



# City of Appleton

100 North Appleton Street  
Appleton, WI 54911-4799  
[www.appleton.org](http://www.appleton.org)

## Meeting Agenda - Final Utilities Committee

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Tuesday, January 24, 2017

5:30 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

[17-010](#) Approve the December 13, 2016 Utilities Committee Meeting minutes.

**Attachments:** [December 13, 2016 Utilities Committee Meeting minutes.pdf](#)

4. **Public Hearings/Apearances**

5. **Action Items**

[17-093](#) Award contract to Patrick Engineering for design and engineering services for the Wastewater Plant Electrical Distribution Feasibility Study and Master Plan project for a contract of \$84,970 and a 10% contingency for a contract not to exceed \$93,467.

**Attachments:** [2017 Wastewater Electrical Distribution Feasibility Analysis and Master Plan.pdf](#)

6. **Information Items**

[17-011](#) Discuss Draft Mini-Sewer / Backyard Drainage Policy.

**Attachments:** [Mini Sewer Backyard Drainage Policy.pdf](#)

[17-080](#) Water Main Break History

**Attachments:** [Water Main Break Graph.pdf](#)

17-081

Monthly Reports for October, November, December 2016

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

**Attachments:** [2016 Q4 AWWTP Synopsis and Receiving Station Revenue.pdf](#)

[2016 Q4 AWTF Synopsis.pdf](#)

[Meter Team Report November.pdf](#)

[Water Team Report December.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  
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## Meeting Minutes Utilities Committee

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Tuesday, December 13, 2016

5:30 PM

Council Chambers, 6th Floor

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1. Call meeting to order

*Chairperson Dannecker called the Utilities Committee meeting to order at 5:30 p.m.*

**Present:** 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

2. Roll call of membership

**Present:** 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

3. Approval of minutes from previous meeting

[16-1858](#)

Approval of the November 15, 2016 Utilities Committee Meeting minutes.

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

4. Public Hearings/Appealances

5. Action Items

[16-1914](#)

Amend the 2016C contract for Leona Pond Final Design and Permitting contract to Brown & Caldwell in an amount not to exceed \$27,410.

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

[16-1912](#)

Award 2017C Northland Pond Construction Related Services Contract to Brown & Caldwell in an amount not to exceed \$77,110.

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

[16-1947](#) Approve contract for the Bar Screen #1 Channel Butterfly Valve Rebuild to August Winter and Sons, Inc. for \$111,250 with a contingency of \$13,750 and a project total not to exceed \$125,000.

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

[16-1859](#) Intergovernmental Cooperation Agreement between the City of Appleton and the City of Neenah for Solicitation of Chemical Quotations.

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

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele

## 6. Information Items

[16-1860](#) 2017 Joint Chemical Consortium Quotation Awards.

*Discussed.*

[16-1861](#) Change Order #2 to the Howard Grote and Sons Softener Coatings Projects for a reduction in contract costs of \$3,545 resulting in a decrease to the project contract from \$497,612 to \$494,067.

*Reviewed.*

[16-1862](#) Change Order #2 to Caldwell Tank in the amount of \$23,238 for the Glendale Water Tower Project resulting in the construction contract being reduced from \$2,647,000 to \$2,443,762. This item will also be an Information Item at the Finance Committee.

*Reviewed.*

[16-1913](#) Stormwater Utility Credit Policy Update

*Reviewed.*

[16-1863](#) Monthly Reports for October 2016  
- Water Distribution and Meter Team Monthly Report

*Reviewed.*

## 7. Adjournment

**Baranowski moved, seconded by Reed, that the Utilities Committee meeting be adjourned at 6:02 p.m. Roll Call. Motion carried by the following vote:**

**Aye:** 5 - Dannecker, Baranowski, Meltzer, Reed and Jirschele



*"...meeting community needs...enhancing quality of life."*

**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](mailto:dean.gazza@appleton.org)

TO: Utilities Committee

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

DATE: 1/24/2017

RE: Action Item: Award contract to Patrick Engineering for design and engineering services for the Wastewater Plant Electrical Distribution Feasibility Study and Master Plan project for a contract of \$84,970 and a 10% contingency for a contract not to exceed \$93,467.

The 2017 Capital Improvement budget allocated monies to perform engineering services for the Wastewater Plant electrical distribution feasibility analysis and master plan. This will be the first phase of a multi-phase project to upgrade the aging electrical distribution equipment. Most of the equipment is over 40 years old and is at the end of its estimated life.

