

2020
ANNUAL REPORT
of the
KENOSHA WATER UTILITY
Kenosha, Wisconsin



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Ian Bagley, Director of Water Production;
Director of Engineering Services, eff. 9/16/20

Cathy Brnak, Director of Business Services

Steven Hayek, Director of Water Distribution & Sewer Collection

Sue Hill, Director of Personnel & Administration

Katrina Karow, Director of Wastewater Treatment

Ryan Spackman, Director of Water Production, eff. 11/23/20

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Board of Water Commissioners

David F. Bogdala, Chairperson
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Jack Rose
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Bill Siel



Kenosha Water Utility

Curt Czarnecki
General Manager
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“Providing and Protecting Kenosha’s Greatest Natural Resource”

November 2021

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

Subject: 2020 Annual Report

I respectfully submit the 2020 Annual Report for the Kenosha Water Utility (KWU). 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 2020 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 per day, seven days a week, 365 days a year to fulfill our overall mission to **“Provide and Protect Kenosha’s Greatest Natural Resource.”**

Similar to the rest of the Kenosha community, KWU experienced a challenging year in 2020 adapting to a global pandemic and local civil unrest. While these events tested our resilience, it also helped accentuate what great employees we have and the excellent customer service they provide. I was extremely proud of how our employees adapted to the changing landscape while also continuing to demonstrate their dedication, knowledge, work ethic, and attention to detail.

Finally, I would like to thank the Board of Water Commissioners for the trust, respect, guidance 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 2021.

Sincerely,

Curtis Czarnecki, P.E.



Board of Water Commissioners

David F. Bogdala – Chairperson
Bruce Fox – Vice Chairperson
Mitchell Pedersen
Jack Rose
Dominic Ruffalo
Bill Siel



Melissa Arnot
Assistant General Manager

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“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2021

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

Subject: 2020 Annual Report

Dear Mr. Czarnecki,

Over the past year, you have led the Utility extremely well and I am thankful to be working under your guidance and leadership. Thank you for all of the unprecedented hard decisions you made to protect employees while considering the best interest of the Utility as a whole.

2020 was a challenging year to say the least, but we have made it through and are stronger together after all of the struggles. During the year of COVID, we had to continuously analyze and modify our staffing and requirements. With the riots and fires, we had to keep up with demand and request additional protection for our facilities and staff. Throughout it all, we did everything that we normally do to keep our operation running smoothly. We continued to provide the highest quality drinking water and returned cleaned wastewater to the lake meeting or exceeding all state and federal requirements. We fixed water and sewer main breaks, did locates and construction inspection, processed bills and payments, completed projects, fixed vehicles and equipment, spoke to the public to answer questions and calm fears and everything else that happens on a daily basis. We saw teamwork, dedication and resiliency in our staff and we are so thankful that everyone came together in this difficult year.

Ironically, I submitted the Emergency Response Plan in 2020 and updated it with the events of the year as part of the Risk & Resiliency program required by the U.S. Environmental Protection Agency in the American Water Infrastructure Act of 2018. I worked on capital projects at the wastewater treatment plant and collection system and did various reporting that was required as usual.

I am excited that we had a number of new hires and promotions throughout the Utility and look forward to seeing what can be accomplished in the coming year. It was inspiring to see our small staff step up even more when we were down employees to fill in the gaps and learn new roles. 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.

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,

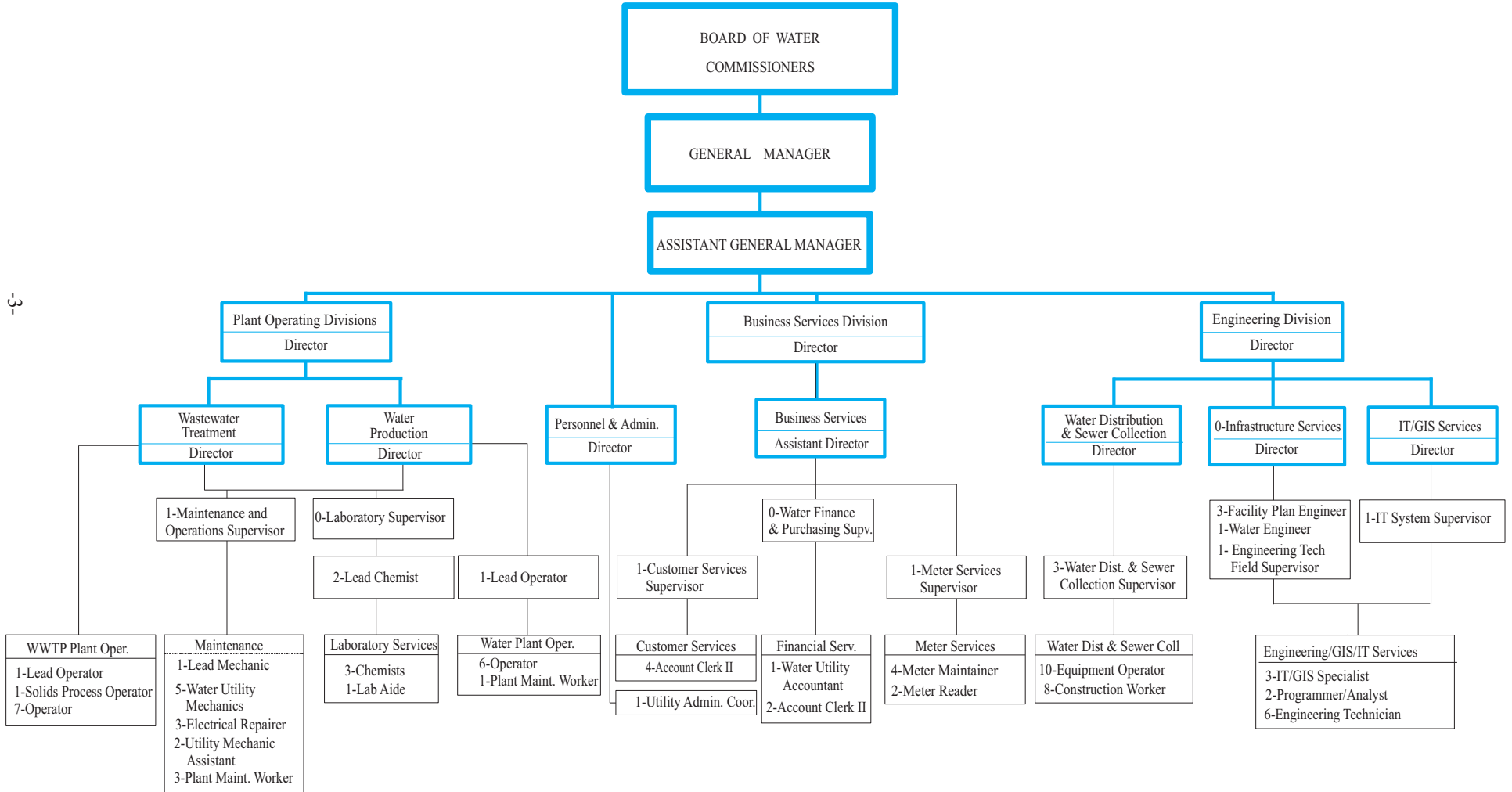
Melissa Arnot, P.E.
Assistant General Manager



www.kenosha.org



2020 Organizational Chart



General Statistics Water

	<u>2020</u>	<u>2019</u>
1. Population of Kenosha, Pleasant Prairie, Somers & Bristol	136,931	136,623
Population of current service area (estimated)	118,312	119,239
Population of City of Kenosha	98,891	99,841
2. Total gallons pumped	5,305,911,000	5,155,449,000
3. Total gallons low lift water used in plant	609,849,000	577,509,000
4. Total gallons water pumped – high lift use	4,696,062,000	4,577,940,000
5. Total gallons high lift water accounted for, not metered	65,059,682	52,409,179
6. Total gallons water pumped to distribution system	4,631,002,318	4,525,530,821
7. Increase (decrease) from previous year	2.33%	(5.23%)
8. Total gallons passed through customers' meters	4,262,261,000	4,128,921,000
9. Percent of water accounted for	91%	90%
10. Consumption:		
Minimum gallons pumped in any one day	9,370,000	9,310,000
	November 29, 2020	January 1, 2019
Maximum gallons pumped in any one day	23,670,000	20,540,000
	July 25, 2020	August 17, 2019
11. Total daily consumption – Average	11,677,427	11,312,112
Average daily consumption per capita – gallons per day	98.70	94.87
12. Total number of services	30,481	30,461
Active accounts (total meters less in stock and deduct meters)	31,245	31,195
Number of services added (net)	20	33
Per mile of pipe	82.01	82.28
Persons per service (City of Kenosha)	3.24	3.28
13. Pipe in distribution system (in miles)	371.67	370.20
Size range in diameter	1" - 48"	1" - 48"
Pressure range – pounds per square inch	40 – 80	40 – 80
Population per mile (City of Kenosha)	266.07	269.69
14. Valves for distribution system (except hydrant valves)	6,082	6,049
Total installed for year	33	2
15. Hydrants for distribution system	3,403	3,382
Total installed for year (56 new - 35 retired = 21 additional)	21	0
Per mile of pipe	9.16	9.14
16. Utility operating revenue	\$ 14,361,238	\$ 14,079,122
Net Operating Income (Loss)	\$ 1,072,014	(\$ 347,513)
Net Income (Loss) (all expense and revenue)	\$ 1,115,685	(\$ 321,307)

	<u>2020</u>	<u>2019</u>
17. Operating and maintenance expenses	\$ 8,378,693	\$ 9,203,023
Per mile of pipe to expense	\$ 22,543.37	\$ 24,859.60
Per million gallons to distribution system	\$ 1,809.26	\$ 2,033.58
18. Tax Equivalent – Water	\$ 2,271,298	\$ 2,205,317
Increase (decrease) from previous year	3.0%	-4.5%
Percent of operating revenue	16.1%	15.7%
19. Depreciation and Amortization	\$ 2,643,282	\$ 3,018,294
Percent of operating revenue	18.4%	21.4%
20. Production Cost Analysis of Energy Used		
Total electrical costs (high and low lift)	\$ 496,042	\$ 482,035
Cost for pumping (per million gallons)	\$ 93.49	\$ 93.50
Total electrical costs (booster system)	\$ 161,801	\$ 159,988
Cost of re-pumping for booster system (per million gallons)	\$ 75.22	\$ 80.57
Total electrical energy consumed at plant	\$ 583,571	\$ 567,091
Total natural gas energy consumed at plant	\$ 33,070	\$ 42,010
21. Production Cost Analysis of Chemicals Used		
Sand Filters		
Sulfate of Aluminum – total tons	331.7	334.1
Chlorine – total tons	24.3	23.2
Hydrofluosilicic acid (Fluoride) – total tons (liquid weight)	31.9	32.2
Polyphosphate – total tons (liquid weight)	37.3	35.5
Total cost per million gallons of filtered water	\$57.81	\$57.40
Membrane Filters		
Chlorine – total tons	17.9	17.6
Hydrofluosilicic acid (Fluoride) – total tons (liquid weight)	23.6	24.4
Polyphosphate – total tons (liquid weight)	27.5	26.9
Total cost per million gallons of filtered water	\$29.57	\$30.82
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)	2,151.16	1,985.81
24. Average number of General Customers by class		
Residential	27,651	27,625
Multifamily Residential	1,106	1,097
Commercial	2,176	2,163
Industrial	86	85
Private Fire Services	630	522
Public Authorities	199	199
Sales for Resale (points of sale)		
Village of Pleasant Prairie	4	4
Village of Somers	8	8
Village of Bristol	2	2

General Statistics Sewer

	<u>2020</u>	<u>2019</u>
25. Total gallons wastewater pumped & treated	9,261,383,000	10,516,906,000
26. Increase (decrease) from previous year	(11.94%)	11.74%
27. Treatment:		
Minimum gallons treated in any one day	15,754,000	17,170,000
Date:	October 17, 2020	August 25, 2019
Maximum gallons treated in any one day	91,174,000	96,169,000
Date:	May 18, 2020	Sept. 13, 2019
28. Total daily wastewater treated – Average	25,304,325	28,813,441
Average daily treatment per capita – gallons per day	213.88	241.64
29. Total dry solids to digester, tons	5,437	5,363
30. Sludge to dewatering centrifuge, gallons	26,980,922	26,651,778
Sludge to dewatering centrifuge, wet tons	112,510	111,138
Percent solids	2.22%	2.14%
31. Sludge off dewatering centrifuge (to landfill), wet tons	6,019	6,149
Sludge off dewatering centrifuge (to dryer), wet tons	2,900	2,365
Percent solids	27.0%	27.4%
32. Sludge from dryer (to landfill), wet tons	823	677
Percent solids	95.3%	95.5%
33. Sludge to landfill, dry tons	2,870	2,417
Grit to landfill, tons	1,313	615
34. Pipe in collection system (in miles)	343.97	342.93
Size range in diameter	1.5" - 99"	1.5" - 99"
Population per mile (City of Kenosha)	290.26	291.14
35. Utility operating revenue	\$ 13,088,904	\$ 13,600,514
Net Operating Income (Loss)	(\$ 132,109)	\$ 128,300
Net Income (all expense and revenue)	\$ 498,144	\$ 905,134
36. Operating and maintenance expenses	\$ 13,221,013	\$ 13,472,214
Per mile of pipe to expense	\$ 45,548.86	\$ 46,274.01
Per million gallons collected	\$ 1,427.54	\$ 1,281.01
37. Depreciation	\$ 3,245,555	\$ 2,904,930
Percent of operating revenue	24.8%	21.4%
38. Wastewater Treatment Cost Analysis of Energy Used		
Total electrical costs (wastewater treatment)	\$ 470,371	\$ 497,645
Cost for treatment (per million gallons)	\$ 50.79	\$ 47.32
Total electrical costs (lift stations)	\$ 77,157	\$ 84,677
Cost of pumping sewage to treatment plant		
Total natural gas energy consumed at plant	\$ 66,256	\$ 81,746
Methane gas produced by digesters (therms)	444,708	381,158
Value of methane gas (estimate)	\$ 177,883	\$ 182,668

	<u>2020</u>	<u>2019</u>
39. Wastewater Treatment Cost Analysis of Chemicals Used		
Ferric Chloride - total gallons	185,557	181,581
Chlorine - total tons	70.0	81.6
Sulfur Dioxide - total tons	49.1	56.0
Polymer - total tons	66.0	69.0
Sodium Hydroxide - total pounds	153,220	169,404
Sulfuric Acid - pounds	0	11,670
Total cost per million gallons of treated sewage	\$ 56.11	\$ 49.06
40. Plant Capacity	28.6 MGD	28.6 MGD
41. Average number of General Customers by class		
Residential	26,842	26,886
Multifamily Residential	949	942
Commercial	1,987	1,985
Industrial	71	70
Public Authorities	155	154
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 – 2020

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
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
2960	2008 GMC Pickup
3070	2010 Ford Crew Cab with Utility Service Body
3299	2015 International Tandem Axle Dump Truck
3303	2015 International Tandem Axle Dump Truck
3331	2015 Chevrolet Pickup
3371	2017 GMC Pickup
3376	2017 Ram 1 Ton Dump Truck
3424	2019 International Tandem Axle Dump Truck
3452	2019 Ford Transit Cargo Van
3472	2019 Ram 4500 with Utility Service Body
4037	2020 Chevrolet Pickup
4055	2021 International Tandem Axle Dump Truck

Meter Shop

2849	2006 GMC Van with Utility Service Body
3127	2011 GMC Van
3248	2014 GMC Van
3257	2014 GMC Van
3285	2014 GMC Van

Engineering Services

2682	2003 GMC Van
2737	2004 GMC Van
2771	2004 Jeep Liberty
2842	2006 GMC Pickup
2883	2006 GMC Pickup
3004	2008 Dodge Grand Caravan
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
3279	2014 GMC Pickup
3281	2014 GMC Pickup
3282	2014 GMC Pickup
3474	2019 GMC Van

Sewer Repair/Inspection

Fleet #	Description
2089	1992 Ford Pickup Flatbed-Shoring Truck
2299	1996 IHC Tandem Axle Dump Truck
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
3093	2008 Eager Beaver Lowboy Trailer
3043	2009 Ford F450 with Utility Service Body
3202	2012 Sewer Flusher Vacuum
3284	2015 GMC Tandem Axle Dump Truck
3370	2017 GMC Pickup
3425	2019 International Tandem Axle Dump Truck
3473	2019 Ram 4500 with Utility Service Body

Administration/Customer Service

2962	2008 Jeep Liberty
3253	2013 Chevrolet Suburban

Water Production

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

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
3377	2018 Western Star Quad Axle Dump Truck
3463	2018 Ram 3500 with Plow
3453	2019 Ford Transit Cargo Van
4038	2020 Chevrolet Pickup

Water Utility Major Equipment – 2020

Distribution & Sewer Collection

Water Construction

Fleet #	Description
1011	1980 Case Crawler
455-19	1986 Tapmate Tap Machine
	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
4050	2020 Caterpillar Mini Hydraulic Excavator

Water Production

	1998 Mitsubishi Fork Truck
	2005 Kubota Mower
2890	2006 Kubota Mower

Sewer Repair

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

Wastewater Treatment

1050	1980 6" Marlow Pump
	1995 6" Marlow Pump
	1998 4" Barnes Submersible Pump
1787	1998 John Deere Mower
	1999 8" Thompson Pump
2551	2000 8" Godwin Pump
2552	2000 6" Gorman-Rupp 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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“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2021

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

Subject: 2020 Annual Report – Engineering Services Division

Dear Mr. Czarnecki,

I respectfully submit the annual report for the Engineering Services Division for the year 2020. Kenosha Water Utility’s Engineering Services Division continues to provide a wide variety of engineering services for the various operating divisions within the utility as well as City departments, public agencies, contractors, and developers.

