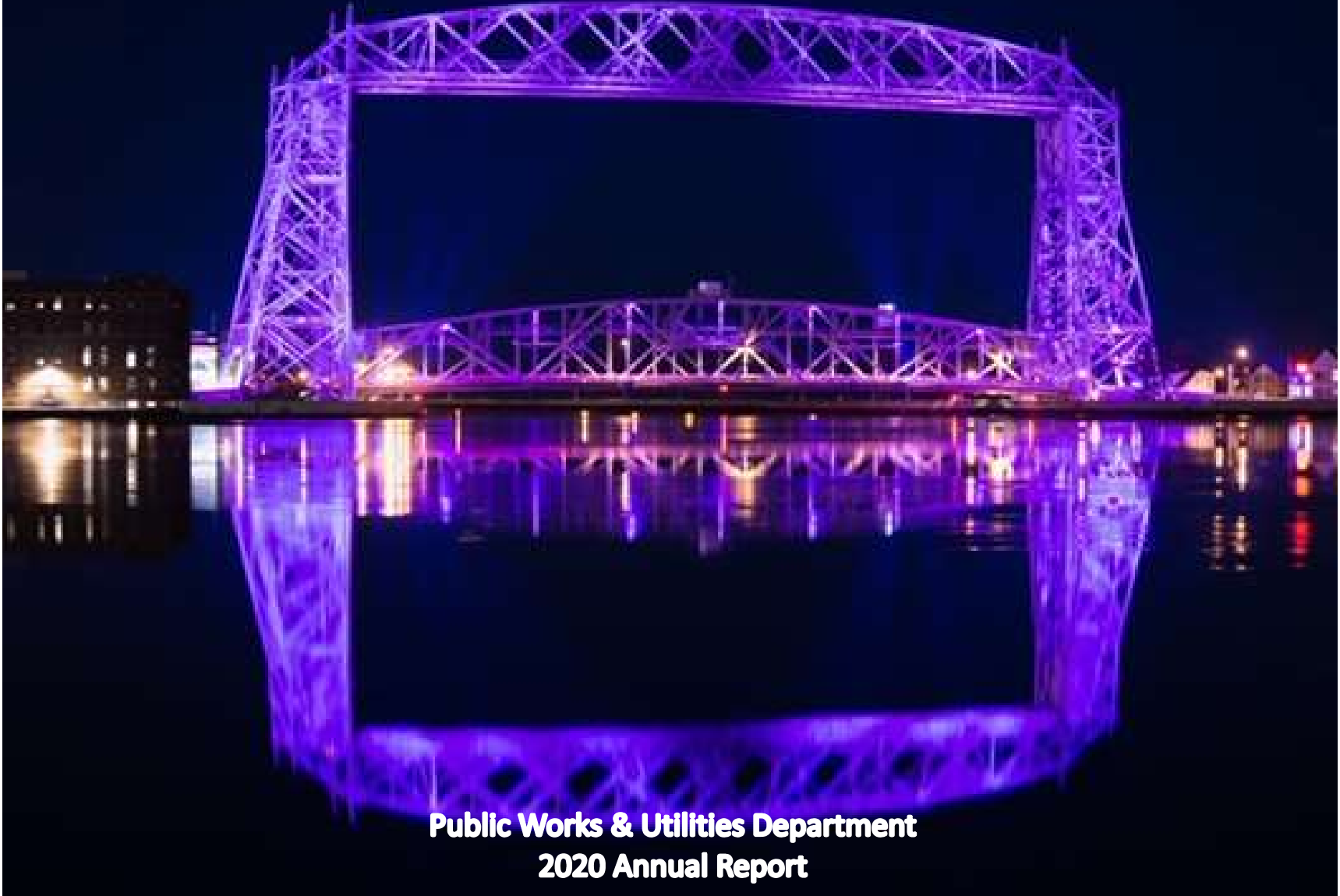


# CITY OF DULUTH



**Public Works & Utilities Department  
2020 Annual Report**

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Front cover photo:  
Aerial Lift Bridge lit purple, photo by Randy Wolf