Four firms responded to Request for Proposals and all four firms participated in the interview process. They were evaluated for relevant experience, project success, project team, project understanding/study methodology, project schedule and cost. It was important that the firms clearly demonstrated experience in electrical distribution design and planning along with experience in working on municipal wastewater treatment facilities. The project team for evaluating the firms consisted of: the Facilities Project Manager, Facilities Manager, Facilities Lead Electrician, and the Utilities Director.

McMahon	\$195,000
AECOM	\$186,250
Patrick Engineering	\$84,970
Clark Dietz	\$69,950

After careful review our team recommends awarding a contract to Patrick Engineering for \$84,970 with a 10% contingency. The project team unanimously chose Patrick Engineering based upon experience, cost, proposal, and the interview. Even though one firm may have provided a lower cost, the interview process determined that the firm did not demonstrate the necessary experience with wastewater projects of similar size and scope along with a thorough understanding of our facility. We believe that our choice of Patrick Engineering will ensure that the investment is fully maximized.

Please feel free to contact me at 832-5572 with any questions, or by email at [dean.gazza@appleton.org](mailto:dean.gazza@appleton.org).



*"...meeting community needs...enhancing quality of life."*

Effective Date:

## **CITY OF APPLETON MINI-SEWER/BACKYARD DRAINAGE POLICY**

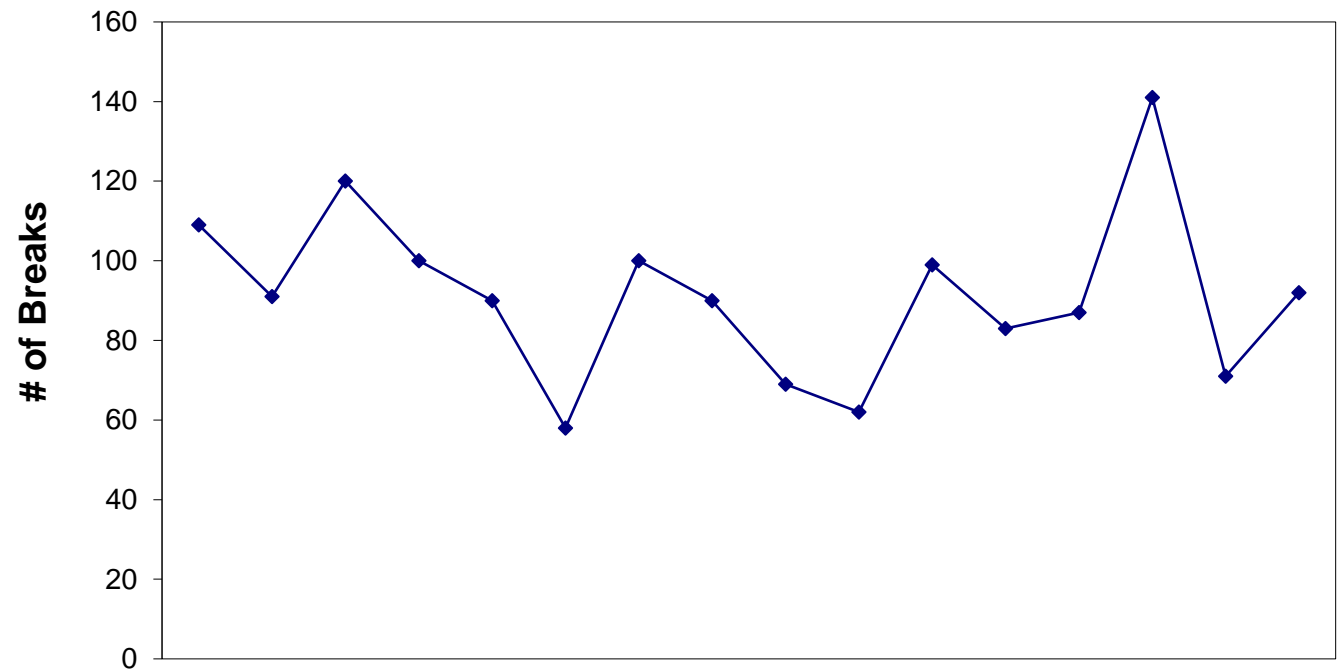
The objective of this policy is to establish the guidelines for mini-sewer/backyard drain installation.

