

CITY OF OAK CREEK WATER & SEWER UTILITY

OFFICIAL NOTICE

PLEASE TAKE NOTICE that the Water and Sewer Utility Commission will meet at the Oak Creek Water & Sewer Utility, 170 West Drexel Avenue, Oak Creek, Wisconsin, 53154 on Tuesday, December 12, 2017, at 9:30 am.

The purpose of this meeting will be to discuss the topics listed on the attached agenda.

It is possible that members of and possibly a quorum of members of our governmental bodies of the municipality may be in attendance at the above-stated meeting to gather information; no action will be taken by any governmental body at the above-stated meeting other than the governmental body specifically referred to above in this notice.

PUBLIC NOTICE

Please Note: Upon reasonable notice, a good faith effort will be made to accommodate the needs of disabled individuals through sign language interpreters or other auxiliary aid at no cost to the individual to participate in public meetings. Due to the difficulty in finding interpreters, requests should be made as far in advance as possible, preferably a minimum of 48 hours. For additional information or to request this service, contact the Oak Creek City Clerk at 414-766-7023 or write to the ADA Coordinator at the Health Department, City Hall, 8040 South 6th Street, Oak Creek, Wisconsin, 53154.

DATED, at Oak Creek, Wisconsin, this the 7th day of December, 2017.

/s/ Michael J. Sullivan
General Manager

A G E N D A
WATER AND SEWER UTILITY COMMISSIONERS
CITY OF OAK CREEK

<u>TIME</u>	<u>DATE</u>	<u>LOCATION</u>
9:30 am	Tuesday December 12, 2017	Headquarters Building 170 West Drexel Avenue

1.0 OPENING OF MEETING

1.1 Roll Call

1.2 Minutes Approval - Regular Meeting 11-14-17

2.0 CLOSED SESSION

2.1 Closed session in accordance with Section 19.85 (1) (e) and (g) of the Wisconsin State Statutes for the following purpose:

A. Water Quality Improvement Project

B. Franklin Water Sales Agreement Extension

3.0 PROJECT APPROVALS

4.0 MISCELLANEOUS MATTERS

4.1 Chemical Bids

5.0 FINANCIAL MATTERS

5.1 Project Payment Approval

5.2 Voucher Approval

5.3 Utility Investments

5.4 2018 Capital Budget Approval

6.0 ADMINISTRATIVE & OPERATIONS REPORTS

6.1 Aldermanic Report

6.2 Administrative Operations Report

6.3 Engineering Operations Report

6.4 Distribution Operations Report

6.5 Plant Operations Report

6.6 Manager's Report

7.0 ADJOURN

Memorandum

To: OCWSU Commissioners
CC: OCWSU Staff
From: Patrick Francis
Date: 12/7/2017
Re: Chemical Bids

The chemical quotes for 2018 are as follow:

Coagulant	H1050A
2018 Bid	\$0.2400/lb
2017 Bid	\$0.1978/lb
Est. Usage	400,000 lbs
Est. Cost	\$96,000.00
Vendor	ChemTrade

USALCO low bid @ \$0.1777/lb not recommended at this time, product has not been tested.

Disinfectant	Sodium Hypochlorite
2018 Bid	\$0.07100/lb*
2017 Bid	\$0.06940/lb
Est. Usage	600,000 lbs
Est. Cost	\$42,600.00
Vendor	Olin

Fluoride Hydrofluosilicic Acid

2018 Bid \$0.1680/lb

2017 Bid \$0.2130/lb

Est. Usage 95,000 lbs

Est. Cost \$15,960.00

Vendor Alexander

Rowell low bid @ \$0.1640/lb not recommended, product impurities

Potassium Permanganate Carus Free Flowing

2018 Bid \$3.55/lb

2017 Bid \$3.55/lb

Est. Usage 7,000 lbs

Est. Cost \$24,850.00

Vendor Hawkins Chemical

Milport low bid @ \$1.99/lb not recommended, product impurities

Powdered Activated Carbon

2018 Bid \$0.68/lb*

2017 Bid \$0.88/lb

Est. Usage 50,000 lbs

Est. Cost \$34,000.00

Vendor Prominent Systems

*Low Bid

Only Bid

2018 CAPITAL BUDGET SUMMARY SHEET

Capital Budget Financed by Operations:

Administrative and General	\$	-
Distribution		109,485.00
Engineering		35,000.00
Treatment Plant		220,000.00
Capital Improvement Projects		6,065,000.00
Projects in Progress		<u>6,250,000.00</u>
Total 2018 Capital Budget	\$	<u>12,679,485.00</u>