# OFFICERS OF THE DEPARTMENT

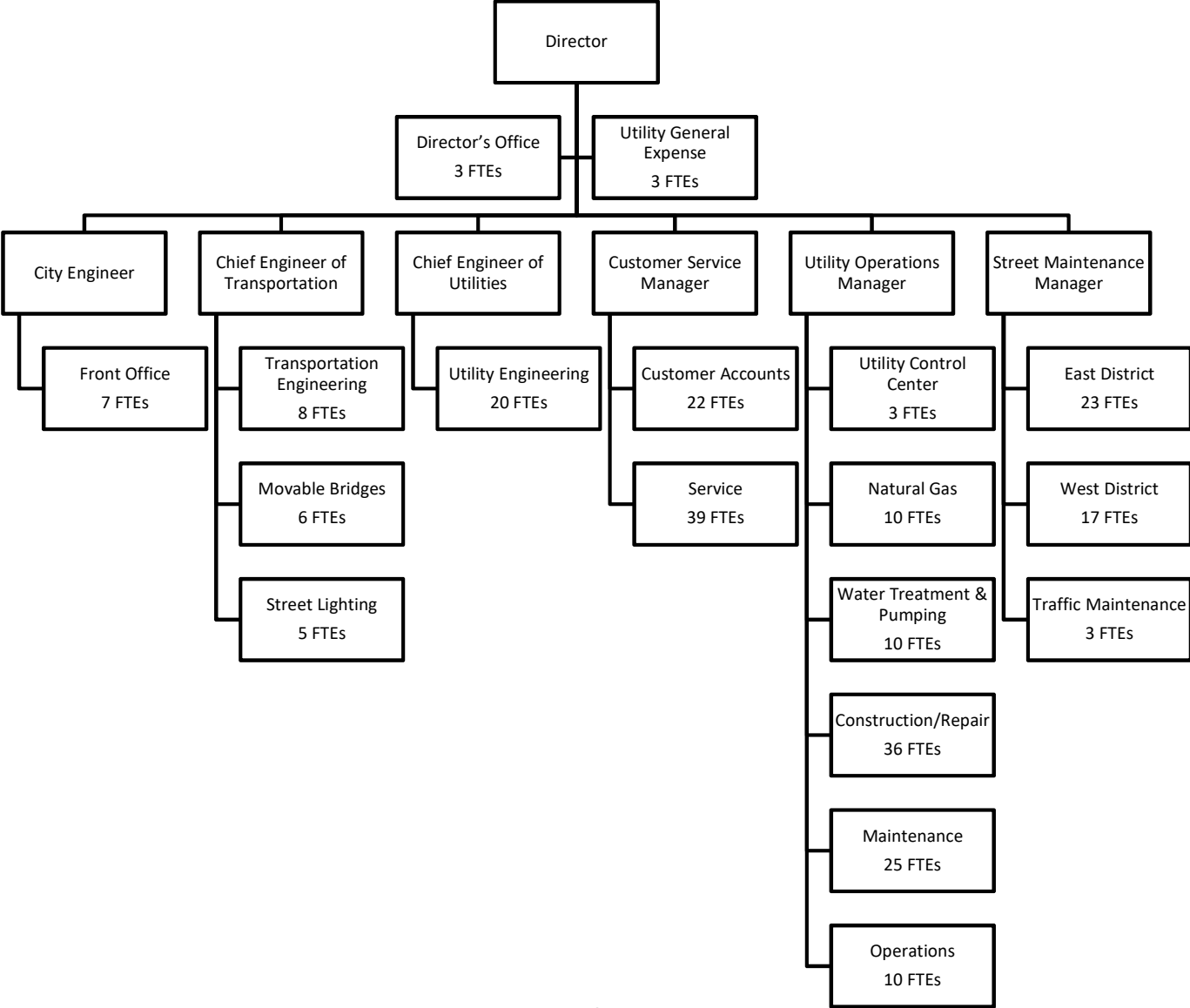
Mayor	.....	Emily Larson
Chief Administrative Officer	.....	Noah Schuchman
City Council Public Works & Utilities Committee		
Councilor Joel Sipress		
Duluth Public Utilities Commission		
Carrie Ryan, President	Councilor Gary Anderson	
Rob Prusak, Vice President	Councilor Derek Medved	
Chris Adatte	Councilor Joel Sipress	
Steve Lipinski		

## **DEPARTMENT OF PUBLIC WORKS & UTILITIES**

Director	.....	Jim Benning
City Engineer	.....	Cindy Voigt
Chief Engineer, Transportation	.....	Cari Pedersen
Chief Engineer, Utilities	.....	Eric Shaffer
Manager, Customer Service	.....	John Upton
Manager, Street Maintenance	.....	Chad Bednar
Manager, Utility Operations	.....	Greg Guerrero
Executive Assistant	.....	Leanna Gilbert
Public Works & Utilities Analyst	.....	Chris Ostern
Public Works & Utilities Analyst	.....	Kerry Venier
Financial Analyst	.....	Angie Hassett

# City of Duluth Public Works & Utilities Department 2020

**Total Budgeted FTEs: 257**



**W  
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**Water Utility  
Statement of Net Income  
For The Year Ended December 31, 2019 and 2020  
(Unaudited)**

	2019	2020
<b><u>Operating Revenue</u></b>		
Metered Water Sales	\$ 14,971,423	\$ 14,957,024
Other	171,297	142,871
<b>Total Operating Revenue</b>	\$ 15,142,720	\$ 15,099,895
<b><u>Operating Expense</u></b>		
Director's Office	85,064	106,575
Capital Related Expenses	1,827,854	1,863,248
Utility General Expense	73,922	(157,190)
Engineering	596,376	620,467
Utility Operations	3,838,153	2,998,619
Water Treatment and Pumping	2,766,612	2,774,943
Customer Service	1,493,467	1,750,396
<b>Total Operating Expense</b>	(10,681,448)	(9,957,058)
<b>Operating Income</b>	4,461,272	5,142,837
<b><u>Other Revenue</u></b>		
Grants Non-Capital	11,508	0
Contributed Capital	11,591	40,745
Gain or Loss on the Sale of Fixed Assets	8,531	9,749
Transfer from Other Funds		
Administrative Billing Fee	135,000	135,000
Street Lighting	9,300	0
Intergovernmental	16,919	0
Interest Income	47,466	41,998
<b>Total Other Revenue</b>	240,315	227,492
<b><u>Other Expenses and Transfers</u></b>		
Transfer to Other Funds		
Non-Capital Improvements	82,562	112,149
Reimbursement for MIS Programmer	55,700	59,975
Interest on Long Term Debt	245,638	219,220
<b>Total Other Expenses and Transfers</b>	(383,900)	(391,344)
<b>Net Income or Loss</b>	\$ 4,317,687	\$ 4,978,985