Private development did not slow down during 2020. Industrial use continues to be in demand along the I-94 corridor and we began to see large scale single family residential development for the first time in nearly 15 years. This trend is not only within the City of Kenosha, but all of our wholesale customers as well. Planning, review and oversight of private development continues to be a major focus of the Engineering Services Division and 2020 was no exception.

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 under “2020 Engineering Service Contracts Awarded”. These contracts included multiple water main relay projects as well as the enhancements to our Industrial Park Lift Station. Water main improvements and lead service replacement efforts were also included in the roadway reconstruction contract for Phase 3 of 22nd Avenue, between 65th Street and 75th Street as well as Phase 2 of 60th Street, between 38th Avenue and 41st Avenue. Finally, our Distribution Division completed multiple water main replacement projects, in conjunction with City roadway reconstruction and resurfacing projects, in an effort to replace deteriorating water mains throughout the City.

Our lead service replacement program continued in 2020 as KWU replaced 188 public side services with a combination of our Distribution Division and outside contractors as well as funding 93 private side service replacements. Due to the pandemic we were unable to continue in-home appointments but that forced us to get creative in determining material types on the homeowner side of services. We were able to implement a program in which prospective replacement homes submitted a series of pictures, via email, to our Engineering Services Division. This proved to be challenging for some homeowners but the vast majority were able to get us the information we needed without having to perform an in-home visit. We foresee this process becoming our standard operating procedure moving forward which will save multiple staff hours on each replacement site. This was just one small example of how our staff pulled together to ensure our operations continued unabated during a very challenging and unprecedented year.

On behalf of the staff of the Engineering Services Division, I would like to thank the Board of Water Commissioners as well as our other divisions for all of their efforts to make 2020 another safe, productive, and successful year.

Sincerely,

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

Ian C. Bagley, P.E.
Director of Engineering Services



www.kenosha.org

**Information Technology/
Geographic Information Systems**

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“Providing and Protecting Kenosha’s Greatest Natural Resource”

June 2021

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

Subject: 2020 Annual Report - Information Technology / Geographic Information Systems

Dear Mr. Czarnecki,

The Information Technology (IT) / Geographic Information Systems (GIS) team continued to provide IT services to the Kenosha Water Utility's staff whether working from home or in the legacy office during these unusual and challenging pandemic times this past year.

The IT/GIS team worked on some new projects this year, but mostly supported the utility with better ways to get the job done by using mobile technology. Some of these legacy and various new projects are listed below:

- Created, configured and launched secure mobile-thin clients for the end users. These devices allowed the user to securely access their in-office desktops from anywhere a cellular signal is received. These machines were invaluable when staff was sent home to work because of the pandemic.
- Trained users on: mobile thin-clients, remote access procedures, troubleshooting and support.
- IT support Help Desk service continues to be available 24/7/365 to support any issues or questions from of our staff.
- Launched and manned all virtual Water Board, staff, and any other online meetings, using Zoom as our primary platform.
- Continued to use, update and modify our Lead Service Replacement program which is now all being done in our home-grown GIS system called QGIS (Quantum Geographic Information System)
- Ran in parallel with our legacy SCADA (Supervisory Control and Data Acquisition) system and our new human-machine interface (HMI) called Ignition at the Production Plant.
- 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.
- Enhanced and updated KWU’s website, www.kenosha.org, with valuable information regarding the pandemic.

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 challenging year.

Respectfully submitted,

A handwritten signature in black ink that reads "John N. Andersen".

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



www.kenosha.org

2020 Engineering Service Contracts Awarded

<u>Project</u>	<u>Contractor</u>	<u>Description</u>	<u>Awarded Cost</u>
2020-01-W	Reesman's Excavating and Grading, Inc.	25th Avenue - 80th Street to Johnson Road Johnson Road - 79th Street to 24th Avenue 79th Street - 23rd Avenue to 24th Avenue 26th Avenue - 82nd Street to 600 feet south	\$ 810,545.25
2020-02-S	MZ Construction Company, Inc.	Industrial Park Lift Station Improvements	\$ 770,000.00
2020-03-W	Genesis Excavators, Inc.	63rd Street - 47th Avenue to 49th Avenue	\$687,948.50

2020 Developer Infrastructure Accepted

	Water Mains	Hydrants	Services
94 Logistics, LLC	\$ 705,660.43	85,074.47	
Springs at Kenosha Phase 2	134,075.89	20,000.00	
Majestic Midwest	39,041.60		

	Sanitary Sewer Mains
94 Logistics, LLC	\$ 453,174.59
Majestic Midwest	242,348.92
Springs at Kenosha Phase 2	198,664.07

Note: Total cost includes developer and KWU costs.

**2020 Engineering Staff and G.I.S. Personnel
Recap of Significant Projects**

	<u>Hours</u>
<u>Water Production Engineering - Total Hours 1,063</u>	
Water Treatment Plant & Reservoir Maintenance	1,063
<u>Sewerage System Engineering - Total Hours 2,777</u>	
Sanitary Sewer Locates (Digger's Hotline)	1,456
Wastewater Treatment Plant Maintenance	275
Sewer Repair, Cleaning and Inspection	1,046
<u>Water Distribution System - Total Hours 7,181</u>	
Water System Locates (Digger's Hotline)	2,051
Maintenance of Mains, Services and Hydrants	2,044
Lead Service Replacement Program	3,581
<u>Water Main Installed by Kenosha Water Utility Crews - Total Hours 194</u>	
Water Main Replacement - Various Locations	194
<u>Water Main Installed by Kenosha Water Utility Contract - Total Hours 1,640</u>	
Water Main Replacement - 63 St & 65th St - 47th to 49th Ave & 48th Ave	700
Water Main Replacement - 25th Ave - 80th St to Johnson Rd	209
Water Main Relay - Airport Relocation	198
Water Main Replacement - 26th Ave - 82nd St to 8255 82nd St	186
Water Main Replacement - Johnson Rd - 79th St to 24th Ave	177
Water Main Replacement - Various Locations	170
<u>Water/Sewer Infrastructure Installed by Developers 448</u>	
Majestic Midwest Transportation Center	251
Majestic Midwest Innovation Center	112
Uline	54
Riverwoods	31
<u>Wastewater Treatment Plant Infrastructure - Total Hours 60</u>	
Blower Upgrade	46
Industrial Park Lift Station - Phase 1	14
<u>New Development - Total Hours 1,117</u>	
Plan/Project Review	1,117
<u>GIS Infrastructure Mapping - Total Hours 2,731</u>	
Water Infrastructure	1,106
Sewer Infrastructure	857

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 2021

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

Dear Mr. Czarnecki,

SUBJECT: 2020 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. Operations were significantly impacted by COVID-19 and the inability to enter private homes prior to the general availability of a vaccine.

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 3.34% based on an average net rate base valued at \$51,219,908. The rate of return for the sewer unit was 0.28% based on an average net rate base valued at \$34,977,009.

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,

A handwritten signature in black ink that reads 'Cathy Brnak'.

Cathy Brnak
Director of Business Services



www.kenosha.org

Water and Sewerage Service Charges – 2020

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	55.62	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 2020	155,538	\$ 448,591.78	\$ 84,132.46	\$ 13,458.00	154,620	\$ 374,883.16	
May 2020	156,588	456,031.87	86,988.65	13,375.00	149,448	363,755.42	
June 2020	150,840	439,557.74	84,132.46	13,452.00	149,930	365,077.66	
July 2020	182,349	488,477.47	87,025.73	13,381.00	164,369	360,893.04	\$ 32,560.38
Aug 2020	177,031	491,237.57	84,107.74	13,448.00	175,639	357,009.77	59,206.48
Sept 2020	229,567	599,430.42	87,733.34	13,431.50	215,953	369,160.01	127,409.75
Oct 2020	193,872	523,820.24	84,120.10	13,448.50	192,128	356,232.17	92,799.67
Nov 2020	214,213	568,962.17	87,764.24	13,434.50	202,551	362,256.87	107,740.59
Dec 2020	170,029	477,146.39	84,104.65	13,446.50	168,732	346,323.99	56,139.89
Jan 2021	164,437	471,622.32	87,909.89	13,392.50	156,316	377,504.04	
Feb 2021	161,604	460,294.76	84,104.65	13,446.50	160,510	386,099.62	
March 2021	168,763	480,527.42	87,810.59	13,443.50	160,995	386,837.45	
Totals	2,124,831	\$ 5,905,700.15	\$ 1,029,934.50	\$ 161,157.50	2,051,191	\$ 4,406,033.20	\$ 475,856.76

COMMERCIAL

Bill Mo.	Water		Public Fire Protection	Sewerage	
	Cons.Ccf	Charge		Cons.Ccf	Charge
April 2020	40,550	\$ 94,650.85	\$ 9,265.88	38,452	\$ 81,848.82
May 2020	53,248	123,368.90	11,022.03	51,191	105,877.61
June 2020	29,445	74,734.34	9,273.09	27,989	60,712.76
July 2020	46,496	88,620.47	10,391.67	30,265	63,292.80
Aug 2020	51,776	114,305.04	10,015.72	40,773	86,384.02
Sept 2020	77,644	161,828.33	10,920.06	35,493	118,795.06
Oct 2020	63,474	134,330.90	9,935.38	47,653	100,094.72
Nov 2020	73,488	156,156.95	10,946.07	56,466	116,090.69
Dec 2020	46,552	107,144.27	9,906.54	40,052	84,937.49
Jan 2021	55,878	125,747.88	10,483.34	48,354	99,821.13
Feb 2021	36,935	58,676.33	8,373.90	35,424	75,749.81
March 2021	49,954	115,813.55	10,918.00	47,544	98,215.82
Totals	625,440	\$ 1,355,377.81	\$ 121,451.68	499,656	\$ 1,091,820.73

MULTIFAMILY RESIDENTIAL

Bill Mo.	Water		Public Fire Protection	HHW Charge	Sewerage	
	Cons.Ccf	Charge			Cons.Ccf	Charge
April 2020	36,511	\$ 80,131.97	\$ 5,005.80	\$ 491.50	36,630	\$ 74,618.89
May 2020	49,645	111,805.17	11,506.72	453.00	48,797	98,710.12
June 2020	34,537	76,449.31	4,990.35	491.00	34,537	70,562.02
July 2020	51,791	112,919.26	7,325.36	454.50	48,909	99,583.23
Aug 2020	37,672	82,771.28	5,195.32	502.50	37,229	75,895.16
Sept 2020	59,520	130,072.02	7,345.96	455.50	52,965	107,035.84
Oct 2020	39,367	85,407.34	5,084.08	497.50	35,867	73,075.33
Nov 2020	62,903	136,995.52	7,375.94	465.50	53,975	109,023.64
Dec 2020	36,013	79,606.25	5,079.96	496.50	34,204	100,641.10
Jan 2021	51,908	127,964.16	7,315.06	452.00	50,460	101,993.34
Feb 2021	33,623	75,056.63	5,084.08	497.00	33,536	68,621.77
March 2021	55,299	122,082.22	7,345.96	455.50	54,173	109,487.40
Totals	548,789	\$ 1,221,261.13	\$ 78,654.59	\$ 5,712.00	521,282	\$ 1,089,247.84

**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 2020	15,634	\$ 18,779.43	\$ 2,019.83	8,901	\$ 18,179.23
May 2020	13,872	27,608.80	1,414.19	7,070	14,280.90
June 2020	12,507	26,750.53	2,023.95	5,840	12,090.32
July 2020	9,365	20,013.70	1,414.19	3,615	7,490.35
Aug 2020	23,841	44,557.62	2,038.37	6,060	12,525.64
Sept 2020	15,430	27,463.97	1,400.80	4,929	10,082.45
Oct 2020	33,103	59,269.71	2,026.01	8,840	18,057.84
Nov 2020	19,462	36,426.55	1,426.55	6,448	13,115.13
Dec 2020	22,084	42,565.66	2,026.01	7,738	15,864.86
Jan 2021	16,531	31,393.83	1,414.19	6,146	12,477.01
Feb 2021	17,274	34,086.16	2,026.01	6,012	12,430.12
March 2021	14,419	27,906.80	1,426.55	5,372	10,981.09
Totals	213,522	\$ 396,822.76	\$ 20,656.65	76,971	\$ 157,574.94

INDUSTRIAL

Bill Mo.	Water		Public Fire Protection	Sewerage	
	Cons.Ccf	Charge		Cons.Ccf	Charge
April 2020	40,359	\$ 63,011.61	\$ 394.49	30,157	\$ 99,900.08
May 2020	43,073	69,677.95	911.55	35,374	107,506.99
June 2020	31,195	49,177.36	394.49	21,078	69,429.22
July 2020	43,043	69,447.40	911.55	28,574	89,800.23
Aug 2020	42,202	66,330.03	537.66	25,449	102,903.09
Sept 2020	50,693	83,200.04	783.83	33,696	103,653.57
Oct 2020	38,466	60,926.27	528.39	24,895	95,444.44
Nov 2020	47,373	75,982.19	777.65	24,431	97,237.24
Dec 2020	46,160	72,230.12	528.39	28,348	159,676.02
Jan 2021	45,741	72,957.39	777.65	28,214	131,014.28
Feb 2021	36,258	57,304.07	528.39	24,843	144,268.36
March 2021	48,302	76,765.69	783.83	35,005	159,093.39
Totals	512,865	\$ 817,010.12	\$ 7,857.87	340,064	\$ 1,359,926.91

SALE FOR RESALE

Bill Mo.	Cons.Ccf	Water Charge	Public Fire Protection
April 2020	114,816	\$ 167,597.14	\$ 8,359.48
May 2020	120,412	175,537.38	8,359.48
June 2020	113,881	166,100.57	8,359.48
July 2020	130,676	190,173.78	8,359.48
Aug 2020	183,677	266,355.72	8,359.48
Sept 2020	203,516	294,671.31	8,359.48
Oct 2020	175,990	255,094.75	8,359.48
Nov 2020	156,895	227,553.55	8,359.48
Dec 2020	133,241	193,653.13	8,359.48
Jan 2021	106,250	154,938.96	8,359.48
Feb 2021	120,044	174,498.09	8,359.48
March 2021	117,273	170,521.77	8,359.48
Totals	1,676,671	\$ 2,436,696.15	\$ 100,313.76

Meter Services Report - 2020

<u>Meter Size</u>	<u>New Accounts</u>	<u>Tested/ Upgraded</u>	<u>Total Meters</u>
5/8" Meters	5	672	24,742
3/4" Meters	45	300	4,718
1" Meters	12	36	905
1-1/2" Meters	12	79	587
2" Meters	6	75	652
3" Meters	2	22	116
4" Meters	-	3	61
6" Meters	-	24	29
8" Meters	-	9	9
10" Meters	-	2	2
Total	82	1,222	31,821

New Private Fire Lines **2**

Meter Shop Activity

Set New Accounts	82
20 Year Meter Change Outs	460
Install Radio Read Units	177
Remove Meter (test and replace)	451
Check Readings (high/low consumption, etc.)	2,350
Shut Offs, Take Out Seasonals	131
Repair Outside Register/Touch Pad	1,140
Pressure Tests	22
Locate/Clean Curb Box	314
Service Break Checks/Trace Services	28
Shut off at Curb (non-payment & customer requests)	336
Meters Bench Tested/Rebuild & Retest	80
Frozen Services	-
Frozen Meters	30
Pool Fills	-
Large Meter-Field Testing	59
Total Service Calls	5,660

TEN YEAR COMPARISON OF CUSTOMER WATER CONSUMPTION

Average Number of Water Customers	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% INCR (DECR) 2020 vs. 2019
Residential	27,334	27,365	27,410	27,452	27,500	27,541	27,572	27,597	27,625	27,651	0.09%
Multifamily Residential	N/A	N/A	1,130	1,115	1,164	1,077	1,091	1,095	1,097	1,106	0.82%
Commercial	3,317	3,315	2,176	2,177	2,114	2,166	2,158	2,157	2,163	2,176	0.60%
Industrial	66	63	60	61	66	84	83	85	85	86	1.18%
Public	192	185	183	185	185	191	191	198	199	199	0.00%
Irrigation	3	3	3	2	2	-	-	-	-	-	0.00%
Private Fire Lines	455	464	467	477	492	499	507	515	522	630	20.69%
Sale for Resale											
Pleasant Prairie	7	7	7	7	7	7	7	7	4	4	0.00%
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%
TOTAL	31,384	31,412	31,446	31,486	31,540	31,575	31,619	31,664	31,705	31,862	0.50%