### **GUIDELINES**

1. City staff shall review requests for mini-sewers/backyard drains as they are received from property owners.
2. Mini-sewer/backyard drains will not be installed on streets where the pavement is less than 10 years old.
3. Mini-sewers/backyard drains shall not be installed in neighborhoods with approved drainage plans unless approved by City staff based on unique circumstances.
4. Mini-sewers/backyard drains shall only be considered when significant, long-lasting drainage issues create an environment where vegetation cannot be established and maintained, or where risk of basement flooding exists.
5. Piping for backyard drains shall be straight without any bends between the City main and the yard drain structure.
6. Property owner must provide necessary easement (minimum 10 foot width) for infrastructure installed on private property to address drainage issues.
7. Property owners will be responsible for all necessary additional piping/infrastructure beyond where the City installation ends based on individual site conditions and constraints.
8. Priority will be given for resolving drainage issues corresponding with street reconstruction projects unless approved by City staff.
9. Priority will be given to projects that address drainage issues effecting more than one property.
10. Priority will be given to property owners that do not have a storm lateral installed to their property line unless approved by City staff.
11. Property owner(s) are responsible for all final grading and seeding on private property upon completion of infrastructure project.
12. No unauthorized connections to a City-installed mini-sewer/backyard drain are allowed.
13. Due to the shallow installation of these facilities, they are susceptible to freezing. The City will attempt to thaw frozen facilities within the easement area in the spring upon notification from the property owner. Frozen storm laterals are the responsibility of the property owner. Property owners should be prepared to temporarily disconnect their sump pumps from city mini-sewers or back yard drains during the winter months and have alternate locations on their property for sump pump discharge.

<u>YEAR</u>	<u>BREAKS</u>
2000	120
2001	109
2002	91
2003	120
2004	100
2005	90
2006	58
2007	100
2008	90
2009	69
2010	62
2011	99
2012	83
2013	87
2014	141
2015	71
2016	92
TOTAL =	1582
Average :	93.1

**Water Main Break History**



**Years 2000- 2016**





**Appleton Wastewater Treatment Plant**  
**Synopsis**  
**October 2016 - December 2016**

**Wastewater Treatment Program**

- The Appleton Wastewater Treatment Plant (AWWTP) final effluent met all Wisconsin Department of Natural Resources (WDNR) discharge monitoring reporting limits including carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), pH, phosphorous, and ammonia. (See Table 1). The plant maintained good treatment and a healthy microbiological population with a sludge retention time of eight days. Dewatering processes functioned well and converted 12.10 Million Gallons (MG) of primary digested sludge to biosolids.

**Table 1 – Wastewater Influent / Effluent Treatment Data**

Characteristic	October 2016			November 2016			December 2016		
AWWTP Flows (MG)	Influent		Percent	Influent		Percent	Influent		Percent
Industrial Flow	44.3		13.4%	47.3		15.5%	55.2		14.3%
Domestic Flow	287.0		86.6%	257.5		84.5%	330.3		85.7%
Total Flow	331.3			304.8			385.5		
Pollutant Loadings (lbs)	Influent	Effluent	Removal	Influent	Effluent	Removal	Influent	Effluent	Removal
CBOD	912,417	13,458	98.5%	838,619	11,754	98.6%	926,337	11,237	98.8%
TSS	1,569,236	10,602	99.3%	1,335,749	13,420	99.0%	1,441,517	12,573	99.1%
Phosphorous	17,742	1,934	89.1%	14,721	1,077	92.7%	16,211	866	94.7%
Ammonia	67,666	9,821	85.5%	66,492	4,212	93.7%	59,541	2,136	96.4%

**Work Completed:**

- 41,935 gallons of spent sulfuric acid (i.e. ferrous sulfate) was used for phosphorus removal during the reporting period. The chemical cost savings for using ferrous sulfate was approximately \$30,190. As part of the Phosphorous Treatment Optimization study, 17,390 gallons of ferric chloride was purchased and fed at a cost \$12,520 in an effort to evaluate chemical removal strategies.
- Monthly effluent ammonia removal averaged 91.9% through the three month period. The plant average effluent concentration for the three month period was 1.86 mg/L. This is in compliance with the ammonia limit for the time period.

**Work in Progress:**

- “D” Building Renovation project:** A pre-construction meeting was held on October 24<sup>th</sup>. Representatives from the engineering firm Mc Mahon, and the contractor, Cardinal Construction, were in attendance along with staff from the AWWTP and Facilities. Demolition and asbestos removal were accomplished in December. Construction is expected to last through March of 2017.