**Water Utility**  
**Statement of Net Assets**  
**For The Year Ending December 31, 2019 and 2020**  
**(Unaudited)**

	<b>Assets &amp; Deferred Outflows</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Assets</u></b>		
Cash	\$ 3,645,869	\$ 4,560,636
Restricted Cash and Equivalents:		
Minnesota Water Connection Fees	90,380	0
Construction	1,261,807	354,660
Accounts Receivable (Net)	1,473,554	1,363,761
Special Assessments	21,757	19,938
Due from Other Funds	8,690	1,019
Due from Other Governments	11,643	0
Inventory	1,269,610	1,282,462
Prepays	1,541,549	3,010,420
	<b>\$ 9,324,859</b>	<b>\$ 10,592,896</b>
<b><u>Utility Plant</u></b>		
In Service	101,602,977	104,245,919
Construction	6,722,027	7,803,247
	<b>(43,509,819)</b>	<b>(44,715,700)</b>
	<b>64,815,185</b>	<b>67,333,466</b>
<b><u>Other Assets</u></b>		
Special Assessments Receivable	84,829	72,498
	<b>84,829</b>	<b>72,498</b>
<b>Total Assets</b>	<b>74,224,873</b>	<b>77,998,860</b>
<b><u>Deferred Outflows</u></b>		
Deferred Pension Obligation Outflows	295,630	335,175
Deferred OPEB Outflows	0	0
	<b>295,630</b>	<b>335,175</b>
<b>Total Assets and Deferred Outflows</b>	<b>\$ 74,520,503</b>	<b>\$ 78,334,035</b>

**Water Utility**  
**Statement of Net Assets**  
**For The Year Ending December 31, 2019 and 2020**  
**(Unaudited)**

	<b>Liabilities &amp; Net Assets</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Liabilities</u></b>		
Accounts Payable	\$ 71,148	\$ 192,119
Contracts Payable	42,262	63,833
Notes Payable	700,000	707,000
Leases Payable	255,251	265,017
Due to Other Funds	43,253	15,913
Due to Other Governments	143,902	2,693
Due to Component Units	5	0
Accrued Interest Payable	97,154	86,871
Accrued Salaries Payable	115,518	142,395
Vacations Payable	237,620	267,649
Unearned Revenue	60,557	76,875
Customer Deposits	10,000	10,000
Bonds Payable	284,000	330,000
<b>Total Current Liabilities (Payable from Current Assets)</b>	<b>\$ 2,060,670</b>	<b>\$ 2,160,365</b>
<b><u>Long Term Liabilities</u></b>		
Notes Payable	4,996,000	4,289,000
Leases Payable	972,773	707,755
Pension Liability	2,941,654	3,291,304
Net Other Post Employment Benefits	0	0
Bonds Payable	4,107,000	3,777,000
Less Unamortized Bond Discount or Premium	45,067	38,101
<b>Total Long Term Liabilities</b>	<b>13,062,494</b>	<b>12,103,160</b>
<b>Total Liabilities</b>	<b>15,123,164</b>	<b>14,263,525</b>
<b><u>Deferred Inflows</u></b>		
Deferred Pension Obligation Inflows	680,891	195,083
Deferred OPEB Inflows	1,454,957	1,634,951
<b>Total Deferred Inflows</b>	<b>2,135,848</b>	<b>1,830,034</b>
<b><u>Net Assets</u></b>		
Invested in Capital Assets, Net of Related Debt	54,716,901	57,574,253
Unrestricted	2,544,590	4,666,223
<b>Total Net Assets</b>	<b>57,261,491</b>	<b>62,240,476</b>
<b>Total Liabilities, Deferred Inflows, and Net Assets</b>	<b>\$ 74,520,503</b>	<b>\$ 78,334,035</b>



**City of Duluth**  
**Water Utility Bonds, Notes and Capital Leases Payable**  
**December 31, 2020**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2019</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2020</u>
<b>Water Utility</b>								
<b>Bonds</b>								
Revenue and General Obligation	\$ 196,000	2/19/2009	2/1/2024	\$ 76,000	\$ 0	\$ 0	\$ 14,000	\$ 62,000
Revenue and General Obligation Refunding	515,000	11/5/2015	2/1/2022	265,000	0	0	85,000	180,000
Revenue and General Obligation	4,050,000	10/17/2018	2/1/2034	4,050,000	0	0	185,000	3,865,000
<b>Bond Total</b>				<u>\$ 4,391,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 284,000</u>	<u>\$ 4,107,000</u>
<b>Notes</b>								
Public Facilities Authority	\$ 1,293,200	7/28/2010	8/20/2025	\$ 538,000	\$ 0	\$ 0	\$ 87,000	\$ 451,000
Public Facilities Authority	3,344,131	12/7/2010	8/20/2025	1,442,000	0	0	234,000	1,208,000
Public Facilities Authority	1,221,631	11/18/2011	8/20/2026	576,000	0	0	79,000	497,000
Public Facilities Authority	4,778,806	2/25/2014	8/20/2029	3,140,000	0	0	300,000	2,840,000
<b>Note Total</b>				<u>\$ 5,696,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 700,000</u>	<u>\$ 4,996,000</u>
<b>Capital Leases</b>								
AMR System	\$ 3,375,986	3/28/2008	2/1/2024	\$ 1,228,024	\$ 0	\$ 0	\$ 255,252	\$ 972,772
<b>Capital Lease Total</b>				<u>\$ 1,228,024</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 255,252</u>	<u>\$ 972,772</u>
<b>Total Water Utility Bonds, Notes and Capital Leases</b>				<u>\$ 11,315,024</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 1,239,252</u>	<u>\$ 10,075,772</u>