Annual Consumption (1,000 Gallons)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% INCR (DECR) 2020 vs. 2019
Residential	1,704,587	1,838,553	1,638,280	1,535,419	1,549,036	1,586,610	1,512,799	1,509,215	1,456,510	1,589,374	9.12%
Multifamily Residential	N/A	N/A	430,591	417,147	417,529	399,652	402,078	410,802	395,833	410,494	3.70%
Commercial	953,963	977,711	495,955	471,956	488,315	520,624	497,334	498,612	502,960	467,829	(6.98%)
Industrial	396,382	287,364	336,628	419,995	411,406	481,031	404,877	380,041	387,513	383,623	(1.00%)
Public	117,950	183,924	170,517	170,966	168,484	196,639	193,523	188,702	178,821	159,714	(10.68%)
Irrigation	1,204	2,148	1,323	1,744	2,014	-	-	-	-	-	0.00%
Sale for Resale											
Pleasant Prairie	794,343	842,036	746,097	761,521	1,012,853	1,188,200	1,220,396	1,096,551	1,025,478	1,086,056	5.91%
Village of Somers	162,957	179,703	146,385	142,909	145,463	160,352	162,849	187,724	173,431	163,097	(5.96%)
Village of Bristol	5,464	5,025	4,563	5,673	5,962	6,633	6,842	6,371	5,296	5,045	(4.74%)
TOTAL	4,136,850	4,316,464	3,970,339	3,927,330	4,201,062	4,539,741	4,400,698	4,278,018	4,125,842	4,265,232	3.38%

Customer Class as a Percent of Total Consumption	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Residential	41.20%	42.60%	41.26%	39.10%	36.87%	34.95%	34.38%	35.28%	35.30%	37.26%
Multifamily Residential	N/A	N/A	N/A	10.62%	9.94%	8.80%	9.14%	9.60%	9.59%	9.62%
Commercial	23.06%	22.65%	12.49%	12.02%	11.62%	11.48%	11.30%	11.66%	12.19%	10.97%
Industrial	9.58%	6.66%	8.48%	10.69%	9.79%	10.60%	9.20%	8.88%	9.39%	8.99%
Public	2.86%	4.26%	4.29%	4.36%	4.01%	4.33%	4.40%	4.41%	4.33%	3.75%
Irrigation	0.03%	0.05%	0.03%	0.04%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%
Sale for Resale										
Pleasant Prairie	19.20%	19.51%	18.79%	19.39%	24.11%	26.17%	27.73%	25.63%	24.85%	25.47%
Town of Somers	3.94%	4.16%	3.69%	3.64%	3.46%	3.53%	3.70%	4.39%	4.20%	3.82%
Village of Bristol	0.13%	0.12%	0.11%	0.14%	0.14%	0.15%	0.16%	0.14%	0.13%	0.12%
TOTAL	100.00%	100.01%	89.14%	100.00%	100.00%	100.01%	100.01%	99.99%	99.98%	100.00%

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 2021

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

Subject: 2020 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 4.81 billion gallons was pumped into the distribution system in 2020. The average daily flow was 13.14 million gallons per day, with a maximum day of 23.67 million gallons which occurred on July 25th due to heavy summer time usage. The average tap water turbidity was 0.037 NTU and the average chlorine residual was 1.1 mg/l. Some significant projects completed in 2020 include:

- **Completion of Electrical Maintenance and Testing as well as an Arc Flash Study**
- **Replacement of Pump #2 at the Airport Booster Station**
- **Replacement and Relocation of the Sand Filter Controls**

In addition to the above, we began the operation of our lead loop system in March of 2020. This was a completely in-house effort from the harvesting of lead service pipes by our Distribution Division to the design and construction of the system itself by Production Staff. The remainder of 2020 was spent conditioning the system and working out the bugs in our analysis. This project is a testament to the skill level and dedication of our KWU staff and I am truly appreciative of their efforts. In October, we received our approval from the Wisconsin Department of Natural Resources for our Membrane Plant Upgrade. Approval from the Public Service Commission of the State of Wisconsin followed in November. Early in 2021, we finalized our contract with DuPont and will begin construction of the project in the 4th Quarter of this year.

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. I assumed the position of Director of Water Production in November of this year taking over for Ian Bagley. Ian left me with a well maintained and operated plant, and has been incredibly helpful while I have been transitioning into this role.

Support from my staff at the Production Plant, management, and others throughout the Utility has made this transition exceptionally smooth, and I look forward to carrying on the great tradition of excellence already established here.

Sincerely,

Ryan Spackman, P.E.
Director of Water Production



www.kenosha.org

Kenosha Water Utility

Production Division

Main Plant Pumping

2020

Month	Pumpage X 1000 Gallons				Electricity	
	High Lift	Daily Average	Low Lift	Daily Average	Pumping	Cost/MG
January	357,560	11,534	394,583	12,728	\$ 39,228	\$ 99.42
February	343,120	11,832	378,799	13,062	40,826	107.78
March	358,920	11,578	395,725	12,765	37,020	93.55
April	337,200	11,240	373,776	12,459	40,735	108.98
May	385,750	12,444	433,650	13,989	39,349	90.74
June	461,940	15,398	506,445	16,882	39,309	77.62
July	519,530	16,759	566,723	18,281	50,542	89.18
August	502,510	16,210	549,240	17,717	47,011	85.59
September	445,610	14,854	485,931	16,198	45,253	93.13
October	392,100	12,648	436,611	14,084	40,573	92.93
November	347,870	11,596	385,508	12,850	39,244	101.80
December	359,510	11,597	398,920	12,868	36,952	92.63
Total	4,811,620		5,305,911		\$ 496,042	
Average	400,968	13,141	442,159	14,490	\$ 41,337	\$ 94.45

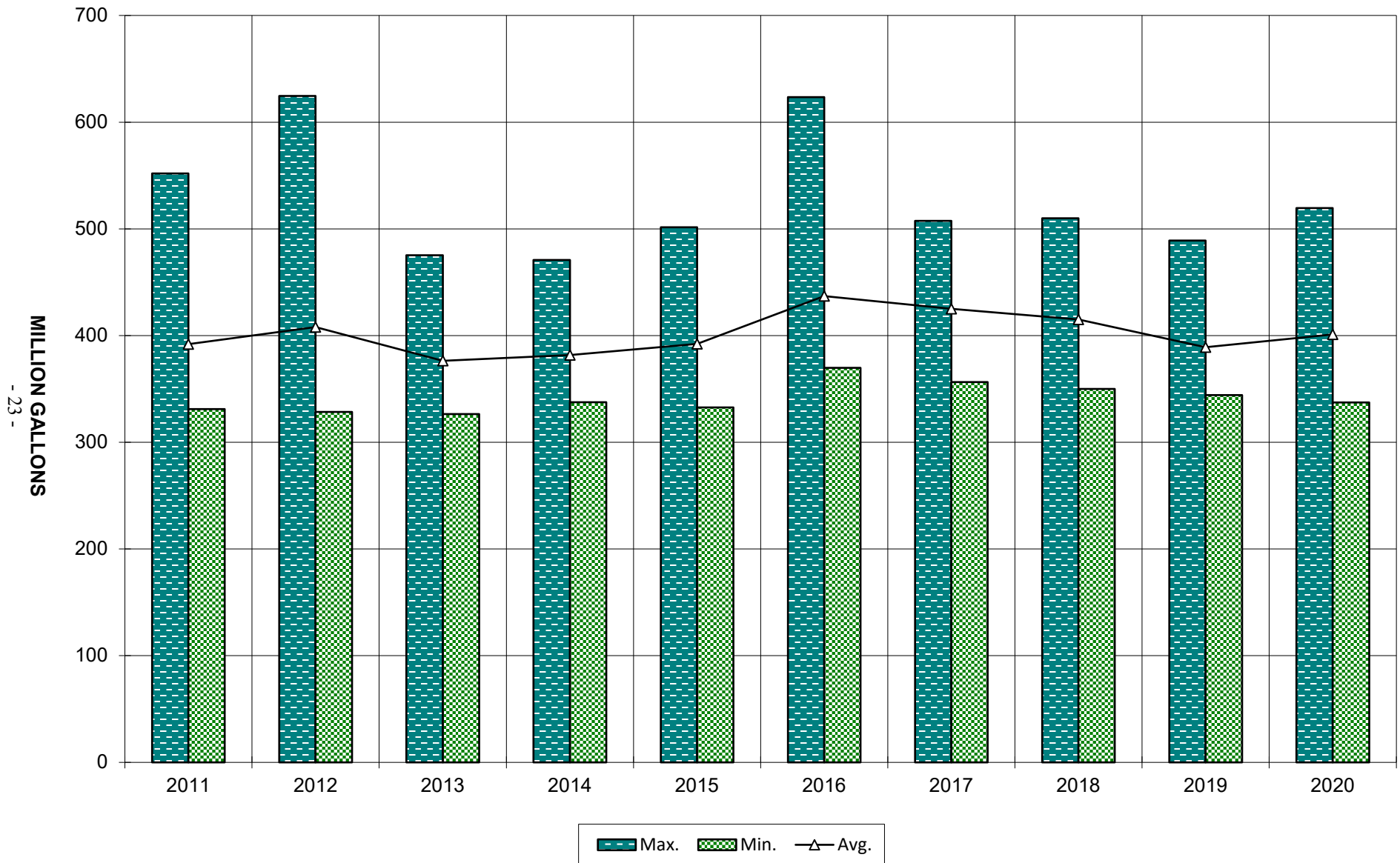
Booster System Pumping

2020

Month	Pumpage X 1000 gal	Total Power Cost	Pumping Power Cost	Total Cost/MG	Pumping Cost/MG
January	151,980	\$ 14,165	\$ 12,335	\$ 93.20	\$ 81.16
February	144,780	15,087	13,221	104.21	91.32
March	152,440	13,033	11,226	85.50	73.64
April	143,990	13,390	11,856	92.99	82.34
May	172,570	14,422	13,256	83.57	76.82
June	209,580	17,092	15,953	81.55	76.12
July	243,990	16,905	15,779	69.29	64.67
August	242,430	16,020	14,890	66.08	61.42
September	211,220	17,371	16,229	82.24	76.83
October	174,870	13,653	12,300	78.08	70.34
November	153,900	14,281	12,534	92.79	81.44
December	149,410	13,918	12,222	93.15	81.80
Total	2,151,160	\$ 179,337	\$ 161,801		
Average	179,263	\$ 14,945	\$ 13,483	\$ 85.22	\$ 76.49

