

**2019**  
**ANNUAL REPORT**  
of the  
**KENOSHA WATER UTILITY**  
Kenosha, Wisconsin



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**Curtis Czarnecki, P.E.**

**General Manager**  
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Kenosha, WI 53144

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Fax (262) 653-4303

*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Board of Water Commissioners  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha, WI 53144

**Subject: 2019 Annual Report**

I respectfully submit the 2019 Annual Report for the Kenosha Water Utility. The annual report documents the statistics of the operations, capital improvements and financial activity of our three enterprise systems: Water System, Sewerage System, and Household Hazardous Waste Program.

The Kenosha Water Utility continues to maintain a strong financial standing. Revenues in the Water System, Sewerage System and Household Hazardous Waste Program exceeded expenses for the 2019 calendar year.

Each division has provided detailed descriptions of their activities over the past year. It is encouraging to review these accomplishments and realize that we have an outstanding group of directors, supervisors and staff that not only provide exceptional quality water and sewer service, meeting and exceeding all state and federal requirements, but are dedicated to provide this service 24 hours a day, seven days a week, 365 days a year to fulfill our overall mission to **"Provide and Protect Kenosha's Greatest Natural Resource ... Water."**

As you are aware we lost two great leaders and industry professionals when our General Manager and Assistant General Manager retired in December of 2019. While their institutional knowledge cannot be replaced, the culture they created and the value they placed on employees continues strong to this day. The staff that has been assembled consists of an impressive group of individuals who are dedicated to their craft. Their knowledge and expertise combined with their dedication to providing water and wastewater services to the community cannot be understated. Our staff takes this responsibility seriously and works tirelessly each and every day to uphold the trust that our customers have placed in us.

Finally, I would like to thank the Board of Water Commissioners for the trust, respect and leadership you have provided to the Kenosha Water Utility and its staff over the past year. I look forward to another productive and successful year in 2020.

Sincerely,

A handwritten signature in black ink, appearing to read 'Curtis Czarnecki'.

Curtis Czarnecki, P.E.



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**Board of Water Commissioners**

David F. Bogdala – Chairperson  
Bruce Fox – Vice Chairperson  
Mitchell Pedersen  
Jack Rose  
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*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Mr. Curtis Czarniecki, P.E.  
General Manager  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha, WI 53144

**Subject: 2019 Annual Report**

Dear Mr. Czarniecki,

2019 brought several changes for the Kenosha Water Utility. I worked on a number of capital improvement projects at the wastewater treatment plant which are summarized in the Director of Wastewater Treatment's letter. I also continued to provide support to both the wastewater and water treatment plants. The most significant change this year was in our leadership with you taking over as the General Manager on July 1 and my appointment as Assistant General Manager on November 1. I am truly honored and humbled by your confidence that my management style and skills will complement yours in leading the Utility into the future. I am also grateful I was able to be mentored by the previous incumbent, David Lewis, for the last two months of his tenure to transition into my new role.

Throughout 2019, I worked with Dave on the safety program for the Utility and the Risk & Resiliency program required by the U.S. Environmental Protection Agency in the American Water Infrastructure Act of 2018. The second part of the Risk & Resiliency program is the Emergency Response Plan which Dave had been working on in 2019 and will be completed in 2020 as required. We, along with a team of others, established a weekly schedule of toolbox talks for all three Utility locations to promote safety in the workplace. Dave also provided me with a good foundation to build knowledge in the management of our fleet of vehicles, which staff has provided much assistance for regarding specifications, purchasing and repairs.

I am excited to take on this role and to support you and your vision for the Utility. I appreciate your leadership and guidance, drive and knowledge and look forward to the future. I care deeply about the employees of the Utility and appreciate their hard work every day. I am very passionate about making the Utility operate efficiently and taking on improvements while getting projects completed. We do not have a large staff and the demands are great to keep up with daily tasks, preventative maintenance, emergencies such as storms, and capital projects. We have a dedicated, determined, and extremely talented staff who do not hesitate to respond to these challenges, and I am amazed and thankful for their skills and knowledge. Over the past fifteen years of my employment, I have had the opportunity to work with all of our departments. There are a lot of new employees since I was hired and I am hopeful that I will get to interact with everyone over the next few years.

I am grateful for Ed St. Peter and Dave Lewis's previous leadership and continued guidance. I would like to thank the Board of Water Commissioners for their support. There is no doubt of our entire team's commitment to the mission of the Utility and to be responsive and provide a high level of service to the citizens of Kenosha.

Sincerely,

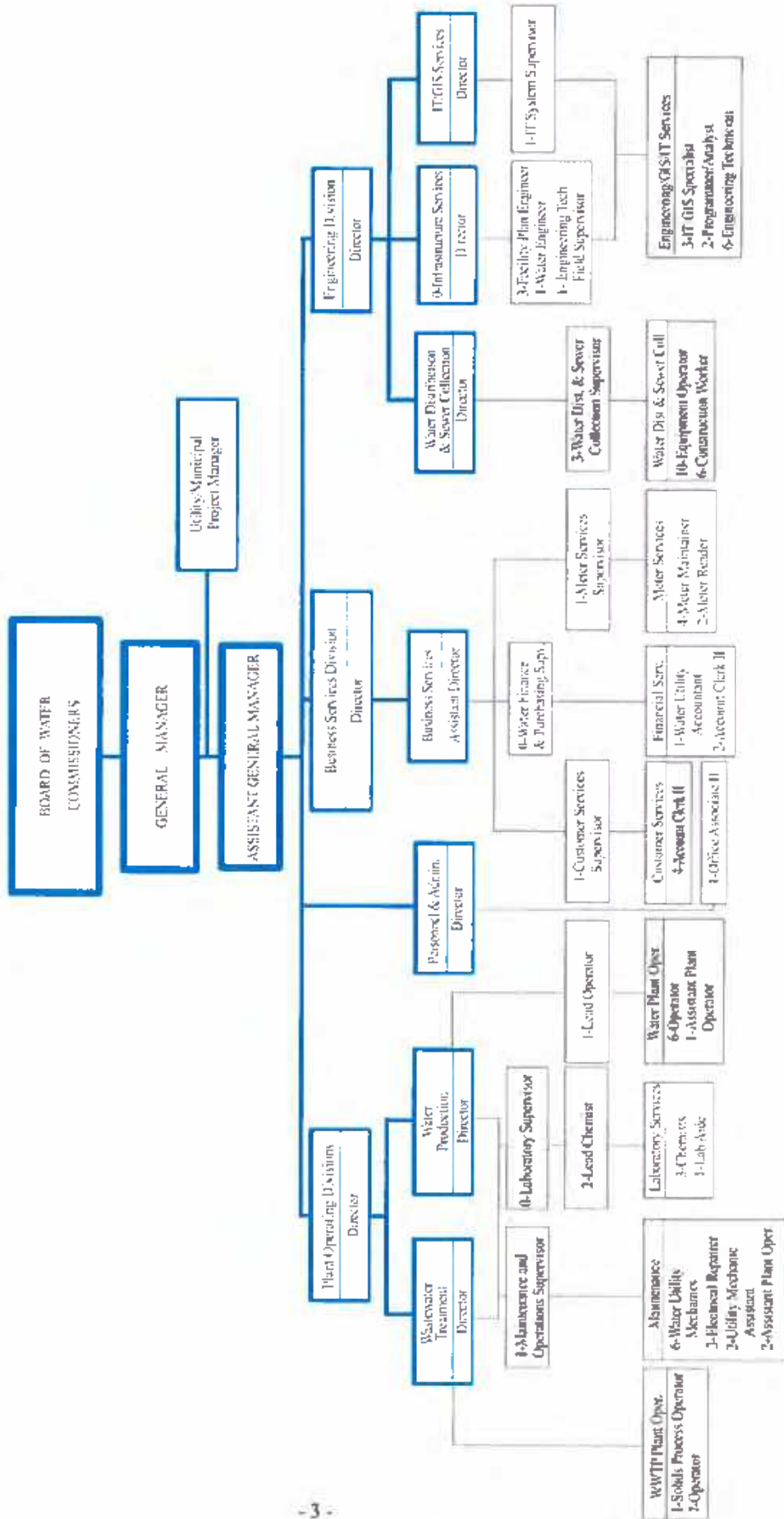
Melissa Arnot, P.E.  
Assistant General Manager



[www.kenosha.org](http://www.kenosha.org)



# 2019 Organizational Chart



**General Statistics  
Water**

	<u>2019</u>	<u>2018</u>
1. Population of Kenosha, Pleasant Prairie, Somers & Bristol	136,623	135,582
Population of current service area (estimated)	119,239	118,360
Population of City of Kenosha	99,841	99,263
2. Total gallons pumped	5,155,449,000	5,514,319,000
3. Total gallons low lift water used in plant	577,509,000	681,764,000
4. Total gallons water pumped – high lift use	4,577,940,000	4,832,555,000
5. Total gallons high lift water accounted for, not metered	52,409,179	57,137,168
6. Total gallons water pumped to distribution system	4,525,530,821	4,775,417,834
7. Increase (decrease) from previous year	(5.23%)	(3.60%)
8. Total gallons passed through customers' meters	4,128,921,000	4,304,837,000
9. Percent of water accounted for	90%	89%
10. Consumption:		
Minimum gallons pumped in any one day	9,310,000	9,160,000
	January 1, 2019	December 31, 2018
Maximum gallons pumped in any one day	20,540,000	20,043,000
	August 17, 2019	January 20, 2018
11. Total daily consumption – Average	11,312,112	11,794,074
Average daily consumption per capita – gallons per day	94.87	99.65
12. Total number of services	30,461	30,428
Active accounts (total meters less in stock and deduct meters)	31,195	31,163
Number of services added (net)	33	16
Per mile of pipe	82.28	82.27
Persons per service (City of Kenosha)	3.28	3.26
13. Pipe in distribution system (in miles)	370.20	369.85
Size range in diameter	1" - 48"	1" - 48"
Pressure range – pounds per square inch	40 – 80	40 – 80
Population per mile (City of Kenosha)	269.69	268.39
14. Valves for distribution system (except hydrant valves)	6,049	6,047
Total installed for year	2	19
15. Hydrants for distribution system	3,382	3,382
Total installed for year (36 new - 36 retired = 0 additional)	0	2
Per mile of pipe	9.14	9.14
16. Utility operating revenue	\$ 14,079,122	\$ 14,465,688
Net Operating Income (Loss)	(\$ 347,513)	\$ 710,224
Net Income (Loss) (all expense and revenue)	(\$ 321,307)	\$ 519,750

	<u>2019</u>	<u>2018</u>
17. Operating and maintenance expenses	\$ 9,203,023	\$ 8,526,114
Per mile of pipe to expense	\$ 24,859.60	\$ 23,052.90
Per million gallons to distribution system	\$ 1,927.17	\$ 1,785.42
18. Tax Equivalent – Water	\$ 2,205,317	\$ 2,309,733
Increase (decrease) from previous year	-4.5%	-1.8%
Percent of operating revenue	15.7%	16.0%
19. Depreciation	\$ 3,018,294	\$ 2,919,617
Percent of operating revenue	21.4%	20.2%
20. Production Cost Analysis of Energy Used		
Total electrical costs (high and low lift)	\$ 482,035	\$ 483,969
Cost for pumping (per million gallons)	\$ 93.50	\$ 87.80
Total electrical costs (booster system)	\$ 159,988	\$ 147,457
Cost of re-pumping for booster system (per million gallons)	\$ 80.57	\$ 70.29
Total electrical energy consumed at plant	\$ 567,091	\$ 569,367
Total natural gas energy consumed at plant	\$ 42,010	\$ 43,754
21. Production Cost Analysis of Chemicals Used		
Sand Filters		
Sulfate of Aluminum – total tons	351.6	351.6
Chlorine – total tons	24.2	24.2
Hydrofluosilicic acid – total tons (liquid weight)	32.8	32.8
Polyphosphate – total tons (liquid weight)	16.4	16.4
Total cost per million gallons of filtered water	\$49.14	\$49.14
Membrane Filters		
Chlorine – total tons	18.1	18.1
Hydrofluosilicic acid – total tons (liquid weight)	24.6	24.6
Polyphosphate – total tons (liquid weight)	12.3	12.3
Total cost per million gallons of filtered water	\$23.19	\$23.19
22. Plant Capacities:		
Treatment plant	45.0 MGD	45.0 MGD
Low lift pumps	50.0 MGD	50.0 MGD
High lift pumps	48.0 MGD	48.0 MGD
Lake intake	102.0 MGD	102.0 MGD
Emergency intake	15.0 MGD	15.0 MGD
23. Water usage in booster service area (million gallons)	1,985.81	2,097.85
24. Average number of General Customers by class		
Residential	27,625	27,597
Multifamily Residential	1,097	1,095
Commercial	2,163	2,157
Industrial	85	85
Private Fire Services	522	515
Public Authorities	199	198
Sales for Resale (points of sale)		
Village of Pleasant Prairie	4	7
Village of Somers	8	8
Village of Bristol	2	2



## General Statistics Sewer

	<u>2019</u>	<u>2018</u>
25. Total gallons wastewater pumped & treated	10,516,906,000	9,412,036,000
26. Increase (decrease) from previous year	11.74%	1.26%
27. Treatment:		
Minimum gallons treated in any one day	17,170,000	15,119,000
Date:	August 25, 2019	January 1, 2018
Maximum gallons treated in any one day	96,169,000	85,270,000
Date:	Sept. 13, 2019	June 27, 2018
28. Total daily wastewater treated – Average	28,813,441	25,786,400
Average daily treatment per capita – gallons per day	241.64	217.86
29. Total dry solids to digester, tons	5,363	5,582
30. Sludge to dewatering centrifuge, gallons	26,651,778	27,752,758
Sludge to dewatering centrifuge, wet tons	111,138	115,729
Percent solids	2.14%	2.15%
31. Sludge off dewatering centrifuge (to landfill), wet tons	6,149	6,175
Sludge off dewatering centrifuge (to dryer), wet tons	2,365	2,037
Percent solids	27.4%	29.7%
32. Sludge from dryer (to landfill), wet tons	677	634
Percent solids	95.5%	95.4%
33. Sludge to landfill, dry tons	2,417	1,852
Grit to landfill, tons	615	654
34. Pipe in distribution system (in miles)	342.93	342.48
Size range in diameter	6" - 99"	6" - 99"
Population per mile (City of Kenosha)	291.14	289.84
35. Utility operating revenue	\$ 13,600,514	\$ 13,664,618
Net Operating Income	\$ 128,300	\$ 1,826,627
Net Income (all expense and revenue)	\$ 905,134	\$ 2,399,255
36. Operating and maintenance expenses	\$ 13,472,214	\$ 11,837,991
Per mile of pipe to expense	\$ 46,274.01	\$ 40,843.19
Per million gallons collected	\$ 1,281.01	\$ 1,257.75
37. Depreciation	\$ 2,328,055	\$ 2,328,055
Percent of operating revenue	17.1%	17.0%
38. Wastewater Treatment Cost Analysis of Energy Used		
Total electrical costs (wastewater treatment)	\$ 497,645	\$ 523,648
Cost for treatment (per million gallons)	\$ 47.32	\$ 55.64
Total electrical costs (lift stations)	\$ 84,677	\$ 79,685
Cost of pumping sewage to treatment plant		
Total natural gas energy consumed at plant	\$ 81,746	\$ 70,497
Methane gas produced by digesters (therms)	381,158	420,357
Value of methane gas (estimate)	\$ 182,668	\$ 212,316

	<u>2019</u>	<u>2018</u>
<b>39. Wastewater Treatment Cost Analysis of Chemicals Used</b>		
Ferric Chloride - total gallons	181,581	206,534
Chlorine - total tons	81.6	53.9
Sulfur Dioxide - total tons	56.0	48.5
Polymer - total tons	69.0	102.0
Sodium Hydroxide - total pounds	169,404	172,053
Sulfuric Acid - pounds	11,670	9,920
Total cost per million gallons of treated sewage	\$ 49.06	\$ 54.37
<b>40. Plant Capacity</b>	<b>28.6 MGD</b>	<b>28.6 MGD</b>
<b>41. Average number of General Customers by class</b>		
Residential	26,888	26,864
Multifamily Residential	942	941
Commercial	1,985	1,984
Industrial	70	70
Public Authorities	154	153
Sales for Resale (points of sale)		
Village of Pleasant Prairie	4	4
Village of Somers	4	4
Village of Bristol	1	1

# Water Utility Vehicles – 2019

## Distribution & Sewer Collection

### **Water Distribution**

Fleet #	Description
2091	1992 Ford Truck with Utility Service Body
2115	1993 IHC Tandem Axle Dump Truck
2367	1997 Ford Hydro Vac Valve Turner Truck
2427	1998 Ford Pickup
2474	1999 Ford Utility Van
2701	2003 GMC 1 Ton Dump Truck
2843	2006 GMC Pickup with Plow
2850	2006 GMC Pickup
2852	2006 GMC Pickup
2854	2006 GMC 1 Ton Dump Truck
2856	2006 GMC Crew Cab with Utility Service Body
2878	2006 Sterling Tandem Axle Dump Truck
2957	2008 Freightliner Tandem Axle Dump Truck
2959	2008 GMC Van
3070	2010 Ford Crew Cab with Utility Service Body
3279	2014 GMC Pickup
3281	2014 GMC Pickup
3299	2015 International Tandem Axle Dump Truck
3303	2015 International Tandem Axle Dump Truck
3331	2015 Chevrolet Pickup
3376	2017 Ram 1 Ton Dump Truck
3424	2019 International Tandem Axle Dump Truck
3452	2019 Ford Transit Cargo Van

### **Water Production**

2961	2008 GMC Pickup
3280	2014 GMC Pickup
3283	2014 GMC Pickup
3484	2019 Jeep Compass

### **Engineering Services**

2653	2003 GMC Pickup
2682	2003 GMC Van
2737	2004 GMC Van
2771	2004 Jeep Liberty
2842	2006 GMC Pickup
2883	2006 GMC Pickup
2960	2008 GMC Pickup
3024	2009 Jeep Grand Cherokee
3027	2009 Chevrolet Impala
3076	2010 Chevrolet Impala
3105	2011 GMC Pickup
3106	2011 GMC Pickup
3124	2011 GMC Pickup
3166	2012 Chevrolet Impala
3282	2014 GMC Pickup
3474	2019 GMC Van

### **Administration/Customer Service**

2962	2008 Jeep Liberty
3253	2013 Chevrolet Suburban

### **Sewer Repair/Inspection**

Fleet #	Description
2089	1992 Ford Pickup Flatbed-Shoring Truck
2299	1996 IHC Tandem Axle Dump Truck
2364	1997 Chevrolet Van
2421	1998 IHC Tandem Axle Dump Truck
2430	1998 GMC 1 Ton Dump Truck
2472	1999 Sewer Flusher Vacuum
2554	2000 Vactor Sewer Cleaner
3352	2005 Sewer Flusher Vacuum
2851	2006 GMC Pickup
2884	2006 TV Truck – Ford Chassis
3043	2009 Ford F450 with Utility Service Body
3093	2008 Eager Beaver Lowboy Trailer
3202	2012 Sewer Flusher Vacuum
3284	2015 GMC Tandem Axle Dump Truck
3370	2017 GMC Pickup
3425	2019 International Tandem Axle Dump Truck

### **Meter Shop**

2849	2006 GMC Van with Utility Service Body
3004	2008 Dodge Grand Caravan
3127	2011 GMC Van
3248	2014 GMC Van
3257	2014 GMC Van
3285	2014 GMC Van

### **Wastewater Treatment**

1965	1990 Ford Platform Truck with Crane
2063	1991 Ford with Galbraith Container System
2420	1998 International Tandem Axle Dump Truck
2535	2001 Ford Pickup
2559	2001 Sterling Dump Truck
2649	2003 GMC Pickup
2652	2003 Ford Utility Truck with Crane
2700	2003 GMC Van
2714	2004 Ford Pickup
2746	2004 GMC Pickup
2862	2006 GMC Van
2866	2006 GMC Pickup
3407	2006 Ford F750 with Crane
2930	2007 GMC Pickup
2945	2008 Freightliner Quad Axle Dump Truck
2966	2008 GMC Van
3391	2008 IHC 4400 with Versalift
3073	2010 Ford Escape Hybrid
3164	2012 Chevrolet Impala
3297	2014 Ram 4500 with Service Body and Crane
3304	2014 Ford Edge
3371	2017 GMC Pickup
3377	2018 Western Star Quad Axle Dump Truck
3463	2018 Ram 3500 with Plow
3453	2019 Ford Transit Cargo Van

## Water Utility Major Equipment – 2019

### Distribution & Sewer Collection

#### Water Construction

Fleet #	Description
453-00	1956 Engresser Pipe Thawer
1011	1980 Case Crawler
455-19	1986 Tapmate Tap Machine
1943	1989 Caterpillar Forklift
	1989 Wach Power Valve Turner
	1992 Wach Power Valve Turner
2206	1994 Smith Air Compressor
2366	1997 Case Wheel Loader
2819	2006 Nissan Forklift
3464	2006 Case Dozer
2958	2007 Airman Air Compressor
2968	2007 Case Tractor Loader Backhoe
2970	2008 Case Tractor Loader Backhoe
3326	2015 Case Tractor Loader Backhoe
	2016 Husqvarna Road Saw
3373	2017 Case Tractor Loader Backhoe
3410	2018 Case Tractor Loader Backhoe
3462	2019 Case Wheel Loader

#### Water Production

	1998 Mitsubishi Fork Truck
	2005 Kubota Mower
2890	2006 Kubota Mower

#### Sewer Repair

Fleet #	Description
2840	2005 JCB Tractor Loader Backhoe
3092	2009 Caterpillar Excavator
3334	2016 Case Tractor Loader Backhoe

#### Wastewater Treatment

	1980 6" Marlow Pump
	1995 6" Marlow Pump
	1998 4" Barnes Submersible Pump
1787	1998 John Deere Mower
	1999 8" Thompson Pump
	2000 6" Gormann-Rupp Pump
	2000 8" Godwin Pump
2987	2003 New Holland Skid Loader
2893	2007 JCB Wheel Loader
3332	2015 Kubota Mower
3465	2019 Kubota Mower
3482	2019 Yale Forklift

#### Water Service Centre

1996 Kubota Mower

**Engineering Services**

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Kenosha WI 53144

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June 2020

Board of Water Commissioners  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha WI 53144

**Subject: 2019 Annual Report – Engineering Services Division**

I respectfully submit the annual report for the Engineering Services Division for the year 2019. The Engineering Services Division continues to provide a variety of engineering services for our various operating divisions within the utility as well as City departments, public agencies and developers.