<b>Future Payments:</b>			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2021	\$ 1,302,017	\$ 209,488	\$ 1,511,505
2022	1,330,156	181,552	1,511,708
2023	1,264,684	154,208	1,418,892
2024	1,138,915	127,536	1,266,451
2025	995,000	109,018	1,104,018
2026	665,000	93,280	758,280
2027	592,000	81,087	673,087
2028	600,000	69,693	669,693
2029	613,000	58,042	671,042
2030	295,000	46,063	341,063
2031	305,000	36,872	341,872
2032	315,000	26,987	341,987
2033	325,000	16,588	341,588
2034	335,000	5,653	340,653
	<u>\$ 10,075,772</u>	<u>\$ 1,216,067</u>	<u>\$ 11,291,839</u>

**Water Fund**  
**Schedule of Fixed Assets**  
**Year Ending December 31, 2020**

	<u>Balance Jan.</u> <u>1, 2020</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec.</u> <u>31, 2020</u>	<u>Accumulated</u> <u>Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 208,963	\$ 0	\$ 0	\$ 208,963	\$ 0	\$ 208,963
Infrastructure	70,181,121	3,009,191	0	73,190,312	22,117,949	51,072,363
Buildings and Structures	22,338,952	0	0	22,338,952	15,670,340	6,668,612
Equipment and Tools	8,873,941	201,174	567,423	8,507,692	6,927,411	1,580,281
Work in Progress	<u>6,722,027</u>	<u>4,148,332</u>	<u>3,067,112</u>	<u>7,803,247</u>	<u>0</u>	<u>7,803,247</u>
Total	<u>\$ 108,325,004</u>	<u>\$ 7,358,697</u>	<u>\$ 3,634,535</u>	<u>\$ 112,049,166</u>	<u>\$ 44,715,700</u>	<u>\$ 67,333,466</u>

## COMPARATIVE STATEMENT, OPERATING EXPENSE OF ALL STATIONS

Station	Year	Daily Average Gallons Pumped, Initial Supply	Gallons Pumped	K.W.H. Consumed	Electricity
Lakewood	2019	12,303,000	4,490,740,000	7,484,350	\$ 619,212
	2020	11,001,643	4,015,600,000	6,646,500	\$ 574,823
Middle	2019	2,680,463	978,369,000	1,274,400	\$ 106,998
	2020	2,516,235	918,426,000	1,201,600	\$ 103,756
Woodland	2019	1,656,673	604,686,000	1,376,400	\$ 112,598
	2020	1,684,413	614,811,000	1,453,800	\$ 126,932
West Duluth	2019	3,766,164	1,374,650,000	396,864	\$ 39,365
	2020	2,803,271	1,023,194,000	304,704	\$ 34,741
Orphanage	2019	229,134	83,634,000	60,160	\$ 7,371
	2020	260,465	95,070,000	65,920	\$ 8,120
Highland	2019	1,366,430	498,747,000	432,192	\$ 43,194
	2020	1,310,534	478,345,000	420,096	\$ 44,343
Arlington	2019	1,494,509	545,496,000	888,384	\$ 99,707
	2020	1,320,964	482,152,000	816,000	\$ 97,689
Lakeside	2019	177,704	64,862,000	75,280	\$ 11,383
	2020	180,156	65,757,000	83,520	\$ 12,786
Bay View	2019	457,252	166,897,000	198,400	\$ 24,304
	2020	486,243	177,479,000	201,600	\$ 25,543
Proctor	2019	360,906	131,731,000	190,080	\$ 23,742
	2020	372,378	135,918,000	191,680	\$ 24,757
Airport	2019	-	unmetered	6,912	\$ 1,031
	2020	-	unmetered	15,552	\$ 1,832
<b>TOTALS</b>	<b>2019</b>	<b>24,492,235</b>		<b>12,383,422</b>	<b>\$ 1,088,905</b>
	<b>2020</b>	<b>21,936,302</b>		<b>11,400,972</b>	<b>\$ 1,055,322</b>

