – June 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), and phosphorous. The plant maintained good treatment and a healthy microbiological population with a sludge retention time of 10.0 days. Dewatering processes functioned well and converted 17.5 million gallons (MG) of primary digested sludge to biosolids.

**Summary of Treatment**

<b>Parameter</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>Average</b>
Industrial Flow (MG)	29.6	27.9	26.5	28.0
Domestic Flow (MG)	363.4	322.8	288.8	325.0
Total Flow (MG)	393.0	350.7	315.3	353.0
Influent CBOD Load (Avg Daily lbs)	22,466	21,158	24,849	22,824
Influent TSS Load (Avg Daily lbs)	45,244	46,207	57,851	49,767
Influent Phosphorous Load (Avg Daily lbs)	479	461	471	470
Influent Ammonia Load (Avg Daily lbs)	2,270	2,116	1,798	2,061
Effluent CBOD Load (Avg Daily lbs)	595	540	430	522
Effluent TSS Load (Avg Daily lbs)	344	180	206	243
Effluent Phosphorous Load (Avg Daily lbs)	21	21	22	21
Effluent Ammonia Load (Avg Daily lbs)	178	94	46	106
% Treatment Removal of CBOD	97.4	97.4	98.3	97.7
% Treatment Removal of TSS	99.2	99.6	99.6	99.5
% Treatment Removal of Phosphorous	95.6	95.4	95.3	95.5
% Treatment Removal of Ammonia	92.2	95.6	97.4	95.1

**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) initiated construction activities in January 2021. During the reporting period work was completed associated with the blended sludge pipe replacement, filtrate pipe modifications, outside secondary chemical offloading containment repairs, and waste gas flare rehabilitation. Primary Clarifier #5 and #6 replacement work and RAS pump replacement work is scheduled to begin during the next quarter. Final project completion is scheduled for March 2022.
- Appleton Wastewater Plant Sludge Storage Building Addition: Applied Technologies, Inc. (ATI) advanced preliminary engineering services as part of the Sludge Storage Building (SSB) Addition Phase I Conditions Assessment and Project Alternatives report. A series of meetings and workshops were held during the reporting period with staff to review current site conditions obtain necessary data and information and elicit perspectives of issues requiring solutions. These meetings also provided an opportunity for staff to share past observations, current, and expected future operational and facility needs as well as



deficiencies. ATI provided three design concepts for consideration which were vetted by project team members with one concept chosen for further development. ATI will be refining this concept based on a prioritized list of improvements (e.g. repairs, equipment replacement, and building access) along with a schedule of estimated costs to construct the SSB addition and 600 yards per year biosolids compost processing area in 2022 and 2023.

- 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 facilitated a series of in-person and remote meetings with staff during the reporting period to obtain necessary data and information that will be compiled within the Phase I Conditions Assessment and Project Alternatives report. Alternative dewatering technologies were evaluated as part of the preliminary evaluation. However, the type of belt filter press equipment used presently appear to be the most efficient and economical technology to carry forward as part of the replacement and/upgrade construction project in 2022 and 2023.
- 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. The equipment purchase order to Evoqua was subsequently submitted on June 14, 2021. Work will commence by Sabel Mechanical upon receipt of the rebuild parts which expected to have up to an 8-to-10-week lead time.

### **Regulatory Summary**

- Monthly Discharge Monitoring reports for April, May, and June 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.

### **Staffing & Training**

- Staff returned to pre-COVID-19 work schedules and areas.
- Following the retirement of Solids Operator Dave Konetzke in December 2020, Common Council approved a table of organization change in January to reclassify a solids operator to a fourth utility worker position. Liquids Operator Anthony Rottier was hired for the new utility worker position and his vacancy has been filled by the hiring of John Beneke in May.
- Liquids Operator Elizabeth Martin resigned in June. The hiring process was immediately initiated with interviews conducted on June 24<sup>th</sup>.



**EFFLUENT QUALITY SUMMARY**  
**January 2020/2021 – June 2020/2021**

**Table 1 – 2020-2021 Monthly Permit Summary**

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P <sup>(3)</sup> (lbs/day)	NH3-N <sup>(1)</sup> (mg/L)	Fecal Coliform Colonies/ (100 ml)	Chlorine <sup>(2)</sup> Residual (mg/L)	pH (s.u.)
<i>Permit Limit</i>	25	30	1,322 <sup>(3)</sup>	1	23 <sup>(3)</sup>	10, 11, 4.4, 18	400 col/100ml Geo.Mean	0.038 mg/L daily	6.0 - 9.0 daily limit
January 2020	8	3	256	0.11	11	4.41	NA	NA	6.9/7.5
February 2020	5	3	229	0.11	9	7.53	NA	NA	6.9/7.1
March 2020	9	3	586	0.11	19	5.45	NA	NA	6.9/7.2
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
Nov - April Period Average <sup>(3)</sup>					13	May - October Period Average <sup>(3)</sup>			
					18				