The Kenosha market continues to be one of the most attractive markets for development within the Midwest. The volume and scale of private development continues to increase within the City of Kenosha and Kenosha County as a whole. Planning, review and oversight of private development continued to be a major focus of the Engineering Services Division efforts in 2019.

In addition to private development, the Utility put out contracts to help rehabilitate and enhance our aging infrastructure. A summary of these contracts can be found later in this report. In addition to the project listed on the "2019 Engineering Service Contracts Awarded" several additional projects were completed throughout the calendar year. As part of our wastewater treatment operations we completed a digester cover replacement, began replacing the blowers for our aeration process, finalized the design for the enhancements to our Industrial Park and Big Buck Lift Stations, finished concrete rehabilitation at the equalization basin and installed a wet weather pumping station at our gravity outfall near 68<sup>th</sup> Street and 3<sup>rd</sup> Avenue. Water main replacement, sanitary sewer capacity upgrades and lead service replacement efforts were included in the roadway reconstruction contract for 22<sup>nd</sup> Avenue. Finally, our Distribution Division completed multiple water main replacement projects in an effort to replace deteriorating water mains throughout the City.

The Kenosha Water Utility fully implemented a customer-side lead service replacement program in 2019. Significant efforts began in the fall of 2018 and continued throughout 2019 in an effort to help our community "Get The Lead Out". Communications were sent to every customer within the City limits that may be served by lead in some fashion. KWU staff setup in-home visits with our customers to investigate service material type, take a sample to analyze for lead content, provide a filter pitcher, distribute educational materials and publicize the grant and financial assistance programs. The program and efforts received overwhelmingly positive response from our customers and we look to build on the momentum we generated in 2019 as we move towards the future.

On behalf of the staff of the Engineering Services Division, I would like to thank the Board of Water Commissioners and all utility employees for working together to ensure 2019 was another safe, productive and successful year.

Sincerely,

Curtis Czarnecki, P.E.



[www.kenosha.org](http://www.kenosha.org)

**Information Technology/  
Geographic Information Systems**

4401 Green Bay Road  
Kenosha WI 53144

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*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Mr. Curt Czarniecki, General Manager  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha WI 53144

**Subject: 2019 Annual Report - Information Technology / Geographic Information Systems**

Dear Mr. Czarniecki,

The Information Technology (IT) / Geographic Information Systems (GIS) team has had a very successful year completing many projects and continuing to develop better ways for our users to use technology. The IT/GIS team not only worked on various new projects but continued to make enhancements to the master digital map supplying this information out to all of our users. Some of these legacy and various new projects are listed below:

- Completed the physical to virtualize (P2V) migration of all KWU's legacy computers at the main office, Production and Wastewater plants. This technology is the single most effective way to reduce IT expenses while boosting efficiency and agility.
- Completed the installation client-server architecture using thin clients instead of pc's at the main office, Production and Wastewater plants. This client-server architecture aligns us with the city's system allowing us to share resources and be able to share each-other's help-desk expertise.
- Installed and now in a beta test for a new SCADA (Supervisory Control and Data Acquisition) system called Ignition at the Production plant. This human-machine interface (HMI) is now fully functional and runs on a Linux operating system thus giving us a far better performance and has backup and redundancy unlike the former legacy SCADA systems used. In 2020 this beta system will then be enhanced and moved into being the primary SCADA system echoing the Wastewater plants SCADA system.
- Migrated our Lead Service Replacement program which was being done just using spreadsheets into our GIS system where it is now in a database and can be accessed by many users at the same time through forms and reports.
- Continued to enhance our open-source Geographic Information System called Quantum GIS which allows more users to access the GIS system for substantially lower cost without the yearly maintenance fees from legacy software companies.
- Continued the GPS (Global Positioning System) and GIS summer internship program for college students.
- Enhanced and updated KWU's website, [www.kenosha.org](http://www.kenosha.org), with valuable customer information.
- Provided many web based input forms, surveys and informational web pages for our employees to receive and disseminate time critical data.
- Continued to develop mobile applications for not only the meter maintainers, but also engineers, engineering technicians, inspectors, distribution supervisors and locators.

I would like to thank you and the Board of Water Commissioners for their continued support. Additionally, I would also like to thank the IT/GIS staff and all of the divisions within the Water Utility for their support and patience throughout the year.

Respectfully submitted,

John N. Andersen  
Director of Information Technology /  
Geographic Information Systems



[www.kenosha.org](http://www.kenosha.org)

## 2019 Engineering Service Contracts Awarded

<u>Project</u>	<u>Contractor</u>	<u>Description</u>	<u>Awarded Cost</u>
2019-01-PROD	L & T Painting Inc.	Industrial Park Elevated Storage Tank Painting	\$ 506,400.00

## 2019 Developer Infrastructure Accepted

	Sanitary Sewer Mains
Zilber 2 - Business Park of Kenosha	\$ 189,073.83

Note: Total cost includes developer and KWU costs.



**2019 Engineering Staff and G.I.S. Personnel  
Recap of Significant Projects**

	<u>Hours</u>
<b><u>Water Production Engineering - Total Hours 632</u></b>	
Water Treatment Plant & Reservoir Maintenance	549
Painting of Water Storage Tanks	84
<b><u>Sewerage System Engineering - Total Hours 2,048</u></b>	
Sanitary Sewer Locates (Digger's Hotline)	1,244
Wastewater Treatment Plant Maintenance	270
Sewer Repair, Cleaning and Inspection	248
Sanitary Sewer System Flow Study/Inspection	228
Equalization Basin Maintenance	58
<b><u>Water Distribution System - Total Hours 8,940</u></b>	
Water System Locates (Digger's Hotline)	2,326
Maintenance of Mains, Services and Hydrants	1,843
Lead Service Replacement Program	4,771
<b><u>Water/Sewer Main Installed by Kenosha Water Utility Crews - Total Hours 383</u></b>	
Water/Sewer Main Replacement - Various Locations	383
<b><u>Water/Sewer Main Installed by Kenosha Water Utility Contract - Total Hours 1,051</u></b>	
Water/Sewer Main Replacement - 22nd Ave & 80th St	416
Water Main Replacement - 22nd Ave & 75th St	202
Water Main Replacement - Various Locations	433
<b><u>Water/Sewer Infrastructure Installed by Developers 867</u></b>	
94 Logistics Park	633
Springs at Kenosha Phase 2	234
<b><u>New Development - Total Hours 871</u></b>	
Plan/Project Review	871
<b><u>GIS Infrastructure Mapping - Total Hours 1,866</u></b>	
Water Infrastructure	1,137
Sewer Infrastructure	729

**Business Services**

4401 Green Bay Road  
Kenosha WI 53144

Phone (262) 653-4300  
Fax (262) 653-4320



*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Mr. Curt Czarnecki, General Manager  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha WI 53144

Dear Mr. Czarnecki,

**SUBJECT: 2019 Annual Report – Business Services Division**

I respectfully submit the Annual Report of the Kenosha Water Utility Business Services Division.

This division combines the talents and resources of personnel in the areas of customer service, meter reading, meter maintenance and accounting. This combined group strives to provide prompt and accurate service to both our internal and external customers. In addition to general questions about bills, Business Services attempts to be proactive in resolving matters before they become complaints. Our customer service staff strives to make each customer contact a positive one. Calls are answered by a live body, not an automated system.

Meter shop personnel are required to be certified as cross connection control testers with the State of Wisconsin. They test all RPZ devices for the Utility as well as other City departments. They have continued the meter testing program for meters larger than 1-inch according to Public Service Commission guidelines. The meter shop provides residential cross connection inspections, sump pump inspections, meter inspections prior to sale of vacant properties as well as doing meter replacements under the twenty year change-out program for small meters. Meter maintainers have been identifying and removing meters containing lead as a part of the utility's ongoing meter change-out program. Meter readers are efficiently reading between 370 and 410 meters per day.

The finance division supports the entire Utility by providing payroll, accounting, accounts payable, budgeting, purchasing and other services. The rate of return for the water unit was 1.07% based on an average net rate base valued at \$50,861,235. The rate of return for the sewer unit was 0.42% based on an average net rate base valued at \$30,327,852.

I would like to thank you and the other members of the utility management for their continued guidance and support. Once again, I wish to thank my staff for their dedication and fine work attitude which are key to getting the job done. Business Services Division employees, together with other divisions, will work to insure that the Kenosha Water Utility continues to "Provide and Protect Kenosha's Greatest Natural Resource."

Sincerely,

Cathy Brnak  
Director of Business Services



[www.kenosha.org](http://www.kenosha.org)

## Water and Sewerage Service Charges – 2019

### Water Rates

Water rates for municipally owned water utilities in Wisconsin must be approved and authorized by the Public Service Commission of Wisconsin. The Kenosha Water Utility policy is to maintain water rates that will provide 1.3 times coverage of maximum annual debt service by net income of the system.

### Sewerage Service Rates

Sewer service rates for Kenosha are authorized by the Board of Water Commissioners. The Kenosha Water Utility policy is to maintain sewer rates that will provide 1.2 times coverage of maximum annual debt service by net income of the system.

### Water Utility General Service Billing

The Kenosha Water Utility issues water and sewer service bills on a bi-monthly basis to residential, commercial and public customers. High consumption customers are billed monthly. The "Sale for Resale" category was added in 1990 and is billed monthly.

### Water Rates Effective June 1, 2015 Public Fire Protection Rates Effective June 1, 2015

Meter Size	Public Fire Protection Bi-Monthly Charge	Meter Service Bi-Monthly Charge
5/8 Inch	\$6.18	\$10.10
3/4 Inch	6.18	10.10
1 Inch	8.24	18.96
1-1/2 Inch	12.36	32.96
2 Inch	18.54	45.32
3 Inch	24.72	78.28
4 Inch	30.09	117.42
6 Inch	37.08	206.00
8 Inch	43.26	306.94
10 Inch	49.44	432.60
12 Inch	56.62	560.32

Plus volume charges:

- First 1,700 cubic feet used each month or  
3,400 cubic feet used each two months - \$ 2.00 / 100 cu. ft.
- Next 23,300 cubic feet used each month or  
46,600 cubic feet used each two months - \$ 1.85 / 100 cu. ft.
- Over 25,000 cubic feet used each month or  
50,000 cubic feet used each two months - \$ 1.50 / 100 cu. ft.

### Sewerage Service Rates Effective June 1, 2015

\$2.48 monthly or \$4.96 bi-monthly - Plus \$1.99 / 100 cubic feet

100 cubic feet = 748 gallons

**CONSUMPTION CHARGES BY CUSTOMER CLASS  
BASED ON BILLING DATE, NOT ACCRUAL BASIS**

**RESIDENTIAL**

Bill Mo.	Water		Public Fire Protection	HHW Charge	Sewerage		Spr. Cr.
	Cons.Ccf	Charge			Cons.Ccf	Charge	
April 2019	161,619	\$ 459,652.87	\$ 84,124.22	\$ 13,454.00	160,653	\$ 386,451.21	
May 2019	147,046	436,199.55	86,843.42	13,350.00	140,165	345,158.13	
June 2019	145,043	427,650.51	84,102.59	13,450.50	144,163	353,598.85	
July 2019	154,609	451,685.75	86,865.05	13,353.50	148,472	342,610.08	\$ 15,116.04
Aug 2019	148,575	434,360.67	84,107.74	13,453.00	147,635	337,128.08	23,392.45
Sept 2019	187,761	516,301.66	86,892.86	13,359.00	176,041	355,421.96	61,172.60
Oct 2019	181,142	498,673.90	84,089.20	13,450.00	179,586	354,454.06	69,634.08
Nov 2019	192,479	525,756.78	86,944.36	13,366.50	180,526	351,695.35	73,864.82
Dec 2019	160,677	441,627.17	84,117.01	13,455.50	150,232	331,139.65	34,556.35
Jan 2020	151,473	445,158.53	86,981.44	13,371.50	144,227	353,346.70	
Feb 2020	154,935	447,277.80	84,117.01	13,454.50	153,950	373,084.90	
March 2020	171,847	482,388.07	86,988.65	13,374.50	164,248	393,202.58	
<b>Totals</b>	<b>1,947,208</b>	<b>\$ 5,566,933.26</b>	<b>\$ 1,026,173.55</b>	<b>\$ 160,892.50</b>	<b>1,887,908</b>	<b>\$ 4,277,291.65</b>	<b>\$ 277,736.34</b>

**COMMERCIAL**

Bill Mo.	Water		Public Fire Protection	Sewerage	
	Cons.Ccf	Charge		Cons.Ccf	Charge
April 2019	38,764	\$ 92,178.25	\$ 9,206.14	37,268	\$ 79,457.30
May 2019	58,103	132,683.51	11,001.43	56,390	115,878.24
June 2019	38,859	91,655.88	9,228.80	37,117	79,131.73
July 2019	68,297	149,245.24	11,013.79	59,269	121,852.30
Aug 2019	42,115	96,936.05	9,219.53	36,339	77,550.30
Sept 2019	81,944	170,564.80	11,013.79	68,164	135,461.79
Oct 2019	51,279	112,782.31	9,253.52	42,114	89,144.60
Nov 2019	86,598	181,697.17	11,063.23	68,726	140,686.51
Dec 2019	43,653	100,256.27	9,265.88	39,020	82,934.63
Jan 2020	60,806	137,585.66	11,073.53	56,985	117,194.79
Feb 2020	40,458	94,580.85	9,349.31	35,162	75,238.78
March 2020	61,531	131,270.35	11,009.67	55,136	113,718.75
<b>Totals</b>	<b>672,407</b>	<b>\$ 1,491,436.34</b>	<b>\$ 121,698.62</b>	<b>589,690</b>	<b>\$ 1,228,249.72</b>

**MULTIFAMILY RESIDENTIAL**

Bill Mo.	Water		Public Fire Protection	HHW Charge	Sewerage	
	Cons.Ccf	Charge			Cons.Ccf	Charge
April 2019	36,295	\$ 79,675.67	\$ 4,999.62	\$ 490.50	36,295	\$ 74,024.99
May 2019	49,525	111,314.15	7,257.38	449.50	48,452	97,999.93
June 2019	34,264	75,698.02	4,999.62	490.50	34,264	70,002.14
July 2019	48,499	109,478.20	7,257.38	449.50	47,147	95,494.04
Aug 2019	33,473	74,359.22	4,999.62	490.50	33,373	68,321.68
Sept 2019	52,336	115,686.95	7,257.38	449.50	48,981	99,076.98
Oct 2019	38,282	83,325.02	5,018.16	493.50	37,090	75,740.46
Nov 2019	58,852	128,755.05	7,251.20	448.50	50,910	102,899.74
Dec 2019	35,586	78,353.42	5,018.46	493.50	35,015	71,560.97
Jan 2020	49,324	110,832.25	7,257.38	449.50	48,338	97,751.09
Feb 2020	42,842	77,909.07	5,018.16	493.50	35,404	72,331.69
March 2020	49,911	112,112.31	7,313.00	449.50	48,745	98,559.45
<b>Totals</b>	<b>529,189</b>	<b>\$ 1,157,499.33</b>	<b>\$ 73,647.36</b>	<b>\$ 5,648.00</b>	<b>504,014</b>	<b>\$ 1,023,763.16</b>

**CONSUMPTION CHARGES BY CUSTOMER CLASS  
BASED ON BILLING DATE, NOT ACCRUAL BASIS**

**PUBLIC**

Bill Mo.	Water		Public Fire Protection	Sewerage	
	Cons.Ccf	Charge		Cons.Ccf	Charge
April 2019	14,810	\$ 30,511.82	\$ 1,988.93	7,936	\$ 16,253.92
May 2019	15,044	29,509.30	1,420.37	8,005	16,111.47
June 2019	16,758	33,658.48	1,997.17	8,376	17,129.52
July 2019	18,205	34,289.95	1,420.37	9,484	16,935.33
Aug 2019	21,718	41,746.56	2,007.47	8,755	17,556.21
Sept 2019	21,170	39,154.50	1,414.19	10,503	18,876.66
Oct 2019	32,659	59,111.55	2,019.83	10,551	21,432.73
Nov 2019	21,530	40,049.05	1,414.19	10,426	20,040.62
Dec 2019	25,972	49,028.30	2,019.83	11,776	23,900.48
Jan 2020	17,540	33,397.05	1,414.19	8,571	17,101.87
Feb 2020	16,633	33,586.80	2,019.83	8,105	16,595.19
March 2020	17,028	32,447.90	1,414.19	8,508	16,936.13
<b>Totals</b>	<b>239,065</b>	<b>\$ 456,491.26</b>	<b>\$ 20,550.56</b>	<b>110,996</b>	<b>\$ 218,870.13</b>

**INDUSTRIAL**

Bill Mo.	Water		Public Fire Protection	Sewerage	
	Cons.Ccf	Charge		Cons.Ccf	Charge
April 2019	35,258	\$ 55,278.65	\$ 385.22	21,186	\$ 68,741.69
May 2019	47,970	76,960.46	927.00	26,272	91,178.75
June 2019	36,493	57,143.10	385.22	26,967	89,018.63
July 2019	43,770	70,736.16	927.00	27,554	80,985.64
Aug 2019	41,294	64,422.35	385.22	24,767	73,296.71
Sept 2019	47,340	76,737.46	927.00	40,140	119,400.57
Oct 2019	44,458	69,160.70	385.22	32,502	97,227.98
Nov 2019	50,082	80,862.79	914.64	38,939	114,785.77
Dec 2019	47,342	73,418.35	385.22	27,762	97,907.94
Jan 2020	40,023	65,293.11	920.82	24,681	76,013.62
Feb 2020	37,376	58,479.41	394.49	33,804	105,142.03
March 2020	46,660	74,979.95	911.55	37,206	113,321.04
<b>Totals</b>	<b>518,066</b>	<b>\$ 823,472.49</b>	<b>\$ 7,848.60</b>	<b>361,780</b>	<b>\$ 1,127,020.57</b>

**SALE FOR RESALE**

Bill Mo.	Cons.Ccf	Water Charge	Public Fire Protection
April 2019	118,086	\$ 172,145.72	\$ 8,359.48
May 2019	115,438	168,387.97	8,359.48
June 2019	125,816	183,533.70	8,359.48
July 2019	126,222	183,785.22	8,359.48
Aug 2019	146,156	211,981.44	8,359.48
Sept 2019	187,979	273,308.28	8,359.48
Oct 2019	181,270	262,964.77	8,359.48
Nov 2019	152,330	221,611.95	8,359.48
Dec 2019	142,873	207,409.91	8,359.48
Jan 2020	187,081	270,155.42	8,359.48
Feb 2020	411,058	588,826.65	8,359.48
March 2020	111,302	162,411.73	8,359.48
<b>Totals</b>	<b>2,005,611</b>	<b>\$ 2,906,522.76</b>	<b>\$ 100,313.76</b>

## Meter Services Report - 2019

<u>Meter Size</u>	<u>New Accounts</u>	<u>Tested/ Upgraded</u>	<u>Total Meters</u>
5/8" Meters	7	1,293	24,730
3/4" Meters	36	257	4,591
1" Meters	4	43	939
1-1/2" Meters	2	143	585
2" Meters	2	125	637
3" Meters	6	55	118
4" Meters	2	27	62
6" Meters	-	23	29
8" Meters	-	9	9
10" Meters	-	2	2
<b>Total</b>	<b>59</b>	<b>1,977</b>	<b>31,702</b>

New Private Fire Lines                    2

### Meter Shop Activity

Set New Accounts	59
20 Year Meter Change Outs	774
Install Radio Read Units	155
Remove Meter (test and replace)	568
Check Readings (high/low consumption, etc.)	2,662
Shut Offs, Take Out Seasonals	132
Repair Outside Register/Touch Pad	1,283
Pressure Tests	31
Locate/Clean Curb Box	358
Service Break Checks/Trace Services	51
Shut off at Curb (non-payment & customer requests)	461
Meters Bench Tested/Rebuild & Retest	198
Frozen Services	28
Frozen Meters	82
Pool Fills	0
Large Meter-Field Testing	106
<b>Total Service Calls</b>	<b>6,948</b>