**Appleton Wastewater Treatment Plant**  
**Synopsis**  
**October 2016 - December 2016**

**Regulatory Summary**

- Monthly Discharge Monitoring reports for October, November, and December were filed electronically on time for regulatory compliance. The 2016 4th quarter short form was also submitted.
- Plant management staff was informed by Wisconsin Department of Natural Resources (WDNR) personnel that implementation of the renewed Wisconsin Pollution Discharge Elimination System (WPDES) discharge permit for the AWWTP would be delayed due to the multi-discharger variance review by the USEPA. A prospective date of April 1, 2017 was given as a target for implementation of the renewed permit.

**Laboratory Program**

- Program objectives for regulatory and process sampling and analysis were met including results for the Discharge Monitoring Report (DMR) and Health Department pool testing program.
- Lab personnel completed the analysis of Single Blind Proficiency samples for laboratory recertification.
- Lab staff efforts included second – half compliance monitoring sampling and pretreatment monitoring sampling to comply with 2016 requirements.
- Lab and operations staff are working cooperatively to implement a new probe for BOD analysis, and are undertaking a review of Phosphorus testing methods.
- Completed Fox River Flow and Temperature Monitoring for the Waste Load Allocation (WLA) season.

# Appleton Wastewater Treatment Plant

## Synopsis

October 2016 - December 2016

### EFFLUENT QUALITY SUMMARY

October 2015 – December 2016

<i>Effluent Parameter:</i>	<i>CBOD mg/L</i>	<i>TSS mg/L</i>	<i>Total Phosphorus mg/L</i>	<i>Ammonia- Nitrogen mg/L</i>	<i>Chlorine Residual mg/L</i>	<i>Fecal Coliform Colonies/ 100 ml</i>	<i>pH s.u.</i>
<i>WPDES LIMITS:</i>	<i>25 mg/L monthly avg.</i>	<i>30 mg/L monthly avg.</i>	<i>1 mg/L monthly avg.</i>	<i>10 mg/L monthly avg.</i>	<i>0.037 mg/L daily limit</i>	<i>400 col/100ml geom. mean</i>	<i>6.0 - 9.0 daily limit</i>

## 2015

<b>October</b>	6	6	0.53	0.95	NA	NA	7.1/7.2
<b>November</b>	2	3	0.45	0.21	NA	NA	7.2/7.3
<b>December</b>	4	7	0.26	0.97	NA	NA	7.1/7.1

## 2016

<b>January</b>	2	2	0.16	0.24	NA	NA	7.1/7.4
<b>February</b>	3	4	0.20	0.95	NA	NA	6.9/7.2
<b>March</b>	3	2	0.12	0.86	NA	NA	7.2/7.4
<b>April</b>	2	1	0.10	0.32	NA	NA	7.4/7.6
<b>May</b>	4	2	0.27	0.66	<0.01	2	7.0/7.4
<b>June</b>	3	2	0.28	0.75	<0.01	10	7.0/7.4
<b>July</b>	4	3	0.23	0.74	<0.01	7	6.8/7.1
<b>August</b>	4	3	0.18	1.92	<0.01	3	6.8/7.1
<b>September</b>	4	2	0.28	1.51	<0.01	15	6.7/6.9
<b>October</b>	5	4	0.70	3.54	NA	NA	6.5/6.9
<b>November</b>	5	5	0.42	1.45	NA	NA	6.5/6.8
<b>December</b>	3	4	0.27	0.59	NA	NA	7.0/7.1

# YEAR 2016 RECEIVING STATION REVENUE

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 118,437.13	\$124,789.23	\$ 140,298.77	\$ 138,987.23	\$ 104,492.67	\$114,404.27	\$ 120,421.09	\$ 109,336.22	\$133,757.34	\$122,981.32	\$ 125,495.59	\$ 114,161.07	\$ 1,467,561.93
Hickory Meadows	\$ 25,223.73	\$ 21,173.99	\$ 42,742.19	\$ 25,456.57	\$ 13,815.17	\$ 20,261.80	\$ 24,533.30	\$ 36,339.19	\$ 52,732.26	\$ 28,043.93	\$ 32,749.29	\$ 16,443.58	\$ 339,515.00
Jeff Waldvogel Trkg	\$ 26,878.60	\$ 25,936.68	\$ 28,830.91	\$ 26,536.01	\$ 27,584.51	\$ 29,965.62	\$ 30,097.86	\$ 30,818.19	\$ 24,924.46	\$ 25,184.27	\$ 24,721.16	\$ 24,585.23	\$ 326,063.50
Waldvogel Trucking	\$ 2,103.06	\$ 2,944.58	\$ 2,743.41	\$ 3,093.38	\$ 2,100.87	\$ 2,039.84	\$ 2,479.52	\$ 2,905.33	\$ 2,293.30	\$ 2,004.80	\$ 1,916.18	\$ 1,675.64	\$ 28,299.71
2016 Total	\$ 172,642.52	\$174,844.28	\$ 214,615.28	\$ 194,073.19	\$ 147,993.22	\$166,671.53	\$ 177,531.77	\$ 179,398.93	\$213,707.36	\$178,214.32	\$ 184,882.22	\$ 156,865.52	\$ 2,161,440.14
2015 Total *	\$74,477.92	\$59,745.63	\$115,103.25	\$125,573.11	\$116,373.53	\$145,077.58	\$87,128.58	\$147,240.34	\$139,098.92	\$106,381.19	\$141,165.31	\$ 209,311.16	\$ 1,466,676.52