2018 CAPITAL BUDGET

		<u>Total</u>	<u>Water</u>	<u>Sewer</u>
Administration		\$ -	\$ -	\$ -
Distribution	Meter Exchange Program	82,000.00	82,000.00	-
	Sewer Camera Cable	6,485.00	-	6,485.00
	Sycamore Tower Fence	21,000.00	21,000.00	-
	Subtotal	<u>109,485.00</u>	<u>103,000.00</u>	<u>6,485.00</u>
Engineering	Phase III GIS Optimization	15,000.00	10,500.00	4,500.00
	Engineering Plotter Replacement	20,000.00	14,000.00	6,000.00
	Subtotal	<u>35,000.00</u>	<u>24,500.00</u>	<u>10,500.00</u>
Treatment Plant	Update Processing Computers and Software	75,000.00	75,000.00	-
	Replacement of Treatment Plant West Effluent Meter	40,000.00	40,000.00	-
	Replacement of East Backwash Venturi and Valve	35,000.00	35,000.00	-
	Replacement of Turbidity Meters	40,000.00	40,000.00	-
	22nd Street Effluent Meter Replacement	30,000.00	30,000.00	-
	Subtotal	<u>220,000.00</u>	<u>220,000.00</u>	<u>-</u>
Projects	Full Water System Master Plan	350,000.00	350,000.00	-
	Water Quality Improvement Project	3,500,000.00	3,500,000.00	-
	I-94 and Ryan Road Interchange Improvements	20,000.00	10,000.00	10,000.00
	Forest Hill Water Main Extension	500,000.00	500,000.00	-
	Howell Avenue Water Main Lining	300,000.00	300,000.00	-
	South 27th Street Water Main Extension	275,000.00	275,000.00	-
	South 13th Street Hydrant and Manhole Relocation (Construction Only)	320,000.00	170,000.00	150,000.00
	Sanitary Sewer Rehabilitation Project	800,000.00	-	800,000.00
	Subtotal	<u>6,065,000.00</u>	<u>5,105,000.00</u>	<u>960,000.00</u>
TOTAL		<u><u>\$6,429,485.00</u></u>	<u><u>\$5,452,500.00</u></u>	<u><u>\$976,985.00</u></u>

Five Year History

<u>Year</u>	<u>Total</u>	<u>Water</u>	<u>Sewer</u>
2017	\$ 4,764,150.00	\$ 3,328,500.00	\$ 1,435,650.00
2016	4,969,650.00	4,197,250.00	772,400.00
2015	1,875,000.00	1,758,500.00	116,500.00
2014	9,205,450.00	8,476,750.00	728,700.00
2013	3,024,800.00	2,613,360.00	411,440.00

2018 CAPITAL BUDGET

ADMINISTRATIVE AND GENERAL

TOTAL ADMINISTRATIVE AND GENERAL BUDGET

\$ -

Water

-

Sewer

-

\$ -

2018 CAPITAL BUDGET

DISTRIBUTION

Meter Exchange Program

\$ 82,000.00

The meter department wants to continue the change out program, exchanging 450 meters and heads per year.

Water 82,000.00

Sewer Camera Cable

6,485.00

The sewer camera was purchased in 2010. The camera came with 2,000 feet of cable originally, but through normal wear going in and out of the sewers, the cable had to be shortened several times. This reduction in the cable limits the length of run that can be used by the camera in one set up. The old cable would be used with the root sprayer.

Sewer 6,485.00

Sycamore Tower Fence

21,000.00

This item is for replacing the fence around the Sycamore Tower. The fence was installed when the tower was built. Through the years, the posts are heaving out of the ground and leaning. The gates constantly need adjustments. This cost includes removing the old fence, installing new posts, a new vinyl-coated fence, three strands of vinyl-coated wire and privacy slats.

Water 21,000.00

TOTAL DISTRIBUTION BUDGET

\$ 109,485.00

Water

103,000.00

Sewer

6,485.00

\$ 109,485.00

2018 CAPITAL BUDGET

ENGINEERING

Phase III GIS Optimization

\$ 15,000.00

Phase III of the GIS Optimization Project will focus on methods of reporting. This includes standard paper reports along with a dashboard application to show updated statistics related to monthly goals and provide a tool for managers to monitor maintenance activities real-time through an application on their computer desktops.

Additionally, a dashboard application for managers and engineering staff will be created to track construction progress, budget and timelines. Field applications will be created in order to enter project data from project inception to completion.

Water	10,500.00
Sewer	4,500.00

Engineering Plotter Replacement

20,000.00

The current large format scanner/copier is over ten years old. While the unit is still functional, parts have worn out and been replaced. The current unit will soon require a new, costly maintenance kit. New print heads will also need to be purchased, adding an additional cost. The current plotter/scanner runs on a PC with a customized, embedded version of Windows XP. Windows XP is no longer supported by Microsoft, meaning it no longer receives security updates.