## WATER PLANT STATISTICS

	2020	2019	2018	2017	2016	2015	2014
Water Pumped							
Million Cubic Feet	536.84	600.37	623.28	655.20	666.81	692.43	695.74
Water Sold							
Million Cubic Feet	464.23	527.56	561.94	568.41	565.57	589.84	591.00
General & Distribution Operating							
Costs including Maintenance (*)	\$ 8,183,754	\$ 8,928,974	\$ 9,255,377	\$ 9,285,999	\$ 9,008,318	\$ 8,528,252	\$ 9,529,831
Cost per 100 Cubic Feet	\$ 1.7629	\$ 1.6925	\$ 1.6470	\$ 1.6337	\$ 1.5928	\$ 1.4459	\$ 1.6125
Interest charges	\$ 219,220	\$ 245,638	\$ 252,071	\$ 182,025	\$ 213,800	\$ 269,225	\$ 274,990
Cost per 100 Cubic Feet	\$ 0.0472	\$ 0.0466	\$ 0.0449	\$ 0.0320	\$ 0.0378	\$ 0.0456	\$ 0.0465
Depreciation charge	\$ 1,773,304	\$ 1,752,474	\$ 1,818,410	\$ 1,826,882	\$ 1,776,832	\$ 1,709,522	\$ 1,635,319
Cost per 100 Cubic Feet	\$ 0.3820	\$ 0.3322	\$ 0.3236	\$ 0.3214	\$ 0.3142	\$ 0.2898	\$ 0.2767
Total Cost per 100 Cubic Feet	\$ 2.1921	\$ 2.0712	\$ 2.0155	\$ 1.9871	\$ 1.9448	\$ 1.7813	\$ 1.9357
Operating revenue	\$ 15,099,895	\$ 15,142,720	\$ 14,925,155	\$ 14,445,384	\$ 14,488,756	\$ 14,435,412	\$ 14,539,396
Revenue per 100 Cubic Feet Sold	\$ 3.2527	\$ 2.8703	\$ 2.6560	\$ 2.5414	\$ 2.5618	\$ 2.4473	\$ 2.4601
Water meters in service	28,518	28,324	28,957	28,329	28,253	28,208	28,131
Water main miles	430.30	429.50	429.30	428.40	428.30	433.40	430.70
Water meters per mile of main	66.27	65.95	67.45	66.13	65.97	65.09	65.31
Hydrants on system	2,747	2,738	2,716	2,708	2,699	2,688	2,659

(\*) Depreciation not included

## WATER PURIFICATION 2020 LAKEWOOD STATION

Month	Total Number of Gallons Treated (Millions)	Average Water Temperature at Treatment Bldg, Degrees F	Ammonia Lbs. Used	Chlorine Lbs. Used	Alum Gal. Used	Fluoride Gal. Used	Turbidity of Effluent NTU
January	368,111,000	35.0	1,694	6,623	7,936	1,297	0.032
February	343,620,000	35.2	1,589	6,171	7,936	1,219	0.031
March	357,190,000	34.5	1,653	6,468	7,936	1,255	0.033
April	333,010,000	36.0	1,521	6,248	7,936	1,175	0.033
May	364,900,000	38.6	1,692	6,560	7,936	1,262	0.037
June	435,640,000	43.2	1,966	7,842	3,968	1,423	0.035
July	381,550,000	48.9	1,723	7,248	11,904	1,276	0.034
August	336,040,000	51.6	1,540	6,657	3,968	1,148	0.023
September	294,220,000	45.1	1,331	5,890	7,936	1,004	0.016
October	275,470,000	44.0	1,247	6,608	3,968	934	0.015
November	264,600,000	40.4	1,192	6,164	3,968	892	0.016
December	261,430,000	37.9	1,189	5,738	3,968	895	0.018
<b>TOTAL</b>	4,015,781,000		18,337	78,217	79,360	13,780	
<b>Average/Month</b>	334,648,417	40.9	1,528	6,518	6,613	1,148	0.027

**2020**  
**LAKE SUPERIOR RAW WATER**  
**AND DULUTH FINISHED WATER (LABORATORY ANALYSES)**

Milligrams per Liter (except pH, Specific Conductance, and Turbidity)

	<b>RAW</b>	<b>FINISHED</b>
	Average	Average
Dissolved Oxygen, ppm	12.5	13.1
pH	7.8	9.1
Monthly Specific Conductance, Micromhos/cm	102.2	131.0
Alkalinity, ppm CaCO <sub>3</sub>	45	47
Sulfates, ppm	3.5	8.0
Fluoride, ppm	0.06	0.74
Turbidity, NTU	1.43	0.03
Total Dissolved Solids, ppm	NA	61.8
Hardness, ppm CaCO <sub>3</sub>	NA	44
Chlorine, Total, ppm Cl <sub>2</sub>	NA	1.45
Cl, Free, ppm CL <sub>2</sub>	NA	0.08
Monochloramine, ppm Cl <sub>2</sub>	NA	1.39
Ammonia, Free, ppm NH <sub>3</sub> -N	NA	0.42
Ammonia, Total, ppm NH <sub>3</sub> -N	NA	0.83

## BACTERIOLOGICAL DATA 2020

	RAW WATER INTAKE	TREATED WATER		DISTRIBUTION	
Average for	Number Samples	Number Samples	Number Samples Positive	Number Samples	Number Samples Positive
January	16	184	0	92	0
February	14	170	0	92	0
March	17	213	0	91	0
April	18	192	0	91	0
May	14	166	0	92	0
June	17	228	0	92	0
July	15	177	0	92	0
August	15	176	0	92	0
September	15	144	0	97	0
October	14	144	0	92	0
November	11	107	0	93	0
December	15	108	0	91	0
<b>TOTAL</b>	181	2,009	0	1,107	0
<b>Average for Month</b>	15.1	167	0	92.3	0