\* Tier Rate Structure increase effective July 1, 2015.

Date: January 13, 2017  
Copies: K. Rindt (via email)  
C. Shaw (via email)  
B. Kreski  
Utilities Committee

# Appleton Water Treatment Plant Operations Synopsis October, November, December 2016

## Summary

The table below presents selected water production and quality performance metrics for the current and previous reporting periods. All compliance parameters met or exceeded regulatory requirements. During the quarter, average water production and electrical energy demand decreased by about 13% consistent with winter water demand conditions.

WATER PLANT PARAMETERS	Previous (Q3 2016)			Current (Q4 2016)		
	July	August	September	October	November	December
<b>Water Treated</b>						
Finished (million gallons)	299.7	314.8	282.1	262.9	247.1	260.1
Finished (million gallons / day)	9.7	10.1	9.4	8.5	8.2	8.4
<b>Electrical Energy (WTF)</b>						
Consumption (Megawatt-hours)	661.5	613.1	503.1	451.2	427.9	452.5
MWH / million gallons produced	2.21	1.95	1.78	1.72	1.73	1.74
<b>Turbidity</b>						
Lake (NTU)	13.4	18.3	15.6	21.3	24.4	19.5
Finished (NTU)	0.05	0.04	0.03	0.02	0.03	0.02
Finished (<0.15 NTU standard)	100%	100%	100%	100%	100%	100%
<b>Water System Microbial Quality</b>						
Total Coliform Samples	81	81	82	81	81	81
Compliance with Standard	100%	100%	100%	100%	100%	100%
<b>Disinfectant Contact Time</b>						
Minimum CT Ratio Provided	3.2	5.4	4.0	3.1	3.2	1.8
<b>Hardness</b>						
Lake Total / Calcium (mg/L)	187/98	173/87	177/86	181/91	189/99	198/107
Finished Total / Calcium (mg/L)	88/12	87/12	83/15	86/19	91/21	98/30
<b>Finished Water Quality</b>						
Total Chlorine (mg/L)	1.55	1.83	1.97	2.06	2.10	2.16
pH (SU) Min/Max	8.2/8.6	8.1/8.8	8.4/8.8	8.3/8.9	8.5/8.7	8.6/8.9
Water Temperature (Degrees F)	75.9	77.7	70.5	57.7	47.5	34.3
Fluoride (mg/L)	0.62	0.68	0.71	0.72	0.72	0.73
Orthophosphate (mg/L)	0.73	0.70	0.70	0.67	0.62	0.64

## Laboratory

- In support of plant operations, staff conducted analyses according to method protocols for pH, turbidity, alkalinity, hardness, free/total chlorine, ammonia, phosphorus, 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 LT2 and DBPR2 sampling requirements. Support was provided to consecutive customers with shipping of DBPR2 samples.

### **Safety**

- WTF Safety programs were maintained by completing scheduled safety inspections. There were no significant incidents to report.
- The Lock-Out/Tag-Out program was reviewed for potential improvements.

### **Operations**

- The South Recarbonation Basin was placed into service.
- Softeners #1 & #2, North Pre-Treatment Basin and the North Recarbonation Basin were removed from service for cleaning.
- The Lake Station intake was cleaned and inspected.

### **RUPIP**

- All membrane equipment was idle during the quarter.
- Two UV Disinfection reactors were in continuous service during the quarter.

### **Softener Recoating Project**

- The recoating work on #3 Softener was completed during the quarter.

### **Water Towers**

- The Glendale Tower was placed into active service in October.
- The Matthias Tower was removed from service for minor maintenance and upgrades.
- The Oneida Tower was permanently removed from water service. The structure will remain as a base for cell carrier equipment. The companion SCADA site will remain active to provide real-time monitoring of system pressures at that location.