Water	14,000.00
Sewer	6,000.00

TOTAL ENGINEERING BUDGET

\$ 35,000.00

Water	24,500.00
Sewer	10,500.00
\$	<u>35,000.00</u>

2018 CAPITAL BUDGET

TREATMENT PLANT

Update Processing Computers and Software	\$	75,000.00
<p>Staff has been experiencing frequent computer failures. In addition, the existing software package is no longer supported. The last major software upgrade was part of the 1999 expansion.</p>		
Water		75,000.00
 Replacement of Treatment Plant West Effluent Meter		 40,000.00
<p>The west treatment plant effluent meter was installed in 1998 and is due for replacement.</p>		
Water		40,000.00
 Replacement of East Backwash Venturi and Valve		 35,000.00
<p>The east backwash venturi and valve were installed in 1974. The valve is leaking and is part of the venturi. A new effluent meter and butterfly valve would be installed.</p>		
Water		35,000.00
 Replacement of Turbidity Meters		 40,000.00
<p>The turbidity meters used in the treatment plant are no longer supported. Currently, there are 26 units in use at the treatment plant. A two-year replacement schedule for the filters would be followed. Salvaged units would be used for parts on the non-filter units.</p>		
Water		40,000.00
 22nd Street Effluent Meter Replacement		 <u>30,000.00</u>
<p>The effluent meter was installed in 1996 and is due for replacement.</p>		
Water		30,000.00
 TOTAL TREATMENT PLANT BUDGET		 <u>\$ 220,000.00</u>
	Water	220,000.00
	Sewer	-
		<u>\$ 220,000.00</u>

2018 CAPITAL BUDGET

CAPITAL IMPROVEMENT PROJECTS

Full Water System Master Plan

\$ 350,000.00

The last full water system master plan for the Utility was completed in 2002 by Kaempfer & Associates. Subsequently, Strand Associates completed an update to Kaempfer's master plan in 2018, which only covered the water distribution and transmission portions. Because of the economic downturn and lack of development at the time, Strand also completed an update to Chapters four and six of their 2008 master plan. Thus a full water system master plan including treatment, distribution and transmission has not been done since 2002. This document will include a wire to water study and pipeline replacement plan. The full scope of the project is as follows:

- Water Treatment Plant Evaluation
 - Existing processes
 - Treatment goals and objectives/regulations
- Standard Water Distribution System Evaluation
 - System inventory and facility/equipment condition assessment
 - Population projection and growth
 - Water system demands
 - Data collection and testing
 - Additional required capacity
 - Wholesale supply control
 - Water system hydraulic modeling
 - > Hydraulic model calibration
 - > Static evaluations
 - > Extended period evaluations
 - > Existing system evaluations
 - > Recommended improvements
- Water Age Modeling
- Energy Efficiency Study (Wire to Water)
- Conservation Plan (PSC Component)
- Pipeline Replacement Plan

Water 350,000.00

Water Quality Improvement Project

3,500,000.00

The purpose of this project is to construct improvements at the water treatment plant site to address WDNR code compliance issues with the existing chlorine contact (CT) tank. In 2008, the WDNR told the Oak Creek Water and Sewer Utility that all CT tank issues needed to be resolved within ten years. That time is fast approaching.

The WDNR raised code compliance issues with the CT tank in December 2007 as outlined below:

- There is no means to take the CT tank down for a full inspection. A full drain down inspection is required at least every ten years.
- There is no overflow for the CT tank.
- The tank's existing base is below the ground water elevation.
- The pipes to and from the CT tank are not under continuous pressure higher than the groundwater elevation.
- The top of the CT tank is not two feet above normal ground elevation.
- The roof has no slope and likely no membrane.

In addition, the high lift pump station has a concrete wet well that is below groundwater and violates the same WDNR code as the CT tank. The WDNR also has recommended that plant storage and additional disinfection be considered at the plant.



Thus the improvements under this project include a new intermediate pump station with UV disinfection, new storage (two million gallons), and a new high service pump station. The project also will upgrade the aged electrical system. The electrical equipment is over 40 years old, does not meet all safety requirements and some spare parts are not available. New equipment is more reliable and safer, ensuring uninterrupted water service from this critical water supply asset.