### LENGTH OF WATER MAINS IN FEET

Diameter Inches	Cast Iron	Ductile Iron	Steel	Copper	Polyvinyl Chloride	High Density Polyethylene	Total	Valves	Vaults
1				885			885	5	
2				2,587		10,631	13,218	33	
3	1,396					619	2,015	11	
4	10,159	2,830				240	13,229	56	
6	957,903	146,287	569		1,729	13,211	1,119,699	2,455	
8	76,363	101,493	458		294	176,318	354,926	860	5
10	152,484	51,840	5,970			35,384	245,678	437	7
12	156,938	43,814	1,904			30,179	232,835	425	11
14						2,400	2,400		
16	73,976	23,863	11,018			58	108,915	134	1
18	1,390	435				2,092	3,917	5	
20	14,241	1,790	29,259			7,695	52,985	75	4
24	8,440	6,583	55			5,952	21,030	34	1
30			2,673				2,673	2	
36	25,069	11,722	11,384				48,175	34	3
42	181		49,224				49,405	6	
48							0		
<b>TOTALS</b>	<b>1,478,540</b>	<b>390,657</b>	<b>112,514</b>	<b>3,472</b>	<b>2,023</b>	<b>284,779</b>	<b>2,271,985</b>	<b>4,572</b>	<b>32</b>
<b>Total Miles -</b>							<b>430.3</b>		
<b>Change from 2019 -</b>							<b>0.8</b>	<b>22</b>	<b>0</b>

Notes: Pipe and valves in hydrant branches are not included in the above table.

Air valves, valves without gates and valves inside pump stations are not included.

All Main and Hydrant information provided from Geographic Information System.

### HYDRANTS AND BRANCHES

	Total Hydrants	Valves on Branches	Lineal Feet Main to Hydt.
<b>TOTAL IN SERVICE</b>			
12/31/2019	2,738	2,695	56,571
<b>TOTAL IN SERVICE</b>			
12/31/2020	2,747	2,711	57,197
<b>Changes from 2019:</b>	<b>9</b>	<b>16</b>	<b>626</b>



## DATA, RESERVOIRS AND TANKS

Location	Capacity (Gallons)	Overflow Elevation (Feet)	Greatest Depth (Feet)	Dimension (Feet)	Remarks
Lakeside Tank	100,000	500.00	23.75	Diameter 27	Built in 1961
34th Avenue East "Reservoir A"	16,320,000	294.00	30.00	284 x 391	Built 1898, Rebuilt 1938
Endion Reservoir	14,140,000	290.00	28.00	240 x 320	Built by G & W Company Rebuilt 1922 New Roof 1966 Lined 1988
West End Reservoirs #1-6	10,200,000	290.00	33.00	Diameter 100	Built 1953
West Duluth Reservoir	10,000,000	290.00	21.00	327.3 x 263.3	Built 1906 Remodeled 1925 New Roof 2014
Middle System - Reservoir #1	5,171,000	560.00	28.00	Diameter 187.38	Built 1913 New Roof 1928 Lined 1988
Middle System - Reservoir #2	5,131,000	560.00	25.00	Diameter 190	Built in 1951
Woodland Reservoir #1	1,021,000	806.00	22.00	Diameter 91.5	Built in 1915 Lined 1939 Refaced 2002
Woodland Reservoir #2	2,015,000	806.00	35.50	Diameter 100	Built in 1950 Lined 2000 Refaced 2002
Arlington Reservoir #1	240,490	806.00	27.00	Diameter 40	Built in 1925
Arlington Reservoir #2	1,534,000	806.00	27.50	Diameter 100	Built in 1950
Orphanage Tank #1	400,000	916.00	129.40	Diameter 51.5	Built 1994
Highland Water Tower	1,000,000	141.60	40.00	Diameter 74.8 1/4	Built 2011
Bay View Heights Steel Tank	100,000	550.00	26.00	Diameter 26	Built 1972
Proctor Tank	400,000	825.00	142.00	Diameter 51.5	Built 1989
<b>TOTAL</b>	<b>67,772,490</b>				