**Table 2 – 2020-2021 Monthly Permit Summary**

Month	CBOD (mg/L)	TSS (mg/L)	TSS (lbs/day)	P (mg/L)	P <sup>(3)</sup> (lbs/day)	NH3-N <sup>(1)</sup> (mg/L)	Fecal Coliform Colonies/ (100 ml)	Chlorine <sup>(2)</sup> Residual (mg/L)	pH (s.u.)
January 2021	7	2	161	0.27	19	11.70	NA	NA	6.9/7.3
February 2021	8	6	420	0.33	24	14.20	NA	NA	7.0/7.3
March 2021	7	4	473	0.22	25	1.74	NA	NA	7.0/7.2
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
Nov - April Period Average <sup>(3)</sup>					22	May - October Period Average <sup>(3)</sup>			
					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 30<sup>th</sup>. 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							\$ 683,119.22
Buttles Custom Ag	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Hickory Meadows	\$ 20,276.34	\$ 25,312.36	\$ 29,607.87	\$ 35,278.49	\$ 27,916.08	\$ 27,265.29							\$ 165,656.43
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							\$ 211,991.39
Movin Materials	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Waldvogel Trucking	\$ 1,844.16	\$ 1,556.53	\$ 1,975.58	\$ 1,869.36	\$ 1,817.53	\$ 1,893.85							\$ 10,957.01
<b>2021 Total</b>	\$ 160,614.00	\$ 157,415.55	\$ 178,568.93	\$ 193,304.25	\$ 197,959.99	\$ 183,861.33	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,071,724.05
<b>2020 Total</b>	\$ 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: July 20, 2021

Copies: K. Rindt (via email)

C. Shaw (via email)

B. Kreski

Utilities Committee

**Appleton Water Treatment Plant  
Operations Synopsis  
April, May, and June 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 Q1 of 2021 (Q/Q) average production increased by over 11% consistent with seasonal demand variation. Compared with Q2 of 2020 (Y/Y), average water production also increased by over 11% likely owing to depressed demand during the initial period of COVID lock-down.

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

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

WATER PLANT PARAMETERS	Previous (Q1 2021)			Current (Q2 2021)		
	January	February	March	April	May	June
<b>Water Treated</b>						
Finished (million gallons), total	259.5	241.9	265.4	253.6	291.3	317.1
Finished (million gallons / day), average	8.4	8.6	8.6	8.5	9.4	10.6
<b>Electrical Energy (WTF)</b>						
Consumption (Megawatt-hours)	475.7	442.1	484.2	454.2	501.7	584.0
MWH / million gallons produced	1.83	1.83	1.82	1.79	1.72	1.84
<b>Lake Turbidity (NTU), average</b>	2.21	1.43	4.70	7.91	5.30	11.98
<b>Water System Microbial Quality</b>						
Total Coliform Samples	81	81	81	81	82	82
Compliance with Standard	100%	100%	100%	100%	100%	100%
<b>Finished Water Quality</b>						
Water Temperature (Degrees F)	34.2	35.6	37.4	48.4	60.0	72.9
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	8.9	8.8	8.9	8.8	8.8	8.7
Total Chlorine (mg/L)	1.96	1.97	1.99	1.95	1.97	1.87
Fluoride (mg/L)	0.72	0.71	0.69	0.74	0.66	0.68
Orthophosphate (mg/L)	0.60	0.63	0.60	0.64	0.70	0.71



## **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.

## **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.
- Continued construction phase for the Lake Station mechanical/electrical rehabilitation. Began work associated with the intake bells and chemical/sample piping replacement. Completed work associated with replacement of Stand-By Generator controls and installation of piping and valve actuators for the second transmission main.
- Continued the testing phase for Optimized Corrosion Control Treatment (OCCT) pipe loop testing apparatus.
- Resumed gradual Main Pressure Zone pressure increases as recommended by Water Distribution System Master Plan.
- Completed cleaning #3 Softener. Continued cleaning #4 Softener.
- Completed cleaning and 5-year regulatory inspection of the Matthias Elevated Tower.

## **Staffing & Training**

- No changes in staffing levels occurred during the quarter.
- Maintained normal staff schedules and work assignments.