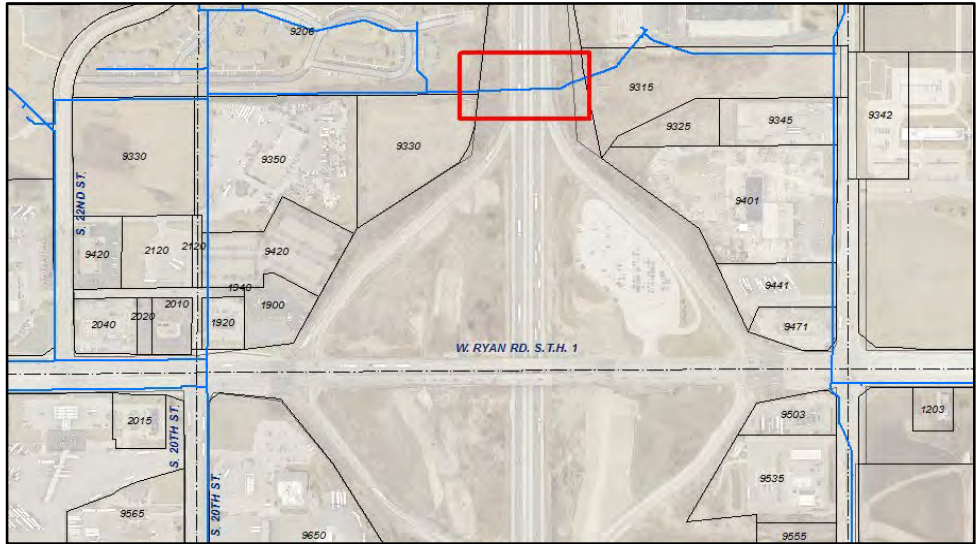
Water 3,500,000.00

I-94 and Ryan Road Interchange Improvements

20,000.00

The Wisconsin Department of Transportation (WisDOT) will be re-constructing the I-94 and Ryan Road interchange in 2018, including reconfiguring the ramps and replacing the current bridge spanning I-94. They will be extending box culverts along the corridor as well. The Utility has a 24" ductile iron and concrete water main crossing at this interchange that was originally to be lowered based on the initial plans. However, WisDOT changed their grading plans to include more cover over the existing pipes and will provide structural geo-grid as part of their project on top of the water main to protect it. This work will be done as part of the WisDOT contract and be charged to the Utility on 90% WisDOT/10% Utility basis. The Utility will be billed 10% of the cost of this item.

There is also a sanitary sewer crossing in conflict with the extension of a box culvert between the I-94/Drexel and I-94/Rawson interchanges. In this case, there is a sanitary manhole that will need to be moved approximately five feet east in order to accommodate the extension. This work will be part of the WisDOT contract and will be billed back to the Utility. The Utility is responsible for 100% of this cost.

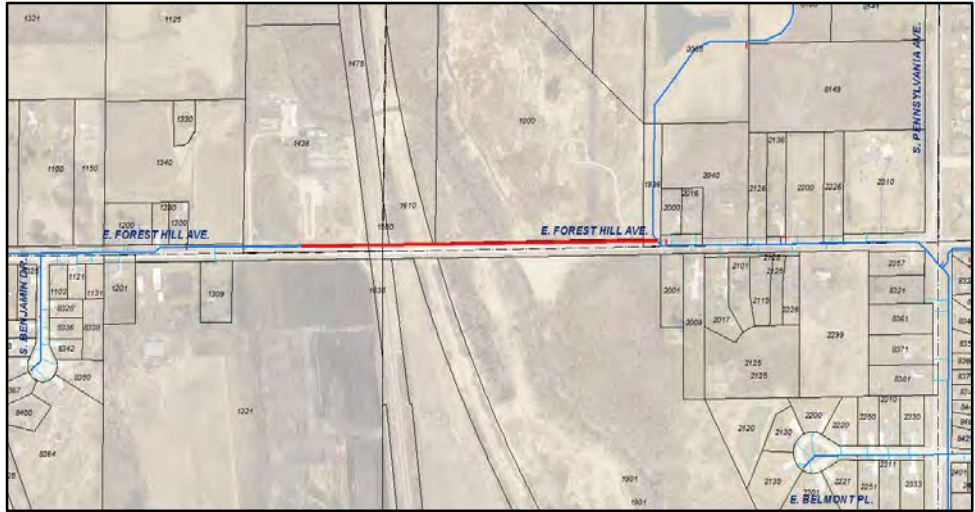


Water	10,000.00
Sewer	10,000.00

Forest Hill Water Main Extension

500,000.00

The purpose of this special assessment project is to connect the dead end on Forest Hill with approximately 1,800' of 8" Certalok water main in order to correct poor water quality in this area. Additionally, flow tests in this area have indicated pressures as low as 28psi, resulting in poor fire flows. The project will also relieve the distribution crew from monthly flushing in this location. Floodway and wetlands in this area necessitate a directional drill construction methodology.