**TEN YEAR COMPARISON OF CUSTOMER WATER CONSUMPTION**

Average Number of Water Customers	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% INCR (DECR) 2018 vs. 2017
Residential	27,278	27,334	27,365	27,410	27,452	27,500	27,541	27,572	27,597	27,625	0.10%
Multifamily Residential	N/A	N/A	N/A	1,130	1,115	1,164	1,077	1,091	1,095	1,097	0.18%
Commercial	3,313	3,317	3,315	2,176	2,177	2,114	2,166	2,158	2,157	2,163	0.28%
Industrial	67	66	63	60	61	66	84	83	85	85	0.00%
Public	192	192	185	183	185	185	191	191	198	199	0.51%
Irrigation	3	3	3	3	2	2	-	-	-	-	0.00%
Private Fire Lines	441	455	464	467	477	492	499	507	516	522	1.36%
Sale for Resale											
Pleasant Prairie	7	7	7	7	7	7	7	7	7	7	(42.85%)
Town of Somers	8	8	8	8	8	8	8	8	8	8	0.00%
Village of Bristol	2	2	2	2	2	2	2	2	2	2	0.00%
<b>TOTAL</b>	<b>31,311</b>	<b>31,384</b>	<b>31,412</b>	<b>31,446</b>	<b>31,486</b>	<b>31,540</b>	<b>31,575</b>	<b>31,619</b>	<b>31,664</b>	<b>31,705</b>	<b>0.13%</b>

Annual Consumption (1,000 Gallons)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% INCR (DECR) 2018 vs. 2017
Residential	1,710,396	1,704,587	1,836,553	1,638,280	1,535,419	1,549,036	1,586,610	1,512,789	1,509,215	1,458,510	(3.49%)
Multifamily Residential	N/A	N/A	N/A	430,891	417,147	417,529	399,652	402,078	410,802	395,833	(3.64%)
Commercial	1,054,683	953,963	977,711	495,955	471,956	486,315	520,624	497,334	498,612	502,960	0.87%
Industrial	306,136	396,382	287,364	336,628	419,995	411,406	481,031	404,877	380,041	387,513	1.97%
Public	107,094	117,950	183,924	170,517	170,966	168,484	196,639	193,523	188,702	178,821	(5.24%)
Irrigation	1,243	1,204	2,148	1,323	1,744	2,014	-	-	-	-	0.00%
Sale for Resale											
Pleasant Prairie	754,021	794,343	842,036	746,987	761,521	1,012,853	1,188,200	1,220,396	1,096,551	1,025,478	(6.48%)
Town of Somers	186,848	162,957	179,703	146,385	142,909	145,463	160,352	162,849	187,724	173,431	(7.61%)
Village of Bristol	5,424	5,464	5,025	4,563	5,673	5,982	6,633	6,842	6,371	5,296	(16.87%)
<b>TOTAL</b>	<b>4,095,845</b>	<b>4,136,850</b>	<b>4,316,464</b>	<b>3,970,339</b>	<b>3,927,330</b>	<b>4,201,062</b>	<b>4,539,741</b>	<b>4,400,698</b>	<b>4,278,018</b>	<b>4,125,842</b>	<b>(2.79%)</b>

Customer Class as a Percent of Total Consumption	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Residential	41.76%	41.21%	42.59%	41.26%	39.10%	36.87%	34.85%	34.38%	35.28%	35.30%
Multifamily Residential	N/A	N/A	N/A	10.85%	10.62%	9.94%	8.80%	9.14%	9.60%	9.59%
Commercial	25.75%	23.06%	22.65%	12.49%	12.02%	11.63%	11.47%	11.30%	11.66%	12.19%
Industrial	7.47%	9.58%	6.66%	8.48%	10.69%	9.79%	10.60%	9.20%	8.88%	9.39%
Public	2.62%	2.85%	4.26%	4.30%	4.35%	4.01%	4.33%	4.40%	4.41%	4.34%
Irrigation	0.03%	0.03%	0.05%	0.03%	0.05%	0.06%	0.00%	0.00%	0.00%	0.00%
Sale for Resale										
Pleasant Prairie	18.41%	19.20%	19.51%	18.79%	19.39%	24.11%	26.17%	27.73%	25.63%	24.86%
Town of Somers	3.83%	3.94%	4.16%	3.69%	3.64%	3.46%	3.53%	3.70%	4.39%	4.20%
Village of Bristol	0.13%	0.13%	0.12%	0.11%	0.14%	0.14%	0.15%	0.15%	0.15%	0.13%
<b>TOTAL</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

**Water Production Plant**

100 51st Place  
Kenosha WI 53140

Phone (262) 653-4330  
Fax (262) 653-4362



*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Mr. Curtis Czarnecki, P.E., General Manager  
Kenosha Water Utility  
4401 Green Bay Rd.  
Kenosha WI 53144

**Subject: 2019 Annual Report for the O. Fred Nelson Water Production Plant**

Dear Mr. Czarnecki,

I hereby respectfully submit the Annual Report for the O. Fred Nelson Water Production Plant. Kenosha Water Utility's Water Production Division continues to provide the highest quality drinking water to our customers. A total of 4.67 billion gallons was pumped into the distribution system in 2019. The average daily flow was 12.78 million gallons per day, with a maximum day of 20.54 million gallons which occurred on August 17<sup>th</sup> due to heavy summer time usage. The average tap water turbidity was 0.027 NTU and the average chlorine residual was 1.1 mg/l. Some significant projects completed in 2019 include:

- **Industrial Park Elevated Storage Tank Painting**
- **Painting of the interior of the two Hydropneumatic Surge Tanks**
- **Significant upgrades to our onsite surveillance and security system**

In May, we were informed by the Wisconsin Department of Natural Resources (WDNR) that we would have to perform an Optimized Corrosion Control Study (OCCS). The purpose of the OCCS is to determine the appropriate dosing level of our corrosion control treatment chemical for our particular water chemistry. This chemical is what we use to minimize lead content in drinking water. A system of lead service loops was designed by KWU, approved by WDNR in late 2019, and constructed in early 2020 by KWU staff. We are currently in the beginning stages of the study that will last until the end of 2021.

We would like to thank the Wastewater Division for electrical and mechanical upgrades and repairs as well as the Engineering and Business Services Divisions for their support throughout the year. We would also like to extend special thanks to the Board of Water Commissioners for providing us the tools and equipment to ensure we continue providing the best drinking water to Kenosha, Pleasant Prairie, Bristol, and Somers. Of course I would be remiss if I did not mention the contributions of Ed St. Peter and Dave Lewis who retired at the end of 2019. Their impact on the direction and operations of KWU and, more importantly, the culture of our Utility will be felt long into the future.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ian C. Bagley', with a stylized flourish at the end.

Ian C. Bagley, P.E.  
Director of Water Production



[www.kenosha.org](http://www.kenosha.org)



# Kenosha Water Utility

## Production Division

### Main Plant Pumping

2019

Month	Pumpage X 1000 Gallons				Electricity	
	High Lift	Daily Average	Low Lift	Daily Average	Pumping	Cost/MG
January	370,560	11,954	408,787	13,187	\$ 38,735	\$ 94.76
February	346,170	12,363	383,084	13,682	43,814	114.37
March	374,440	12,079	410,466	13,241	38,481	93.75
April	353,237	11,775	394,254	13,142	37,369	94.78
May	380,140	12,263	422,770	13,638	37,761	89.32
June	401,710	13,390	442,153	14,738	40,620	91.87
July	480,320	15,494	530,450	17,111	42,380	79.89
August	489,050	15,776	535,205	17,265	44,182	82.55
September	401,350	13,378	441,678	14,723	44,302	100.30
October	373,030	12,033	409,772	13,218	36,685	89.53
November	344,140	11,471	382,461	12,749	40,526	105.96
December	354,570	11,438	394,369	12,722	37,180	94.28
<b>Total</b>	<b>4,668,717</b>		<b>5,155,449</b>		<b>\$ 482,035</b>	
<b>Average</b>	<b>389,060</b>	<b>12,784</b>	<b>429,621</b>	<b>14,118</b>	<b>\$ 40,170</b>	<b>\$ 94.28</b>

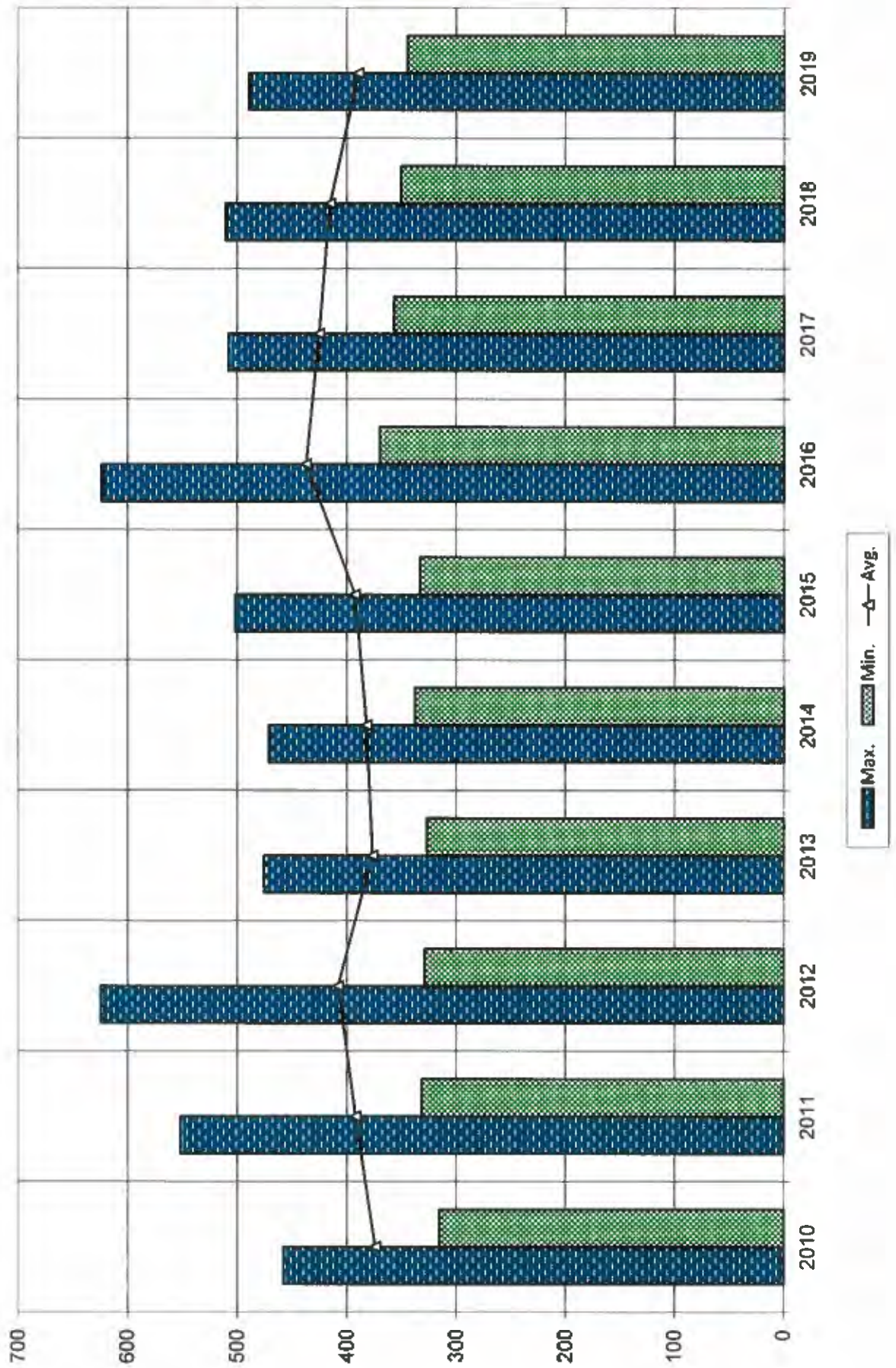
### Booster System Pumping

2019

Month	Pumpage X 1000 gal	Total Power Cost	Pumping Power Cost	Total Cost/MG	Pumping Cost/MG
January	147,740	\$ 14,005	\$ 11,973	\$ 94.79	\$ 81.04
February	137,850	14,526	12,573	105.38	91.21
March	152,720	15,069	13,448	98.67	88.06
April	147,850	14,048	13,026	95.02	88.10
May	161,560	13,581	12,822	84.06	79.36
June	173,690	13,783	13,074	79.35	75.27
July	209,110	17,259	16,686	82.54	79.80
August	215,230	15,491	14,980	71.97	69.60
September	186,990	14,918	14,396	79.78	76.99
October	164,080	12,677	12,038	77.26	73.37
November	142,410	13,009	11,660	91.35	81.88
December	146,580	15,284	13,312	104.27	90.82
<b>Total</b>	<b>1,985,810</b>	<b>\$ 173,650</b>	<b>\$ 159,988</b>		
<b>Average</b>	<b>165,484</b>	<b>\$ 14,471</b>	<b>\$ 13,332</b>	<b>\$ 88.70</b>	<b>\$ 81.29</b>

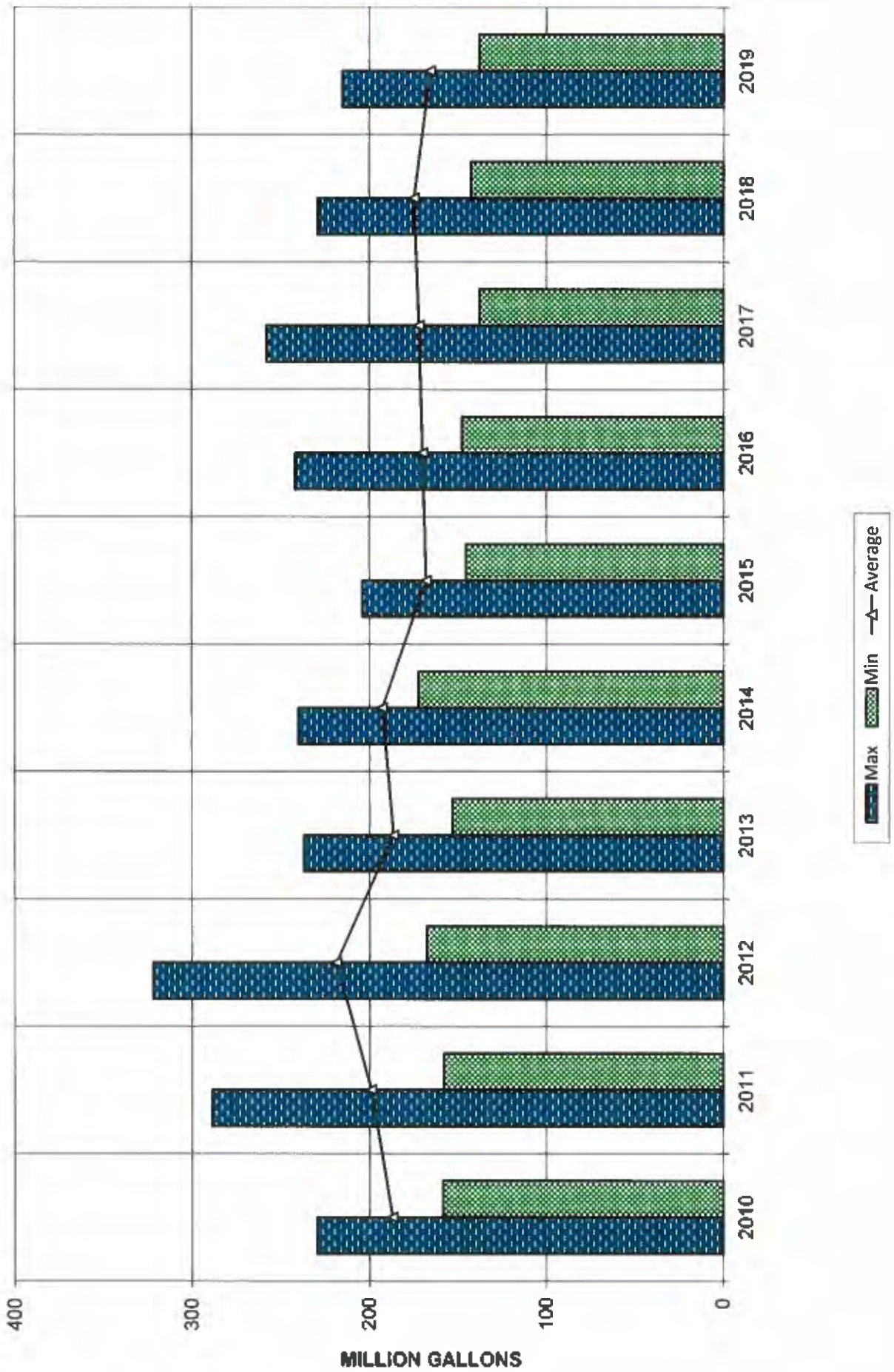
# Main Plant Pumping Last Ten Years

## Monthly Flow - Million Gallons



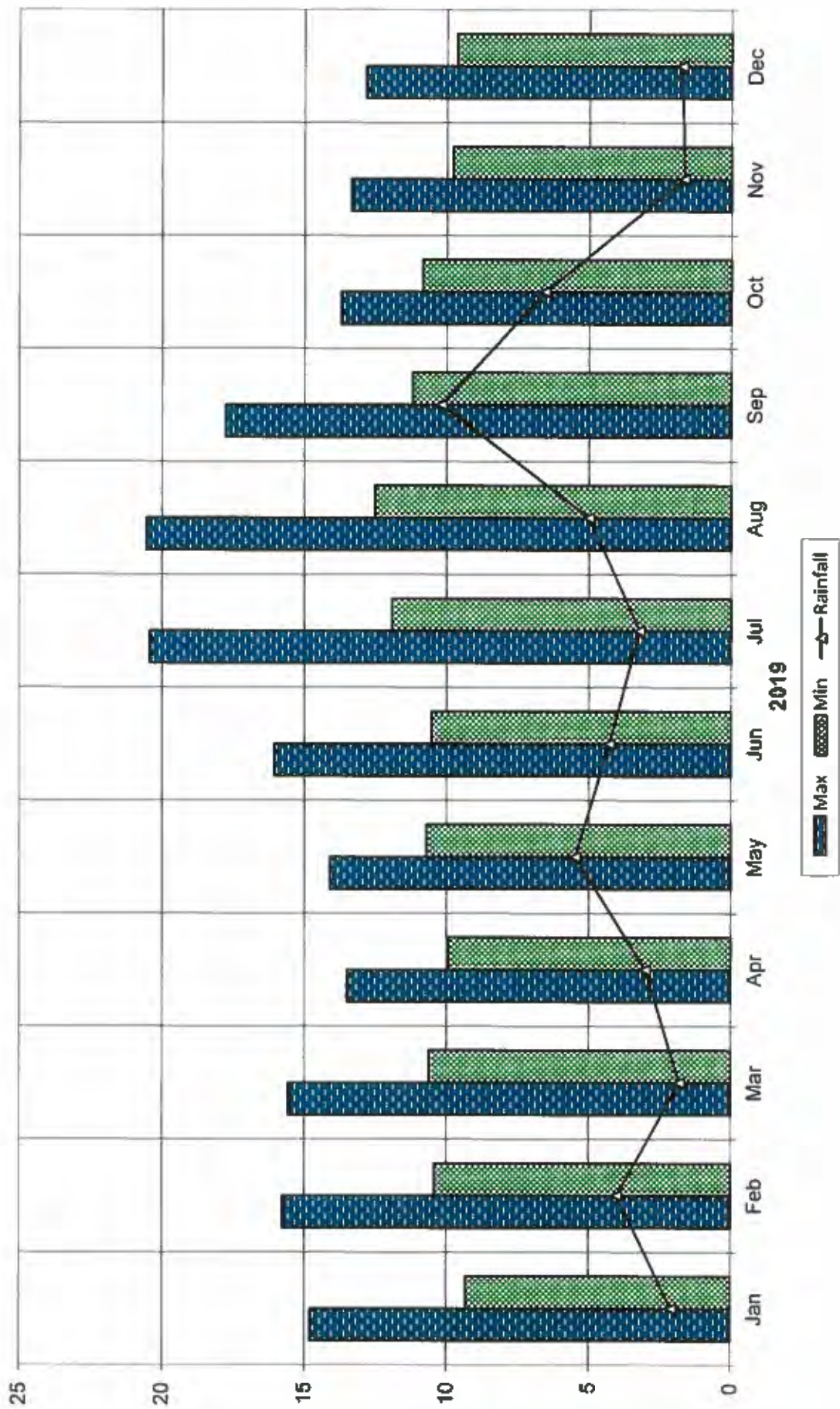
# Booster Pumping Last Ten Years

## Monthly Flow - Million Gallons



# Finished Water Per Month Compared to Rainfall

## Daily Flow Min/Max (MG) + Total Precipitation (Inches)



MILLION GALLONS or INCHES

**Kenosha Water Utility  
Production Division  
Rapid Sand Plant Filtration Report  
2019**

Month	Pumpage (1000 gal.)			
	Total Water Treated	Max Day	Min Day	Avg Day
January	197,375	9,326	3,769	6,367
February	190,929	10,253	4,809	6,819
March	205,106	10,056	4,959	6,616
April	187,279	8,143	4,935	6,243
May	211,382	8,543	5,269	6,819
June	235,259	10,552	5,178	7,842
July	305,308	15,028	6,258	9,849
August	314,845	14,879	6,831	10,156
September	236,169	12,964	5,816	7,872
October	202,820	8,110	5,151	6,543
November	186,895	8,775	4,267	6,230
December	184,236	7,360	4,147	5,943
<b>Total</b>	<b>2,657,603</b>			
<b>Average</b>	<b>221,467</b>			<b>7,275</b>