## PUMPING STATIONS - WATER PUMPING EQUIPMENT

Station	Source of Supply	Reservoirs Discharged Into	No. Units and Year Installed	Make of Pump	Type of Pump	Unit No.	Pumps Driven By	R.P.M.	Average Capacity G.P.M. Each Unit
Lakewood Low Lift	Lake Superior	Lakewood	1 -- 1992	Patterson	Single Stage Centrifugal	2	1 Unit direct connected to 300 hp, 2300 volt, 60 cycle, GE Induction motor	900	17,400
			1 -- 1949	DeLaval		4	1 Unit direct connected to 350 hp, 2300 volt, 60 cycle, GE Induction motor	440	20,800
			1 -- 1981	Worthington	Single Stage	1	1 Unit direct connected to 200 hp, 2300 volt, 60 cycle, GE Induction motor	500	11,389
Lakewood High Lift	Lakewood (Detention Basin)	Reservoir A Endion, West End, & West Duluth	1 -- 1992	Patterson	Single Stage Centrifugal	2	2 Unit direct connected to 1500 hp, 2300 volt, 60 cycle GE Induction motor with VFD and fixed controller	1,200	17,400
			1 -- 1949	DeLaval	Two Stage Centrifugal	4	2 Unit direct connected to 2000 hp, 2300 volt, 60 cycle, GE synchronous motor, with direct exciter	720	20,800
			1 -- 1981	Worthington	Single Stage	1	1 Unit direct connected to 1000 hp, 2300 volt, 60 cycle GE capacitor induction motor	1,185	11,389
Middle	Reservoir A and Endion	Middle Service	1 -- 1950	Allis-Chalmers	Single Stage, Two Unit, Centrifugal	3	Direct connected to 400 hp, 2300 volt, 60 cycle, Allis-Chalmers synchronous motor, with direct connected exciter	1,800	4,000
			1 -- 1969	Aurora	Single Stage, One Unit, Centrifugal	4	Direct connected to 250 hp, 2300 volt, 60 cycle, 3-phase Louis Allis Induction motor	1,750	2,500
			1 -- 1986	Fairbanks-Morse	Single Stage, One Unit, Centrifugal	5	Direct connected to 250 hp, 2300 volt, 60 cycle, 3-phase Siemens-Allis motor	1,785	2,600
Woodland	Reservoir A	Woodland & Arlington Reservoir	1 -- 1950	Allis-Chalmers	All Units Single Stage, Two Unit, Centrifugal	3	Direct connected to 500 hp, 2300 volt, 60 cycle, Allis-Chalmers synchronous motor, with direct connected exciter	1,800	2,050
			1 -- 1986	Fairbanks Morse Co.		4	Direct connected to 300 hp, 2300 volt, 60 cycle, Siemens-Allis Induction motor	1,775	1,720
			1 -- 1975	Aurora #421	Two Stage, Centrifugal	5	Direct connected to 240 hp, 2300 volt, 60 cycle, 3-phase Marathon Induction motor	1,750	1,250

## PUMPING STATIONS - WATER PUMPING EQUIPMENT

Station	Source of Supply	Reservoirs Discharged Into	No. Units and Year Installed	Make of Pump	Type of Pump	Unit No.	Pumps Driven By	R.P.M.	Average Capacity G.P.M. Each Unit
West Duluth	Reservoir A, Endion & West	West Duluth Reservoir & West Duluth System	2 -- 2009	Fairbanks-Morse	All Units Single Stage	2	200 hp, 460 volt, 60 cycle 3-phase WEG NEMA Premium Induction motor, with VFD drive	1,200	6,000
Orphanage	Woodland Reservoirs	Orphanage Tanks	1 -- 1961	Worthington Type L-2	Single Stage Centrifugal	5	Direct connected to 40 hp, 440 volt, 60 cycle, U.S. Induction motor	1,750	1,000
			1 -- 1961		Single Stage Centrifugal	6	Direct connected to 40 hp, 440 volt, 60 cycle, U.S. Induction motor	1,750	1,000
Highland	Arlington Reservoirs	Highland Tanks	2 -- 2012	Aurora	Single Stage, Single Suction Centrifugal	3	2-Unit Direct connected to 150 hp, 460 volt, 60 HZ, 3-phase Marathon Electric XRI high efficiency motor	1,800	1,200
Arlington	Middle Reservoirs	Arlington Reservoirs	3 -- 2010	Aurora Type 411 BF Size 6x8x20	Single Stage Centrifugal	3	250 hp, 460 volt, 60 cycle 3-phase Baldor Induction motor with VFD drive	1,750	1,700
Lakeside	Two 10" Mains	Lakeside Tank	2 -- 1961	Worthington Type L-3	Single Stage Centrifugal	1 2	Each unit direct connected to 100 hp, 440 volt, 60 cycle, 3-phase U.S. Induction motor	1,750	1,000
Bay View	West Duluth Reservoir	Bay View Tank	2 -- 1973	Aurora	Single Stage Centrifugal	1	Each unit direct connected to 125 hp, 440 volt, 60 cycle, 3-phase U.S. Induction motor	3,500	1,200
			2 -- 2002			2			
Proctor	Bay View Tank	Proctor Standpipe	2 -- 1973	Aurora	Single Stage Centrifugal	1	Each unit direct connected to 125 hp, 440 volt, 60 cycle, 3-phase Louis Allis motor	3,500	1,200
						2			

## WATER UTILITY ACTIVITIES 2020

### UTILITY OPERATIONS

ACTIVITY	WORK COMPLETED
Repair of water services	25
Repair of valves	32
Repair of main breaks	70
Install services	30
<b>Fire Hydrants</b>	
Replaced hydrants	35
Repaired hydrants	179
New hydrants	7
Inspection	All fire hydrants in the City are inspected by the Fire Department and Utility Operations as part of a preventative maintenance program.