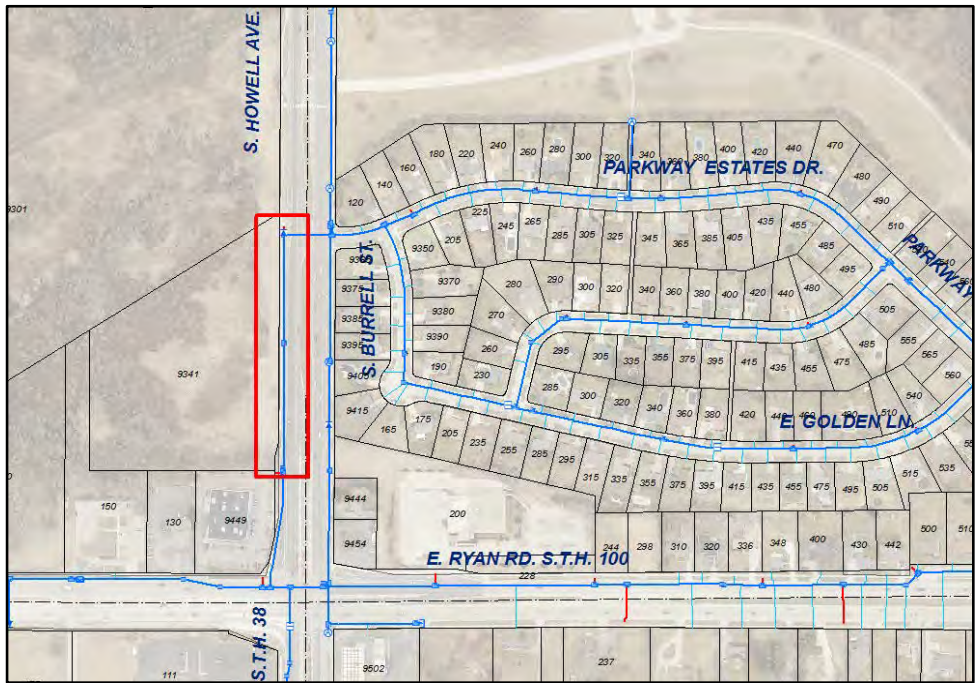


Water 500,000.00

Howell Avenue Water Main Lining

300,000.00

The purpose of this special assessment project is to utilize a structural liner to reinforce approximately 650' of 8" ductile iron water main from 350' north of Ryan Road to approximately 1,000' north of Ryan Road. This particular section of water main has had ten water main breaks over the last 15 years. Water main lining technology has improved over time. This section of water main has no water services associated with it and will be an excellent test section of this structural liner to determine if this is a viable strategy moving forward.

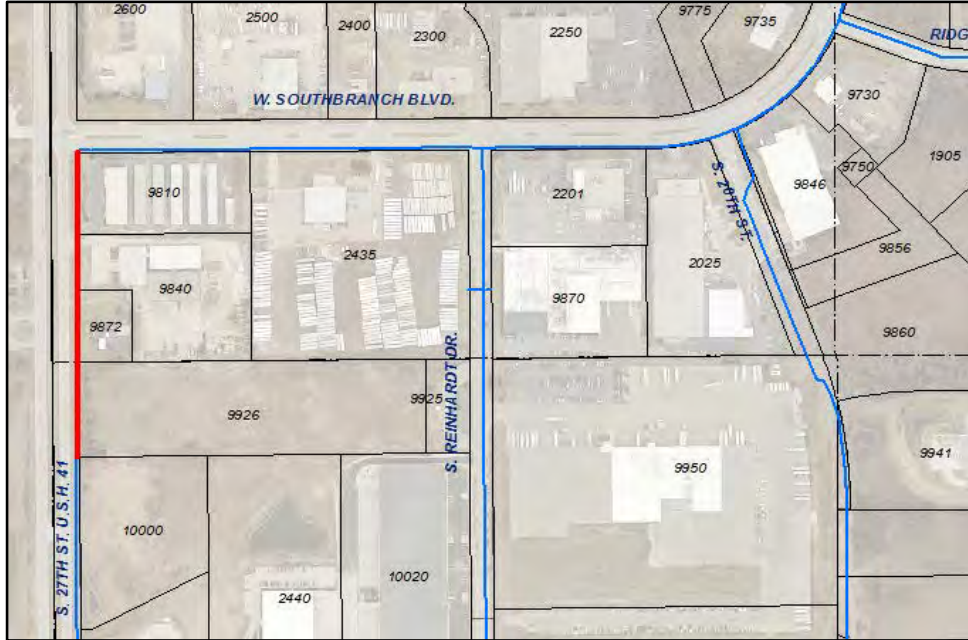


Water 300,000.00

South 27th Street Water Main Extension

275,000.00

This special assessment project includes extending approximately 1,000' of 12" PVC water main in 27th Street from Southbranch Blvd. to 1,000' south of Southbranch Blvd. in order to improve water quality and loop the water main in this area. This will also reduce bi-weekly flushing efforts in this location.

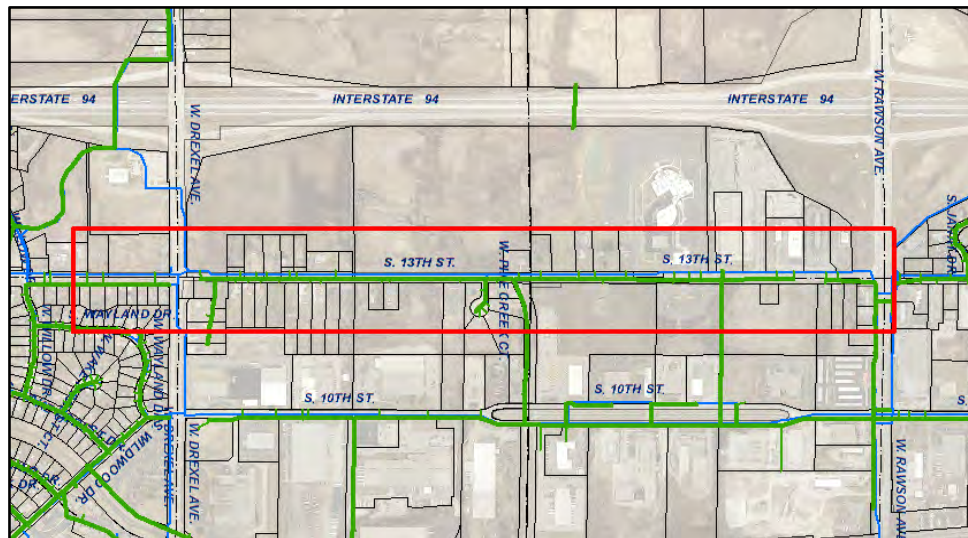


Water 275,000.00

South 13th Street Hydrant and Manhole Relocation (Construction Only)