Month	Washwater (1000 gal.)	% Rated Capacity	Filter Run Hours		
			Max	Min	Avg
January	3,150	32	80	14	73
February	3,330	34	80	15	74
March	2,500	33	80	69	79
April	1,650	31	80	64	77
May	1,560	34	80	48	78
June	2,060	39	80	58	66
July	3,180	49	67	36	47
August	3,960	51	58	26	39
September	2,170	39	78	43	57
October	1,520	33	80	45	76
November	1,560	31	80	71	79
December	1,540	30	80	78	80
<b>Total</b>	<b>28,180</b>				
<b>Average</b>	<b>2,348</b>	<b>36</b>			<b>69</b>

**Kenosha Water Utility  
Production Division  
Membrane Plant Filtration Report  
2019**

Month	Pumpage (1000 gal.)			
	Total Water Treated	Max Day	Min Day	Avg Day
January	170,146	5,587	4,351	5,489
February	155,248	5,627	5,507	5,545
March	170,245	5,631	4,439	5,492
April	166,649	6,133	3,753	5,555
May	171,289	5,651	4,349	5,525
June	166,714	5,634	5,456	5,557
July	179,782	7,329	4,073	5,799
August	176,455	6,873	5,490	5,692
September	166,414	5,601	5,475	5,547
October	170,210	5,600	4,264	5,491
November	157,686	6,586	3,781	5,256
December	171,389	5,622	4,887	5,529
<b>Total</b>	<b>2,022,227</b>			
<b>Average</b>	<b>168,519</b>			<b>5,540</b>

Month	Washwater Raw (1000 gal.)	% Rated Capacity *	CIP Run Hours		
			Max	Min	Avg
January	22,680	35	501	120	373
February	18,880	36	501	87	346
March	17,580	35	500	291	438
April	21,800	36	501	300	478
May	23,840	35	501	474	498
June	21,940	36	500	485	499
July	22,110	37	501	288	483
August	18,980	37	502	240	474
September	21,610	36	500	338	476
October	20,720	35	501	390	479
November	20,680	34	537	158	447
December	23,510	35	501	268	462
<b>Total</b>	<b>254,330</b>				
<b>Average</b>	<b>21,194</b>	<b>36</b>			<b>454</b>

\* Capacity based on winter operations (water temperature below 65° F)  
CIP - Clean-in-Place

**Kenosha Water Utility  
Production Division  
Rapid Sand Plant Chemical Feed Report  
2019**

Month	Alum		Chlorine		Fluoride	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG
January	64,818	328.40	3,478	17.62	4,575	23.18
February	58,532	306.56	3,388	17.75	4,369	22.88
March	57,960	282.59	3,447	16.80	4,920	23.99
April	55,150	294.48	3,124	16.68	4,631	24.73
May	47,708	225.70	3,599	17.03	5,156	24.39
June	51,179	217.54	4,231	17.98	5,595	23.78
July	66,809	218.82	5,462	17.89	7,475	24.48
August	64,925	206.21	5,624	17.86	7,917	25.15
September	50,178	212.47	4,031	17.07	5,909	25.02
October	48,494	239.10	3,610	17.80	5,045	24.87
November	50,336	269.33	3,373	18.04	4,347	23.26
December	52,118	282.89	3,106	16.86	4,426	24.02
<b>Total</b>	<b>668,207</b>		<b>46,473</b>		<b>64,365</b>	
<b>Average</b>	<b>55,684</b>	<b>257.01</b>	<b>3,873</b>	<b>17.45</b>	<b>5,364</b>	<b>24.15</b>

Month	Potassium Permanganate		Polyphosphate		Total Chemical Cost	
	Pounds	lb/MG	Pounds	lb/MG	Total \$	Cost/MG
January	0	0.00	4,818	24.41	\$ 13,063	\$ 66.18
February	0	0.00	5,053	26.47	12,199	63.89
March	0	0.00	5,346	26.07	12,346	60.19
April	0	0.00	4,783	25.54	11,568	61.77
May	0	0.00	5,517	28.10	11,029	52.18
June	0	0.00	6,141	28.10	12,041	51.18
July	0	0.00	8,240	28.99	15,823	51.83
August	0	0.00	8,776	27.87	16,674	52.96
September	0	0.00	6,585	27.88	12,675	53.67
October	0	0.00	5,662	27.92	11,758	57.97
November	0	0.00	5,190	27.77	11,655	62.36
December*	0	0.00	4,866	26.41	11,730	63.67
<b>Total</b>	<b>0</b>		<b>70,977</b>		<b>\$ 152,561</b>	
<b>Average</b>	<b>0</b>	<b>0.00</b>	<b>5,915</b>	<b>26.63</b>	<b>\$ 12,713</b>	<b>\$ 58.15</b>

**Kenosha Water Utility  
Production Division  
Membrane Plant Chemical Feed Report  
2019**

Month	Cleaning Chemicals							
	Sodium Hydroxide		Hydrogen Peroxide		EDTA		Sulfuric Acid	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG
January	9,342	54.91	1,728	10.18	946	5.56	1,009	5.93
February	5,605	36.11	1,037	6.68	567	3.65	605	3.90
March	6,728	39.51	1,244	7.31	681	4.00	727	4.27
April	5,232	31.39	968	5.81	530	3.18	565	3.39
May	4,858	28.36	899	5.25	492	2.87	525	3.06
June	5,979	35.86	1,106	6.64	605	3.63	646	3.87
July	5,232	29.10	968	5.38	530	2.95	565	3.14
August	5,979	33.88	1,106	6.27	605	3.43	646	3.66
September	5,232	31.44	968	5.82	530	3.18	565	3.40
October	3,737	21.95	691	4.06	378	2.22	404	2.37
November	8,959	56.88	1,659	10.52	908	5.76	969	6.14
December	5,605	32.71	1,037	6.05	567	3.31	605	3.53
<b>Total</b>	<b>72,496</b>		<b>13,411</b>		<b>7,339</b>		<b>7,631</b>	
<b>Average</b>	<b>6,041</b>	<b>36.01</b>	<b>1,118</b>	<b>6.66</b>	<b>512</b>	<b>3.65</b>	<b>653</b>	<b>3.89</b>

Month	Process Chemicals							Total Cost *	
	Chlorine		Fluoride		Polyphosphate		Total \$	\$/MG	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG			
January	2,998	17.62	3,944	23.18	4,154	24.41	\$ 6,160	\$ 36.20	
February	2,755	17.75	3,553	22.88	4,109	26.47	4,840	31.18	
March	2,861	16.80	4,084	23.99	4,438	26.07	5,445	31.98	
April	2,780	16.68	4,121	24.73	4,256	25.54	4,886	29.32	
May	2,917	17.03	4,178	24.39	4,471	26.10	4,907	28.65	
June	2,998	17.98	3,965	23.78	4,352	26.10	5,196	31.17	
July	3,216	17.89	4,402	24.48	4,852	26.99	5,306	29.51	
August	3,152	17.86	4,437	25.15	4,919	27.87	5,367	30.42	
September	2,840	17.07	4,184	25.02	4,540	27.88	4,909	29.50	
October	3,029	17.80	4,233	24.87	4,752	27.92	4,616	27.12	
November	2,845	18.04	3,667	23.26	4,379	27.77	5,732	36.35	
December**	2,690	16.86	4,117	24.02	4,526	26.41	4,969	28.99	
<b>Total</b>	<b>35,281</b>		<b>48,865</b>		<b>53,848</b>		<b>\$ 62,333</b>		
<b>Average</b>	<b>2,940</b>	<b>17.45</b>	<b>4,072</b>	<b>24.15</b>	<b>4,487</b>	<b>26.63</b>	<b>\$ 5,194</b>	<b>\$ 30.87</b>	

\* Includes cleaning and process chemicals

\*\* Phosphate mix was revised during December 2018: price changed from \$6.94/gallon to \$0.417/pound

MG - million gallons



**Kenosha Water Utility  
Production Division  
Laboratory Report  
2019**

Month	Alkalinity Average mg/l		pH Average pH units		Conductivity µS/cm	
	Raw	Tap	Raw	Tap	Raw	Tap
January	117	108	8.33	7.71	310	311
February	120	112	8.30	7.67	368	376
March	114	108	8.31	7.69	312	316
April	114	106	8.31	7.68	324	330
May	111	106	8.35	7.71	319	309
June	111	104	8.36	7.69	310	318
July	108	102	8.34	7.66	272	276
August	108	102	8.40	7.67	282	286
September	108	103	8.22	7.63	276	280
October	107	101	8.22	7.64	319	326
November	109	101	8.27	7.66	316	332
December	110	102	8.31	7.69	295	307
<b>Average</b>	<b>111</b>	<b>105</b>	<b>8.31</b>	<b>7.68</b>	<b>309</b>	<b>314</b>

Month	Hardness mg/l		Temp Raw ° F		
	Raw	Tap	Max	Min	Avg
January	146	144	36	34	34
February	156	154	34	34	34
March	144	142	39	34	36
April	140	140	45	39	43
May	142	138	52	43	46
June	136	134	55	52	54
July	136	136	66	46	55
August	136	136	72	52	61
September	138	136	57	48	52
October	136	134	55	48	52
November	142	142	48	39	43
December	144	142	39	36	37
<b>Average</b>	<b>141</b>	<b>140</b>	<b>50</b>	<b>42</b>	<b>46</b>

mg/l - milligrams per Liter  
µS/cm - microsiemens per centimeter

**Kenosha Water Utility  
Production Division  
Laboratory Report  
2019**

Month	Turbidity NTU								
	Rapid Sand Raw			Membrane Raw			Tap		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
January	89.8	10.3	33.9	82.4	11.7	36.6	0.040	0.024	0.030
February	64.5	5.9	18.8	72.2	7.2	22.1	0.043	0.028	0.034
March	30.0	2.9	9.1	37.5	3.8	11.7	0.035	0.026	0.028
April	61.3	3.4	12.6	73.3	5.2	17.1	0.036	0.024	0.026
May	12.1	2.2	4.9	13.8	3.8	7.0	0.035	0.025	0.028
June	7.8	2.6	4.4	9.2	3.1	5.5	0.031	0.020	0.025
July	15.5	1.1	4.7	19.7	1.3	6.3	0.031	0.022	0.026
August	6.0	1.8	2.7	8.4	2.5	3.9	0.029	0.021	0.025
September	10.4	1.3	2.7	12.5	1.5	3.4	0.030	0.022	0.024
October	31.4	1.6	7.1	45.9	2.1	9.4	0.027	0.019	0.022
November	35.4	4.5	14.0	46.1	5.8	18.5	0.034	0.019	0.025
December	106.0	3.3	21.2	129.1	3.8	27.2	0.034	0.022	0.027
Average	39.2	3.4	11.3	45.8	4.3	14.1	0.034	0.023	0.027

Month	PO4 Average mg/l	Fluoride Composite Average mg/l	Chlorine Residual mg/l		
			Tap		
	Tap	Tap	Max	Min	Avg
January	0.82	0.74	1.1	1.0	1.1
February	0.89	0.71	1.1	1.0	1.1
March	0.88	0.73	1.2	1.0	1.1
April	0.88	0.73	1.1	1.0	1.1
May	0.88	0.72	1.1	1.0	1.0
June	0.89	0.70	1.1	1.0	1.0
July	0.88	0.75	1.1	1.0	1.1
August	0.90	0.74	1.2	1.0	1.1
September	0.92	0.76	1.2	1.0	1.1
October	0.93	0.76	1.2	1.0	1.1
November	0.95	0.73	1.1	1.0	1.1
December	0.90	0.73	1.1	0.9	1.1
Average	0.89	0.73	1.1	1.0	1.1

NTU - Nephelometric Turbidity Units  
 PO4 - Polyphosphate; type and mix changed during December.  
 mg/l - milligrams per liter

## Synthetic Organic Chemicals

Parameters	Minimum Detection Level µg/L	Kenosha Results µg/L	Maximum Contaminant Level µg/L
Alachlor (Lasso)	0.015	ND	2
Aldicarb Total	0.50	ND	3
Aldicarb Sulfoxide	0.57	ND	4
Aldicarb Sulfone	0.51	ND	2
Aldrin	0.015	ND	na
Atrazine	0.024	ND	3
Benzo(a)pyrene	0.02	ND	0.2
Butachlor	0.025	ND	na
Carbaryl	0.58	ND	na
Carbofuran	0.55	ND	40
Chlordane	0.033	ND	2
2,4-D	0.093	ND	70
Dalapon	0.56	ND	200
Dicamba	0.21	ND	na
Dieldrin	0.020	ND	na
Di (2-ethylhexyl) adipate	0.60	ND	400
Di (2-ethylhexyl) phthalate	0.60	ND	6
Dinoseb	0.079	ND	7
Diquat	0.22	ND	20
Endothall	0.51	ND	100
Endrin	0.0090	ND	2.0
Glyphosate (Round-up)	3.0	ND	700
Heptachlor	0.019	ND	0.4
Heptachlorepoide	0.015	ND	0.2
Hexachlorobenzene	0.019	ND	1
Hexachlorocyclopentadiene	0.036	ND	50
3-Hydroxycarbofuran	0.51	ND	na
BHC Gamma (Lindane)	0.0075	ND	0.2
Methoxychlor	0.016	ND	40
Methomyl	0.49	ND	na
Dual (Metolachlor)	0.011	ND	na
Metribuzin (Sencor)	0.019	ND	na
Oxamyl (Vydate)	0.45	ND	200
PCB Total ****	0.1	ND	0.5
Pentachlorophenol	0.030	ND	1
Picloram (Tordan)	0.086	ND	500
Propachlor	0.014	ND	na
2,4,5-TP (Silvex)	0.15	ND	50
Simazine	0.049	ND	4
2,3,7,8-TCDD (Dioxin)	0.000005	ND	0.00003
Toxaphene	0.33	ND	3

na – not applicable

ND – not detected

µg/L – micrograms per Liter or parts per billion

\*\*\*\* PCB 1016 (0.030); PCB 1221 (0.042); PCB 1232 (0.091); PCB 1242 (0.11);  
PCB 1248 (0.047); PCB 1254 (0.032); PCB 1260 (0.026)

Sampled in 2017

## Volatile Organic Chemicals

Parameters	Minimum Detection Level µg/L	Level Found Kenosha Results µg/L	Maximum Contaminant Level µg/L
Benzene	0.23	ND	5
Bromobenzene	0.26	ND	na
Bromodichloromethane	0.23	9.1	80
Bromoform	0.21	0.22	80
Bromomethane	0.37	ND	na
Carbon Tetrachloride	0.22	ND	5
Chloroethane	1.5	ND	na
Chloroform	0.25	12	80
Chloromethane	0.23	ND	na
1,2-Chlorotoluene (o-)	0.23	ND	na
1,4-Chlorotoluene (p-)	0.20	ND	na
Dibromochloromethane	0.17	4.1	80
Dibromomethane	0.26	ND	na
1,3-Dichlorobenzene (m-)	0.25	ND	na
1,2-Dichlorobenzene (o-)	0.25	ND	600
1,4-Dichlorobenzene (p-)	0.28	ND	75
1,1-Dichloroethane	0.31	ND	na
1,2-Dichloroethane	0.25	ND	5
1,1-Dichloroethylene	0.25	ND	7
1,2-Dichloroethylene, cis	0.30	ND	70
1,2-Dichloroethylene, trans	0.47	ND	100
Dichloromethane	0.22	ND	5
1,2-Dichloropropane	0.23	ND	5
1,3-Dichloropropane	0.25	ND	na
2,2-Dichloropropane	0.15	ND	na
1,1-Dichloropropene	0.32	ND	na
1,3-Dichloropropene	0.39	ND	na
Ethylbenzene	0.22	ND	700
Chlorobenzene	0.24	ND	100
Styrene	0.21	ND	100
1,1,1,2-Tetrachloroethane	0.21	ND	na
1,1,2,2-Tetrachloroethane	0.20	ND	na
Tetrachloroethylene	0.28	ND	5
Toluene	0.22	ND	1,000
1,2,4-Trichlorobenzene	0.25	ND	70
1,1,1-Trichloroethane	0.32	ND	200
1,1,2-Trichloroethane	0.27	ND	5
Trichloroethylene	0.30	ND	5
1,2,3-Trichloropropane	0.30	ND	na
Vinyl Chloride	0.20	ND	0.2
Xylene Total	0.68	ND	10,000

na – not applicable

ND – not detected

µg/L – micrograms per Liter or parts per billion

All parameters are sampled at the distribution system entry point every three years per WDNR regulations.

Sampled in 2017

## Inorganic Chemicals

Parameters	Minimum Detection Level mg/L	Level Found Kenosha Results mg/L	Maximum Contaminant Level mg/L	Sample Location
Alkalinity Total CaCO <sub>3</sub>	1.0	119 max	na	Entry point
Antimony Total**	0.00013	0.00021	0.006	Entry point
Arsenic Total**	0.0005	0.00066	0.01	Entry point
Barium Total**	0.0001	0.021	2	Entry point
Beryllium Total**	0.00013	ND	0.004	Entry point
Cadmium Total**	0.0001	ND	0.005	Entry point
Chromium Total**	0.00032	ND	0.1	Entry point
Copper**	0.001	0.11	1.3 (AL)	Residential taps
Cyanide**	0.005	ND	0.2	Entry point
Fluoride Total	0.05	0.83 max	4	Entry point
Haloacetic Acids	0.00013	0.0192 max	0.06	Maximum residence
Hardness Total CaCO <sub>3</sub>	1	154 max	500	Highest result obtained
Lead**	0.0001	0.0089	0.015 (AL)	Residential taps
Mercury Total**	0.000025	ND	0.002	Entry point
Nickel Total**	0.0005	0.0009	0.1	Entry point
Nitrate as N	0.030	0.63	10	Entry point
Nitrite**	0.050	ND	1	Entry point
pH Lab	0.01pH	7.68 pH avg	na	Entry point
Selenium Total**	0.002	ND	0.05	Entry point
Sodium Total	0.045	9.9	na	Entry point
Sulfate Total**	0.56	26.3	na	Entry point
Thallium Total**	0.0001	ND	0.002	Entry point
Total Trihalomethanes	0.00017	0.0467 max	0.08	Maximum residence

ND – not detected

mg /L – milligrams per Liter or parts per million

AL – Action Level

na – not applicable

Entry Point – Where water enters the distribution system.

Maximum residence – A point of maximum residence time in the distribution system.