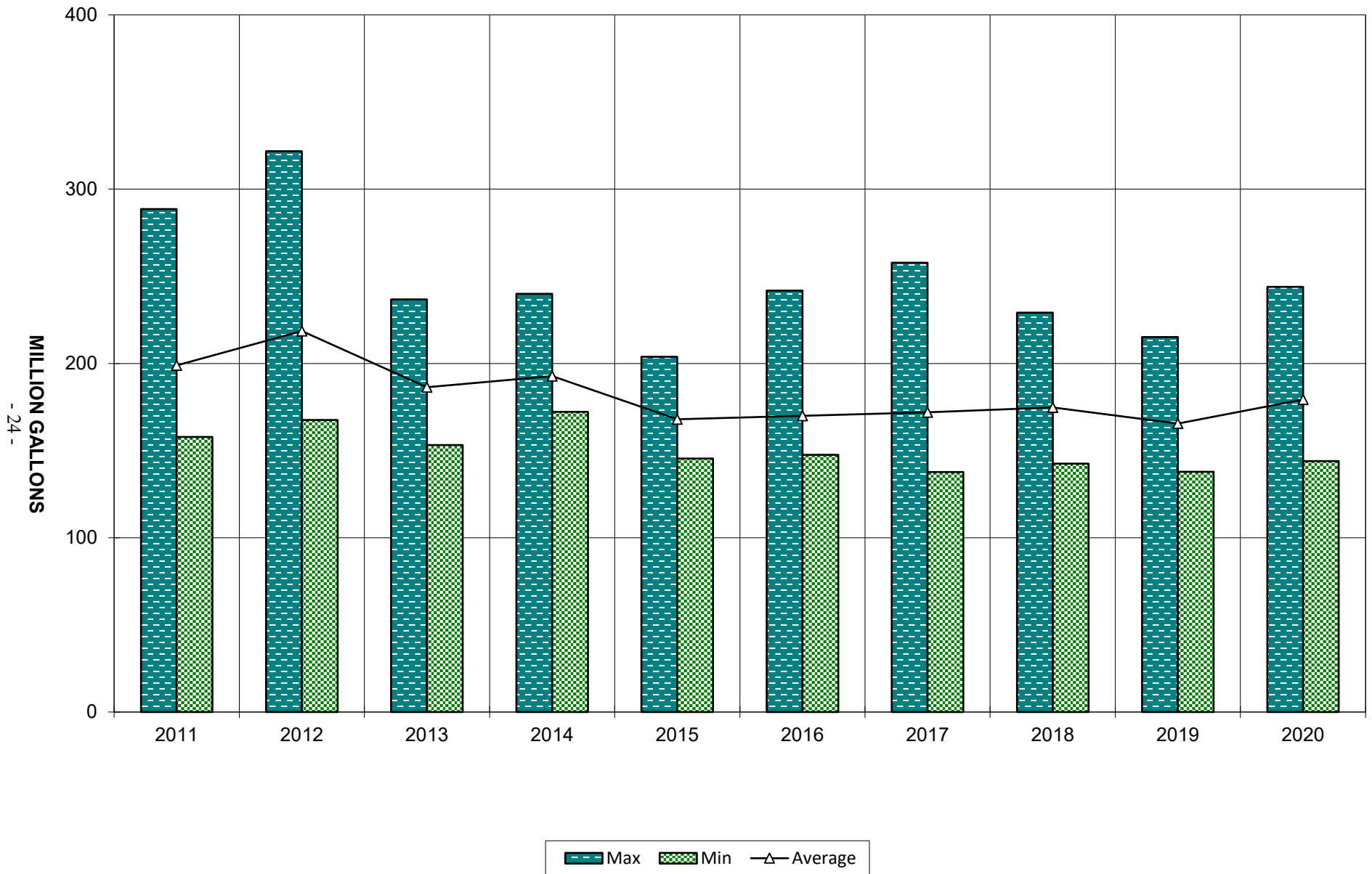
Main Plant Pumping Last Ten Years

Monthly Flow - Million Gallons



Booster Pumping Last Ten Years

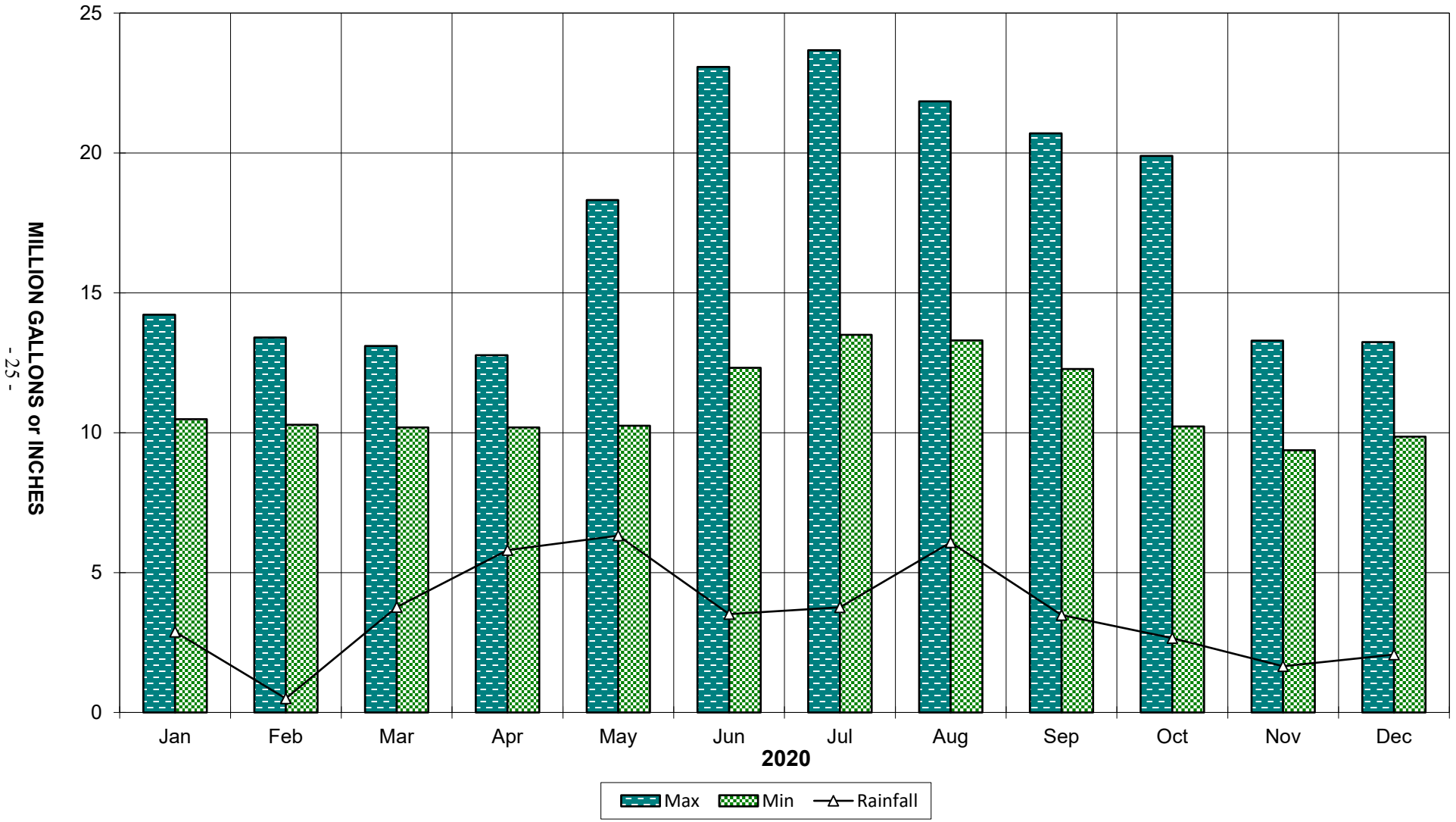
Monthly Flow - Million Gallons



Finished Water Per Month

Compared to Rainfall

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



- 25 -

Kenosha Water Utility

Production Division

Rapid Sand Plant Filtration Report

2020

Month	Pumpage (1000 gal.)			
	Total Water Treated	Max Day	Min Day	Avg Day
January	185,802	8,672	4,931	5,994
February	184,007	8,003	4,797	6,345
March	187,606	7,631	4,746	6,052
April	172,417	7,480	4,617	5,747
May	209,254	12,385	4,808	6,750
June	291,256	17,559	6,375	9,709
July	344,668	18,760	8,611	11,118
August	325,128	16,219	6,443	10,488
September	280,456	15,788	6,301	9,349
October	206,602	10,840	4,612	6,665
November	188,273	9,305	3,868	6,276
December	188,991	7,692	4,459	6,096
Total	2,764,460			
Average	230,372			7,553

Month	Washwater (1000 gal.)	% Rated Capacity	Filter Run Hours		
			Max	Min	Avg
January	2,100	30	80	68	79
February	1,840	33	80	48	77
March	2,170	30	80	12	74
April	1,300	29	80	74	79
May	1,890	34	80	61	77
June	2,930	49	75	42	54
July	4,640	56	44	22	33
August	3,990	52	62	27	39
September	3,200	47	57	24	42
October	2,050	33	72	44	57
November	1,470	31	80	66	77
December	1,630	30	80	78	80
Total	29,210				
Average	2,434	38			64

Kenosha Water Utility

Production Division

Membrane Plant Filtration Report

2020

Month	Pumpage (1000 gal.)			
	Total Water Treated	Max Day	Min Day	Avg Day
January	171,389	6,521	6,033	5,529
February	159,442	5,582	5,434	5,498
March	169,148	5,624	4,554	5,456
April	164,605	5,552	5,263	5,487
May	176,508	6,791	5,368	5,694
June	170,610	6,814	5,250	5,687
July	173,062	6,489	4,289	5,583
August	176,656	7,047	5,298	5,699
September	165,298	5,657	4,704	5,510
October	185,467	8,553	4,604	5,983
November	160,042	5,647	3,306	5,335
December	170,519	5,589	5,403	5,501
Total	2,042,746			
Average	170,229			5,581

Month	Washwater Raw (1000 gal.)	% Rated Capacity *	CIP Run Hours		
			Max	Min	Avg
January	21,091	35	505	431	492
February	20,590	37	501	219	481
March	23,090	35	501	463	497
April	22,940	35	501	499	500
May	26,610	37	503	437	495
June	22,620	37	500	365	489
July	21,350	36	507	269	474
August	20,650	37	500	236	430
September	18,120	35	501	313	476
October	22,530	38	502	454	494
November	22,390	34	501	463	494
December	24,510	35	501	295	433
Total	266,491				
Average	22,208	36			480

* 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
2020**

Month	Alum		Chlorine		Fluoride	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG
January	59,062	317.88	3,127	16.83	4,375	23.55
February	54,292	295.05	3,127	16.99	4,330	23.53
March	52,898	281.96	3,210	17.11	4,354	23.21
April	48,801	283.04	3,048	17.68	4,041	23.44
May	61,206	292.50	3,855	18.42	4,964	23.72
June	62,122	213.29	5,107	17.53	6,772	23.25
July	65,262	189.35	6,147	17.83	7,864	22.82
August	65,489	201.43	6,046	18.59	7,398	22.75
September	55,764	198.83	5,090	18.15	6,414	22.87
October	51,990	251.64	3,531	17.09	4,517	21.86
November	41,192	218.79	3,169	16.83	4,267	22.66
December	45,288	239.63	3,175	16.80	4,460	23.60
Total	663,366		48,632		63,756	
Average	55,281	248.62	4,053	17.49	5,313	23.11

Month	Potassium Permanganate		Polyphosphate		Total Chemical Cost	
	Pounds	lb/MG	Pounds	lb/MG	Total \$	Cost/MG
January	0	0.00	4,870	26.21	\$ 12,910	\$ 69.48
February	0	0.00	4,876	26.50	12,170	66.14
March	0	0.00	5,074	27.05	12,072	64.33
April	0	0.00	4,663	27.04	11,158	64.72
May	0	0.00	5,697	27.22	13,920	66.52
June	0	0.00	7,820	26.85	15,674	53.81
July	0	0.00	9,289	26.95	17,297	50.19
August	0	0.00	8,807	27.09	16,899	51.98
September	0	0.00	7,622	27.18	14,446	51.51
October	0	0.00	5,595	27.08	12,203	59.06
November	0	0.00	5,116	27.17	10,193	54.14
December*	0	0.00	5,136	27.18	10,863	57.48
Total	0		74,565		\$ 159,805	
Average	0	0.00	6,214	26.96	\$ 13,317	\$ 59.11

**Kenosha Water Utility
Production Division
Membrane Plant Chemical Feed Report
2020**

Cleaning Chemicals								
Month	Sodium Hydroxide		Hydrogen Peroxide		EDTA		Sulfuric Acid	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG
January	4,468	26.07	1,249	7.29	744	4.34	390	2.28
February	4,765	29.89	1,332	8.36	794	4.98	416	2.61
March	3,872	22.89	1,082	6.40	645	3.81	338	2.00
April	3,872	23.52	1,082	6.58	645	3.92	338	2.05
May	5,063	28.69	1,416	8.02	843	4.78	442	2.50
June	4,765	27.93	1,332	7.81	794	4.65	416	2.44
July	5,659	32.70	1,582	9.14	943	5.45	494	2.86
August	3,276	18.55	916	5.18	546	3.09	286	1.62
September	4,765	28.83	1,332	8.06	794	4.80	416	2.52
October	5,659	30.51	1,582	8.53	943	5.08	494	2.66
November	4,765	29.78	1,332	8.32	794	4.96	416	2.60
December	4,765	27.95	1,332	7.81	794	4.65	416	2.44
Total	55,694		15,569		9,279		4,862	
Average	4,641	27.28	1,297	7.63	773	4.54	405	2.38

Process Chemicals								
Month	Chlorine		Fluoride		Polyphosphate		Total Cost *	
	Pounds	lb/MG	Pounds	lb/MG	Pounds	lb/MG	Total \$	\$/MG
January	2,884	16.83	4,036	23.55	4,492	26.21	\$ 4,969	\$ 28.99
February	2,710	16.99	3,752	23.53	4,225	26.50	4,848	30.41
March	2,894	17.11	3,926	23.21	4,575	27.05	4,796	28.36
April	2,910	17.68	3,858	23.44	4,451	27.04	4,735	28.77
May	3,252	18.42	4,187	23.72	4,805	27.22	5,435	30.79
June	2,992	17.53	3,967	23.25	4,580	26.85	5,125	30.04
July	3,086	17.83	3,949	22.82	4,664	26.95	5,476	31.64
August	3,285	18.59	4,020	22.75	4,785	27.09	4,746	26.86
September	3,000	18.15	3,780	22.87	4,493	27.18	4,945	29.91
October	3,170	17.09	4,055	21.86	5,022	27.08	5,545	29.90
November	2,694	16.83	3,627	22.66	4,349	27.17	4,766	29.78
December**	2,864	16.80	4,024	23.60	4,634	27.18	5,009	29.37
Total	35,741		47,181		55,075		\$ 60,395	
Average	2,978	17.49	3,932	23.11	4,590	26.96	\$ 5,033	\$ 29.57

* Includes cleaning and process chemicals
MG - million gallons

**Kenosha Water Utility
Production Division
Laboratory Report
2020**

Month	Alkalinity Average		pH Average		Conductivity	
	mg/l		pH units		µS/cm	
	Raw	Tap	Raw	Tap	Raw	Tap
January	113	102	8.29	7.68	309	314
February	114	104	8.31	7.71	333	340
March	110	103	8.29	7.69	334	336
April	115	106	8.30	7.69	346	349
May	113	104	8.28	7.66	320	301
June	107	101	8.40	7.69	285	289
July	104	98	8.44	7.71	281	286
August	106	100	8.33	7.67	287	292
September	108	100	8.29	7.67	289	293
October	107	100	8.26	7.69	288	293
November	109	104	8.33	7.71	286	294
December	112	104	8.35	7.74	298	305
Average	110	102	8.32	7.69	305	308

Month	Hardness		Temp Raw		
	mg/l		° F		
	Raw	Tap	Max	Min	Avg
January	138	134	37	34	36
February	146	146	36	34	36
March	142	140	42	36	39
April	146	146	48	43	44
May	134	134	52	46	48
June	136	136	59	48	54
July	132	132	73	52	57
August	136	134	73	48	63
September	136	134	64	48	57
October	136	134	54	45	50
November	136	136	48	43	45
December	142	140	43	36	39
Average	138	137	52	43	47

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

Kenosha Water Utility
Production Division
Laboratory Report
2020

Month	Turbidity NTU								
	Rapid Sand Raw			Membrane Raw			Tap		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
January	226.0	2.3	45.6	232.0	3.3	50.4	0.038	0.022	0.030
February	120.7	4.7	34.0	120.7	6.2	34.0	0.036	0.021	0.028
March	64.5	4.5	20.3	71.1	5.6	22.4	0.032	0.018	0.026
April	70.2	3.4	8.3	105.3	4.7	11.6	0.032	0.025	0.029
May	102.3	4.3	20.9	124.5	6.2	27.3	0.038	0.024	0.031
June	27.5	2.6	7.5	36.4	2.9	10.3	0.047	0.020	0.040
July	12.8	1.8	4.1	17.4	2.7	6.0	0.052	0.039	0.044
August	18.5	1.6	4.6	23.1	1.5	5.4	0.063	0.039	0.044
September	21.9	1.8	5.0	26.6	1.9	5.9	0.046	0.037	0.041
October	17.0	1.4	4.0	18.7	1.8	4.5	0.049	0.036	0.039
November	12.9	1.6	5.7	14.4	2.1	6.3	0.066	0.039	0.043
December	69.9	5.0	16.3	82.5	6.6	18.5	0.055	0.042	0.046
Average	63.7	2.9	14.7	72.7	3.8	16.9	0.046	0.030	0.037

Month	PO4 Average mg/l	Fluoride Composite Average mg/l	Chlorine Residual mg/l		
			Tap		
	Tap	Tap	Max	Min	Avg
January	0.90	0.74	1.2	1.0	1.1
February	0.89	0.75	1.1	1.0	1.1
March	0.90	0.72	1.2	1.0	1.1
April	0.90	0.71	1.2	1.0	1.1
May	0.89	0.73	1.1	1.0	1.1
June	0.89	0.72	1.2	1.0	1.1
July	0.89	0.72	1.2	1.0	1.1
August	0.88	0.72	1.2	1.0	1.1
September	0.88	0.72	1.2	1.0	1.1
October	0.90	0.71	1.2	1.1	1.2
November	0.90	0.73	1.2	1.0	1.1
December	0.91	0.74	1.1	1.0	1.1
Average	0.89	0.73	1.2	1.0	1.1

NTU - Nephelometric Turbidity Units
PO4 - Orthophosphate
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)	0.0044	ND	2
Aldicarb Total	0.23	ND	3
Aldicarb Sulfoxide	0.30	ND	4
Aldicarb Sulfone	0.35	ND	2
Aldrin	0.013	ND	na
Atrazine	0.060	0.036	3
Butachlor	0.031	ND	na
Carbaryl	0.25	ND	na
Carbofuran	0.36	ND	40
Chlordane	0.070	ND	2
2, 4-D	0.070	ND	70
Dalapon	0.81	ND	200
Dicamba	0.21	ND	na
Dieldrin	0.014	ND	na
Di (2-ethylhexyl) adipate	0.42	ND	400
Di (2-ethylhexyl) phthalate	0.47	ND	6
Dinoseb	0.17	ND	7
Diquat	0.37	ND	20
Endothall	1.5	ND	100
Endrin	0.0080	ND	2.0
Glyphosate (Round-up)	3.0	ND	700
Heptachlor	0.013	ND	0.4
Heptachlorepoxyde	0.012	ND	0.2
Hexachlorobenzene	0.014	ND	1
Hexachlorocyclopentadiene	0.0063	ND	50
3-Hydroxycarbofuran	0.28	ND	na
BHC Gamma (Lindane)	0.0049	ND	0.2
Methoxychlor	0.0094	ND	40
Methomyl	0.29	ND	na
Dual (Metolachlor)	0.0064	0.012	na
Metribuzin (Sencor)	0.0052	ND	na
Oxamyl (Vydate)	0.39	ND	200
PCB Total ****	0.1	ND	0.5
Pentachlorophenol	0.040	ND	1
Picloram (Tordan)	0.10	ND	500
Propachlor	0.0049	ND	na
2,4,5-TP (Silvex)	0.13	ND	50
Simazine	0.0068	ND	4
2,3,7,8-TCDD (Dioxin)	0.00000083	ND	0.00003
Toxaphene	0.66	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 2020

Volatile Organic Chemicals

Parameters	Minimum Detection Level µg/L	Level Found Kenosha Results µg/L	Maximum Contaminant Level µg/L
Benzene	0.43	ND	5
Bromobenzene	0.14	ND	na
Bromodichloromethane	0.42	5.5	80
Bromoform	0.39	ND	80
Bromomethane	1.0	ND	na
Carbon Tetrachloride	0.28	ND	5
Chloroethane	2.7	ND	na
Chloroform	0.52	5.5	80
Chloromethane	0.40	ND	na
1,2-Chlorotoluene (o-)	0.36	ND	na
1,4-Chlorotoluene (p-)	0.40	ND	na
Dibromochloromethane	0.41	3.2	80
Dibromomethane	0.38	ND	na
1,3-Dichlorobenzene (m-)	0.19	ND	na
1,2-Dichlorobenzene (o-)	0.12	ND	600
1,4-Dichlorobenzene 9 (p-)	0.22	ND	75
1,1-Dichloroethane	0.28	ND	na
1,2-Dichloroethane	0.43	ND	5
1,1-Dichloroethylene	0.28	ND	7
1,2-Dichloroethylene, cis	0.35	ND	70
1,2-Dichloroethylene, trans	0.24	ND	100
Dichloromethane	1.1	ND	5
1,2-Dichloropropane	0.63	ND	5
1,3-Dichloropropane	0.40	ND	na
2,2-Dichloropropane	0.87	ND	na
1,1-Dichloropropene	0.35	ND	na
1,3-Dichloropropene	0.51	ND	na
Ethylbenzene	0.27	ND	700
Chlorobenzene	0.28	ND	100
Styrene	0.31	ND	100
1,1,1,2-Tetrachloroethane	0.38	ND	na
1,1,1,2,2-Tetrachloroethane	0.60	ND	na
Tetrachloroethylene	0.27	ND	5
Toluene	0.21	ND	1,000
1,2,4-Trichlorobenzene	0.44	ND	70
1,1,1-Trichloroethane	0.44	ND	200
1,1,2-Trichloroethane	0.53	ND	5
Trichloroethylene	0.46	ND	5
1,2,3-Trichloropropane	0.91	ND	na
Vinyl Chloride	0.19	ND	0.2
Xylene Total	0.88	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 2020