## WATER MAIN BREAK/ JOINT LEAK REPORT - JUNE 2021

### YEARLY WATER MAIN BREAK COMPARISON

<u>JUNE 20</u>	<u>JUNE 21</u>	<u>YTD 20</u>	<u>YTD 21</u>
4	9	44	65

LOCATION	BREAK DATE	WORK ORDER	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	DOLLAR VALUE OF WATER REVENUE LOSS**
E. Amelia St. & N. Charlotte St.	6/11/2021	286988	CIP	6"	1949	6" Hole	5 Hours	1,823,359	\$11,086.02
NOTES: Break was found as water was bubbling out of road. The duration is based on the length of time till fixed.									
2107 S. Walden Av.	6/13/2021	287024	CIP	6"	1960	1/16" Crack	13 Days	3,016,985	\$18,343.27
NOTES: Break was found as there was water on the road. Duration is based on the condition of the old clamp and soil saturation.									
719 S. Summit St.	6/18/2021	287207	CIP	6"	1927	4" Hole	6 Hours	655,056	\$3,982.74
NOTES: Break was found as water was on the road. Duration is based on the time of the call and soil saturation.									
2615 N. Meade St.	6/18/2021	287208	CIP	6"	1957	5" Hole	6 Hours	1,957,034	\$11,898.77
NOTES: Break was found as water was on the road. Duration is based on the time of the 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**
312 E. Franklin St.	6/21/2021	287256	CIP	8"	1912	4" Hole	5 Hours	1,240,600	\$7,542.85
NOTES: Break was reported as water was bubbling out of road. Duration was determined based on time of call till repaired.									
612 E. Mitchell Ave.	6/25/2021	287558	DIP	8"	1978	4" Hole	7 Hours	1,014,759	\$6,169.73
NOTES: Break was called in as water was bubbling out of ground. Duration is based on time of call till fixed.									
1115 W. Oklahoma St.	6/25/2021	287553	CIP	8"	1928	3" Hole	4.5 Hours	338,205	\$2,056.29
NOTES: Break was called in. Duration is based on time of call till fixed.									
1106 E. Park Hill Dr.	6/30/2021	287700	DIP	8"	1971	Four 2" Holes	8 Hours	5,186,444	\$31,533.58
NOTES: Break was called in by a resident as water was bubbling in street. Duration is based on the time of call till fixed.									
Schaefer Cir. & Audrey La.	6/30/2021	287711	DIP	8"	1980	3" Hole	5 Hours	455,840	\$2,771.51
NOTES: Break was called in by APD. Duration is based on the amount of water on the road and soil saturation.									

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.



**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

<b>Distribution Administration</b>	<b>Business Unit 5351</b>
<b>WATER UTILITY</b>	

**Significant 2021 Events:**

Updated Water Leak Policy

**Performance Data:**

	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
<b>Client Benefits/Impacts</b>							
Efficient customer service							
# Cross connection inspections	5,865	24	596	130	350	272	120
# AquaHawk customers enrolled (total)	New Measure	408	2,589	3,069	3,250	3,236	3,500
<b>Strategic Outcomes</b>							
Consistent and current information							
Policies reviewed/updated	1	1	1	1	1	1	1
Turnover ratio of inventory - Annual	0.83	1.07	0.98	0.94	0.90	N/A	0.90
<b>Work Process Outputs</b>							
Reporting & recording keeping							
# of reports generated for PSC	1	1	1	1	1	0	1

**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

<b>Customer Service</b>	<b>Business Unit 5352</b>
<b>WATER UTILITY</b>	

**Significant 2021 Events:**

**Performance Data:**

Client Benefits/Impacts	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
Reliable, accurate water usage							
# of large meters replaced	0	0	0	58	160	41	88
# of meters tested	5,879	260	230	102	50	27	90
# of defective meters replaced	182	6	6	6	10	10	15
# of meters in service	27,862	27,930	28,002	28,075	28,150	28,192	28,400
<b>Strategic Outcomes</b>							
Implementation of system upgrade							
# of transmitter modules replaced	New Measure	New Measure	10	7	10	2	10
# of new meters replaced	6,098	103	52	7	10	10	10
<b>Work Process Output</b>							
Service provided							
# of service calls	1,389	1,509	1,354	1,059	1,500	599	1,500
System growth							
# of new customer meters installed	77	88	83	106	200	120	150

**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

<b>Distribution Operations and Maintenance</b>	<b>WATER UTILITY</b>	<b>Business Unit 5353</b>
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**Significant 2021 Events:**