320,000.00

Milwaukee County will be reconstructing 13th Street from Drexel to Rawson in 2018. The road will be widened in certain sections resulting in conflicts with existing fire hydrants and sanitary sewer manholes. The purpose of this project is to remove conflicts ahead of the road construction.

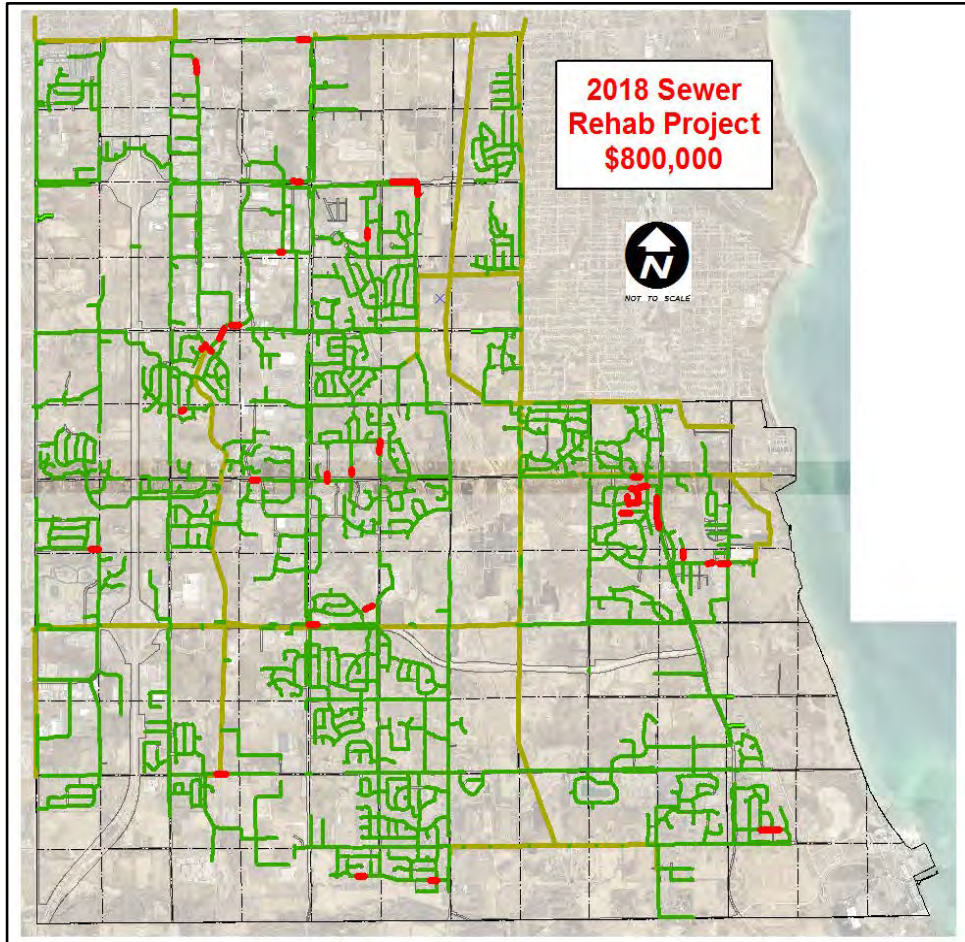


Water 170,000.00
Sewer 150,000.00

Sanitary Sewer Rehabilitation Project

800,000.00

This project is the third installment in a five-year sanitary sewer rehabilitation program. This project continues to identify and correct the worst deficiencies in the sanitary sewer system throughout the City of Oak Creek by utilizing different construction techniques in complete pipe relays, lining, spot repairs and spot lining.