Inorganic Chemicals

Parameters	Minimum Detection Level mg/L	Level Found Kenosha Results mg/L	Maximum Contaminant Level mg/L	Sample Location
Alkalinity Total CaCO ₃	1.0	109 max	na	Entry point
Antimony Total**	.00032	ND	0.006	Entry point
Arsenic Total**	.00014	.0052	0.01	Entry point
Barium Total**	.00009	0.021	2	Entry point
Beryllium Total**	.00006	ND	0.004	Entry point
Cadmium Total**	.00012	ND	0.005	Entry point
Chromium Total**	.00058	ND	0.1	Entry point
Copper**	.00077	.17	1.3 (AL)	Residential taps
Cyanide**	.007	ND	0.2	Entry point
Fluoride Total	.05	0.79 max	4	Entry point
Haloacetic Acids	0.00013	0.0197 max	0.06	Maximum residence
Hardness Total CaCO ₃	1	146 max	500	Highest result obtained
Lead**	.00003	.0078	0.015 (AL)	Residential taps
Mercury Total**	.000015	ND	0.002	Entry point
Nickel Total**	0.0005	.0008	0.1	Entry point
Nitrate as N	.036	.52	10	Entry point
Nitrite**	.036	ND	1	Entry point
pH Lab	0.01pH	7.69 pH avg	na	Entry point
Selenium Total**	.00047	ND	0.05	Entry point
Sodium Total	0.045	14	na	Entry point
Sulfate Total**	1.5	26	na	Entry point
Thallium Total**	.00011	ND	0.002	Entry point
Total Trihalomethanes	.00039	0.0365 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 – 2020**

Sales of Water

Residential Water Sales	\$ 5,893,214.17
Commercial Water Sales	2,648,807.09
Industrial Water Sales	808,849.95
Unmetered Sales to General Customers	16,132.94
Private Fire Protection	185,869.68
Public Fire Protection	1,361,003.58
Sales to Public Authorities	412,335.22
Sales for Resale	<u>2,434,382.72</u>

Total Sales of Water

13,760,595.35

Other Operating Revenues

Penalties	85,382.05
Other Water Revenue	55,389.67
Allocated Services	145,313.18
Miscellaneous Service Revenues	<u>314,557.30</u>

Total Other Operating Revenues

600,642.20

Total Operating Revenues

14,361,237.55

Operating Expenses

Production Plant	2,817,707.70
Distribution System	2,802,178.57
Customer Accounting & Collection	544,509.87
Administration	2,214,297.09
Depreciation	2,639,232.13
Taxes	<u>2,271,298.06</u>

Total Operating Expenses

13,289,223.42

Utility Operating Income

1,072,014.13

Other Income

Interest Income	110,847.72
Grant Revenue	101,011.76
Other Non-operating Income	<u>6,811.02</u>

Total Other Income

218,670.50

Non-operating Expenses

Interest on Long-term Debt	<u>174,999.96</u>
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Net Income before Capital Contributions

1,115,684.67

Capital Contributions

1,469,253.37

Net Income (Loss)

\$ 2,584,938.04

**Water System
Statement of Net Position
December 31, 2020**

Assets

Utility Plant

Utility Plant in Service	\$ 129,039,159.12	
Work in Progress - Water Plant	104,504.82	
Work in Progress - Water System	2,186,815.44	
Accumulated Depreciation	<u>(52,986,085.58)</u>	
Net Plant in Service		78,344,393.80

Nonutility Property

Nonutility Property	20,370.78	
Accumulated Depreciation - Nonutility Property	<u>(2,370.78)</u>	
Net Nonutility Property		18,000.00

Current Assets

Cash and Cash Equivalents	2,936,094.33	
Investments	3,027,327.46	
Restricted Cash and Cash Equivalents	-	
Restricted Investments	2,501,801.98	
Customer Accounts Receivable	1,360,080.17	
Receivable from Municipality	651,379.87	
Unbilled Revenues	1,530,412.30	
Other Accounts Receivable	284,502.15	
Materials and Supplies	488,102.49	
Accrued Interest Receivable	24,496.97	
Other Current Assets	<u>129,028.28</u>	
Total Current Assets		12,933,226.00

Other Assets

Deferred Charges	2,734,255.32	
Assessments Receivable	153,386.12	
Pension Asset - Wisconsin Retirement System	<u>895,197.69</u>	
Total Other Assets		3,782,839.13

Total Assets

\$ 95,078,458.93

Deferred Outflow of Resources

Deferred Pension Resources	\$ 1,933,052.57
Deferred OPEB Resources	<u>237,429.27</u>
Total Outflows of Resources	\$ 2,170,481.84

Liabilities

Current Liabilities

Accrued Taxes	\$ 2,320,600.00	
Accounts Payable	312,011.87	
Current Portion of Accrued Compensated Absences	43,626.06	
Current Portion of Net Other Postemployment Benefits	49,166.00	
Payable to Municipality	1,227,956.48	
Other Current Liabilities	<u>31,535.82</u>	
Total Current Liabilities		3,984,896.23

Non-current Liabilities

Long-term Debt		
Advance from Sewerage Unit	<u>5,000,000.00</u>	
Total Long-term Debt		5,000,000.00
Accrued Compensated Absences	255,964.83	
Worker's Compensation Accrued Liability	1,039.00	
Net Other Postemployment Benefit Obligations	1,593,365.01	
Pension Liability - Wisconsin Retirement System	<u> </u>	
Total Non-current Liabilities		6,850,368.84

Total Liabilities

\$ 10,835,265.07

Deferred Inflow of Resources

Deferred Pension Resources	\$ 2,623,070.50
Deferred OPEB resources	<u>100,076.57</u>
Total Inflows of Resources	\$ 2,723,147.07

Net Position

Invested in Capital Assets, net of related debt	78,362,393.80	
Restricted for pension	895,197.69	
Unrestricted	<u>4,432,937.14</u>	
Total Net Position		<u>\$ 83,690,528.63</u>

Water System
Comparative Operating and Maintenance Expenses

	2020	2019	2018
Source of Supply Expenses			
Maintenance of Lake Intakes	\$ 0.00	\$ 5,603.50	\$ 0.00
Miscellaneous	9,625.00	9,625.00	9,625.00
	<u>9,625.00</u>	<u>15,228.50</u>	<u>9,625.00</u>
Pumping Expenses			
<u>Operation</u>			
Supervision and Engineering	214,201.19	216,911.75	96,059.55
Fuel - Electricity and Gas	796,379.94	780,844.44	777,472.70
Labor	127,134.33	130,963.59	124,000.27
Miscellaneous Expense	7,841.26	11,655.36	8,148.46
	<u>1,145,556.72</u>	<u>1,140,375.14</u>	<u>1,005,680.98</u>
<u>Maintenance</u>			
Structures and Improvements	46,793.63	42,095.41	48,821.13
Power Production Equipment	3,205.04	64.57	10,472.13
Pumping Equipment	88,308.66	127,043.02	83,595.46
	<u>138,307.33</u>	<u>169,203.00</u>	<u>142,888.72</u>
Water Treatment Expenses			
<u>Operation</u>			
Supervision and Engineering	65,258.33	74,519.86	61,945.13
Chemicals	164,910.83	145,018.83	121,405.42
Labor	314,555.73	325,452.59	303,797.50
Miscellaneous Expense	317,022.99	314,274.06	436,593.57
Lead Testing Program	5,562.44	-	-
	<u>867,310.32</u>	<u>859,265.34</u>	<u>923,741.62</u>
<u>Maintenance</u>			
Structures and Improvements	102,846.52	104,362.23	80,112.50
Water Treatment Expense	554,061.81	553,701.33	517,593.45
	<u>656,908.33</u>	<u>658,063.56</u>	<u>597,705.95</u>
	<u>2,817,707.70</u>	<u>2,842,135.54</u>	<u>2,679,642.27</u>
Transmission and Distribution Expenses			
<u>Operation</u>			
Supervision and Engineering	165,367.03	190,642.05	324,180.98
Transmission and Distribution Lines	67,968.87	53,125.24	82,263.05
Meter Expense	90,185.38	79,087.43	66,038.41
Customer Installation Expense	8,167.59	83,261.55	106,619.75
Customer Installation Expense - Lead			
Service Line Replacement	439,160.67	624,303.27	106,991.03
Miscellaneous Expense	557,331.77	573,733.65	538,066.66
	<u>1,328,181.31</u>	<u>1,604,153.19</u>	<u>1,224,159.88</u>
<u>Maintenance</u>			
Supervision and Engineering	13,126.94	21,204.98	14,317.01
Maintenance of Standpipes/Reservoirs	59,207.12	561,815.79	395,380.80
Transmission Mains	896,693.04	852,950.24	1,092,084.68
Services	392,609.38	184,765.98	325,197.92
Meters	50,901.28	58,515.76	47,809.41
Hydrants	61,459.50	47,011.17	60,459.26
	<u>1,473,997.26</u>	<u>1,726,263.92</u>	<u>1,935,249.08</u>
	<u>2,802,178.57</u>	<u>3,330,417.11</u>	<u>3,159,408.96</u>
Customer Account Expenses			
Customer Accounting and Collection	476,552.30	514,822.53	407,069.25
Meter Reading	67,957.57	70,560.12	63,391.41
	<u>544,509.87</u>	<u>585,382.65</u>	<u>470,460.66</u>
Administrative and General Expenses			
Administrative and General Salaries	286,190.14	314,895.71	231,210.34
Office Supplies and Expense	24,677.13	22,184.25	26,958.57
Outside Services Employed	459,437.73	424,471.07	494,999.33
Property Insurance	136,689.71	121,336.14	120,125.78
Employee Benefits and Pensions	1,248,663.77	1,578,799.23	1,293,561.91
Regulatory Commission Expense	47,483.96	13,777.18	25,600.32
Miscellaneous Expense	13,333.24	31,995.73	24,145.55
	<u>2,216,475.68</u>	<u>2,507,459.31</u>	<u>2,216,601.80</u>
Total Operation and Maintenance Expenses			
Utility Taxes	2,271,298.06	2,205,316.57	2,309,733.04
Depreciation	2,639,232.13	3,018,293.72	2,919,617.11
Total Operating Expenses	<u><u>\$ 13,291,402.01</u></u>	<u><u>\$ 14,489,004.90</u></u>	<u><u>\$ 13,755,463.84</u></u>

**Water System
Comparative Income Statement**

	2020	2019	2018
Sales of Water			
Residential Water Sales	\$ 5,893,214.17	\$ 5,570,080.95	\$ 5,702,764.65
Commercial Water Sales	2,648,807.09	2,665,119.20	2,703,906.88
Industrial Water Sales	808,849.95	812,551.24	817,718.27
Total Unmetered Sales to General Public	16,132.94	17,724.82	15,684.54
Private Fire Protection	185,869.68	176,585.30	173,070.00
Public Fire Protection	1,361,003.58	1,358,470.44	1,356,694.51
Sales to Public Authorities	412,335.22	455,077.24	478,420.08
Sales for Resale	2,434,382.72	2,361,566.25	2,551,956.60
Total Sales of Water	<u>13,760,595.35</u>	<u>13,417,175.44</u>	<u>13,800,215.53</u>
Other Operating Revenues			
Penalties	85,382.05	148,565.64	153,410.28
Other Water Revenue	55,389.67	59,074.97	61,917.69
Allocated Services	145,313.18	145,628.29	144,125.02
Miscellaneous Service Revenues	314,557.30	308,677.88	306,019.57
Total Other Operating Revenues	<u>600,642.20</u>	<u>661,946.78</u>	<u>665,472.56</u>
Total Operating Revenues	14,361,237.55	14,079,122.22	14,465,688.09
Operating Expenses			
Source of Supply	9,625.00	15,228.50	9,625.00
Power and Pumping Expense	1,283,864.05	1,309,578.14	1,148,569.70
Water Treatment Expense	1,524,218.65	1,517,328.90	1,521,447.57
Transmission and Distribution Expense	2,802,178.57	3,330,417.11	3,159,408.96
Customer Accounting and Collection Expense	544,509.87	585,382.65	470,460.66
Administrative and General Expense	2,214,297.09	2,445,089.30	2,216,601.80
Depreciation and Amortization	2,643,282.13	3,018,293.72	2,919,617.11
Taxes	2,271,298.06	2,205,316.57	2,309,733.04
Total Operating Expenses	<u>13,293,273.42</u>	<u>14,426,634.89</u>	<u>13,755,463.84</u>
Utility Operating Income (Loss)	1,067,964.13	(347,512.67)	710,224.25
Other Income			
Interest Earned	110,847.72	168,239.53	166,596.61
Grant Revenue	101,011.76	-	-
Miscellaneous Non-operating Income	10,861.02	33,658.51	10,745.11
Total Other Income	<u>222,720.50</u>	<u>201,898.04</u>	<u>177,341.72</u>
Operating and Other Income (Loss)	1,290,684.63	(145,614.63)	887,565.97
Non-operating Expenses			
Interest on Long-term Debt	174,999.96	175,691.70	394,954.42
Amortization of Debt Expense	-	-	(27,138.74)
Total Non-operating Expenses	<u>174,999.96</u>	<u>175,691.70</u>	<u>367,815.68</u>
Net Income (Loss)	<u>\$ 1,115,684.67</u>	<u>(\$ 321,306.33)</u>	<u>\$ 519,750.29</u>
Rate of Return on Average Investment (based on operating income & expense)	3.34%	1.07%	2.61%

**Water System
Utility Plant in Service
For the year ended December 31, 2020**

	Depr. Rate %	Cost of Plant 1/1/2020	2020 Additions	2020 Retirements	Adjustments Incr/(Decr)	Cost of Plant 12/31/2020
Source of Supply						
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
Pumping Plant						
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		54,706.06	(65,000.00)	694,094.37
Electric Pumping Equipment	3.33	3,753,526.69	5,350.00	11,062.00		3,747,814.69
Other Pumping Equipment	4.00	8,646.81				8,646.81
Water Treatment						
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	13,856,381.15	9,129.00	5,705.00		13,859,805.15
Transmission and Distribution						
Land	N/A	311,589.40		103.41		311,485.99
Reservoirs and Standpipes	1.86	6,246,724.97				6,246,724.97
Mains	0.93	58,610,730.61	1,112,484.58	13,613.82		59,709,601.37
Services	2.09	9,575,807.42	635,374.91	3,758.56		10,207,423.77
Meters	5.00	5,194,416.00	96,333.40	124,809.03		5,165,940.37
Hydrants	1.59	5,959,035.44	329,754.97	20,529.35		6,268,261.06
General Plant						
Furniture and Equipment	5.88	51,034.46		1,631.50		49,402.96
Computer Equipment	6.67-14.29	388,071.54		2,945.00		385,126.54
Transportation Equipment	12.86	1,466,779.08	286,053.00	47,902.00	(25,730.44)	1,679,199.64
Stores Equipment	5.88	1,497.75				1,497.75
Tools and Shop Equipment	5.88	364,576.43	11,379.34	16,701.09		359,254.68
Lab Equipment	5.88	117,554.22				117,554.22
Work (Power) Equipment	9.00	998,889.65	128,682.00	13,550.00		1,114,021.65
SCADA System Equipment	10.00	765,593.89				765,593.89
Miscellaneous Equipment	5.88	208,941.28	53,584.48			262,525.76
Total		<u>\$ 126,305,030.70</u>	<u>\$ 2,668,125.68</u>	<u>\$ 317,016.82</u>	<u>(\$ 90,730.44)</u>	<u>\$ 128,565,409.12</u>

**Water System
Accumulated Depreciation
For the year ended December 31, 2020**

	Balance 1/1/2020	2020 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	Balance 12/31/2020
Source of Supply						
Structures and Improvements	\$ 477,272.46	\$ 22,727.26				\$ 499,999.72
Collect and Impound Reservoirs	189,807.99	4,568.09				194,376.08
Lake Intakes	994,413.15	26,641.06				1,021,054.21
Supply Mains	141,452.15	8,155.47				149,607.62
Pumping Plant						
Land	-					-
Structures and Improvements	1,402,664.98	75,413.96				1,478,078.94
Other Power Prod Equipment	498,363.39	33,173.69	54,706.06		(14,300.00)	462,531.02
Electric Pumping Equipment	2,359,630.19	165,029.51	11,062.00	200.00		2,513,797.70
Other Pumping Equipment	8,646.81					8,646.81
Water Treatment						
Land	-					-
Structures and Improvements	4,106,424.54	170,548.05				4,276,972.59
Water Treatment Equipment	1,342,350.89					1,342,350.89
Membrane Filtration Equipment	13,428,127.47	437,382.68	5,705.00			13,859,805.15
Transmission and Distribution						
Land	-					-
Reservoirs and Standpipes	3,188,306.20	120,927.93				3,309,234.13
Mains	10,810,518.38	704,135.11	13,613.82			11,501,039.67
Services	4,247,668.20	206,734.76	3,758.56			4,450,644.40
Meters	2,487,978.17	284,909.80	124,809.03	11,154.47		2,659,233.41
Hydrants	2,046,373.35	134,741.89	20,529.35	23,240.53		2,183,826.42
General Plant						
Furniture and Equipment	41,484.54	2,912.69	1,631.50			42,765.73
Computer Equipment	221,460.79	35,147.19	2,945.00			253,662.98
Transportation Equipment	1,013,463.48	101,202.83	47,902.00	824.00	(23,457.50)	1,044,130.81
Stores Equipment	1,497.75					1,497.75
Tools and Shop Equipment	301,692.92	20,910.83	16,701.09	330.00		306,232.66
Lab Equipment	96,970.77	6,818.14				103,788.91
Work (Power) Equipment	421,166.30	51,688.03	13,550.00	6,175.00	(4,820.00)	460,659.33
Communications Equipment	(8,513.49)					(8,513.49)
SCADA System Equipment	713,371.66	11,790.62				725,162.28
Miscellaneous Equipment	131,827.33	13,672.54				145,499.87
Total	<u>\$ 50,664,420.37</u>	<u>\$ 2,639,232.13</u>	<u>\$ 316,913.41</u>	<u>\$ 41,924.00</u>	<u>(\$ 42,577.50)</u>	<u>\$ 52,986,085.59</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 2021

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

Subject: 2020 Annual Report – Water Distribution & Sewer Collection Division

The 2020 Annual Report for the Water Distribution and Sewer Collection Division is hereby submitted. We completed 509 excavation projects last year. In addition to excavation activities, our division cleaned 34.6 miles of sanitary sewer as part of our annual sewer flushing program and flushed and maintained nearly all fire hydrants north of 60th Street as part of our annual hydrant maintenance program.