### **Staffing & Training**

- All Water Treatment Facility vacancies have been filled.
- All staff have completed mandatory training for the year.

## WATER SUMMARY FOR NOVEMBER 2016

<b>Work done by Construction Maintenance</b>				
	<u>Nov 15</u>	<u>Nov 16</u>	<u>YTD 15</u>	<u>YTD 16</u>
Hydrants repaired	6	4	62	38
Hydrants replaced	0	0	6	4
Hydrant leaks	0	0	1	1
Valves replaced	0	0	5	1
Valves tested & inspected	0	0	17	1407
Valves Rebuilt	0	5	9	23
Valve boxes repaired	7	4	149	53
Curb boxes repaired	20	4	418	149
Curb boxes replaced	17	0	201	21
Lead or galvanized replaced	0	0	0	19
New services 1"	0	0	0	0
New services >1"	0	0	4	1
Water main breaks	9	13	62	77
Joint leaks repaired	0	0	1	0
Water quality	2	1	6	6
Service leaks (City side)	0	0	0	1
<b>Work done by Meter Service Team</b>				
	<u>Nov 15</u>	<u>Nov 16</u>	<u>YTD 15</u>	<u>YTD 16</u>
New accounts set with 3/4" or 1"	17	6	108	146
New accounts set with larger meter	0	0	5	2
Meters tested	347	632	6310	8697
Meters failed	36	15	188	419
Meters stalled	0	0	4	0
Service calls	205	120	1407	1276
Final readings	218	345	3613	3618
Read meters - no reading	0	0	0	5
New meters installed	338	611	6530	9047
Exception meters inspected	0	0	0	0
Exception meters removed	0	0	0	0
Service leaks found	0	1	4	29
Cross connection inspections	355	573	6148	8422



**WATER MAIN BREAK/JOINT LEAK REPORT NOVEMBER  
2016**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
839 E. Minor Street	217736	CIP	6"	1933	2" hole	6 hours	243,115	\$1,478.84
329 S. Benoit Street	217991	CIP	6"	1929	3" hole	4 hours	330,224	\$2,008.72
400 E. Northland Avenue	218103	DIP	12"	1979	4" hole	2 hours	346,100	\$2,105.29
Florida Avenue/ Lawe Street	218127	CIP	8"	1963	1/8" crack	6 hours	189,489	\$1,152.64
2107 N. Linwood Avenue	218196	CIP	8"	1961	1/16" crack	2 hours	34,382	\$209.14
716 S. Fidelis Street	218228	CIP	8"	1964	1/8" crack	6 hours	182,336	\$1,109.13
3113 N. Peach Tree Lane	218227	CIP	8"	1967	1/8" crack	3 hours	98,191	\$597.28
Meade Street/ First Avenue	218282	CIP	8"	1968	1/16" crack	3 hours	44,663	\$271.68
1401 S. Irma Street	218346	DIP	8"	1977	3.5" hole	4.5 hours	744,538	\$4,528.94

\*\*Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.

**WATER MAIN BREAK/JOINT LEAK REPORT NOVEMBER  
2016**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
1016 S. Telulah Avenue	218349	CIP	6"	1951	3" & 1" holes	2 hours	198,068	\$1,204.83
2017 N. Eugene Street	218429	CIP	8"	1968	3" hole	3 hours	273,504	\$1,663.69
831 E. Florida Avenue	218467	CIP	8"	1967	1/8" crack	4 hours	121,557	\$739.42
2631 N. Meade Street	218478	CIP	8"	1960	1/8" crack	7 hours	212,725	\$1,293.98
								\$0.00
								\$0.00
								\$0.00
								\$0.00
								\$0.00

\*\*Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.

**WATER MAIN BREAK/JOINT LEAK DATA LOG NOVEMBER  
2016**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
839 E. Minor Street	Local	Asphalt	Major	Yes 75' away	11/5/2016 4:30 a.m. Saturday	Fixed right away due to water loss and road damage.
329 S. Benoit Street	Local	Concrete	Major	Yes 45' away	11/12/2016 3:15 a.m. Saturday	Fixed right away due to water loss and property damage.
400 E. Northland Avenue	Arterial	Concrete	Major	Yes 100' away	11/15/2016 3:30 a.m. Tuesday	Fixed right away due to water loss and the location of the break.
Florida Avenue/ Lawe Street	Collector	Concrete	Major	Yes 10' away	11/16/2016 5:00 a.m. Wednesday	Fixed during normal work hours.
2107 N. Linwood Avenue	Local	Concrete	Minor	Yes 130' away	11/17/2016 3:00 p.m. Thursday	Fixed right away due to water loss and possible property damage.
716 S. Fidelis Street	Local	Concrete	Minor	Yes 18' away	11/19/2016 1:00 p.m. Saturday	Fixed right away due to water loss and freezing temperatures.