\*\* - sample taken in 2017

**Water System  
Income Statement – 2019**

<b>Sales of Water</b>		
Residential Water Sales	\$ 5,570,080.95	
Commercial Water Sales	2,665,119.20	
Industrial Water Sales	812,551.24	
Unmetered Sales to General Customers	17,724.82	
Private Fire Protection	176,585.30	
Public Fire Protection	1,358,470.44	
Sales to Public Authorities	455,077.24	
Sales for Resale	<u>2,361,566.25</u>	
<b>Total Sales of Water</b>		<b>13,417,175.44</b>
<b>Other Operating Revenues</b>		
Penalties	148,565.64	
Other Water Revenue	59,074.97	
Allocated Services	145,628.29	
Miscellaneous Service Revenues	<u>308,677.88</u>	
<b>Total Other Operating Revenues</b>		<u><b>661,946.78</b></u>
<b>Total Operating Revenues</b>		<b>14,079,122.22</b>
 <b>Operating Expenses</b>		
Production Plant	2,842,135.54	
Distribution System	3,330,417.11	
Customer Accounting & Collection	585,382.65	
Administration	2,445,089.30	
Depreciation	3,018,293.72	
Taxes	<u>2,205,316.57</u>	
<b>Total Operating Expenses</b>		<u><b>14,426,634.89</b></u>
<b>Utility Operating Income</b>		<b>(347,512.67)</b>
<b>Other Income</b>		
Interest Income	168,239.53	
Other Non-operating Income	<u>33,658.51</u>	
<b>Total Other Income</b>		<b>201,898.04</b>
<b>Non-operating Expenses</b>		
Interest on Long-term Debt		<u>175,691.70</u>
<b>Net Income before Capital Contributions</b>		<b>(321,306.33)</b>
<b>Capital Contributions</b>		
		<u>45,687.52</u>
<b>Net Income (Loss)</b>		<u><b>(\$ 275,618.81)</b></u>

**Water System  
Statement of Net Position  
December 31, 2019**

<b>Assets</b>		
<b>Utility Plant</b>		
Utility Plant in Service	\$ 126,305,030.70	
Work in Progress - Water Plant	97,234.44	
Work in Progress - Water System	458,146.37	
Accumulated Depreciation	<u>(50,664,420.36)</u>	
<b>Net Plant in Service</b>		76,195,991.15
<b>Nonutility Property</b>		
Nonutility Property	20,370.78	
Accumulated Depreciation - Nonutility Property	<u>(2,370.78)</u>	
<b>Net Nonutility Property</b>		18,000.00
<b>Current Assets</b>		
Cash and Cash Equivalents	4,506,318.76	
Investments	2,976,954.66	
Restricted Cash and Cash Equivalents	-	
Customer Accounts Receivable	1,450,971.32	
Receivable from Municipality	654,985.15	
Unbilled Revenues	1,390,490.42	
Other Accounts Receivable	28,042.75	
Materials and Supplies	426,261.96	
Accrued Interest Receivable	7,994.32	
Other Current Assets	<u>110,115.28</u>	
<b>Total Current Assets</b>		11,555,134.62
<b>Other Assets</b>		
Deferred Charges	2,792,656.52	
Assessments Receivable	154,849.54	
Pension Asset - Wisconsin Retirement System	<u>-</u>	
<b>Total Other Assets</b>		2,947,506.06
<b>Total Assets</b>		<u>\$ 90,716,631.83</u>
<b>Deferred Outflow of Resources</b>		
Deferred Pension Resources		\$ 2,548,737.33
Deferred OPEB Resources		<u>39,128.06</u>
<b>Total Outflows of Resources</b>		<u>\$ 2,587,865.41</u>
<b>Liabilities</b>		
<b>Current Liabilities</b>		
Accrued Taxes	\$ 2,252,704.00	
Accounts Payable	234,497.14	
Current Portion of Accrued Compensated Absences	42,025.64	
Current Portion of Net Other Postemployment Benefits Payable to Municipality	90,125.00	
Other Current Liabilities	<u>566,580.44</u>	
<b>Total Current Liabilities</b>		3,219,065.79
<b>Non-current Liabilities</b>		
Long-term Debt		
Advance from Sewerage Unit	<u>5,000,000.00</u>	
<b>Total Long-term Debt</b>		5,000,000.00
Accrued Compensated Absences	275,205.66	
Worker's Compensation Accrued Liability	62,441.00	
Net Other Postemployment Benefit Obligations	1,259,305.47	
Pension Liability - Wisconsin Retirement System	<u>931,071.90</u>	
<b>Total Non-current Liabilities</b>		7,528,024.03
<b>Total Liabilities</b>		<u>\$ 10,747,089.82</u>
<b>Deferred Inflow of Resources</b>		
Deferred Pension Resources		\$ 1,369,309.75
Deferred OPEB resources		<u>82,505.08</u>
<b>Total Inflows of Resources</b>		<u>\$ 1,451,814.83</u>
<b>Net Position</b>		
Invested in Capital Assets, net of related debt	76,213,991.15	
Unrestricted	<u>4,891,599.44</u>	
<b>Total Net Position</b>		<u>\$ 81,105,590.59</u>

**Water System  
Comparative Operating and Maintenance Expenses**

	2019	2018	2017
<b>Source of Supply Expenses</b>			
Maintenance of Lake Intakes	\$ 5,603.50	\$ 0.00	\$ 0.00
Miscellaneous	9,625.00	9,625.00	9,625.00
	<u>15,228.50</u>	<u>9,625.00</u>	<u>9,625.00</u>
<b>Pumping Expenses</b>			
<u>Operation</u>			
Supervision and Engineering	216,911.75	98,059.56	156,516.21
Fuel - Electricity and Gas	780,844.44	777,472.70	799,895.01
Labor	130,963.59	124,000.27	121,128.99
Miscellaneous Expense	11,655.36	8,148.46	8,969.07
	<u>1,140,375.14</u>	<u>1,005,680.99</u>	<u>1,086,509.28</u>
<u>Maintenance</u>			
Structures and Improvements	42,095.41	48,821.13	33,858.50
Power Production Equipment	64.57	10,472.13	31,841.46
Pumping Equipment	127,043.02	83,595.46	89,090.88
	<u>169,203.00</u>	<u>142,888.72</u>	<u>134,790.84</u>
<b>Water Treatment Expenses</b>			
<u>Operation</u>			
Supervision and Engineering	74,519.86	61,945.13	52,777.13
Chemicals	145,018.83	121,405.42	106,117.89
Labor	325,452.59	303,797.50	296,900.31
Miscellaneous Expense	314,274.06	436,593.57	508,639.16
	<u>659,265.34</u>	<u>923,741.62</u>	<u>864,434.49</u>
<u>Maintenance</u>			
Structures and Improvements	104,362.23	80,112.50	63,245.92
Water Treatment Expense	553,701.33	517,593.45	519,177.09
	<u>658,063.56</u>	<u>597,705.95</u>	<u>582,423.01</u>
	<u>2,842,135.54</u>	<u>2,679,642.27</u>	<u>2,777,782.42</u>
<b>Transmission and Distribution Expenses</b>			
<u>Operation</u>			
Supervision and Engineering	190,642.05	324,180.98	140,037.85
Transmission and Distribution Lines	53,125.24	82,263.05	23,352.35
Meter Expense	79,087.43	66,038.41	72,159.63
Customer Installation Expense	83,261.55	106,619.75	115,388.96
Customer Installation Expense - Lead Service			
Line Replacement	624,303.27	106,991.03	-
Miscellaneous Expense	573,733.65	538,066.66	507,214.86
	<u>1,804,153.19</u>	<u>1,224,159.88</u>	<u>858,153.65</u>
<u>Maintenance</u>			
Supervision and Engineering	21,204.98	14,317.01	-
Maintenance of Standpipes/Reservoirs	561,815.79	395,380.80	556,319.28
Transmission Mains	852,950.24	1,082,084.68	740,154.59
Services	184,765.98	325,197.92	295,634.64
Meters	58,515.76	47,809.41	64,682.95
Hydrants	47,011.17	60,459.26	54,401.00
	<u>1,726,263.92</u>	<u>1,935,249.08</u>	<u>1,711,192.46</u>
	<u>3,330,417.11</u>	<u>3,159,408.96</u>	<u>2,569,346.11</u>
<b>Customer Account Expenses</b>			
Customer Accounting and Collection	514,622.53	407,069.25	304,513.35
Meter Reading	70,560.12	63,391.41	60,546.16
	<u>585,382.65</u>	<u>470,460.66</u>	<u>365,059.51</u>
<b>Administrative and General Expenses</b>			
Administrative and General Salaries	314,895.71	231,210.34	217,462.06
Office Supplies and Expense	22,184.25	26,958.57	38,735.72
Outside Services Employed	424,471.07	494,999.33	406,995.19
Property Insurance	121,336.14	120,125.78	106,061.21
Employee Benefits and Pensions	1,578,799.23	1,293,561.91	1,345,523.03
Regulatory Commission Expense	13,777.18	25,600.32	14,305.37
Miscellaneous Expense	31,995.73	24,145.55	24,390.20
	<u>2,507,459.31</u>	<u>2,216,601.80</u>	<u>2,153,472.78</u>
<b>Total Operation and Maintenance Expenses</b>			
Utility Taxes	2,205,316.57	2,309,733.04	2,352,857.73
Depreciation	3,018,293.72	2,919,617.11	2,856,045.51
<b>Total Operating Expenses</b>	<u>\$ 14,489,004.90</u>	<u>\$ 13,765,463.84</u>	<u>\$ 13,073,564.06</u>



**Water System  
Comparative Income Statement**

	2019	2018	2017
<b>Sales of Water</b>			
Residential Water Sales	\$ 5,570,080.95	\$ 5,702,764.65	\$ 5,708,386.59
Commercial Water Sales	2,665,119.20	2,703,906.88	2,714,429.24
Industrial Water Sales	812,551.24	817,718.27	865,936.50
Total Unmetered Sales to General Public	17,724.82	15,684.54	11,149.61
Private Fire Protection	176,585.30	173,070.00	164,921.00
Public Fire Protection	1,358,470.44	1,356,694.51	1,355,848.07
Sales to Public Authorities	455,077.24	478,420.08	528,456.56
Sales for Resale	<u>2,361,566.25</u>	<u>2,551,956.60</u>	<u>2,661,782.42</u>
<b>Total Sales of Water</b>	<b>13,417,175.44</b>	<b>13,800,215.53</b>	<b>14,010,909.99</b>
<b>Other Operating Revenues</b>			
Penalties	148,565.64	153,410.28	159,342.97
Other Water Revenue	59,074.97	61,917.69	64,478.68
Allocated Services	145,628.29	144,125.02	144,671.55
Miscellaneous Service Revenues	<u>308,677.88</u>	<u>306,019.57</u>	<u>280,975.28</u>
<b>Total Other Operating Revenues</b>	<b>661,946.78</b>	<b>665,472.56</b>	<b>649,468.48</b>
<b>Total Operating Revenues</b>	<b>14,079,122.22</b>	<b>14,465,688.09</b>	<b>14,660,378.47</b>
<b>Operating Expenses</b>			
Source of Supply	15,228.50	9,625.00	9,625.00
Power and Pumping Expense	1,309,578.14	1,148,569.70	1,221,299.92
Water Treatment Expense	1,517,328.90	1,521,447.57	1,546,857.50
Transmission and Distribution Expense	3,330,417.11	3,159,408.96	2,569,346.11
Customer Accounting and Collection Expense	585,382.65	470,460.66	365,059.51
Administrative and General Expense	2,445,089.30	2,216,601.80	2,153,472.78
Depreciation	3,018,293.72	2,919,617.11	2,855,045.51
Taxes	<u>2,205,316.57</u>	<u>2,309,733.04</u>	<u>2,352,857.73</u>
<b>Total Operating Expenses</b>	<b>14,426,634.89</b>	<b>13,755,463.84</b>	<b>13,073,564.06</b>
<b>Utility Operating Income (Loss)</b>	<b>(347,512.67)</b>	<b>710,224.25</b>	<b>1,586,814.41</b>
<b>Other Income</b>			
Interest Earned	168,239.53	166,596.61	98,941.71
Miscellaneous Non-operating Income	<u>33,658.51</u>	<u>10,745.11</u>	<u>7,365.09</u>
<b>Total Other Income</b>	<b>201,898.04</b>	<b>177,341.72</b>	<b>106,306.80</b>
<b>Operating and Other income (Loss)</b>	<b>(145,614.63)</b>	<b>887,565.97</b>	<b>1,693,121.21</b>
<b>Non-operating Expenses</b>			
Interest on Long-term Debt	175,691.70	394,954.42	524,786.99
Amortization of Debt Expense	<u>-</u>	<u>(27,138.74)</u>	<u>(43,103.48)</u>
<b>Total Non-operating Expenses</b>	<b>175,691.70</b>	<b>367,815.68</b>	<b>481,683.51</b>
<b>Net Income (Loss)</b>	<b><u>(\$ 321,306.33)</u></b>	<b><u>\$ 519,750.29</u></b>	<b><u>\$ 1,211,437.70</u></b>
<b>Rate of Return on Average Investment (based on operating income &amp; expense)</b>	<b>1.07%</b>	<b>2.61%</b>	<b>4.57%</b>

**Water System  
Utility Plant in Service  
For the year ended December 31, 2019**

	Depr. Rate %	Cost of Plant 1/1/2019	2019 Additions	2019 Retirements	Adjustments Incr/(Decr)	Cost of Plant 12/31/2019
<b>Source of Supply</b>						
Structures and Improvements	2.00	\$ 1,136,362.88				\$ 1,136,362.88
Collect and Impound Reservoirs	1.67	268,710.96				268,710.96
Lake Intakes	1.67	1,567,121.31				1,567,121.31
Supply Mains	1.33	453,081.81				453,081.81
<b>Pumping Plant</b>						
Land	N/A	18,657.25				18,657.25
Structures and Improvements	2.00	3,770,698.21				3,770,698.21
Other Power Prod Equipment	4.00	813,800.43				813,800.43
Electric Pumping Equipment	3.33	3,753,526.69				3,753,526.69
Other Pumping Equipment	4.00	8,646.81				8,646.81
<b>Water Treatment</b>						
Land	N/A	527,047.60				527,047.60
Structures and Improvements	2.00	8,527,402.57				8,527,402.57
Water Treatment Equipment	3.24	1,342,350.89				1,342,350.89
Membrane Filtration Equipment	5.56	13,842,644.15	13,737.00			13,856,381.15
<b>Transmission and Distribution</b>						
Land	N/A	314,867.39		3,277.99		311,589.40
Reservoirs and Standpipes	1.86	6,204,053.97	44,495.00	1,824.00		6,246,724.97
Mains	0.93	56,658,640.73	1,998,582.70	46,492.82		58,610,730.61
Services	2.09	8,977,936.12	609,939.86	12,068.58		9,575,807.42
Meters	5.00	5,115,133.99	136,391.73	57,109.72		5,184,416.00
Hydrants	1.59	5,793,222.08	180,080.59	14,267.23		5,959,035.44
<b>General Plant</b>						
Furniture and Equipment	5.88	51,735.41		700.95		51,034.46
Computer Equipment	6.67-14.29	329,877.28	61,162.26	2,968.00		388,071.54
Transportation Equipment	12.86	1,364,396.72	168,373.36		(65,991.00)	1,466,779.08
Stores Equipment	5.88	1,497.75				1,497.75
Tools and Shop Equipment	5.88	341,134.63	23,735.31	293.51		364,576.43
Lab Equipment	5.88	117,554.22				117,554.22
Work (Power) Equipment	9.00	749,716.65	224,800.00		24,373.00	998,889.65
Communication Equipment	9.09	-				-
Telephone Equipment	20.00	-				-
SCADA System Equipment	10.00	708,402.19	57,191.70			765,593.89
Miscellaneous Equipment	5.88	204,941.28	4,000.00			208,941.28
<b>Total</b>		<b>\$ 122,983,161.97</b>	<b>\$ 3,522,459.53</b>	<b>\$ 139,002.80</b>	<b>(\$ 41,618.00)</b>	<b>\$ 126,305,030.70</b>

**Water System  
Accumulated Depreciation  
For the year ended December 31, 2019**

	Balance 1/1/2019	2019 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	Balance 12/31/2019
<b>Source of Supply</b>						
Structures and Improvements	\$ 454,545.20	\$ 22,727.26				\$ 477,272.48
Collect and Impound Reservoirs	185,239.90	4,568.09				189,807.99
Lake Intakes	967,772.09	26,641.06				994,413.15
Supply Mains	133,296.68	8,156.47				141,452.15
<b>Pumping Plant</b>						
Land	-					-
Structures and Improvements	1,327,251.02	75,413.96				1,402,664.98
Other Power Prod Equipment	462,556.17	35,807.22				498,363.39
Electric Pumping Equipment	2,194,475.02	165,155.17				2,359,630.19
Other Pumping Equipment	8,648.81					8,648.81
<b>Water Treatment</b>						
Land	-					-
Structures and Improvements	3,935,876.49	170,548.05				4,106,424.54
Water Treatment Equipment	1,342,350.89					1,342,350.89
Membrane Filtration Equipment	12,597,156.71	830,970.76				13,428,127.47
<b>Transmission and Distribution</b>						
Land	-					-
Reservoirs and Standpipes	3,069,607.63	120,522.56	1,824.00			3,188,306.19
Mains	10,170,876.76	686,134.44	46,492.82			10,810,518.38
Services	4,066,850.15	193,886.63	12,068.58			4,247,668.20
Meters	2,261,575.26	283,512.63	57,109.72			2,487,978.17
Hydrants	1,906,273.22	129,516.40	14,267.23	24,850.96		2,046,373.35
<b>General Plant</b>						
Furniture and Equipment	39,205.17	2,980.32	700.95			41,484.54
Computer Equipment	190,555.31	33,873.48	2,966.00			221,460.79
Transportation Equipment	996,864.88	75,990.50			(59,391.90)	1,013,463.48
Stores Equipment	1,497.75					1,497.75
Tools and Shop Equipment	281,520.81	20,465.62	293.51			301,692.92
Lab Equipment	90,152.63	6,818.14				96,970.77
Work (Power) Equipment	354,431.05	44,799.55			21,935.70	421,166.30
Communications Equipment	(8,513.49)					(8,513.49)
SCADA System Equipment	645,567.84	67,803.82				713,371.66
Miscellaneous Equipment	119,824.74	12,002.59				131,827.33
<b>Total</b>	<u>\$ 47,794,466.69</u>	<u>\$ 3,018,293.72</u>	<u>\$ 135,724.81</u>	<u>\$ 24,850.96</u>	<u>(\$ 37,456.20)</u>	<u>\$ 50,664,420.36</u>

**Water Distribution &  
Sewer Collection Division**  
4401 Green Bay Road  
Kenosha WI 53144

Phone (262) 925-6276  
Fax (262) 653-4303



*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Board of Water Commissioners  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha, WI 53144

**Subject: 2019 Annual Report – Water Distribution & Sewer Collection Division**

The 2019 Annual Report for the Water Distribution and Sewer Collection Division is hereby submitted. We completed 521 excavation projects last year. In addition to excavation activities, our division cleaned 48.8 miles of sanitary sewer as part of our annual sewer flushing program and flushed and maintained nearly all fire hydrants south of 60th Street as part of our annual hydrant maintenance program.

**Water Distribution System:**

The Distribution Division repaired 147 water main breaks in 2017, an 8% decrease from 2018. Twenty-six valves were also repaired or replaced in 2019, a decrease in twenty-four valves from 2018. Additionally, twenty-one fire hydrants were repaired or replaced as well as 174 water services (126 of these were lead service replacements).

**Sanitary Sewer Collection System:**

Sewer projects in 2019 included the cleaning of over 48.8 miles, a decrease of 12% from 2018. Once again the focus of the televising efforts were the limits of any major projects in the City limits such as roadway resurfacing/reconstruction or sewer/water main relays. Direct work on the sanitary system remained fairly steady with fifty-seven lateral repairs, four sewer main repairs and six manhole repairs.

In addition to the typical maintenance activities associated with the water distribution and sewer collection, the Distribution Division installed a total of 3,015 feet of new PVC water main to replace deteriorated, problematic pipe. Our valve exercising program also exercised 476 valves.

Completing our work would not have been possible without help from other KWU divisions. We would also like to thank the City of Kenosha Streets Division for supporting our operation by salting roads and clearing storm sewer inlets where main breaks occur. Finally, I'd like to acknowledge the outstanding Distribution Division employees. Their willingness to sacrifice their nights, weekends and holidays during inclement weather illustrates their dedication and willingness to provide an unparalleled level of customer service.

None of this would have been possible without the Board of Water Commissioners providing us with all the tools, technology and funding necessary to complete our projects in a safe and efficient manner.

Sincerely,

Curtis Czarniecki, P.E.