Water Distribution System:

The Distribution Division repaired 106 water main breaks in 2020, a 31% decrease from 2019. Fifty-two valves were also repaired or replaced in 2020, an increase in twenty-six valves from 2019. Additionally, forty-five fire hydrants were repaired or replaced as well as 208 water services (125 of these were lead service replacements).

Sanitary Sewer Collection System:

Sewer projects in 2020 included the cleaning of over 34.6 miles, a decrease of 34.6% from 2019. 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 forty-three lateral repairs, four sewer main repairs and twenty-four manhole repairs.

In addition to the typical maintenance activities associated with the water distribution and sewer collection, the Distribution Division installed a total of 1,144 feet of new 8” PVC water main to replace deteriorated, problematic pipe.

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,

A handwritten signature in black ink, appearing to read 'Steven Hayek'.

Steven Hayek
Director of Water Distribution
and Sewer Collection



www.kenosha.org

Water Distribution Pipe System - 2020

<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
20"	Plastic Pipe	76
18"	Cast/Ductile Iron Pipe	2,582
16"	Cast/Ductile Iron Pipe	173,309
16"	Plastic Pipe	48,288
14"	Cast/Ductile Iron Pipe	8,311
12"	Cast/Ductile Iron Pipe	224,237
12"	Plastic Pipe	61,217
10"	Cast/Ductile Iron Pipe	16,265
8"	Cast/Ductile Iron Pipe	364,310
8"	Plastic Pipe	231,151
6"	Cast/Ductile Iron Pipe	683,647
6"	Plastic Pipe	7,176
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
Total Feet of Pipe		1,962,398
Total Miles of Pipe		371.67

Water Services Added to System - 2020

<u>Number</u>	<u>Size</u>	<u>Material</u>	<u>Average Unit Cost</u>	<u>Total Cost</u>
136	1"	Copper Connections	4,185.53	569,232.59
4	1.5"	Copper Connections	3,978.86	15,915.44
3	2"	Copper Connections	3,265.18	9,795.54
1	4"	PVC	2,742.41	2,742.41
3	6"	PVC	3,689.82	11,069.47
4	8"	PVC	6,654.87	26,619.46
<u>151</u>		<u>Total</u>		<u>\$ 635,374.91</u>

Fire Hydrants Added to System - 2020

<u>Number</u>	<u>Type</u>	<u>Average Unit Cost</u>	<u>Total Cost</u>
56	Steamer	\$ 5,888.48	\$ 329,754.97

2020 Water Main Installation Costs

Project	Size/ Type	Installer	Description	Footage	Total Costs	Cost per Foot
<u>By Job Number</u>						
Installed by Kenosha Water Utility						
547	8" PVC	Kenosha Water Utility	Water Main Relay, 60th Street Reconstruction	297.0	\$ 85,303.50	
566	8" PVC	Kenosha Water Utility	Water Main Relay, 47th Avenue - 60th Street - 61st Street	548.0	77,963.40	
570	8" PVC	Kenosha Water Utility	Water Main Relay, 46th Avenue - 60th Street - 61st Street	596.0	70,439.76	
			Subtotal	<u>1,441.0</u>	<u>233,706.66</u>	
Installed by Developers						
425	20" PVC	Majestic Midwest Innovation Center	58th Place and 104th Avenue	79.0	39,041.60	
429	12" PVC	Springs at Kenosha Phase 2	71st Street and 33 foot Easement	2,232.0	134,075.89	
431	16" PVC	94 Logistics, LLC	120th Avenue - 38th Street to South Property Line	2,668.0	415,315.77	
431	16" PVC	94 Logistics, LLC	128th Avenue - 38th Street to South Property Line	2,709.0	290,344.66	
			Subtotal	<u>7,688.0</u>	<u>878,777.92</u>	
			Grand total	<u>9,129.0</u>	<u>\$ 1,112,484.58</u>	
<u>By Pipe Size</u>						
547	8" PVC	Kenosha Water Utility	Water Main Relay, 60th Street Reconstruction	297.0	\$ 85,303.50	
566	8" PVC	Kenosha Water Utility	Water Main Relay, 47th Avenue - 60th Street - 61st Street	548.0	77,963.40	
570	8" PVC	Kenosha Water Utility	Water Main Relay, 46th Avenue - 60th Street - 61st Street	596.0	70,439.76	
			Subtotal	<u>1,441.0</u>	<u>233,706.66</u>	162.18
429	12" PVC	Springs at Kenosha Phase 2	71st Street and 33 foot Easement	<u>2,232.0</u>	<u>134,075.89</u>	60.07
431	16" PVC	94 Logistics, LLC	120th Avenue - 38th Street to South Property Line	2,668.0	415,315.77	
431	16" PVC	94 Logistics, LLC	128th Avenue - 38th Street to South Property Line	2,709.0	290,344.66	
			Subtotal	<u>5,377.0</u>	<u>705,660.43</u>	131.24
425	20" PVC	Majestic Midwest Innovation Center	58th Place and 104th Avenue	<u>79.0</u>	<u>39,041.60</u>	494.20
			Grand total	<u><u>9,129.0</u></u>	<u><u>\$ 1,112,484.58</u></u>	

Distribution Division - Water Operating & Maintenance Report - 2020

Maintenance Completed

System	Maintenance Type	Quantity
Water Main Breaks	Circumferential	43
	Blow Out	47
	Joint Leaks	5
	Longitudinal	10
	Old Sleeve	1
	Other	-
	Total Main Break Repairs	
Valves	Reset/Replace Box (only)	2
	Replaced	31
	Repaired	16
	New Installation	-
	Removed/VBO	3
Total Valve Repairs		52
Water Services	Reset/Replace Box (only)	27
	Replaced	33
	Lead Service Replacement	125
	Repaired	16
	Flow Test	-
	Shut at Main	7
Total Water Service Repairs		208
Hydrants	Replaced	24
	Repaired	16
	Relocated	2
	Abandoned	3
	New Installation	-
Total Hydrant Repairs		45
New Connections & Taps	1"	6
	1 1/2"	3
	2"	3
	4"	1
	6"	11
	8"	3
	12"	-
Total New Connections Installed		27

Meter Shop Request for Assistance: 63
Valves Operated: 459

Customer Complaints

(During Normal Work Hours)

Complaint	Quantity
Main Breaks	36
Hydrant Hit/Damaged	9
Hydrant Leaking	24
Service Repairs	6
Signs/Barricades Needed	2
Curb/Valve Box Repair	32
Water Taste/Odor/Color	-
Low Pressure	4
No Water	4
Service Turn-On	2
Service Turn Off	6
Temporary Road Patch	12
Utility Locates	-
Miscellaneous	11
Total	148

Customer Complaints

(After Normal Work Hours)

Complaint	Quantity
Main Breaks	79
Hydrant Hit/Damaged	14
Hydrant Leaking	11
Service Repairs	11
Signs/Barricades Needed	2
Curb box/Valve Box	6
Water Taste/Odor/Color	2
Low Pressure	4
No Water	15
Service Turn-On	7
Service Turn Off	20
Temporary Road Patch	1
Utility Locate	54
Miscellaneous	4
Total	230

Total Customer Complaints 378

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 2021

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

Subject: 2020 Annual Report – Wastewater Treatment Division

Dear Mr. Czarnecki,

We respectfully submit the 2020 Annual Report for the Kenosha Water Utility Wastewater Treatment Plant (WWTP). Over the past year, the wastewater treatment plant treated 9.261 billion gallons of effluent with an average daily flow of 25.3 million gallons per day (MGD). The final effluent biological oxygen demand (BOD), total suspended solids (TSS) and all other monitoring requirements were well within the permitted discharge limits.


The WWTP prevailed through two extreme rain events in April and May. The annual precipitation continued to be high:


2020 = 42.49 inches	2017 = 43.96 inches
2019 = 48.91 inches	2013-2016 average = 35.56 inches
2018 = 49.27 inches	

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. 2020 was unprecedented in the efforts made to provide essential services during a pandemic. Some substantial projects of the year included: installed 2 new dual-core blowers for the aeration system, cleaned two anaerobic digesters, installed new check valve at the EQ basin, upgraded Industrial Park and Delta sewer lift stations.

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,


Melissa Arnot
Assistant General Manager


Katrina Karow
Director of Wastewater Treatment



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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>
Suspended Solids						
2020	25.278	171	51	70	7.8	95
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
Five-Day BOD						
2020	25.278	170	107	34	11.0	94
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
Phosphorus						
2020	25.278	2.96			0.46	84
2019	28.870	2.53	–	–	0.51	80
2018	25.787	2.7	–	–	0.47	83
2017	25.417	2.71	–	–	0.52	81
2016	22.627	2.8	–	–	0.45	84

mg/L - milligrams per Liter

Summary

	2020	2019
Total wastewater pumped and treated	9,261,383,000	10,516,906,000
Total sludge to digesters - gallons	27,594,827	26,873,606
Total dry solids to digesters - pounds	10,874,412	10,725,270
Total dry volatile solids to digesters - pounds	8,149,006	7,743,156

Digester Data

Total gallons digested sludge removed	26,980,922	26,651,778
Percent dry solids	2.22	2.14
Total pounds dry solids removed	5,011,833	4,754,863
Percent volatile matter	56.1	55.3
Total dry volatile solids removed	2,811,638	2,629,915
Volatile solids destroyed, percent	65.5	66.0

Wastewater Flow

Annual precipitation and average daily flow for the past five years

	<u>Precipitation, Inches</u>	<u>Average MGD</u>
2020	42.49	25.278
2019	48.91	28.870
2018	49.30	25.786
2017	43.96	25.465
2016	33.70	22.630

Sludge to Centrifuge

Gallons per day (353 days per year)	76,217
Percent solids	2.22
Pounds per day	14,158
Percent volatile	56.1

Sludge Disposed from Centrifuge and Dryer

Total wet tons from dewatering centrifuge	6,019
Percent solids	27.0
total wet tons from dryer	823
Percent solids	95.3

Total Solids Disposal

Tons of sludge to landfill, dry tons	2,870
Tons of sludge distributed, dry tons	0
Tons of grit to landfill	1,313

Annual Energy Usage

		<u>2020</u>	<u>2019</u>
Electricity	Total On and Off Peak kWh	5,346,193	5,829,225
	Total Demand kW	11,920	13,054
	Total cost	\$ 462,060	\$ 496,736
Natural Gas	therms	165,640	170,571
	Total cost	\$ 66,256	\$ 81,746
Methane gas produced by digesters	therms	444,708	381,158
Value of methane gas	Total	\$ 177,883	\$ 182,668

Treatment Plant Data and Chemical Usage

	2020	2019
<u>Chemical Data</u>		
<u>Chlorine</u>		
Total pounds	139,945	163,175
Average pounds per day	382	446
Average residual, µg/L	< 100 µg/L	< 100 µg/L
<u>Sulfur Dioxide</u>		
Total pounds	98,208	112,067
Average pounds per day	26+8	306
<u>Ferric Chloride, Phosphorus</u>		
Total gallons	185,557	181,581
Average gallons per day	507	496
Average pounds of Fe per day	668	654
<u>Polymer</u>		
Tons	66	69
Pounds per pound of dry solids	0.026	0.029
<u>Sodium Hydroxide</u>		
Total Pounds	153,220	169,404
Pounds per pound of lysed WAS	0.038	0.049
<u>Sulfuric Acid</u>		
Total pounds	0	11,670
Pounds per CF through air scrubber	0.000	0.009

Aeration

Settleable Solids - mg/L	258	221
Mixed Liquor Suspended Solids - mg/L	2,789	2,837
Dissolved Oxygen - mg/L	2.4	2.5
BOD lbs. applied per day	20,591	19,453

Thickener

Waste Activated Sludge to Thickener, gallons/day	159,047	133,436
Waste Activated Sludge - % solids	0.89	1.01
Waste Activated Sludge - lbs/day	11,805	11,240
Thickened Sludge - % solids	5.4	5.6
Thickened Sludge - % volatile	73.8	73.5
Thickener Effluent - Suspended Solids - mg/L	737	566
Thickened Sludge - lbs dry solids/day	11,160	10,770
Thickened Sludge - gallons/day	24,781	23,060