**Performance Data:**

Client Benefits/Impacts	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
Reliable source at adequate pressure							
Hydrants							
Replaced/Upgrade	5	12	13	13	10	4	6
% of hydrants flushed	100%	100%	100%	100%	100%	100%	100%
Water loss reported	14.8%	16.2%	19.0%	19.9%	15%	na	15.0%
<b>Strategic Outcomes</b>							
Reliability of the system							
# of water main breaks	91	86	99	104	80	65	80
<b>Work Process Outputs</b>							
Preventive maintenance							
# of services replaced	33	1	29	6	0	0	0
# of valves exercised	2,144	3,010	3,249	3,515	2,300	3,300	3,200
# of valves replaced	4	11	8	9	10	3	9
# of curb boxes repaired	226	616	183	241	250	103	250
# of valves repaired	53	94	59	75	50	55	60
# of service leaks fixed	3	6	2	12	3	0	3

**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

**WATER UTILITY**

**Distribution Capital Improvements**

**Business Unit 5370**

**Significant 2021 Events:**

Completed plans for Redundant Raw Water Line, set to open bids August 2, 2021.

**Performance Data:**

<b>Client Benefits/Impacts</b>	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
Reliable and adequate service							
% of reconstructed streets with relay	100.0%	100.0%	90.0%	100.0%	80%	80.0%	100.0%
# of low flow hydrants eliminated	4	4	5	1	4	4	5
<b>Strategic Outcomes</b>							
System size							
Miles of mains	377	377	379	379	380	379	380
% of total miles of mains reconstructed	0.65%	0.79%	0.83%	0.74%	1.25%	1.25%	0.69%
# of hydrants in the City	3,383	3,401	3,414	3,444	3,450	3,450	3,465
# of low flow hydrants in the City	76	71	65	70	62	66	60
<b>Work Process Outputs</b>							
System expansion and improvement							
Miles of transmission lines added	0.21	0.00	0.36	0.00	0.45	0.25	0.00
Miles of existing mains relayed	2.46	2.96	3.14	2.83	4.02	3.2	2.6



**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

<b>WASTEWATER UTILITY</b>	<b>Business Unit 5427</b>
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Collection Systems

**Significant 2021 Events:**

**Performance Data:**

	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
<b>Client Benefits/Impacts</b>							
Benefit of inspection program							
# of defects identified from TV report	34	0***	27	0**	23	21	21
Compliance with regulation							
# of protruding taps identified	6	0***	1	3	3	1	2
# of cross connections identified	83	15	2	0	1	0	0
<b>Strategic Outcomes</b>							
Reliability of system maintenance program							
# of trouble calls	21	36	25	43	30	18	32
# of system blockages removed	0	4	0	2	3	2	2
% of total system televised	13.1%	13.8%	14.7%	14.1%	13.00%	0.0%	13.0%
<b>Work Process Outputs</b>							
Maintenance performed							
% of total system cleaned	50.7%	75.2%	40.8%	56.4%	55.0%	16.4%	53.0%
# of spot repairs made	28	20	23	25	23	0	20
Safeguarding health and safety							
# of protruding taps removed	5	3	3	4	3	0	2

\*\* Timing of contract pushes work into next calendar year

\*\*\* No design project in 2018, therefore no items were identified

**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

<b>Public Works Capital Improvements</b>	<b>WASTEWATER UTILITY</b>	<b>Business Unit 5431</b>
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**Significant 2021 Events:**

**Performance Data:**

<b>Client Benefits/Impacts</b>	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
Reduction of wastewater treatment cost							
# of manholes-rehab/rebuilt	54	15	28	55	35	3	35
Distribution section rating from CMAR	A	A	A	A	A	A	A
# of laterals replaced	222	167	235	293	300	120	300
<b>Strategic Outcomes</b>							
Improvements to the sanitary sewer system							
Total miles of sanitary sewer	325	325	327	327	327	328	329
% of total miles of sanitary sewer reconstruct	0.58%	0.59%	0.73%	0.64%	0.70%	0.21%	0.70%
<b>Work Process Outputs</b>							
Restoration of sanitary sewers							
Miles of existing sanitary sewer reconstruct.	1.89	1.93	2.38	2.10	2.31	0.68	2.31
Expansion of sanitary sewer system							
Miles of new sanitary sewer added	0.06	0.86	2.33	1.21	1.00	0.60	1.00
Reduction of treatment costs							
# of seals installed (I & I)	81	61	56	62	100	13	100



**DEPARTMENT OF PUBLIC WORKS  
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All figures through June 30, 2021

<b>Administration</b>	<b>Business Unit 5210</b>
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**STORMWATER**