[www.kenosha.org](http://www.kenosha.org)

## Water Distribution Pipe System - 2019

<u>Size</u>	<u>Material</u>	<u>Footage</u>
48"	Cast/Ductile Iron Pipe	370
36"	Cast/Ductile Iron Pipe	12,586
30"	Cast/Ductile Iron Pipe	13,280
24"	Cast/Ductile Iron Pipe	60,775
24"	Concrete Pipe	7,892
24"	Plastic Pipe	4,643
20"	Cast/Ductile Iron Pipe	8,327
18"	Cast/Ductile Iron Pipe	2,582
16"	Cast/Ductile Iron Pipe	173,309
16"	Plastic Pipe	42,908
14"	Cast/Ductile Iron Pipe	8,311
12"	Cast/Ductile Iron Pipe	222,096
12"	Plastic Pipe	58,995
10"	Cast/Ductile Iron Pipe	16,265
8"	Cast/Ductile Iron Pipe	364,346
8"	Plastic Pipe	229,857
6"	Cast/Ductile Iron Pipe	687,000
6"	Plastic Pipe	7,166
4"	Cast/Ductile Iron Pipe	30,188
3"	Copper Pipe	150
2"	Copper Pipe	2,517
2"	Plastic Pipe	759
1.5"	Copper Pipe	272
1"	Copper Pipe	70
<b>Total Feet of Pipe</b>		<b>1,954,664</b>
<b>Total Miles of Pipe</b>		<b>370.20</b>

### Water Services Added to System - 2019

<u>Number</u>	<u>Size</u>	<u>Material</u>	<u>Average Unit Cost</u>	<u>Total Cost</u>
160	1"	Copper Connections	3,327.29	532,366.71
1	1.5"	Copper Connections	1,809.63	1,809.63
1	2"	Copper Connections	2,077.99	2,077.99
3	4"	PVC	5,998.45	17,995.35
7	6"	PVC	4,011.87	28,083.09
1	8"	PVC	6,313.11	6,313.11
<b>173</b>		<b>Total</b>		<b>\$ 588,645.88</b>

### Fire Hydrants Added to System - 2019

<u>Number</u>	<u>Type</u>	<u>Average Unit Cost</u>	<u>Total Cost</u>
36	Steamer	\$ 5,002.24	\$ 180,080.59

**2019 Water Main Installation Costs**

<b>Project</b>	<b>Size/ Type</b>	<b>Installer</b>	<b>Description</b>	<b>Footage</b>	<b>Total Costs</b>	<b>Cost per Foot</b>
<u><b>By Job Number</b></u>						
<b>Installed by Kenosha Water Utility contract</b>						
508	8" PVC	Kenosha Water Utility	Water Main Relay, 19th Ave - 19th St to 20th Pl	1,108.0	\$ 163,730.69	
514	8" PVC	Kenosha Water Utility	Water Main Relay, 59th Ave - 60th St intersection	74.0	21,134.45	
516	8" PVC	Kenosha Water Utility	Water Main Relay, 37th Ave - 15th St to 14th Pl	1,547.0	238,547.67	
521	8" PVC	Kenosha Water Utility	Water Main Relay, Taft Rd - 67th St to 4535 Taft Rd	386.0	69,140.12	
523	8" PVC	Kenosha Water Utility	Water Main Relay, 82nd St - 25th Ave to 23rd Ave	469.0	87,764.64	
535	8" PVC	Kenosha Water Utility	Water Main Relay, Madison Rd - 19th Ave to 18th St	1,133.0	78,723.78	
541	8" & 12" PVC	Reesman's Excavating & Grading, Inc.	Water Main Relay, Harding Rd - 46th Ave to 67th St	1,343.0	443,470.60	
543	8" PVC	Reesman's Excavating & Grading, Inc.	Water Main Relay, 34th Ave - 78th St to 79th St	1,252.0	271,914.28	
545	6" & 8" PVC	Reesman's Excavating & Grading, Inc.	Water Main Relay, 34th Ave - 48th St to 52nd St	1,717.0	343,492.99	
571	8" PVC	Kenosha Water Utility	Water Main Relay, Harding Rd - 60th Pl to 42nd Ave	358.0	72,392.27	
590	8" PVC	Kenosha Water Utility	Water Main Relay, 24th Ave - 80th St to Lincoln Rd	1,451.0	208,271.21	
<b>Total</b>				<b>10,838.0</b>	<b>\$ 1,998,582.70</b>	
<u><b>By Pipe Size</b></u>						
545	6" PVC	Reesman's Excavating & Grading, Inc.	Water Main Relay, 34th Ave - 48th St to 52nd St	81.0	\$ 61,759.75	
<b>Subtotal</b>				<b>81.0</b>	<b>61,759.75</b>	<b>762.47</b>
508	8" PVC	Kenosha Water Utility	Water Main Relay, 19th Ave - 19th St to 20th Pl	1,108.0	163,730.69	
514	8" PVC	Kenosha Water Utility	Water Main Relay, 59th Ave - 60th St intersection	74.0	21,134.45	
516	8" PVC	Kenosha Water Utility	Water Main Relay, 37th Ave - 15th St to 14th Pl	1,547.0	238,547.67	
521	8" PVC	Kenosha Water Utility	Water Main Relay, Taft Rd - 67th St to 4535 Taft Rd	386.0	69,140.12	
523	8" PVC	Kenosha Water Utility	Water Main Relay, 82nd St - 25th Ave to 23rd Ave	469.0	87,764.64	
535	8" PVC	Kenosha Water Utility	Water Main Relay, Madison Rd - 19th Ave to 18th St	1,133.0	78,723.78	
541	8" PVC	Reesman's Excavating & Grading, Inc.	Water Main Relay, Harding Rd - 46th Ave to 67th St	820.0	263,175.67	
543	8" PVC	Reesman's Excavating & Grading, Inc.	Water Main Relay, 34th Ave - 78th St to 79th St	1,252.0	271,914.28	
545	8" PVC	Reesman's Excavating & Grading, Inc.	Water Main Relay, 34th Ave - 48th St to 52nd St	1,636.0	281,733.24	
571	8" PVC	Kenosha Water Utility	Water Main Relay, Harding Rd - 60th Pl to 42nd Ave	358.0	72,392.27	
590	8" PVC	Kenosha Water Utility	Water Main Relay, 24th Ave - 80th St to Lincoln Rd	1,451.0	208,271.21	
<b>Subtotal</b>				<b>10,234.00</b>	<b>1,756,528.02</b>	<b>171.64</b>
541	12" PVC	Reesman's Excavating & Grading, Inc.	Water Main Relay, Harding Rd - 46th Ave to 67th St	523.0	180,294.93	
<b>Subtotal</b>				<b>523.00</b>	<b>180,294.93</b>	<b>344.73</b>
<b>Grand total</b>				<b>10,838.0</b>	<b>\$ 1,998,582.70</b>	

**Distribution Division - Water  
Operating & Maintenance Report - 2019**

**Maintenance Completed**

System	Maintenance Type	Quantity
Water Main Breaks	Circumferential	49
	Blow Out	71
	Joint Leaks	5
	Longitudinal	17
	Old Sleeve	2
	Other	3
	<b>Total Main Break Repairs</b>	
Valves	Reset/Replace Box (only)	-
	Replaced	17
	Repaired	6
	New Installation	-
	Removed/VBO	3
<b>Total Valve Repairs</b>		<b>26</b>
Water Services	Reset/Replace Box (only)	18
	Replaced	10
	Lead Service Replacement	126
	Repaired	17
	Flow Test	-
	Shut at Main	3
<b>Total Water Service Repairs</b>		<b>174</b>
Hydrants	Replaced	17
	Repaired	4
	Relocated	-
	Abandoned	-
	New Installation	-
<b>Total Hydrant Repairs</b>		<b>21</b>
New Connections & Taps	1"	128
	1 1/2"	1
	2"	1
	4"	1
	6"	7
	8"	2
	12"	1
<b>Total New Connections Installed</b>		<b>141</b>

Meter Shop Request for Assistance: 86  
Valves Operated: 476

**Customer Complaints**

(During Normal Work Hours)

Complaint	Quantity
Main Breaks	54
Hydrant Hit/Damaged	12
Hydrant Leaking	13
Service Repairs	17
Signs/Barricades Needed	-
Curb/Valve Box Repair	19
Water Taste/odor/color	2
Low Pressure	5
No Water	12
Service Turn-On	1
Service Turn Off	2
Temporary Road Patch	15
Utility Locates	-
Miscellaneous	18
<b>Total</b>	<b>170</b>

**Customer Complaints**

(After Normal Work Hours)

Complaint	Quantity
Main Breaks	99
Hydrant Hit/Damaged	15
Hydrant Leaking	14
Service Repairs	42
Signs/Barricades Needed	3
Curb box/Valve Box	6
Water Taste/odor/color	1
Low Pressure	2
No Water	25
Service Turn-On	7
Service Turn Off	27
Temporary Road Patch	1
Utility Locate	47
Miscellaneous	15
<b>Total</b>	<b>304</b>

**Total Customer Complaints 474**



**Wastewater Treatment Plant**

7834 3rd Avenue  
Kenosha WI 53143

Phone (262) 653-4335  
Fax (262) 653-4340



*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Mr. Curtis Czarnecki, General Manager  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha, WI 53144

**Subject: 2019 Annual Report – Wastewater Treatment Division**

Dear Mr. Czarnecki,

We respectfully submit the 2019 Annual Report for the Kenosha Water Utility Wastewater Treatment Plant. This past year, the wastewater treatment plant treated 10.517 billion gallons of effluent with an average daily flow of 28.87 million gallons per day (MGD). The annual volume entering the treatment plant continues to increase well above the past years. The annual precipitation continues to be high (2019 precipitation = 48.91 inches; 2018 precipitation = 49.27 inches; 2017 = 43.96 inches; 2013-2016 average precipitation = 35.56 inches). The final effluent biological oxygen demand (BOD) and total suspended solids (TSS) were well within the permitted discharge limits.

The staff at the wastewater treatment plant works very hard throughout the year to operate, maintain, and improve the wastewater treatment plant and the collection system. In 2019, we continued to work on efficient operation of the energy optimization project equipment and processes. Other substantial projects included: a diver inspection of the wastewater treatment plant outfall piping, disinfection optimization study, cleaning two anaerobic digesters, replacement of an anaerobic digester cover.

We are very proud of the entire staff at the wastewater treatment plant. It is their attitude, dedication, and teamwork that make this place run smoothly. Thanks to the General Manager and the Board of Water Commissioners for their continued support and guidance. The Wastewater Treatment Plant and collection system have a lot of potential for improvement projects, which is why it is such an exciting place to work.

Sincerely,

Handwritten signature of Melissa Amot in black ink.

Melissa Amot  
Assistant General Manager

Handwritten signature of Katrina Karow in black ink.

Katrina Karow  
Director of Wastewater Treatment



[www.kenosha.org](http://www.kenosha.org)

### Treatment Data - 5 Year Comparison

<u>YEAR</u>	<u>MGD</u>	<u>Influent mg/L</u>	<u>Primary Effluent mg/L</u>	<u>Primary Efficiency %</u>	<u>Final Effluent mg/L</u>	<u>Overall Efficiency %</u>
<b>Suspended Solids</b>						
2019	28.870	149	48	67	8.9	94
2018	25.787	170	50	71	8.8	95
2017	25.417	168	46	72	10.1	94
2016	22.627	178	48	73	6.9	96
2015	21.930	180	51	72	7.9	96
<b>Five-Day BOD</b>						
2019	28.870	143	87	39	12.5	91
2018	25.787	157	95	39	11.7	93
2017	25.417	159	105	34	13.2	92
2016	22.627	177	114	36	10.9	94
2015	21.930	180	116	36	14.1	92
<b>Phosphorus</b>						
2019	28.870	2.53	-	-	0.51	80
2018	25.787	2.70	-	-	0.47	83
2017	25.417	2.71	-	-	0.52	81
2016	22.627	2.80	-	-	0.45	84
2015	21.930	2.91	-	-	0.49	83

mg/L - milligrams per Liter

### Summary

	<b>2019</b>	<b>2018</b>
Total wastewater pumped and treated	10,516,906,000	9,412,036,000
Total sludge to digesters - gallons	26,873,606	29,835,289
Total dry solids to digesters - pounds	10,725,270	11,163,755
Total dry volatile solids to digesters - pounds	7,743,156	8,439,114

### Digester Data

Total gallons digested sludge removed	26,651,778	27,752,756
Percent dry solids	2.14	2.15
Total pounds dry solids removed	4,754,863	4,914,764
Percent volatile matter	55.3	55.5
Total dry volatile solids removed	2,629,915	2,727,694
Volatile solids destroyed, percent	66.0	67.7

## Wastewater Flow

### *Annual precipitation and average daily flow for the past five years*

	<u>Precipitation, Inches</u>	<u>Average MGD</u>
2019	48.91	28.870
2018	49.30	25.786
2017	43.96	25.465
2016	33.70	22.630
2015	35.83	21.930

### Sludge to Centrifuge

Gallons per day (353 days per year)	75,330
Percent solids	2.14
Pounds per day	13,478
Percent volatile	55.3

### Sludge Disposed from Centrifuge and Dryer

Total wet tons from dewatering centrifuge	6,149
Percent solids	27.4
total wet tons from dryer	677
Percent solids	95.5

### Total Solids Disposal

Tons of sludge to landfill, dry tons	2,417
Tons of sludge distributed, dry tons	363
Tons of grit to landfill	615

### Annual Energy Usage

		<u>2019</u>	<u>2018</u>
Electricity	Total On and Off Peak kWh	5,829,225	6,305,163
	Total Demand kW	13,054	13,932
	Total cost	\$ 496,736	\$ 522,812
Natural Gas	therms	170,571	139,574
	Total cost	\$ 81,746	\$ 70,497
Methane gas produced by digesters	therms	381,158	420,357
	Value of methane gas	Total	\$ 212,316

## Treatment Plant Data and Chemical Usage

	<u>2019</u>	<u>2018</u>
<b><u>Chemical Data</u></b>		
<b><u>Chlorine</u></b>		
Total pounds	163,175	107,730
Average pounds per day	446	295
Average residual, µg/L	< 100 µg/L	< 100 µg/L
<b><u>Sulfur Dioxide</u></b>		
Total pounds	112,067	96,904
Average pounds per day	306	265
<b><u>Ferric Chloride, Phosphorus</u></b>		
Total gallons	181,581	205,534
Average gallons per day	496	563
Average pounds of Fe per day	654	742
<b><u>Polymer</u></b>		
Tons	69	102
Pounds per pound of dry solids	0.029	0.042
<b><u>Sodium Hydroxide</u></b>		
Total Pounds	169,404	172,053
Pounds per pound of lysed WAS	0.049	0.045
<b><u>Sulfuric Acid</u></b>		
Total pounds	11,670	9,920
Pounds per CF through air scrubber	0.009	0.008

### Aeration

Settleable Solids - mg/L	221	198
Mixed Liquor Suspended Solids - mg/L	2,837	2,894
Dissolved Oxygen - mg/L	2.5	2.4
BOD lbs. applied per day	19,453	18,341

### Thickener

Waste Activated Sludge to Thickener, gallons/day	133,436	134,011
Waste Activated Sludge - % solids	1.01	1.06
Waste Activated Sludge - lbs/day	11,240	11,847
Thickened Sludge - % solids	5.6	5.9
Thickened Sludge - % volatile	73.5	72.5
Thickener Effluent - Suspended Solids - mg/L	566	591
Thickened Sludge - lbs dry solids/day	10,770	11,347
Thickened Sludge - gallons/day	23,060	23,060

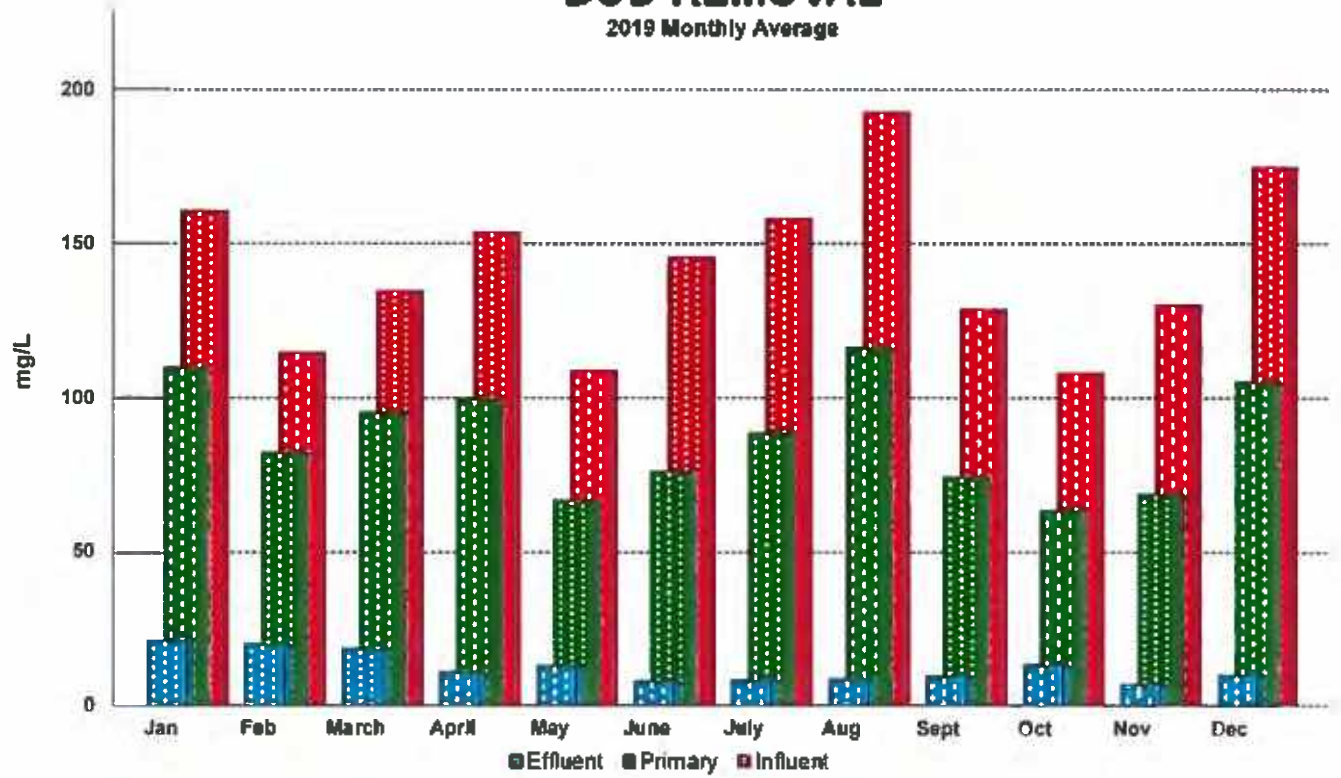
mg/L - milligrams per Liter

µg/L - micrograms per Liter

WAS - Waste Activated Sludge

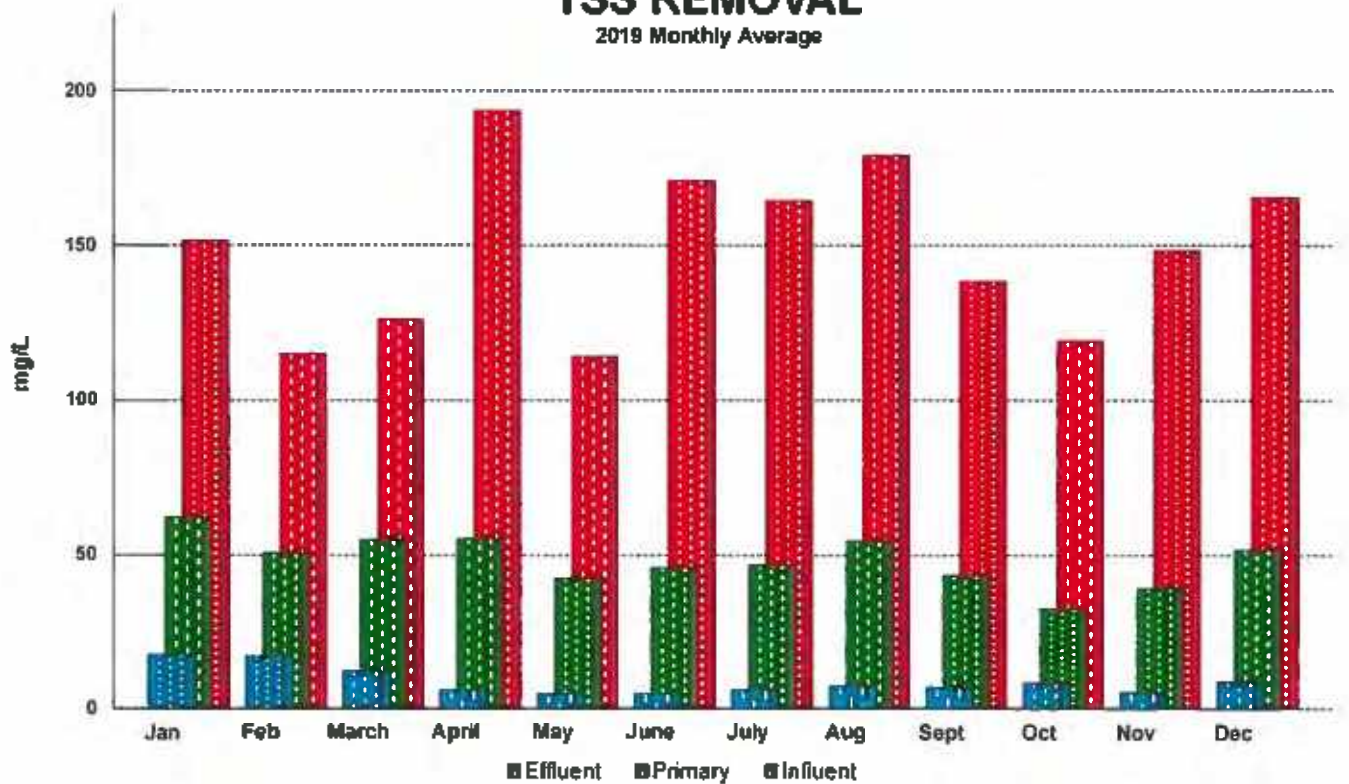
## BOD REMOVAL

2019 Monthly Average



## TSS REMOVAL

2019 Monthly Average



**Sewerage System  
Plant Operating Data - 2019**

Month	Precip. Inches	Total Flow Raw Sewage MG	Average Daily Flow MGD	Maximum Daily Flow MGD	Day of Month	Power Cost
January	2.09	698.355	22.528	30.726	8	\$ 40,092
February	4.00	979.458	34.981	59.142	6	40,540
March	1.80	907.615	29.278	54.431	14	38,319
April	3.00	792.079	26.403	40.216	16	39,974
May	5.47	1,150.825	37.123	56.552	9	44,158
June	4.27	846.641	28.221	39.838	5	39,549
July	3.20	702.720	22.668	30.006	3	43,336
August	4.99	636.557	20.534	41.760	26	44,768
September	10.17	1,059.878	35.329	96.169	13	42,804
October	6.54	1,175.627	37.923	84.466	2	37,896
November	1.65	837.202	27.907	43.141	2	47,456
December	1.73	729.949	23.547	41.234	30	37,843
<b>Total</b>	<b>48.91</b>	<b>10,516.906</b>				<b>\$ 496,735</b>
<b>Average</b>	<b>4.08</b>	<b>876.409</b>	<b>28.870</b>	<b>51.457</b>		<b>\$ 41,395</b>