Sewer 800,000.00

TOTAL CAPITAL IMPROVEMENT PROJECTS BUDGET

\$ 6,065,000.00

Water	5,105,000.00
Sewer	960,000.00
	<u>\$ 6,065,000.00</u>

2018 CAPITAL BUDGET

<u>PROJECTS IN PROGRESS</u>		<u>Total Budgeted</u>	<u>Amount Remaining as of 12/31/17</u>	<u>Water</u>	<u>Sewer</u>
693	Chlorine Flow Meter Replacement	10,000.00	10,000.00	10,000.00	-
16102	CT Tank Compliance Project	4,000,000.00	4,000,000.00	4,000,000.00	-
397	Sewer Machine Dump Site	50,000.00	50,000.00	-	50,000.00
700	Backhoe Replacement Reserve	40,000.00	40,000.00	40,000.00	-
701	Tandem Dump Truck Reserve	40,000.00	40,000.00	40,000.00	-
707	Dehumidification Equipment Replacement at Plant	125,000.00	125,000.00	125,000.00	-
17103	Ridgeview Drive and Other Water Main Loops	375,000.00	340,794.08	340,794.08	-
17105	Sanitary Sewer Rehabilitation	800,000.00	778,786.49	-	778,786.49
	Security Upgrades	250,000.00	250,000.00	175,000.00	75,000.00
	Low Lift Drive Landscaping Project	15,000.00	15,000.00	15,000.00	-
17106	Jewell Street Sanitary Sewer Lift Station Replacement	530,000.00	529,392.00	-	529,392.00
	Dehumidification Equipment Installation at Plant	15,000.00	15,000.00	15,000.00	-
TOTAL PROJECTS IN PROGRESS BUDGET		\$ 6,250,000.00	\$ 6,193,972.57	\$ 4,760,794.08	\$ 1,433,178.49

ADMINISTRATIVE OPERATIONS
November 2017

Capital Budget:

Accounting Supervisor Stenzel prepared the Utility's capital budget for 2017.

Delinquent Notices:

Senior Accountant Leranath compiled a list of delinquent accounts to be placed on the City of Oak Creek's tax roll. The following table summarizes the accounts rolled to the tax bills for 2017, 2016 and 2015:

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>Variance</u> <u>2017 vs. 2016</u>	<u>Variance</u> <u>2016 vs. 2015</u>
Number of delinquent notices	1,459	1,406	1,348	3.77 %	4.30 %
Number of customers rolled	706	722	701	(2.22) %	3.00 %
Amounts rolled:					
Water	\$ 233,862	\$ 249,033	\$ 226,688	(6.09) %	9.86 %
Water penalties	23,095	25,069	22,751	(7.87)	10.19
Total	256,957	274,102	249,439	(6.25)	9.89
Sewer	68,439	72,255	70,270	(5.28)	2.82
Sewer penalties	6,721	7,264	7,052	(7.47)	3.01
Total	75,160	79,519	77,322	(5.48)	2.84
Metro	94,362	102,261	89,785	(7.72)	13.89
Metro penalties	9,175	10,204	8,948	(10.08)	14.04
Total	103,538	112,465	98,733	(7.94)	13.91
TOTAL	<u>\$ 435,655</u>	<u>\$ 466,086</u>	<u>\$ 425,494</u>	<u>(6.53) %</u>	<u>9.54 %</u>

Meetings:

Accounting Supervisor Stenzel attended the Wisconsin Section of AWWA Leadership Meeting held in Manitowoc on November 10.

Workload:

Other administrative tasks included the following:

1. Added 4 customer accounts.
2. Billed 3,270 water customers and 3,392 sewer customers.

Gallons Billed (in thousands):

	YTD 2017	YTD 2016	YTD 2015	YTD 2014	YTD 2013	Average
Residential	368,337	394,149	382,748	373,423	386,804	381,092
Commercial	434,106	424,804	417,471	404,850	391,715	414,589
Industrial	414,828	405,463	359,439	372,230	359,707	382,333
Public Authority	13,239	13,858	21,475	16,877	20,178	17,125
Wholesale	1,030,386	1,130,097	1,203,894	1,119,490	1,156,845	1,128,142
Total	2,260,896	2,368,371	2,385,027	2,286,870	2,315,249	2,323,281
% Change to Prior Year	-4.5%	-0.7%	4.3%	-1.2%	N/A	
% Change to Average	-2.7%	1.9%	2.7%	-1.6%	-0.3%	

New Customers:

	YTD 2017	YTD 2016	YTD 2015	YTD 2014	YTD 2013	Average
Residential	26	26	22	20	28	24.4
Commercial	27	27	10	1	1	13.2
Industrial	0	0	1	0	0	0.2
Public Authority	0	1	3	1	0	1.0
Wholesale	0	0	0	0	0	-
Total	53	54	36	22	29	38.8

New Commercial Customers (YTD 2017):

Centennial Park (5 accounts), Cricket Wireless, GMX Midland Oak Creek LLC (2 accounts), Ad-Tech (2 accounts), Valentine Café, One West Drexel, HSI Drexel Ridge (7 accounts), trucking terminal at 10450 S. Oakview Parkway, Kwik Trip, Azura Memory Care (4 accounts), Oak Creek Medical Building (2 accounts)

ENGINEERING OPERATIONS

November 2017

Water Quality Improvement Project

As part of the PSC's order to re-open the construction authorization docket for this project, they required that the project be subject to a value engineering study. Engineering finalized details regarding this matter. The study will be undertaken by Strategic Value solutions (SVS), a professional value engineering consultant. The value engineering team has been assembled and will be made up of water industry professionals from across the country in the field of hydraulics, electrical, structures, piping, and secondary disinfection. The team will be rounded out by a value engineering team leader and assistant team leader from SVS.