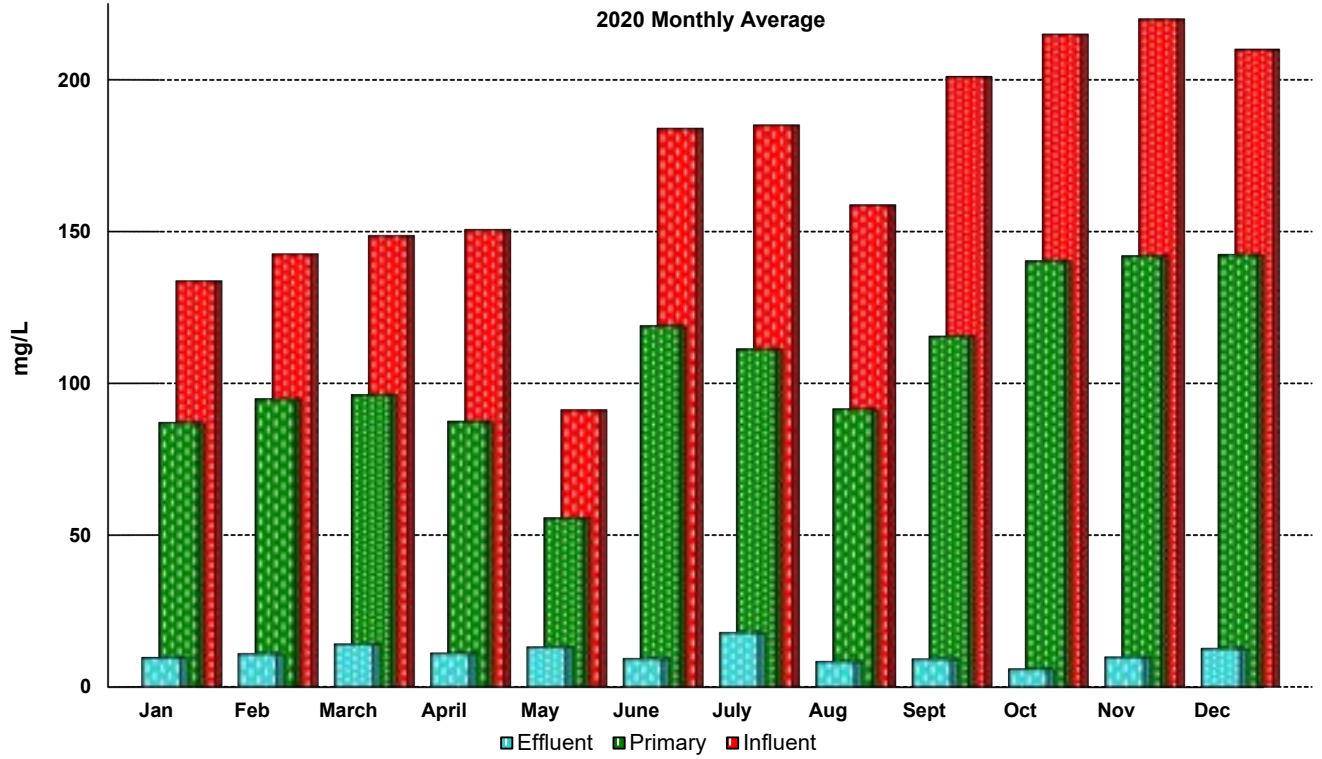
mg/L - milligrams per Liter

µg/L - micrograms per Liter

WAS - Waste Activated Sludge

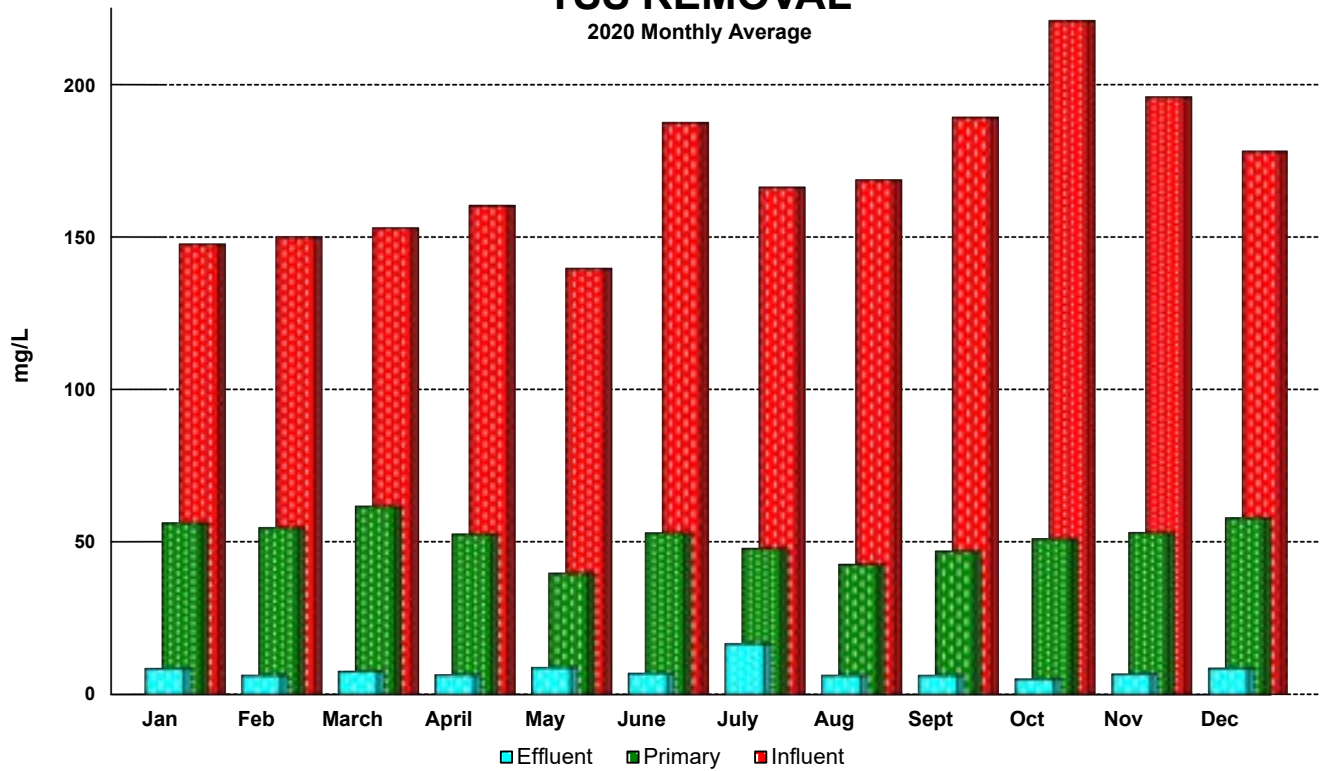
BOD REMOVAL

2020 Monthly Average



TSS REMOVAL

2020 Monthly Average



**Sewerage System
Plant Operating Data - 2020**

Month	Precip. Inches	Total Flow Raw Sewage MG	Average Daily Flow MGD	Maximum Daily Flow MGD	Day of Month	Power Cost
January	2.88	864.245	27.879	42.225	11	\$ 34,854
February	0.50	743.642	25.643	37.196	3	42,652
March	3.77	891.746	28.766	68.112	28	35,742
April	5.80	871.176	29.039	88.195	30	35,549
May	6.32	1,323.600	42.697	91.174	18	37,657
June	3.52	700.699	23.357	33.609	27	37,231
July	3.76	737.379	23.786	51.683	10	39,049
August	6.08	766.942	24.740	51.163	3	40,876
September	3.48	609.255	20.309	33.382	8	37,893
October	2.66	580.052	18.711	31.566	23	40,217
November	1.65	537.873	17.929	26.285	25	41,770
December	2.07	634.774	20.477	46.162	12	38,572
Total	42.49	9,261.383				\$ 462,062
Average	3.54	771.782	25.278	50.063		\$ 38,505

Monthly Averages

Month	BOD		TSS (mg/L)		Phosphorus (mg/L)		Total lbs. Dry Solids from Digester
	Influent	Effluent	Influent	Effluent	Influent	Effluent	
January	134	9.7	148	8.4	2.46	0.39	361,756
February	143	10.9	150	6.2	2.60	0.37	288,787
March	149	14.1	153	7.5	2.82	0.40	439,952
April	151	11.1	160	6.4	3.13	0.39	446,006
May	91	13.1	140	8.8	1.88	0.32	729,076
June	184	9.3	188	6.9	2.76	0.42	1,096,509
July	185	17.9	166	16.6	2.93	0.64	386,778
August	159	8.4	169	6.2	3.02	0.56	372,191
September	201	9.2	189	6.2	3.45	0.67	362,484
October	215	5.9	221	5.0	3.43	0.46	534,415
November	220	9.9	196	6.6	3.66	0.47	327,830
December	210	12.7	178	8.6	3.33	0.45	393,386
Average	170	11.0	172	7.8	2.96	0.46	478,264

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

Sewage Collection Pipe System - 2020

<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	271,089
10"	Clay, Plastic, Steel	154,719
8"	Clay, Plastic, Steel	735,260
6"	Clay, Plastic	8,241
1.5"	Clay, Plastic	597
Total Feet of Pipe		1,816,164
Total Miles of Pipe		343.97

2020 Sewer Main Installation Costs

Project	Size/ Type	Installer	Description	Footage	Total Costs	Cost per Foot
<u>By Job Number</u>						
Installed by Kenosha Water Utility						
Installed by Developers						
725	10" PVC	Majestic Midwest Innovation Center	58th Place and 104th Avenue	956.0	242,348.92	
729	12" PVC	Springs at Kenosha Phase 2	71st Street and 33 foot Easement	1,918.0	198,664.07	
731	12" PVC	94 Logistics, LLC	128th Avenue - 38th Street to South Property Line	2,600.0	453,174.59	
Total				<u>5,474.0</u>	<u>894,187.58</u>	
<u>By Pipe Size</u>						
725	10" PVC	Majestic Midwest Innovation Center	58th Place and 104th Avenue	<u>956.0</u>	<u>242,348.92</u>	
Subtotal				956.0	242,348.92	253.50
729	12" PVC	Springs at Kenosha Phase 2	71st Street and 33 foot Easement	1,918.0	198,664.07	
731	12" PVC	94 Logistics, LLC	128th Avenue - 38th Street to South Property Line	2,600.0	453,174.59	
Subtotal				<u>4,518.0</u>	<u>651,838.66</u>	144.28
Grand Total				<u>5,474.0</u>	<u>\$ 894,187.58</u>	

**Distribution Division - Sanitary Sewer
Operating & Maintenance Report - 2020**

Maintenance Completed

System	Maintenance Type	Quantity
Sewer Main	Collapse	4
	Broken Pipe	-
	Joint Leaks	-
	Remove Flusher Nozzle	-
	Other	-
Total Sewer Main Repairs		4
Sewer Lateral	Collapse	10
	Broken Pipe	8
	Joint Leaks	10
	Broken at Wye	11
	Remove Parkway Trap	3
	Contractor Damage	1
	Other	-
Total Sewer Lateral Repairs		43
Manholes	Repaired	23
	Replace	-
	Remove/Abandon	1
Total Manhole Repairs		24

Total Sanitary Sewer Repairs	71
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Customer Complaints

(During Normal Work Hours)

Complaint	Quantity
Sewer back-up	102
Sink Hole	3
Sewer Odor	3
Storm Sewer Back-up	4
Televise Lateral	-
Manhole Problem	2
Miscellaneous	-
Total	114

Customer Complaints

(After Normal Work Hours)

Complaint	Quantity
Utility Locate	54
Sewer back-up	61
Sink Hole	2
Sewer Odor	-
Storm Sewer Back-up	8
Manhole Problem	2
Miscellaneous	-
Total	127

Total Complaints	241
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Summary of Sewer Cleaning and Televising (feet)

Year	Sewer Cleaning	PM List	Televise	Grand Total
2020	148,224	34,484	26,337	209,045
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	72,996	16,057	656,513
2015	224,107	38,995	51,360	314,462

Sewerage System Income Statement – 2020

Sewerage Service Revenues

Residential Customers	\$ 4,386,872.20
Commercial Customers	2,169,858.62
Industrial Customers	1,184,650.09
Public Customers	448,921.53
Wastehaulers	204,749.99
Wholesale Customers	2,746,296.67
Industrial Monitoring	83,147.13

Total Sewerage Service Revenues

11,224,496.23

Other Operating Revenues

Engineering Services	1,705,932.52
Other Income	73,084.92
Penalties	85,390.63

Total Other Operating Revenues

1,864,408.07

Total Operating Revenues

13,088,904.30

Operating Expenses

Wastewater Treatment Operation and Maintenance	3,378,710.47
Collection System Operation and Maintenance	1,361,704.38
Laboratory Operations	321,140.78
Industrial Waste Monitoring	84,323.08
Engineering Services	1,676,848.39
Customer Accounting and Collection Expense	513,320.45
Administrative and General Expense	2,590,108.93
Depreciation	3,245,555.00
Taxes	49,301.94

Total Operating Expenses

13,221,013.42

Utility Operating Income

(132,109.12)

Other Income

Interest Income	608,979.70
Miscellaneous Income	22,383.32

Total Other Income

631,363.02

Non-operating Expenses

Interest on Long-term Debt	1,109.96
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Net Income before Capital Contributions

498,143.94

Capital Contributions

1,296,451.39

Net Income

\$ 1,794,595.33

**Sewerage System
Statement of Net Position
December 31, 2020**

Assets		
Utility Plant		
Utility Plant in Service	\$ 157,635,672.42	
Work in Progress - Sewer Plant	1,937,149.04	
Work in Progress - Sewerage System	352,913.92	
Accumulated Depreciation	<u>(73,960,757.76)</u>	
Net Plant in Service		85,964,977.62
Other Property		
Other Utility Plant & Equipment for Future Use		<u>1,054,838.62</u>
Total Net Utility Plant		87,019,816.24
Current Assets		
Cash and Cash Equivalents	3,299,859.80	
Investments	20,811,005.69	
Restricted cash equivalents	1,209,254.67	
Restricted cash - Storm Water Utility Collections	378,548.84	
Restricted Investments	1,664,911.37	
Customer Accounts Receivable	1,332,404.17	
Receivable from Municipality	504,337.85	
Unbilled Revenues	1,063,407.68	
Other Accounts Receivable	379,699.65	
Materials and Supplies	83,532.13	
Accrued Interest Receivable	91,764.95	
Other Current Assets	<u>17,595.78</u>	
Total Current and Accrued Assets		30,836,322.58
Noncurrent Assets		
Investments		1,136,108.61
Advance to Water Unit		<u>5,000,000.00</u>
Total Noncurrent Assets		6,136,108.61
Other Assets		
Assessments Receivable		68,914.40
Deferred Charges		2,120,553.33
Pension Asset - Wisconsin Retirement System		865,066.71
Regulatory Asset		<u>595,799.61</u>
Total Other Assets		3,650,334.05
Total Assets		<u>\$ 127,642,581.48</u>
Deferred Outflow of Resources		
Deferred Pension Resources		\$ 1,974,181.02
Deferred OPEB Resources		<u>233,183.53</u>
Total Outflows of Resources		\$ 2,207,364.55
Liabilities		
Current Liabilities		
Accounts Payable	\$ 443,490.74	
Accrued Interest Payable	-	
Current Portion of Long Term Obligations	-	
Current Portion of Accrued Compensated Absences	55,727.39	
Current Portion of Net Other Postemployment Benefits	45,384.00	
Payable to Municipality	1,247,774.80	
Due to City of Kenosha - Storm Water Collections	378,548.84	
Deferred Credits	<u>6,715.00</u>	
Total Current and Accrued Liabilities		2,177,640.77
Non-current Liabilities		
Accrued Compensated Absences		216,922.75
Worker's Compensation Accrued Liability		910.00
Net Other Postemployment Benefit Obligations		<u>1,392,623.38</u>
Total Non-current Liabilities		1,610,456.13
Total Liabilities		<u>\$ 3,788,096.90</u>
Deferred Inflows of Resources		
Deferred Pension Resources		\$ 2,665,238.34
Deferred OPEB Resources		<u>96,347.74</u>
Total Inflows of Resources		\$ 2,761,586.08
Net Position		
Invested in Capital Assets, net of related debt	87,019,816.24	
Restricted for Regulatory Capital Needs	2,874,166.04	
Restricted for Pension	865,066.71	
Unrestricted	<u>32,541,214.06</u>	
Total Net Position		<u>\$ 123,300,263.05</u>

**Sewerage System
Comparative Operating and Maintenance Expenses**

	<u>2020</u>	<u>2019</u>	<u>2018</u>
Operating Expenses			
Supervision and Labor	\$ 466,770.35	\$ 430,027.16	\$ 488,862.18
Power for Pumping and Aeration	544,838.71	578,739.68	600,019.34
Disinfection Chemicals	79,748.00	90,024.00	57,127.00
Sludge Conditioning Chemicals	420,714.01	398,290.77	422,044.71
Other Chemicals for Sewage Treatment	19,218.89	37,770.47	66,213.49
Laboratory Operations	321,140.78	312,794.02	311,218.94
Industrial Waste Monitoring	84,323.08	73,127.52	64,731.68
Landfill Expense	366,223.30	340,222.77	264,533.20
Transportation Expense	79,813.06	98,052.49	100,578.42
	<u>2,382,790.18</u>	<u>2,359,048.88</u>	<u>2,375,328.96</u>
Maintenance Expenses			
Collection System Operation and Maintenance	1,361,704.38	1,195,385.30	1,242,717.98
Wastewater Treatment Maintenance	1,401,384.15	1,579,661.61	1,150,110.49
	<u>2,763,088.53</u>	<u>2,775,046.91</u>	<u>2,392,828.47</u>
Customer Account Expenses			
Customer Accounting and Collection	445,362.91	484,992.97	376,318.88
Meter Reading Expense	67,957.54	70,560.09	63,391.40
	<u>513,320.45</u>	<u>555,553.06</u>	<u>439,710.28</u>
Administrative and General Expenses			
Administrative and General Salaries	350,025.31	391,077.33	313,407.05
Engineering Services	1,676,848.39	1,829,534.62	1,741,930.44
Office Supplies and Expense	38,800.57	47,236.51	54,677.22
Outside Services Employed	430,096.83	431,889.14	443,993.56
Insurance Expense	208,789.64	331,662.48	201,704.48
Employee Benefits and Pensions	1,207,004.92	1,424,231.08	1,161,633.24
Meter Operations Expense	348,741.66	348,451.59	327,903.81
Loss on sale of equipment	-	19,565.29	-
Depreciation	3,245,555.00	2,904,929.95	2,328,054.79
Utility Taxes	49,301.94	47,387.43	50,418.96
Miscellaneous Expense	6,650.00	6,600.00	6,400.00
	<u>7,561,814.26</u>	<u>7,782,565.42</u>	<u>6,630,123.55</u>
Total Operating Expenses	<u>\$ 13,221,013.42</u>	<u>\$ 13,472,214.27</u>	<u>\$ 11,837,991.26</u>