**Monthly Averages**

Month	BOD		TSS (mg/L)		Phosphorus (mg/L)		Total lbs. Dry Solids from Digester
	Influent	Effluent	Influent	Effluent	Influent	Effluent	
January	161	21.8	152	17.8	2.94	0.68	309,331
February	115	20.3	115	17.3	1.94	0.52	383,092
March	135	18.7	126	12.4	2.18	0.50	347,702
April	154	11.1	193	6.2	2.73	0.36	481,145
May	109	13.2	114	4.9	2.21	0.32	893,042
June	146	7.9	171	5.0	3.15	0.39	899,972
July	158	8.2	164	6.2	2.81	0.70	403,804
August	193	8.7	179	7.4	2.67	0.70	314,858
September	129	9.7	138	7.0	2.60	0.55	436,067
October	108	13.4	119	8.4	1.90	0.55	358,276
November	130	7.0	148	5.2	2.13	0.35	332,272
December	175	10.0	165	8.8	3.05	0.50	400,677
<b>Average</b>	<b>143</b>	<b>12.5</b>	<b>149</b>	<b>8.9</b>	<b>2.53</b>	<b>0.51</b>	<b>463,353</b>

MG - million gallons  
MGD - million gallons per day  
mg/L - milligrams per liter

## Sewage Collection Pipe System - 2019

<u>Size</u>	<u>Material</u>	<u>Footage</u>
99"	Concrete	3,318
96"	Concrete	75
84"	Concrete	9,774
78"	Concrete	4,899
72"	Concrete	4,242
66"	Concrete, Steel	3,151
60"	Concrete, Steel	24,556
54"	Concrete, Steel	3,465
48"	Concrete, Steel, Brick	13,309
42"	Concrete, Steel, Brick	20,527
36"	Concrete, Clay, Steel	39,054
33"	Concrete, Clay	699
30"	Concrete, Clay, Steel	48,329
27"	Concrete, Clay, Steel	9,567
24"	Clay, Concrete, Plastic, Steel	97,762
22"	Clay, Plastic, Steel	5,708
21"	Clay, Plastic	42,065
20"	Clay, Plastic, Steel	19,068
18"	Clay, Plastic, Steel	125,099
16"	Clay, Plastic	2,525
15"	Clay, Plastic, Steel	167,910
14"	Clay, Plastic	1,156
12"	Clay, Plastic, Steel	266,571
10"	Clay, Plastic, Steel	153,763
8"	Clay, Plastic, Steel	735,260
6"	Clay, Plastic	8,241
1.5"	Clay, Plastic	597
<b>Total Feet of Pipe</b>		<b>1,810,690</b>
<b>Total Miles of Pipe</b>		<b>342.93</b>

**2019 Sewer Main Installation Costs**

<b>Project</b>	<b>Size/ Type</b>	<b>Installer</b>	<b>Description</b>	<b>Footage</b>	<b>Total Costs</b>	<b>Cost per Foot</b>
<u><b>By Job Number</b></u>						
<b>Installed by Kenosha Water Utility</b>						
605	12" PVC	Kenosha Water Utility	relocate sanitary sewer at City Parking Garage - 8th Ave & 56th St	73.0	5 22,213.62	
669	1.5" PVC force main	Platinum Terrain LLC	10813 60th St to 111th Ave	597.0	68,184.37	
672	16" PVC force main	Kenosha Water Utility	Industrial Park Lift Station force main	<u>1,173.0</u>	<u>77,554.01</u>	
			<b>Subtotal</b>	<u>1,843.0</u>	<u>167,952.00</u>	
<b>Installed by Developers</b>						
711	8" PVC	Züber 2 - Business Park of Kenosha	55th St - 104th Ave to 287 feet East 104th Ave - 55th St to 594 feet North	881.0	189,073.83	
			<b>Subtotal</b>	<u>881.0</u>	<u>189,073.83</u>	
			<b>Grand Total</b>	<u>2,724.0</u>	<u>\$ 357,025.83</u>	
<u><b>By Pipe Size</b></u>						
669	1.5" PVC force main	Platinum Terrain LLC	10813 60th St to 111th Ave	<u>597.0</u>	<u>68,184.37</u>	
			<b>Subtotal</b>	597.0	68,184.37	114.21
711	8" PVC	Züber 2 - Business Park of Kenosha	55th St - 104th Ave to 287 feet East 104th Ave - 55th St to 594 feet North	881.0	189,073.83	214.61
605	12" PVC	Kenosha Water Utility	relocate sanitary sewer at City Parking Garage - 8th Ave & 56th St	73.0	22,213.62	304.30
672	16" PVC	Kenosha Water Utility	Industrial Park Lift Station force main	<u>1,173.0</u>	<u>77,554.01</u>	66.12
			<b>Grand Total</b>	<u>2,724.0</u>	<u>\$ 357,025.83</u>	



**Distribution Division - Sanitary Sewer  
Operating & Maintenance Report - 2019**

**Maintenance Completed**

System	Maintenance Type	Quantity
Sewer Main	Collapse	2
	Broken Pipe	1
	Joint Leaks	1
	Remove Flusher Nozzle	-
	Other	-
<b>Total Sewer Main Repairs</b>		<b>4</b>
Sewer Lateral	Collapse	29
	Broken Pipe	-
	Joint Leaks	16
	Broken at Wye	5
	Remove Parkway Trap	4
	Contractor Damage	-
	Other	3
<b>Total Sewer Lateral Repairs</b>		<b>57</b>
Manholes	Repaired	4
	Replace	-
	Remove/Abandon	2
<b>Total Manhole Repairs</b>		<b>6</b>

<b>Total Sanitary Sewer Repairs</b>	<b>67</b>
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**Customer Complaints**

(During Normal Work Hours)

Complaint	Quantity
Sewer back-up	130
Sink Hole	6
Sewer Odor	1
Storm Sewer Back-up	10
Televis Lateral	1
Manhole Problem	4
Miscellaneous	5
<b>Total</b>	<b>157</b>

**Customer Complaints**

(After Normal Work Hours)

Complaint	Quantity
Utility Locate	47
Sewer back-up	65
Sink Hole	1
Sewer Odor	-
Storm Sewer Back-up	3
Manhole Problem	1
Miscellaneous	6
<b>Total</b>	<b>123</b>

<b>Total Complaints</b>	<b>280</b>
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**Summary of Sewer Cleaning and Televising (feet)**

Year	Sewer Cleaning	PM List	Televis	Grand Total
2019	196,184	61,656	18,852	276,692
2018	293,833	46,242	22,319	362,394
2017	90,878	30,828	12,440	134,146
2016	567,460	72,998	16,057	656,513
2015	224,107	38,995	51,360	314,462
2014	184,187	56,549	32,991	273,727

**Sewerage System  
Income Statement – 2019**

<b>Sewerage Service Revenues</b>		
Residential Customers	\$ 4,269,341.75	
Commercial Customers	2,241,939.50	
Industrial Customers	1,080,324.12	
Public Customers	489,165.59	
Waste haulers	150,679.14	
Wholesale Customers	3,247,358.69	
Industrial Monitoring	85,959.06	
<b>Total Sewerage Service Revenues</b>		<b>11,564,767.85</b>
<b>Other Operating Revenues</b>		
Engineering Services	1,851,543.66	
Other Income	69,641.91	
Penalties	114,560.98	
<b>Total Other Operating Revenues</b>		<b>2,035,746.55</b>
<b>Total Operating Revenues</b>		<b>13,600,514.40</b>
<b>Operating Expenses</b>		
Wastewater Treatment Operation and Maintenance	3,552,788.95	
Collection System Operation and Maintenance	1,195,385.30	
Laboratory Operations	312,794.02	
Industrial Waste Monitoring	73,127.52	
Engineering Services	1,829,534.62	
Customer Accounting and Collection Expense	555,553.06	
Administrative and General Expense	2,981,148.13	
Depreciation	2,904,929.95	
Taxes	47,387.43	
Loss on sale of equipment	19,565.29	
<b>Total Operating Expenses</b>		<b>13,472,214.27</b>
<b>Utility Operating Income</b>		<b>128,300.13</b>
<b>Other Income</b>		
Interest Income	776,869.84	
Miscellaneous Income	5,073.31	
<b>Total Other Income</b>		<b>781,943.15</b>
<b>Non-operating Expenses</b>		
Interest on Long-term Debt		<b>5,109.20</b>
<b>Net Income before Capital Contributions</b>		<b>905,134.08</b>
<b>Capital Contributions</b>	<b>743,709.40</b>	
<b>Net Income</b>		<b>\$ 1,648,843.48</b>

**Sewerage System  
Statement of Net Position  
December 31, 2019**

<b>Assets</b>		
<b>Utility Plant</b>		
Utility Plant in Service	\$ 153,175,133.98	
Work in Progress - Sewer Plant	1,485,124.56	
Work in Progress - Sewerage System	286,866.68	
Accumulated Depreciation	<u>(71,121,292.97)</u>	
Net Plant in Service		83,805,832.25
<b>Other Property</b>		
Other Utility Plant & Equipment for Future Use		<u>1,054,836.62</u>
Total Net Utility Plant		84,860,670.87
<b>Current Assets</b>		
Cash and Cash Equivalents	6,529,313.99	
Investments	17,429,095.20	
Restricted cash equivalents	2,632,367.86	
Restricted cash - Storm Water Utility Collections	356,496.04	
Restricted Investments	105,987.58	
Customer Accounts Receivable	1,192,251.54	
Receivable from Municipality	524,434.43	
Unbilled Revenues	1,035,231.11	
Other Accounts Receivable	334,292.09	
Materials and Supplies	54,874.76	
Accrued Interest Receivable	90,324.76	
Other Current Assets	<u>13,642.03</u>	
Total Current and Accrued Assets		30,499,311.51
<b>Noncurrent Assets</b>		
Investments		989,604.63
Advance to Water Unit		<u>5,000,000.00</u>
Total Noncurrent Assets		5,989,604.63
<b>Other Assets</b>		
Assessments Receivable		68,051.20
Deferred Charges		2,345,701.83
Pension Asset - Wisconsin Retirement System		<u>607,958.79</u>
Total Other Assets		3,021,711.82
<b>Total Assets</b>		<u>\$ 124,371,298.83</u>
<b>Deferred Outflow of Resources</b>		
Deferred Pension Resources		\$ 2,582,381.39
Deferred OPEB Resources		<u>33,145.73</u>
Total Outflows of Resources		<u>\$ 2,615,527.12</u>
		\$ 121,755,771.71
<b>Liabilities</b>		
<b>Current Liabilities</b>		
Accounts Payable	\$ 577,110.86	
Accrued Interest Payable	554.98	
Current Portion of Long Term Obligations	105,076.89	
Current Portion of Accrued Compensated Absences	46,867.66	
Current Portion of Net Other Postemployment Benefits	84,875.00	
Payable to Municipality	537,982.27	
Due to City of Kenosha - Storm Water Collections	356,496.04	
Deferred Credits	<u>14,315.00</u>	
Total Current and Accrued Liabilities		1,727,278.50
<b>Non-current Liabilities</b>		
Accrued Compensated Absences	188,112.80	
Worker's Compensation Accrued Liability	59,515.00	
Net Other Postemployment Benefit Obligations	1,062,331.04	
Pension Liability - Wisconsin Retirement System	<u>1,029,389.08</u>	
Total Non-current Liabilities		2,339,347.92
<b>Total Liabilities</b>		<u>\$ 4,066,626.42</u>
		\$ 117,689,145.29
<b>Deferred Inflows of Resources</b>		
Deferred Pension Resources		\$ 1,334,184.88
Deferred OPEB Resources		<u>80,336.83</u>
Total Inflows of Resources		<u>\$ 1,414,521.71</u>
		\$ 116,274,623.58
<b>Net Position</b>		
Invested in Capital Assets, net of related debt	85,363,552.97	
Restricted for Regulatory Capital Needs	2,937,800.56	
Unrestricted	<u>33,204,314.19</u>	
<b>Total Net Position</b>		<u>\$ 121,505,667.72</u>

**Sewerage System  
Comparative Operating and Maintenance Expenses**

	<u>2019</u>	<u>2018</u>	<u>2017</u>
<b>Operating Expenses</b>			
Supervision and Labor	\$ 430,027.16	\$ 488,862.18	\$ 489,417.45
Power for Pumping and Aeration	578,739.68	600,019.34	647,223.56
Disinfection Chemicals	90,024.00	57,127.00	47,895.00
Sludge Conditioning Chemicals	398,290.77	422,044.71	488,409.07
Other Chemicals for Sewage Treatment	37,770.47	66,213.49	64,851.07
Laboratory Operations	312,794.02	311,218.94	301,761.59
Industrial Waste Monitoring	73,127.52	64,731.68	60,020.46
Landfill Expense	340,222.77	264,533.20	268,443.05
Transportation Expense	98,052.49	100,578.42	78,453.99
	<u>2,359,048.88</u>	<u>2,375,328.96</u>	<u>2,446,475.24</u>
<b>Maintenance Expenses</b>			
Collection System Operation and Maintenance	1,195,385.30	1,242,717.98	960,972.00
Wastewater Treatment Maintenance	1,579,661.61	1,150,110.49	1,067,375.04
	<u>2,775,046.91</u>	<u>2,392,828.47</u>	<u>2,028,347.04</u>
<b>Customer Account Expenses</b>			
Customer Accounting and Collection	484,992.97	376,318.88	276,664.46
Meter Reading Expense	70,560.09	63,391.40	60,546.14
	<u>555,553.06</u>	<u>439,710.28</u>	<u>337,210.60</u>
<b>Administrative and General Expenses</b>			
Administrative and General Salaries	391,077.33	313,407.05	309,648.80
Engineering Services	1,829,534.62	1,741,930.44	1,543,553.06
Office Supplies and Expense	47,236.51	54,677.22	48,254.85
Outside Services Employed	431,889.14	443,993.56	413,841.43
Insurance Expense	331,662.48	201,704.48	144,846.00
Employee Benefits and Pensions	1,424,231.08	1,161,633.24	1,205,847.90
Meter Operations Expense	348,451.59	327,903.81	351,495.98
Loss on sale of equipment	19,565.29	-	230,387.93
Depreciation	2,904,929.95	2,328,054.79	2,186,774.20
Utility Taxes	47,387.43	50,418.96	52,574.27
Miscellaneous Expense	6,600.00	6,400.00	6,300.00
	<u>7,782,565.42</u>	<u>6,630,123.55</u>	<u>6,493,524.42</u>
<b>Total Operating Expenses</b>	<u>\$ 13,472,214.27</u>	<u>\$ 11,837,991.26</u>	<u>\$ 11,305,557.30</u>

**Sewerage System  
Comparative Income Statement**

	<u>2019</u>	<u>2018</u>	<u>2017</u>
<b>Sewerage Service Revenue</b>			
Residential Customers	\$ 4,269,341.75	\$ 4,296,027.03	\$ 4,330,367.27
Commercial Customers	2,241,939.50	2,261,741.27	2,233,433.38
Industrial Customers	1,080,324.12	1,027,586.13	1,148,742.84
Public Customers	489,165.59	623,610.20	691,827.12
Waste haulers	150,679.14	249,956.21	325,610.45
Wholesale Customers	3,247,358.69	3,143,851.41	2,835,447.03
Industrial Monitoring	85,959.06	98,675.41	108,921.47
<b>Total Sewerage Service Revenues</b>	<u>11,564,767.85</u>	<u>11,701,447.66</u>	<u>11,674,349.56</u>
<b>Other Operating Revenues</b>			
Engineering Services	1,851,543.66	1,765,597.92	1,586,132.89
Other Income	69,641.91	80,328.97	90,669.54
Penalties	114,560.98	117,243.45	124,384.26
	<u>2,035,746.55</u>	<u>1,963,170.34</u>	<u>1,801,186.69</u>
<b>Total Operating Revenues</b>	<u>13,600,514.40</u>	<u>13,664,618.00</u>	<u>13,475,536.25</u>
<b>Operating Expenses</b>			
Wastewater Treatment Operation and Maintenance	3,552,788.95	3,149,488.83	3,152,068.23
Collection System Operation and Maintenance	1,195,385.30	1,242,717.98	960,972.00
Laboratory Operations	312,794.02	311,218.94	301,761.59
Industrial Waste Monitoring	73,127.52	64,731.68	60,020.46
Engineering Services	1,829,534.62	1,741,930.44	1,543,553.06
Customer Accounting/Meter Reading Expense	555,553.06	439,710.28	337,210.60
Administrative and General Expense	2,981,148.13	2,509,719.36	2,480,234.96
Loss on Sale of Equipment	19,565.29	-	230,387.93
Depreciation	2,904,929.95	2,328,054.79	2,186,774.20
Taxes	47,387.43	50,418.96	52,574.27
<b>Total Operating Expenses</b>	<u>13,472,214.27</u>	<u>11,837,991.26</u>	<u>11,305,557.30</u>
<b>Net Operating Income</b>	128,300.13	1,826,626.74	2,169,978.95
<b>Non-operating Revenue</b>			
Interest Income	776,869.84	553,865.45	304,727.80
Miscellaneous Income	5,073.31	29,811.64	39,041.48
<b>Total Non-operating Revenue</b>	<u>781,943.15</u>	<u>583,677.09</u>	<u>343,769.28</u>
<b>Operating Income and Other Revenue</b>	<u>910,243.28</u>	<u>2,410,303.83</u>	<u>2,513,748.23</u>
<b>Non-operating Expenses</b>			
Interest on Long-term Debt	5,109.20	11,049.75	16,624.15
<b>Total Non-operating Expenses</b>	<u>5,109.20</u>	<u>11,049.75</u>	<u>16,624.15</u>
<b>Net Income</b>	<u>\$ 905,134.08</u>	<u>\$ 2,399,254.08</u>	<u>\$ 2,497,124.08</u>
<b>Rate of Return on Average Investment (based on WWTP net operating income)</b>	<b>0.42%</b>	<b>6.85%</b>	<b>7.82%</b>
<b>Rate of Return on Average Investment (after debt service payment)</b>	<b>0.41%</b>	<b>6.84%</b>	<b>7.76%</b>

**Sewerage System  
Utility Plant in Service  
For the year ended December 31, 2019**

	Depr. Rate %	Cost of Plant 1/1/2019	2019 Additions	2019 Retirements	Adjustments Incr/(Decr)	Cost of Plant 12/31/2019
<b>Collection System</b>						
Land	N/A	\$ 125,244.31				\$ 125,244.31
Structures and Improvements	2.94	-				-
Service Connections	2.00	1,904,640.65				1,904,640.65
Collecting Mains	1.00	48,834,895.35	279,471.82	394.60		49,113,772.57
Interceptor Mains	1.00	29,415,933.32				29,415,933.32
Force Mains	1.00	1,336,740.49	77,564.01			1,414,294.50
Collection Equipment	4.00	1,365,422.89	114,361.36			1,479,784.25
<b>Collection Pumping System</b>						
Land	N/A	129,783.09				129,783.09
Structures and Improvements	2.50	5,863,426.62	348,113.36			6,231,539.98
Receiving Wells	2.50	5,523,470.40	95,966.66	36,680.25		5,582,756.81
Electric Pumping Equipment	5.33	8,860,792.74	61,364.23			8,922,156.97
Other Power Pumping Equip.	4.00	376,363.38				376,363.38
Miscellaneous Pumping Equip.	4.00	31,000.00				31,000.00
<b>Treatment and Disposal</b>						
Land	N/A	331,080.05				331,080.05
Structures and Improvements	2.50	7,832,307.14	3,808,720.83	13,263.00		11,627,764.97
Preliminary Equipment	3.80	1,462,769.31				1,462,769.31
Primary Treatment Equipment	2.97	4,185,596.50	5,948.52	2,058.19		4,189,486.83
Secondary Treatment Equip.	3.53	6,830,556.75	84,634.03	27,996.85		6,887,193.93
Advanced Treatment Equip.	2.86	223,231.28		3,952.00		219,279.28
Chlorination Equipment	4.41	1,243,141.30				1,243,141.30
Sludge Treatment & Disposal	4.17	5,890,327.05	7,097,545.50	68,928.50		12,920,944.05
Plant Site Piping	2.00	-	114,592.02			114,592.02
Flow Metering and Monitoring	4.44	250,771.24		7,671.02		243,100.22
Outfall Sewer	2.31	1,179,759.13				1,179,759.13
<b>Engineering Equipment</b>						
Furniture and Equipment	5.88	31,136.15				31,136.15
Computer Equipment	6.67-14.29	111,489.16	12,777.00	26,587.03		97,659.13
Transportation Equipment	14.28	303,324.31	25,263.50		(9,533.50)	319,054.31
Engineering Equipment	5.88	31,285.81				31,285.81
Communication Equipment	9.09	(1,610.32)				(1,610.32)
Telephone Equipment	20.00	-				-
<b>General Plant &amp; Equipment</b>						
Land	N/A	686,629.54				686,629.54
Structures and Improvements	2.50	2,196,334.06	7,033.42			2,203,367.48
Furniture and Equipment	5.88	98,799.49	7,000.00	4,195.00		101,604.49
Computer Equipment	6.67-14.29	123,027.54	20,559.76	14,953.48		128,633.82
Transportation Equipment	12.86	2,417,346.17	152,194.20		75,524.50	2,645,064.87
Work (Power) Equipment	9.00	624,290.97	52,792.40	13,164.00	(24,373.00)	639,546.37
Tools and Shop Equipment	5.88	305,617.86	27,083.35			332,701.21
Lab Equipment	5.88	180,907.03	6,767.95			187,674.98
Communication Equipment	9.09	2,228.00				2,228.00
SCADA System Equipment	9.20	229,799.95	140,494.59			370,294.54
Miscellaneous Equipment	5.88	243,557.68	9,925.00			253,482.68
<b>Total</b>		<b>\$ 140,801,196.39</b>	<b>\$ 12,650,163.51</b>	<b>\$ 217,843.92</b>	<b>\$ 41,618.00</b>	<b>\$ 153,175,133.98</b>