**Significant 2021 Events:**

**Performance Data:**

Client Benefits/Impacts	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
Economic development							
Master plans completed	2***	1#	3	0****	2*	0	1
<b>Strategic Outcomes</b>							
Alternative sources of revenue							
# of grants applied for	0	2##	1###	0	0	0	0
Value of grant dollars awarded or applied for future reimbursement	\$0	\$0	\$630,000##	\$75,000###	\$0	\$0	\$0
Safe, reliable future level of service							
Acre feet of storage identified for future use	0	10.2#	0	7.3^	10*	0	5
# of DNR non-compliance notices received	0	0	0	0	0	0	0
<b>Work Process Outputs</b>							
Preventive maintenance of system							
Erosion control plans reviewed (permits)	48	44	43	38	40	30	40

\*\*\* Coop Pond Study, Evergreen/Alvin Study  
 # Spartan Drive Preliminary Engineering  
 ## Leona Pond UNPSSW and MFC Grants  
 \*\*\*CTH JJ east of Lightning to be completed in 2021  
 ###Citywide SWMP update  
 ^Lightning Drive Study Ponds L1-L5  
 \* French to Lightning Corridor, CTH JJ Urbanization

**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

<b>Facility Maintenance</b>	<b>Business Unit 5220</b>
<b>STORMWATER</b>	

**Significant 2021 Events:**

**Performance Data:**

Client Benefits/Impacts	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
<b>Benefit of inspection program</b>							
# of spot repairs identified from TV reports	21	0***	13	0^	20	11	10
<b>Compliance with regulation</b>							
# of protruding taps identified	15	0***	8	3	6	9	4
# of cross connections identified	0	0	3	0	0	0	0
<b>Strategic Outcomes</b>							
<b>Effectiveness of maintenance program</b>							
# of trouble calls	54	51	109#	48	25	27	25
% of total system televised	9.2%	7.8%	10.0%	10.2%	10%	0.0%	10.0%
<b>Work Process Outputs</b>							
<b>Preventive maintenance</b>							
Cubic yards of material collected from street sweeping operations	5,570	4,186	3,940	5,318	4,000	1,416	4,000
% of total storm sewer system cleaned	9.6%	7.8%	10.0%	10.5%	11.0%	0.0%	10.0%
<b>Safeguarding health and safety</b>							
# of protruding taps removed	10	8	8	3	5	0	8
# of spot repairs made	16	12	13	11	13	0	15

\*\*\* There was no program in 2018  
 # high call volume March 11-13. Snow melt/clogged inlets  
 ^delayed to 2021

**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

**STORMWATER**

**Leaf Collection**

**Business Unit 5225**

Significant 2021 Events:

Performance Data:

<b>Client Benefits/Impacts</b>	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
Service provided							
Number of collection cycles	5	4	3.5	4	4	na	4
<b>Strategic Outcomes</b>							
Cost effective service provided							
Cost/cubic yard collected	\$12.99	\$10.53	\$15.00	\$16.97	\$13.50	na	\$17.00
<b>Work Process Outputs</b>							
Safer streets and cleaner storm water system							
Cubic yards of leaves collected	27,360	30,545	26,270	29,315	35,000	na	30,000

**DEPARTMENT OF PUBLIC WORKS  
YEAR END REVIEW**

All figures through June 30, 2021

<b>STORMWATER</b>	<b>Business Unit 5230</b>
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**Significant 2021 Events:**

**Performance Data:**

Client Benefits/Impacts	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Target 2021	Actual 2021	Target 2022
Solutions to system discrepancies							
Residential mini-sewer/drainage complaints							
Solved	44	35	28	32	50	5	50
Outstanding	41	56	94	74	50	50	50
<b>Strategic Outcomes</b>							
Improvements to the stormwater system							
Total miles of storm sewer in the city	290	289	301	303	290	305	305
% of total miles reconstructed	0.47%	0.20%	1.50%	0.17%	1.53%	0.01%	3.57%
Acres of new land available	0	0	0	0	0	0	0
Integrity and growth of the system							
Acre feet of storage developed	5.7***	21#	20.2	6.2###	0.0	0.0	0.0
<b>Work Process Outputs</b>							
Restoration of storm sewers							
Miles of storm sewer reconstructed	0.79	0.58	1.20	0.51	4.46	0.02	10.35
Expansion of storm sewer system							
Miles of new storm sewer added	2.3	2.15	2.32	1.80	0.42	0.00	0.50

\*\*\* Cotter Pond (2), JJ/Lighting Pond (3.7). Northland Pond (21) to be completed in 2018

# Northland Pond

##Spartan Pond 2=0.3acft, Pond 4=4.5Acft, Pond 5=1.4acft