Sewerage System Comparative Income Statement

	<u>2020</u>	<u>2019</u>	<u>2018</u>
Sewerage Service Revenue			
Residential Customers	\$ 4,386,872.20	\$ 4,269,341.75	\$ 4,296,027.03
Commercial Customers	2,169,858.62	2,241,939.50	2,261,741.27
Industrial Customers	1,184,650.09	1,080,324.12	1,027,586.13
Public Customers	448,921.53	489,165.59	623,610.20
Wastehaulers	204,749.99	150,679.14	249,956.21
Wholesale Customers	2,746,296.67	3,247,358.69	3,143,851.41
Industrial Monitoring	83,147.13	85,959.06	98,675.41
Total Sewerage Service Revenues	11,224,496.23	11,564,767.85	11,701,447.66
Other Operating Revenues			
Engineering Services	1,705,932.52	1,851,543.66	1,765,597.92
Other Income	73,084.92	69,641.91	80,328.97
Penalties	85,390.63	114,560.98	117,243.45
	1,864,408.07	2,035,746.55	1,963,170.34
Total Operating Revenues	13,088,904.30	13,600,514.40	13,664,618.00
Operating Expenses			
Wastewater Treatment Operation and Maintenance	3,378,710.47	3,552,788.95	3,149,488.83
Collection System Operation and Maintenance	1,361,704.38	1,195,385.30	1,242,717.98
Laboratory Operations	321,140.78	312,794.02	311,218.94
Industrial Waste Monitoring	84,323.08	73,127.52	64,731.68
Engineering Services	1,676,848.39	1,829,534.62	1,741,930.44
Customer Accounting/Meter Reading Expense	513,320.45	555,553.06	439,710.28
Administrative and General Expense	2,590,108.93	2,981,148.13	2,509,719.36
Loss on Sale of Equipment	-	19,565.29	-
Depreciation	3,245,555.00	2,904,929.95	2,328,054.79
Taxes	49,301.94	47,387.43	50,418.96
Total Operating Expenses	13,221,013.42	13,472,214.27	11,837,991.26
Net Operating Income	(132,109.12)	128,300.13	1,826,626.74
Non-operating Revenue			
Interest Income	608,979.70	776,869.84	553,865.45
Miscellaneous Income	22,383.32	5,073.31	29,811.64
Total Non-operating Revenue	631,363.02	781,943.15	583,677.09
Operating Income and Other Revenue	499,253.90	910,243.28	2,410,303.83
Non-operating Expenses			
Interest on Long-term Debt	1,109.96	5,109.20	11,049.75
Total Non-operating Expenses	1,109.96	5,109.20	11,049.75
Net Income	\$ 498,143.94	\$ 905,134.08	\$ 2,399,254.08
Rate of Return on Average Investment (based on WWTP net operating income)	0.28%	0.42%	6.85%
Rate of Return on Average Investment (after debt service payment)	0.28%	0.41%	6.84%

**Sewerage System
Utility Plant in Service
For the year ended December 31, 2020**

	Depr. Rate %	Cost of Plant 1/1/2020	2020 Additions	2020 Retirements	Adjustments Incr/(Decr)	Cost of Plant 12/31/2020
Collection System						
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	49,113,772.57	894,187.58		(68,184.37)	49,939,775.78
Interceptor Mains	1.00	29,415,933.32				29,415,933.32
Force Mains	1.00	1,414,294.50			68,184.37	1,482,478.87
Collection Equipment	4.00	1,479,784.25	428,206.48	16,794.51	(102,630.61)	1,788,565.61
Collection Pumping System						
Land	N/A	129,783.09				129,783.09
Structures and Improvements	2.50	6,231,539.98	171,313.14			6,402,853.12
Receiving Wells	2.50	5,582,756.81			102,630.61	5,685,387.42
Electric Pumping Equipment	5.33	8,922,156.97	179,540.76	49,421.05	65,000.00	9,117,276.68
Other Power Pumping Equip.	4.00	376,363.38				376,363.38
Miscellaneous Pumping Equip.	4.00	31,000.00				31,000.00
Treatment and Disposal						
Land	N/A	331,080.05				331,080.05
Structures and Improvements	2.50	11,627,764.97	58,162.13	5,331.53		11,680,595.57
Preliminary Equipment	3.80	1,462,769.31				1,462,769.31
Primary Treatment Equipment	2.97	4,189,486.83	9,171.90			4,198,658.73
Secondary Treatment Equip.	3.53	6,887,193.93	1,334,458.36			8,221,652.29
Advanced Treatment Equip.	2.86	219,279.28				219,279.28
Chlorination Equipment	4.41	1,243,141.30	19,640.40	10,640.64		1,252,141.06
Sludge Treatment & Disposal	4.17	12,920,944.05	958,974.95	221,922.49		13,657,996.51
Plant Site Piping	2.00	114,592.02				114,592.02
Flow Metering and Monitoring	4.44	243,100.22				243,100.22
Outfall Sewer	2.31	1,179,759.13				1,179,759.13
Engineering Equipment						
Furniture and Equipment	5.88	31,136.15				31,136.15
Computer Equipment	6.67-14.29	97,659.13	28,296.22			125,955.35
Transportation Equipment	14.28	319,054.31		17,788.00	55,944.94	357,211.25
Engineering Equipment	5.88	31,285.81		10,491.31		20,794.50
Communication Equipment	9.09	(1,610.32)				(1,610.32)
Telephone Equipment	20.00	-				-
General Plant & Equipment						
Land	N/A	686,629.54	27,160.00			713,789.54
Structures and Improvements	2.50	2,203,367.48	469,496.75	17,276.96		2,655,587.27
Furniture and Equipment	5.88	101,604.49				101,604.49
Computer Equipment	6.67-14.29	128,633.82				128,633.82
Transportation Equipment	12.86	2,645,064.87	163,034.00	18,005.50	(30,214.50)	2,759,878.87
Work (Power) Equipment	9.00	639,546.37		85,365.00		554,181.37
Tools and Shop Equipment	5.88	332,701.21	87,967.09	6,764.77		413,903.53
Lab Equipment	5.88	187,674.98				187,674.98
Communication Equipment	9.09	2,228.00				2,228.00
SCADA System Equipment	9.20	370,294.54				370,294.54
Miscellaneous Equipment	5.88	253,482.68				253,482.68
Total		\$ 153,175,133.98	\$ 4,829,609.76	\$ 459,801.76	\$ 90,730.44	\$ 157,635,672.42

**Sewerage System
Accumulated Depreciation
For the year ended December 31, 2020**

	Balance 1/1/2020	2020 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	Balance 12/31/2020
Collection System						
Land	-					-
Structures and Improvements	-					-
Service Connections	\$ 982,895.22	38,092.81				\$ 1,020,988.03
Collecting Mains	14,157,235.25	501,133.46				14,658,368.71
Interceptor Mains	6,914,178.28	295,605.47				7,209,783.75
Force Mains	262,166.22	14,824.79				276,991.01
Collection Equipment	1,043,080.83	79,142.98	16,794.51			1,105,429.30
Collection System Pumping						
Land	-					-
Structures and Improvements	4,249,158.02	119,381.66				4,368,539.68
Receiving Wells	3,591,772.87	198,941.34				3,790,714.21
Electric Pumping Equipment	8,956,759.40	230,240.76	49,421.05		14,300.00	9,151,879.11
Other Power Pumping Equip.	236,868.10	21,886.38				258,754.48
Miscellaneous Pumping Equip.	18,074.97	1,550.00				19,624.97
Treatment and Disposal						
Land	-					-
Structures and Improvements	6,769,797.16	233,083.61	5,331.53			6,997,549.24
Preliminary Equipment	175,786.16	58,510.77				234,296.93
Primary Treatment Equipment	4,037,973.16	139,662.62				4,177,635.78
Secondary Treatment Equip.	6,887,193.93	251,562.29				7,138,756.22
Advanced Treatment Equip.	113,914.83	8,771.17				122,686.00
Chlorination Equipment	1,243,141.30	19,640.40	10,640.64			1,252,141.06
Sludge Treatment & Disposal	6,407,772.64	664,473.51	221,922.49			6,850,323.66
Plant Site Piping	2,291.84	2,291.84				4,583.68
Flow Metering and Monitoring	207,854.28	16,214.78				224,069.06
Outfall Sewer	970,604.58	29,493.98				1,000,098.56
Engineering Equipment						
Furniture and Equipment	25,022.79	1,924.81				26,947.60
Computer Equipment	29,217.46	13,402.02				42,619.48
Transportation Equipment	250,059.85	12,150.21	17,788.00	1,020.00	39,032.54	284,474.60
Engineering Equipment	10,221.92	1,607.09	10,491.31			1,337.70
Communication Equipment	(1,610.32)					(1,610.32)
Telephone Equipment	-					-
Miscellaneous Equipment	-					-
General Plant & Equipment						
Land	-					-
Structures and Improvements	740,583.94	48,589.55	17,276.96			771,896.53
Furniture and Equipment	74,339.16	5,893.06				80,232.22
Computer Equipment	75,850.68	16,449.15				92,299.83
Transportation Equipment	1,858,190.39	115,701.46	18,005.50	710.00	(9,759.49)	1,946,836.86
Work (Power) Equipment	319,321.18	24,027.24	85,365.00	7,350.00	1,058.50	266,391.92
Tools and Shop Equipment	228,173.37	21,651.54	6,764.77			243,060.14
Lab Equipment	90,299.44	10,885.15				101,184.59
Communication Equipment	2,228.00					2,228.00
SCADA System Equipment	121,290.30	34,067.10				155,357.40
Other Equipment	69,585.77	14,702.00				84,287.77
Total	\$ 71,121,292.97	\$ 3,245,555.00	\$ 459,801.76	\$ 9,080.00	\$ 44,631.55	\$ 73,960,757.76

Wastewater Treatment Plant

7834 3rd Avenue
Kenosha WI 53143

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Fax (262) 653-4340



"Providing and Protecting Kenosha's Greatest Natural Resource"

June 2021

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

Subject: 2020 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 significant industrial users, 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.

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,

A handwritten signature in blue ink that reads "Katrina Karow".

Katrina Karow
Director of Wastewater Treatment



www.kenosha.org

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

POTW Influent: average pounds/day

Year	Cadmium	Chromium	Copper	Nickel	Lead	Zinc	Mercury
2001	< 0.20	1.8	11.0	1.4	1.4	25.9	
2002	< 0.18	1.9	9.7	1.6	1.6	27.4	0.015
2003	< 0.16	1.4	9.4	1.7	1.2	19.1	0.032
2004	< 0.38	1.1	23.0	1.1	1.1	34.3	0.012
2005	< 0.31	1.1	10.4	0.78	1.1	23.7	0.030
2006	< 0.34	0.85	7.8	1.0	0.85	16.5	0.016
2007	< 0.5	1.1	12.0	1.3	2.4	23.0	0.022
2008	< 0.7	0.9	8.4	0.9	< 0.7	18.3	0.031
2009	< 0.4	0.6	7.6	1.0	< 0.6	18.0	0.018
2010	0.075	1.4	9.7	0.63	0.88	23.4	0.006
2011	< 0.14	0.8	8.5	0.58	0.56	20.9	0.008
2012	< 0.13	0.85	8.5	0.73	0.68	28.8	0.010
2013	< 0.12	1.3	7.9	0.78	1.8*	32.3	0.011
2014	< 0.12	1.2	11.7	0.99	1.0	32.3	0.006
2015	<0.061	1.0	9.1	1.12	0.70	22.7	0.010
2016	<0.066	1.3	9.0	0.94	0.53	19.7	0.005
2017	<0.066	1.0	10.2	1.14	0.70	20.4	0.005
2018	<0.041	1.0	7.9	0.97	<0.46	23.0	0.005
2019	<0.049	0.7	7.9	0.78	<0.37	22.7	0.005
2020	<0.040	0.9	7.4	0.73	<0.40	22.7	0.003

* 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

Year	Cadmium	Chromium	Copper	Nickel	Lead	Zinc	Mercury
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
2020	<0.04	<0.15	2.2	0.54	<0.33	<3.9	0.0001

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

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

Year	Arsenic	Cadmium	Chromium	Copper	Nickel	Lead	Zinc	Selenium	Molybdenum	Mercury
2011	7.8	2.3	72.3	415	23.8	55.4	996	4.2	13.7	0.332
2012	8.1	3.5		372	21.2	36.4	1,114	6.1	17.7	0.598
2013	7.5	2.1	64.1	402	25.2	55.8	1,117	3.6	17.9	0.603
2014	10.9	1.8	55.4	364	24.0	44.8	909	2.1	17.1	0.475
2015	9.4	3.0	70.5	406	28.4	45.7	905	2.7	20.4	0.377
2016	10.2	2.6	86.9	433	31.2	29.1	895	5.0	18.2	0.497
2017	12.3	2.6	76.6	441	30.7	38.1	866	5.5	19.4	0.470
2018	13.1	3.1	91.2	444	32.1	30.3	867	5.7	20.1	0.532
2019	10.7	3.3	81.8	410	35.2	25.2	817	5.8	18.1	0.505
2020	10.4	2.9	78.7	354	33.0	27.3	806	4.0	16.5	0.290
High Quality Limit	41	39	No established limits	1,500	420	300	2,800	100	No established limits	17

mg/kg – milligrams per kilogram

Wastewater Treatment Plant

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"Providing and Protecting Kenosha's Greatest Natural Resource"

June 2021

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

Subject: 2020 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 collection events scheduled for April and May 2020 were cancelled due to the pandemic. KWU took several measures to ensure the safety of staff and customers when the events recommenced in June. The first June event had a record high number of customers at 217. The Water Utility conducted fourteen collection events throughout the year. As in past years, it was well received. The number of residents disposing waste per event ranged from 64 (December 5) to 217 (June 6) with an average of 102 per event. The total number of participants in 2020 was 1,422. This program continues to be a fantastic service to our customers and the environment.

Respectfully Submitted,

A handwritten signature in blue ink that reads "Katrina Karow".

Katrina Karow
Director of Wastewater Treatment



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Kenosha Household Hazardous Waste Program Participation

2020 Collection Dates and Number of Participants

February 1	76 participants
March 7	85 participants
April	no events (COVID-19 precautions)
May	no events (COVID-19 precautions)
June 6	217 participants
June 20	108 participants
July 18	124 participants
August 1	106 participants
August 15	93 participants
September 5	88 participants
September 19	73 participants
October 3	104 participants
October 17	79 participants
November 7	135 participants
November 21	69 participants
December 5	64 participants
Total Participants	1,422

The program averaged 102 participants per collection event.

Household Hazardous Waste Unit Comparative Income Statement

	<u>2020</u>	<u>2019</u>	<u>2018</u>
Operating Revenue			
Residential	\$ 166,964.46	\$ 166,741.16	\$ 166,517.39
Stormwater Administration	14,040.00	14,040.00	14,040.00
Penalties	2,700.50	3,720.97	3,780.95
Total Operating Revenue	183,704.96	184,502.13	184,338.34
Operating Expenses			
Labor and Supplies	45,695.20	44,468.23	40,186.06
Outside Disposal Service	42,476.23	44,024.78	46,158.56
Costs Allocated from Other Funds:			
Wages	72,320.31	79,283.32	74,253.10
Postage	9,347.77	9,170.80	7,623.50
Other	3,216.65	3,509.60	3,543.61
Depreciation	3,202.45	3,202.45	3,342.07
Total Operating Expenses	176,258.61	183,659.18	175,106.90
Operating Income	7,446.35	842.95	9,231.44
Other Income			
Interest Income	342.34	2,354.96	1,161.46
Miscellaneous Income	108.68	-	304.64
Net Income	\$ 7,897.37	\$ 3,197.91	\$ 10,697.54

**Household Hazardous Waste Unit
Statement of Net Position
December 31, 2020**

Assets		
Utility Plant		
Plant in Service	\$ 80,893.24	
Accumulated Depreciation	<u>(30,843.72)</u>	
Net Plant in Service		50,049.52
Current Assets		
Cash	421,496.38	
Accounts Receivable	26,446.29	
Receivable from Municipality	15,856.23	
Unbilled Revenues	<u>20,858.25</u>	
Total Current Assets		484,657.15
Other Assets		
Pension Asset - Wisconsin Retirement System		10,885.03
Total Assets		<u>545,591.70</u>
Deferred Outflow of Resources		
Deferred Pension Resources		<u>14,669.66</u>
Liabilities		
Current and Accrued Liabilities		
Accounts Payable	7,869.11	
Payable to Municipality	<u>2,012.13</u>	
Total Current Liabilities		9,881.24
Total Liabilities		<u>9,881.24</u>
Deferred Inflow of Resources		
Deferred Pension Resources		<u>21,622.85</u>
Net Position		
Invested in Capital Assets	50,049.52	
Restricted for Pension	10,885.03	
Unrestricted	<u>467,822.72</u>	
Total Net Position		<u><u>\$ 528,757.27</u></u>

**Household Hazardous Waste Unit
Plant in Service and Accumulated Depreciation
For the year ended December 31, 2020**

	Depr. Rate %	Plant in Service				Cost of Plant 12/31/2020
		Cost of Plant 1/1/2020	2020 Additions	2020 Retirements	Adjustments Incr/(Decr)	
General Plant						
Structures and Improvements	4.00	\$ 80,061.24	-	-	-	\$ 80,061.24
Equipment	8.33	832.00	-	-	-	832.00
Total		<u>\$ 80,893.24</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>\$ 80,893.24</u>

	Accumulated Depreciation					Balance 12/31/2020
	Balance 1/1/2020	2020 Depreciation	Less Cost of Retirements	Add Cash Received	Adjustments Incr./Decr.	
General Plant						
Structures and Improvements	\$ 26,809.27	3,202.45	-	-	-	\$ 30,011.72
Equipment	832.00	-	-	-	-	832.00
Total	<u>\$ 27,641.27</u>	<u>3,202.45</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>\$ 30,843.72</u>