**WATER MAIN BREAK/JOINT LEAK DATA LOG NOVEMBER  
2016**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
3113 N. Peach Tree Lane	Local	Concrete	Minor	Yes 50' away	11/20/2016 7:30 a.m. Sunday	Fixed right away due to water loss and freezing temperatures.
Meade Street/ First Avenue	Local	Concrete	Minor	Yes 75' away	11/21/2016 5:30 p.m. Monday	Fixed right away due to water loss and possible property damage.
1401 S. Irma Street	Local	Concrete	Major	Yes 4' away	11/23/2016 10:00 p.m. Wednesday	Fixed right away due to water loss, possible property damage, and it was a holiday weekend.
1016 S. Telulah Avenue	Collector	Asphalt	Major	Yes 120' away	11/24/2016 1:00 a.m. Thursday	Fixed right away due to water loss, property damage, and freezing temperatures.
2017 N. Eugene Street	Local	Concrete	Major	Yes 220' away	11/28/2016 6:00 p.m. Monday	Fixed right away due to water loss and property damage.
831 E. Florida Avenue	Local	Concrete	Minor	Yes 60' away	11/29/2016 8:00 p.m. Tuesday	Fixed right away due to property damage.

# WATER MAIN BREAK/JOINT LEAK DATA LOG NOVEMBER

2016

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
2631 N. Meade Street	Arterial	Concrete	Major	Yes 90' away	11/30/2016 3:00 a.m. Wednesday	Fixed right away to prevent water loss and property damage.

## WATER SUMMARY FOR DECEMBER 2016

<b>Work done by Construction Maintenance</b>				
	<u>Dec 15</u>	<u>Dec 16</u>	<u>YTD 15</u>	<u>YTD 16</u>
Hydrants repaired	0	2	62	40
Hydrants replaced	0	0	6	4
Hydrant leaks	0	0	1	1
Valves replaced	0	0	5	1
Valves tested & inspected	294	99	311	1506
Valves Rebuilt	2	3	11	26
Valve boxes repaired	0	1	149	54
Curb boxes repaired	9	5	427	154
Curb boxes replaced	5	2	206	23
Lead or galvanized replaced	0	0	0	19
New services 1"	0	2	0	2
New services >1"	0	0	4	1
Water main breaks	9	15	71	92
Joint leaks repaired	0	0	1	0
Water quality	0	1	6	7
Service leaks (City side)	0	1	0	2
<b>Work done by Meter Service Team</b>				
	<u>Dec 15</u>	<u>Dec 16</u>	<u>YTD 15</u>	<u>YTD 16</u>
New accounts set with 3/4" or 1"	7	18	115	164
New accounts set with larger meter	0	0	5	2
Meters tested	509	569	6819	9266
Meters failed	56	17	244	436
Meters stalled	0	0	4	0
Service calls	90	132	1497	1408
Final readings	229	209	3842	3827
Read meters - no reading	0	0	0	5
New meters installed	487	526	7017	9573
Exception meters inspected	0	0	0	0
Exception meters removed	0	0	0	0
Service leaks found	1	3	5	32
Cross connection inspections	467	555	6615	8977

**WATER MAIN BREAK/Joint LEAK REPORT DECEMBER  
2016**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
Locust Street/ Weiland Avenue	218802	CIP	8"	1969	1/16" crack	7 hours	99,777	\$606.93
2500 Blk W. Second Street	218863	CIP	8"	1966	1/16" crack	2 days	349,781	\$2,127.68
407 S. Lee Street	219157	CIP	6"	1941	4" hole	6 hours	922,555	\$5,611.80
700 Blk S. Fidelis Street	219268	CIP	8"	1971	1/8" crack	4 hours	114,031	\$693.64
2601 N. Roemer Road	219358	CIP	12"	1969	1/8" crack	3 hours	149,804	\$911.24
Lawe Street/ Hancock Street	219416	CIP	8"	1913	1/16" crack	3 days	547,008	\$3,327.39
34 Partridge Court	220315	DIP	8"	1978	1/64" crack	19 days	1,833,177	\$11,151.01
312 E. Franklin Street	219592	CIP	8"	1912	4" hole	6 hours	952,811	\$5,795.84
3113 N. Doris Lane	219591	CIP	8"	?	1/16" crack	3 hours	44,663	\$271.68

\*\*\*Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.