**Sewerage System  
Accumulated Depreciation  
For the year ended December 31, 2019**

	Balance 1/1/2019	2019 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	Balance 12/31/2019
<b>Collection System</b>						
Land	-					-
Structures and Improvements	-					-
Service Connections	\$ 944,802.41	38,092.81				\$ 982,895.22
Collecting Mains	13,661,680.87	495,948.98	394.60			14,157,235.25
Interceptor Mains	6,618,572.81	295,605.47				6,914,178.28
Force Mains	248,411.05	13,755.17				262,166.22
Collection Equipment	971,950.68	71,130.17				1,043,080.83
<b>Collection System Pumping</b>						
Land	-					-
Structures and Improvements	4,131,489.49	117,668.53				4,249,158.02
Receiving Walls	3,438,725.47	189,727.65	36,680.25			3,591,772.87
Electric Pumping Equipment	8,860,792.74	95,966.66				8,956,759.40
Other Power Pumping Equip.	216,515.82	20,352.28				236,868.10
Miscellaneous Pumping Equip.	16,524.97	1,550.00				18,074.97
<b>Treatment and Disposal</b>						
Land	-					-
Structures and Improvements	6,550,372.23	232,687.93	13,263.00			6,769,797.16
Preliminary Equipment	117,275.39	58,510.77				175,786.16
Primary Treatment Equipment	3,900,586.22	139,445.13	2,058.19			4,037,973.16
Secondary Treatment Equip.	6,807,096.73	108,094.05	27,996.65			6,887,193.93
Advanced Treatment Equip.	109,016.62	8,850.21	3,952.00			113,914.83
Chlorination Equipment	1,243,141.30					1,243,141.30
Sludge Treatment & Disposal	5,890,327.05	647,514.17	66,928.50		(63,140.08)	6,407,772.64
Plant Site Piping	-	2,291.84				2,291.84
Flow Metering and Monitoring	199,054.69	16,470.61	7,671.02			207,854.28
Outfall Sewer	941,110.80	29,493.88				970,604.58
<b>Engineering Equipment</b>						
Furniture and Equipment	23,097.98	1,924.81				25,022.79
Computer Equipment	46,509.79	9,294.70	26,587.03			29,217.46
Transportation Equipment	249,149.09	7,459.90			(6,549.14)	250,059.85
Engineering Equipment	8,310.58	1,911.34				10,221.92
Communication Equipment	(1,610.32)					(1,610.32)
Telephone Equipment	(1,906.74)				1,906.74	-
Miscellaneous Equipment	(253.22)				253.22	-
<b>General Plant &amp; Equipment</b>						
Land	-					-
Structures and Improvements	696,586.93	43,997.01				740,583.94
Furniture and Equipment	72,722.44	5,811.72	4,195.00			74,339.16
Computer Equipment	74,302.50	16,501.66	14,953.48			75,850.68
Transportation Equipment	1,658,884.17	133,365.18			85,941.04	1,858,190.39
Work (Power) Equipment	325,505.60	27,598.88	13,164.00		(20,619.30)	319,321.18
Tools and Shop Equipment	209,662.11	18,511.26				228,173.37
Lab Equipment	79,610.56	10,688.88				90,299.44
Communication Equipment	2,228.00					2,228.00
SCADA System Equipment	90,996.28	30,294.02				121,290.30
Other Equipment	55,171.59	14,414.18				69,585.77
<b>Total</b>	<b>\$ 68,456,414.46</b>	<b>\$ 2,904,929.95</b>	<b>\$ 217,843.92</b>	<b>\$ 0.00</b>	<b>(\$ 22,207.52)</b>	<b>\$ 71,121,292.97</b>

**Clean Water Fund Project #4003-07  
 Loan Payment Schedule  
 Equalization Basin Modification  
 December 31, 2019**

<u>Year</u>	<u>Principal</u>	<u>Interest</u>		<u>Total</u>
	<u>May 1</u>	<u>May 1</u>	<u>November 1</u>	
2020	105,076.69	1,664.94	-	106,741.63
	<u>\$ 105,076.69</u>	<u>\$ 1,664.94</u>	<u>\$ -</u>	<u>\$ 106,741.63</u>

Interest rate is 3.169%



**Wastewater Treatment Plant**

7834 3rd Avenue  
Kenosha WI 53143

Phone (262) 653-4335  
Fax (262) 653-4340



*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Mr. Curtis Czarnecki  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha, WI 53144

**Subject: 2019 Industrial Pretreatment Program Annual Report**

Dear Mr. Czarnecki,

The Industrial Pretreatment Program is a requirement of the Clean Water Act and is regulated by the Wisconsin Department of Natural Resources (WDNR) through our wastewater treatment plant discharge permit. The WDNR designates the Kenosha Water Utility as the Control Authority to carry out the required elements of the program. The program regulates and monitors local industries, waste haulers, and adjoining communities discharging to Kenosha's wastewater collection system. The program is designed 1) to prevent the discharge of pollutants to the wastewater treatment plant (WWTP) which could interfere with operations or disposal of biosolids; 2) to prevent the introduction of pollutants to the WWTP that may pass through to the lake; and 3) to protect employee health and safety.

Significant dischargers are monitored at the regulated process and/or where their wastewaters enter the Kenosha sanitary sewer collection system. Haulers are monitored at the wastewater treatment plant. The adjoining communities are monitored weekly for conventional parameters being discharged to the collection system. We receive wastewater from the Villages of Bristol, Pleasant Prairie and Somers.

On July 1-2, 2019, the WDNR conducted an audit of the Industrial Pretreatment Program. This audit is conducted at least once during the wastewater discharge permit cycle (every 5 years). The audit consisted of a thorough review of all industrial files and compliance. The audit concluded that Kenosha is effectively implementing all requirements of the program.

The wastewater treatment plant effluent and sludge continue to meet or exceed discharge limits. The wastewater biosolids meet the state of Wisconsin's requirements for an exceptional-quality sludge.

While we must monitor and enforce local and federal sanitary sewer discharge limits, our goal is to work cooperatively with significant industrial users to achieve continued compliance.

Respectfully Submitted,

Katrina Karow  
Director of Wastewater Treatment



[www.kenosha.org](http://www.kenosha.org)

**SUMMARY OF INFLUENT METALS TO THE  
KENOSHA WASTEWATER TREATMENT PLANT**

**POTW Influent: average pounds/day**

<b>Year</b>	<b>Cadmium Mercury</b>	<b>Chromium</b>	<b>Copper</b>	<b>Nickel</b>	<b>Lead</b>	<b>Zinc</b>	
<b>2000</b>	<b>0.35</b>	<b>7.4</b>	<b>7.7</b>	<b>9.1</b>	<b>2.1</b>	<b>18.3</b>	
<b>2001</b>	<b>&lt; 0.20</b>	<b>1.8</b>	<b>11.0</b>	<b>1.4</b>	<b>1.4</b>	<b>25.9</b>	
<b>2002</b>	<b>&lt; 0.18</b>	<b>1.9</b>	<b>9.7</b>	<b>1.6</b>	<b>1.6</b>	<b>27.4</b>	<b>0.015</b>
<b>2003</b>	<b>&lt; 0.16</b>	<b>1.4</b>	<b>9.4</b>	<b>1.7</b>	<b>1.2</b>	<b>19.1</b>	<b>0.032</b>
<b>2004</b>	<b>&lt; 0.38</b>	<b>1.1</b>	<b>23.0</b>	<b>1.1</b>	<b>1.1</b>	<b>34.3</b>	<b>0.012</b>
<b>2005</b>	<b>&lt; 0.31</b>	<b>1.1</b>	<b>10.4</b>	<b>0.78</b>	<b>1.1</b>	<b>23.7</b>	<b>0.030</b>
<b>2006</b>	<b>&lt; 0.34</b>	<b>0.85</b>	<b>7.8</b>	<b>1.0</b>	<b>0.85</b>	<b>16.5</b>	<b>0.016</b>
<b>2007</b>	<b>&lt; 0.5</b>	<b>1.1</b>	<b>12.0</b>	<b>1.3</b>	<b>2.4</b>	<b>23.0</b>	<b>0.022</b>
<b>2008</b>	<b>&lt; 0.7</b>	<b>0.9</b>	<b>8.4</b>	<b>0.9</b>	<b>&lt; 0.7</b>	<b>18.3</b>	<b>0.031</b>
<b>2009</b>	<b>&lt; 0.4</b>	<b>0.6</b>	<b>7.6</b>	<b>1.0</b>	<b>&lt; 0.6</b>	<b>18.0</b>	<b>0.018</b>
<b>2010</b>	<b>0.075</b>	<b>1.4</b>	<b>9.7</b>	<b>0.63</b>	<b>0.88</b>	<b>23.4</b>	<b>0.006</b>
<b>2011</b>	<b>&lt; 0.14</b>	<b>0.8</b>	<b>8.5</b>	<b>0.58</b>	<b>0.56</b>	<b>20.9</b>	<b>0.008</b>
<b>2012</b>	<b>&lt; 0.13</b>	<b>0.85</b>	<b>8.5</b>	<b>0.73</b>	<b>0.68</b>	<b>28.8</b>	<b>0.010</b>
<b>2013</b>	<b>&lt; 0.12</b>	<b>1.3</b>	<b>7.9</b>	<b>0.78</b>	<b>1.8*</b>	<b>32.3</b>	<b>0.011</b>
<b>2014</b>	<b>&lt; 0.12</b>	<b>1.2</b>	<b>11.7</b>	<b>0.99</b>	<b>1.0</b>	<b>32.3</b>	<b>0.006</b>
<b>2015</b>	<b>&lt; 0.061</b>	<b>1.0</b>	<b>9.1</b>	<b>1.12</b>	<b>0.70</b>	<b>22.7</b>	<b>0.010</b>
<b>2016</b>	<b>&lt; 0.066</b>	<b>1.3</b>	<b>9.0</b>	<b>0.94</b>	<b>0.53</b>	<b>19.7</b>	<b>0.005</b>
<b>2017</b>	<b>&lt; 0.066</b>	<b>1.0</b>	<b>10.2</b>	<b>1.14</b>	<b>0.70</b>	<b>20.4</b>	<b>0.005</b>
<b>2018</b>	<b>&lt; 0.041</b>	<b>1.0</b>	<b>7.9</b>	<b>0.97</b>	<b>&lt; 0.46</b>	<b>23.0</b>	<b>0.005</b>
<b>2019</b>	<b>&lt; 0.049</b>	<b>0.7</b>	<b>7.9</b>	<b>0.78</b>	<b>&lt; 0.37</b>	<b>22.7</b>	<b>0.005</b>

\* Average may be biased high due to a few uncharacteristically elevated results.

**SUMMARY OF EFFLUENT METALS FROM THE  
KENOSHA WASTEWATER TREATMENT PLANT**

**POTW Effluent: average pounds/day**

<b>Year</b>	<b>Cadmium</b>	<b>Chromium</b>	<b>Copper</b>	<b>Nickel</b>	<b>Lead</b>	<b>Zinc</b>	<b>Mercury</b>
2000	< 0.16	< 0.33	0.82	0.86	< 0.66	4.1	
2001	< 0.20	< 0.41	< 1.2	0.97	< 0.71	7.6	
2002	< 0.18	0.30	< 1.2	0.97	0.71	7.6	0.0028
2003	< 0.16	0.18	< 1.1	1.43	0.64	4.8	0.0016
2004	< 0.38	< 0.38	1.5	0.75	< 0.94	5.3	0.0005
2005	< 0.31	< 0.31	0.94	0.62	< 0.47	5.1	0.0005
2006	< 0.34	< 0.34	1.0	0.51	0.51	6.3	0.0008
2007	< 0.5	< 0.5	1.6	0.8	0.8	8.2	0.0008
2008	< 0.7	< 0.7	1.0	< 0.7	< 0.7	5.2	0.0006
2009	< 0.4	< 0.6	< 1.0	0.8	< 0.6	4.6	0.0004
2010	< 0.03	0.37	1.3	< 0.22	0.47	5.8	0.0004
2011	< 0.14	< 0.27	0.8	< 0.36	< 0.17	5.4	0.0002
2012	< 0.05	< 0.16	1.0	< 0.44	< 0.14	6.2	0.0002
2013	< 0.11	< 0.22	1.8	< 0.47	< 0.25	4.9	0.0003
2014	< 0.06	< 0.21	1.6	< 0.55	< 0.15	8.2	0.0002
2015	< 0.06	< 0.28	2.0	0.84	< 0.15	5.3	0.0002
2016	< 0.06	0.28	1.3	0.59	< 0.17	5.0	0.0002
2017	< 0.06	0.31	2.7	0.94	< 0.17	5.1	0.0002
2018	< 0.034	< 0.29	2.1	0.85	< 0.33	5.1	0.0002
2019	< 0.04	< 0.20	3.2	0.65	< 0.32	< 5.0	0.0002

**SUMMARY OF DEWATERED SLUDGE METALS FROM THE  
KENOSHA WASTEWATER TREATMENT PLANT**

**POTW Anaerobic Digested Sludge (Dewatered): average mg/kg**

<b>Year</b>	<b>Arsenic</b>	<b>Cadmium</b>	<b>Chromium</b>	<b>Copper</b>	<b>Nickel</b>	<b>Lead</b>	<b>Zinc</b>	<b>Selenium</b>	<b>Molybdenum</b>	<b>Mercury</b>
<b>2011</b>	7.8	2.3	72.3	415	23.8	55.4	996	4.2	13.7	0.332
<b>2012</b>	8.1	3.5		372	21.2	36.4	1,114	6.1	17.7	0.598
<b>2013</b>	7.5	2.1	64.1	402	25.2	55.8	1,117	3.6	17.9	0.603
<b>2014</b>	10.9	1.8	55.4	364	24.0	44.8	909	2.1	17.1	0.475
<b>2015</b>	9.4	3.0	70.5	406	28.4	45.7	905	2.7	20.4	0.377
<b>2016</b>	10.2	2.6	86.9	433	31.2	29.1	895	5.0	18.2	0.497
<b>2017</b>	12.3	2.6	76.6	441	30.7	38.1	866	5.5	19.4	0.470
<b>2018</b>	13.1	3.1	91.2	444	32.1	30.3	867	5.7	20.1	0.532
<b>2019</b>	10.7	3.3	81.8	410	35.2	25.2	817	5.8	18.1	0.505
<b>High Quality Limit</b>	41	39	No established limits	1,500	420	300	2,800	100	No established limits	17

mg/kg – milligrams per kilogram

**Wastewater Treatment Plant**

7834 3rd Avenue  
Kenosha WI 53143

Phone (262) 653-4335  
Fax (262) 653-4340



*"Providing and Protecting Kenosha's Greatest Natural Resource"*

June 2020

Mr. Curtis Czarnecki  
Kenosha Water Utility  
4401 Green Bay Road  
Kenosha, WI 53144

**Subject: 2019 Household Hazardous Waste Collection Program Annual Report**

Dear Mr. Czarnecki,

The Water Utility organizes and staffs a Residential Household Hazardous Waste (HHW) Program on the first Saturday of the month (February-April & December) and on the first and third Saturdays of the month (May-November). The goal of the program is to offer City of Kenosha residents a convenient disposal option for household hazardous wastes in an effort to minimize waste disposed to sanitary and storm sewers. Additionally, the Kenosha Water Utility carries out a Mercury Minimization Program as a requirement of our wastewater discharge permit. The HHW events are one way to keep mercury out of the environment. Along with household chemicals, we also accept mercury containing products such as thermometers and fluorescent light bulbs.

All events are staffed solely by Water Utility employees. There are at least five to six employees plus a chemist in charge for each event. The employees collect acceptable chemicals for disposal and offer educational materials to customers about where they can dispose of unacceptable chemicals (i.e. oil, antifreeze, medicine, needles). The collected chemicals are disposed through a contracted disposal company.

The Water Utility conducted eighteen collection events throughout the year. As in past years, it was well received. The number of residents disposing waste per event ranged from 53 (November 16) to 125 (April 6) with an average of 89 per event. The total number of participants in 2019 was 1,600. This program continues to be a fantastic service to our customers and the environment.

Respectfully Submitted,

Katrina Karow  
Director of Wastewater Treatment



[www.kenosha.org](http://www.kenosha.org)

# **Kenosha Household Hazardous Waste Program Participation**

## **2019 Collection Dates and Number of Participants**

February 2	55 participants
March 2	61 participants
April 6	125 participants
May 4	117 participants
May 18	70 participants
June 1	96 participants
June 15	76 participants
July 6	107 participants
July 20	80 participants
August 3	118 participants
August 17	92 participants
September 7	110 participants
September 21	70 participants
October 5	116 participants
October 19	75 participants
November 2	95 participants
November 16	53 participants
December 7	84 participants
<b>Total Participants</b>	<b>1,600</b>

The program averaged 89 participants per collection day.

**Household Hazardous Waste Unit  
Comparative Income Statement**

	<u>2019</u>	<u>2018</u>	<u>2017</u>
<b>Operating Revenue</b>			
Residential	\$ 166,741.16	\$ 166,517.39	\$ 166,428.62
Stormwater Administration	14,040.00	14,040.00	14,040.00
Penalties	<u>3,720.97</u>	<u>3,780.95</u>	<u>3,962.21</u>
<b>Total Operating Revenue</b>	<u>184,502.13</u>	<u>184,338.34</u>	<u>184,430.83</u>
<b>Operating Expenses</b>			
Labor and Supplies	44,468.23	40,186.06	38,209.81
Outside Disposal Service	44,024.78	46,158.56	43,114.06
Costs Allocated from Other Funds:			
Wages	79,283.32	74,253.10	72,462.06
Postage	9,170.80	7,623.50	7,717.39
Other	3,509.60	3,543.61	3,433.39
Depreciation	<u>3,202.45</u>	<u>3,342.07</u>	<u>3,481.70</u>
<b>Total Operating Expenses</b>	<u>183,659.18</u>	<u>175,106.90</u>	<u>168,418.41</u>
<b>Operating Income</b>	842.95	9,231.44	16,012.42
<b>Other Income</b>			
Interest Income	2,354.96	1,161.46	260.01
Miscellaneous Income	<u>-</u>	<u>304.64</u>	<u>45.00</u>
<b>Net Income</b>	<u>\$ 3,197.91</u>	<u>\$ 10,697.54</u>	<u>\$ 16,317.43</u>

**Household Hazardous Waste Unit  
Statement of Net Position  
December 31, 2019**

<b>Assets</b>		
<b>Utility Plant</b>		
Plant in Service	\$ 80,893.24	
Accumulated Depreciation	<u>(27,641.27)</u>	
Net Plant in Service		53,251.97
<b>Current Assets</b>		
Cash	400,498.38	
Accounts Receivable	26,855.38	
Receivable from Municipality	17,322.93	
Unbilled Revenues	<u>20,859.25</u>	
Total Current Assets		465,535.94
<b>Total Assets</b>		<u>518,787.91</u>
<b>Deferred Outflow of Resources</b>		
Deferred Pension Resources		<u>21,116.05</u>
<b>Liabilities</b>		
<b>Current and Accrued Liabilities</b>		
Accounts Payable	<u>2,226.42</u>	
Total Current Liabilities		2,226.42
<b>Other Liabilities</b>		
Pension Liability - Wisconsin Retirement System		4,620.33
<b>Total Liabilities</b>		<u>6,846.75</u>
<b>Deferred Inflow of Resources</b>		
Deferred Pension Resources		<u>12,197.31</u>
<b>Net Position</b>		
Invested in Capital Assets	53,251.97	
Unrestricted	<u>467,607.93</u>	
<b>Total Net Position</b>		<u>\$ 520,859.90</u>



**Household Hazardous Waste Unit  
Plant in Service and Accumulated Depreciation  
For the year ended December 31, 2019**

	Depr. Rate %	Plant in Service				Cost of Plant 12/31/2018
		Cost of Plant 1/1/2019	2019 Additions	2019 Retirements	Adjustments Incr/(Decr)	
<b>General Plant</b>						
Structures and Improvements	4.00	\$ 80,061.24	-	-	-	\$ 80,061.24
Equipment	8.33	832.00	-	-	-	832.00
<b>Total</b>		<u>\$ 80,893.24</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>\$ 80,893.24</u>

	Accumulated Depreciation					Balance 12/31/2018
	Balance 1/1/2019	2019 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	
<b>General Plant</b>						
Structures and Improvements	\$ 23,606.82	3,202.45	-	-	-	\$ 26,809.27
Equipment	832.00	-	-	-	-	832.00
<b>Total</b>	<u>\$ 24,438.82</u>	<u>3,202.45</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>\$ 27,641.27</u>