The Value Engineering process has been designed to provide the maximum opportunity for stakeholders (Oak Creek, Franklin, and PSC) to provide input. To date, both the PSC and Franklin have agreed that the team members presented are acceptable. The PSC and Franklin will also be involved in development of the scope of work. The PSC will ultimately provide final approval of the scoping document.

Value engineering will begin on January 22, 2018 with a four-day workshop and end with final report submittal on February 23, 2018. Engineering, in conjunction with the PSC and Franklin, is currently working through the mechanics of the process such that Franklin and PSC have maximum participation opportunities.

Engineering also began coordinating projects related to the remaining five items in the PSC's order which includes providing a more detailed cost estimate (CH2M), preparing a new estimate from the bottom up, and providing additional information about the bidding process.

The PSC has scheduled a pre-hearing conference on December 6, 2017 in order to determine the schedule regarding the construction authorization case.

Drexel Ridge Phase II

This multifamily development project on the corner of Pennsylvania Avenue and Drexel Avenue includes the installation of public water main. The water main work is substantially complete. All pipe work is in the ground and awaiting testing.

IKEA Way Phase III

This project includes building new water main from the north dead end at IKEA Way heading west looping back to 27th Street. This project also requires approximately 700' of directional bore underneath an existing forested area. The contractor will be starting the directional bore portion of this project in the next week to two weeks. The entire water main should be complete in four to six weeks.

2017 Sanitary Rehabilitation Project

This project has been awarded by the Commission. Engineering is waiting for contracts to come back from Visu-Sewer, so that a Notice to Proceed can be issued and construction can commence. This project will last approximately six months and includes lining, relay, and spot repairs of sanitary sewer main throughout the City of Oak Creek.

DISTRIBUTION & COLLECTION OPERATIONS

November 2017

Water Main Breaks: In the month of November there were two water main breaks.

On November 25th a crew was called in to repair a 6" CIP water main at 8474 South Griffin Avenue. After excavating the main a circumferential break was discovered. The crew was able to complete the repair live. While back filling the water main, another break occurred about four feet north of the original break. After excavating the main a 3" blow hole was discovered. Seven homes were affected, while the repair was completed. The main was installed in 1960.

Lateral Repairs:

On November 21st a crew was sent to 550 East Quail Run to repair a 1" copper water lateral. The flare was leaking on the street side. The main and lateral were installed in 1993.

Fire Hydrant Repairs:

There were no hydrant repairs in November.

Valve Repair:

On November 28th a crew was sent to 10023 South Chicago Road to repair a hydrant auxiliary valve that was leaking. When the crew excavated the valve, they found the valve was leaking by the bonnet. The bonnet bolts and packing bolts were all replaced.

Sewer Repairs:

In the month of November Utility Workers performed 11 maintenance tasks including: grouting, flowline repairs in manholes, installing plates across manhole plugs and cleaning the Clement Avenue lift station wet well.

Miscellaneous:

In November the crews worked on winterizing 81 hydrants and starting inspection of the remote water and sewer mains.

PLANT OPERATIONS

November, 2017

PUMPAGE REPORT	2017 (pumpage in gallons)	2016 (pumpage in gallons)	Percentage of Change
Monthly pumpage	196,699,000	212,870,000	-7.6
Monthly average day	6,557,000	7,096,000	-7.6
Monthly peak day	(11/24/17) 8,710,000	(11/6/16) 10,180,000	-14.4
Yearly pumpage	2,441,749,000	2,636,165,000	-7.4
Yearly average day	7,311,000	7,869,000	-7.1
Yearly peak day	(8/27/17) 10,510,000	(8/11/16) 11,950,000	-12.1
West zone pumpage	87,390,000	92,890,000	-5.9

WATER QUALITY REPORT	Raw Water	Finished Water
Average free chlorine		1.59 mg/l
Total chlorine		1.77 mg/l
Average alkalinity	103.1 mg/l	105 mg/l
Average pH	8.3	8.1
Average fluoride	0.10 mg/l	0.72 mg/l
Average turbidity	4.16 N.T.U.	0.04 N.T.U.
Average temperature	46.3°F	
Hardness	137 mg/l	137 mg/l

Preventative Maintenance Tasks: Staff completed 139 preventative maintenance tasks, 2 miscellaneous work orders, and 2 safety sessions during the month.

Carbon Feeder: Staff took down the carbon feeder and stored it for the winter. In addition, the fountain was pulled off line and drained for the season.

USEPA/UCMR4: Plant Manager Francis participated in a USEPA webinar detailing the upcoming 4th Unregulated Contaminants Monitoring Rule. The monitoring period for Oak Creek will begin in 2019 and extend through 2020. Preliminary costs estimates are \$11,000-\$12,000.00.

Task Distribution