**WATER MAIN BREAK/JOINT LEAK REPORT DECEMBER  
2016**

LOCATION	Work Order	TYPE OF PIPE	SIZE	YEAR	BREAK	ESTIMATED DURATION	ESTIMATED WATER LOSS IN GALLONS	ESTIMATED DOLLAR VALUE OF WATER REVENUE LOSS**
Telulah Avenue/ Harding Drive	219589	CIP	8"	1960	1/16" crack	3 hours	45,584	\$277.28
533 N. Canterbury Drive	219595	CIP	8"	1967	1/16" crack	3 hours	45,584	\$277.28
43 N. Linden Lane	219631	CIP	8"	1969	1/16" crack	4 hours	60,779	\$369.71
2535 S. Walden Avenue	219769	CIP	8"	1964	1/16" crack	3 hours	45,584	\$277.28
3133 N. Ballard Road	219791	DIP	12"	1974	4" hole	4 hours	648,305	\$3,943.57
400 Blk N. Appleton Street	219908	CIP	6"	1920?	1/16" crack & 15" split	362 days	2,663,303	\$16,200.57
								\$0.00
								\$0.00
								\$0.00

\*\*\*Water loss is calculated at the residential rate of \$4.55 per 100 cubic feet.



# WATER MAIN BREAK/Joint LEAK DATA LOG DECEMBER

2016

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
Locust Street/ Weiland Avenue	Local	Concrete	Major	No	12/2/2016 4:30 p.m. Friday	Fixed right away due to water loss and potential property damage.
2500 Blk W. Second Street	Collector	Concrete	Major	Yes 200' away	12/5/2016 7:30 a.m. Monday	Fixed right away during normal work hours. Resident said it had been leaking since Sunday.
407 S. Lee Street	Local	Asphalt	Major	Yes 20' away	12/12/2016 4:10 a.m. Monday	Fixed right away due to significant water loss.
700 Blk S. Fidelis Street	Collector	Concrete	Major	Yes 100' away	12/13/2016 5:00 a.m. Tuesday	Fixed during normal work hours.
2601 N. Roemer Road	Local	Concrete	Major	Yes 200' away	12/14/2016 1:00 p.m. Wednesday	Fixed right away to prevent water loss and property damage.
Lawe Street/ Hancock Street	Collector	Concrete	Minor	Yes 240' away	12/15/2016 12:00 p.m. Thursday	Fixed right away during normal work hours.

**WATER MAIN BREAK/JOINT LEAK DATA LOG DECEMBER  
2016**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
34 Partridge Court	Local	Concrete	Minor	No	12/16/2016 6:00 p.m. Friday	Leak was reported on 12/16/16 but it took several days to locate the actual break in the line. Repair was made on 01/04/17.
312 E. Franklin Street	Collector	Concrete	Major	Yes 100' away	12/18/2016 4:00 a.m. Sunday	Fixed right away to prevent water loss and property damage.
3113 N. Doris Lane	Local	Concrete	Major	Yes 100' away	12/18/2016 9:00 a.m. Sunday	Fixed right away to prevent water loss and property damage.
Telulah Avenue/ Harding Drive	Collector	Concrete	Major	Yes 50' away	12/18/2016 8:00 p.m. Sunday	Fixed right away to prevent water loss and property damage.
533 N. Canterbury Drive	Local	Concrete	Major	Yes 50' away	12/19/2016 7:30 a.m. Monday	Fixed right away during normal work hours.
43 N. Linden Lane	Local	Concrete	Major	Yes 75' away	12/19/2016 9:00 a.m. Monday	Fixed right away during normal work hours.

**WATER MAIN BREAK/JOINT LEAK DATA LOG DECEMBER  
2016**

Leak Location	Arterial, Collector, Freeway, Local	Type of Street Concrete/Asphalt	Major Break Minor Break	Catch Basin Draining Yes/No	Date/Time	Comments
2535 S. Walden Avenue	Local	Concrete	Major	Yes 50' away	12/21/2016 1:00 p.m. Wednesday	Fixed right away during normal work hours.
3133 N. Ballard Road	Arterial	Concrete	Major	Yes 50' away	12/22/2016 5:00 a.m. Thursday	Fixed during normal work hours.
400 Blk N. Appleton Street	Arterial	Concrete	Minor	Yes 100' away	12/27/2016 8:00 a.m. Tuesday	Fixed right away during normal work hours. We have known about water leaking in this area for at least two years, but have been unable to determine the source of the water. We believe this break has been the source of that leak.