### CUSTOMER SERVICE

ACTIVITY	WORK COMPLETED
<b>Meter Truck</b>	
Gauge water service	69
Applications (water & gas)	5,436
Delinquent account service shut off/restore (water & gas)	518
Emergency (water & gas)	871
General (water & gas)	2,472
<b>Meter Shop</b>	
Water meters repaired	299
Water meters tested	321
Plumbing truck orders (water & gas)	571

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**Gas Utility  
Statement of Net Income  
For The Year Ended December 31, 2019 and 2020  
(Unaudited)**

	2019		2020
<b><u>Operating Revenue</u></b>			
Residential Sales	\$ 24,082,930		\$ 22,093,111
Commercial & Industrial - Firm	9,665,552		8,436,053
Commercial & Industrial - Interruptible	4,385,370		4,457,990
Servicing Appliances	1,017,883		938,932
Other	547,086		516,385
<b>Total Operating Revenue</b>	<b>\$ 39,698,821</b>		<b>\$ 36,442,471</b>
<b><u>Operating Expense</u></b>			
Director's Office	118,121		129,162
Capital Related Expenses	1,539,320		1,551,722
Utility General Expense	124,291		(233,666)
Engineering	1,081,928		1,131,630
Utility Operations	2,390,518		2,020,528
Natural Gas	20,690,943		19,793,134
Customer Service	5,579,869		5,690,907
<b>Total Operating Expense</b>	<b>(31,524,990)</b>		<b>(30,083,417)</b>
<b>Operating Income</b>	<b>8,173,831</b>		<b>6,359,054</b>
<b><u>Other Revenue</u></b>			
Grants Non-Capital	19,474		0
Contributed Assets	100,479		1,326,325
Gain or Loss on Sale of Fixed Assets	13,808		17,363
Transfer from Other Funds			
Street Lighting	14,900		0
Intergovernmental	23,365		0
Interest Income	79,380		62,885
<b>Total Other Revenue</b>	<b>251,406</b>		<b>1,406,573</b>
<b><u>Other Expenses and Transfers</u></b>			
Interest Expense	46,251		37,042
Transfers to Other Funds			
Payment to City in Lieu of Taxes	2,728,817		2,778,917
Non-Capital Improvements	51,601		70,093
Reimbursement for MIS Programmer	55,700		59,975
Credit Home Energy Fund for Rebate	0		311,000
<b>Total Other Expenses and Transfers</b>	<b>(2,882,369)</b>		<b>(3,257,027)</b>
<b>Net Income or Loss</b>	<b>\$ 5,542,868</b>		<b>\$ 4,508,600</b>

**Gas Utility  
Statement of Net Assets  
For The Year Ending December 31, 2019 and 2020  
(Unaudited)**

	<b>Assets &amp; Deferred Outflows</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Assets</u></b>		
Cash	\$ 4,015,206	\$ 5,838,430
Restricted Cash and Equivalents:		
Customer Deposits	2,767,131	2,010,118
Accounts Receivable (Net)	5,383,978	5,286,171
Special Assessments	556	337
Due from Other Funds	13,975	1,103
Interfund Loan Receivable	2,510,937	0
Advances to Other Funds	450,000	89,000
Due from Other Governments	19,519	1,229,127
Inventory	1,231,122	1,314,974
Prepaid Expenses	270,823	2,284,698
Prepaid Gas	292,945	964,884
	<u>\$ 16,956,192</u>	<u>\$ 19,018,842</u>
<b><u>Utility Plant</u></b>		
In Service	83,276,987	85,610,178
Construction	4,537,418	5,592,038
	<u>87,814,405</u>	<u>91,202,216</u>
Less Accumulated Depreciation	(29,692,290)	(30,654,187)
	<u>58,122,115</u>	<u>60,548,029</u>
<b><u>Other Assets</u></b>		
Special Assessments Receivable	6,272	6,272
	<u>6,272</u>	<u>6,272</u>
<b>Total Other Assets</b>	<u>6,272</u>	<u>6,272</u>
<b>Total Assets</b>	<u>75,084,579</u>	<u>79,573,143</u>
<b><u>Deferred Outflows</u></b>		
Deferred Loss from Debt Refunding	0	0
Deferred Pension Obligation Outflows	406,969	464,446
Deferred OPEB Outflows	0	0
	<u>406,969</u>	<u>464,446</u>
<b>Total Deferred Outflows</b>	<u>406,969</u>	<u>464,446</u>
<b>Total Assets and Deferred Outflows</b>	<u>\$ 75,491,548</u>	<u>\$ 80,037,589</u>

**Gas Utility**  
**Statement of Net Assets**  
**For The Year Ending December 31, 2019 and 2020**  
**(Unaudited)**

<b>Liabilities &amp; Net Assets</b>		
	<b>2019</b>	<b>2020</b>
<b><u>Current Liabilities</u></b>		
Accounts Payable	\$ 2,489,085	\$ 2,747,761
Contracts Payable	122,462	693,548
Leases Payable	233,980	242,932
Due to Other Funds	55,024	21,700
Due to Other Governments	90,967	87,501
Accrued Interest Payable	17,622	13,959
Accrued Salaries Payable	166,442	219,202
Accrued Vacations Payable	365,245	429,264
Unearned Revenue	752,208	860,618
Customer Deposits	2,767,131	2,010,118
Bonds Payable	0	0
<b>Total Current Liabilities (Payable from Current Assets)</b>	<b>\$ 7,060,166</b>	<b>\$ 7,326,603</b>
<b><u>Long Term Liabilities</u></b>		
Leases Payable	891,708	648,775
Pension Liability	4,049,519	4,560,699
Net Other Post Employment Benefits	0	0
Less Unamortized Bond Discount	0	0
<b>Total Long Term Liabilities</b>	<b>4,941,227</b>	<b>5,209,474</b>
<b>Total Liabilities</b>	<b>12,001,393</b>	<b>12,536,077</b>
<b><u>Deferred Inflows</u></b>		
Deferred Pension Obligation Inflows	937,323	270,323
Deferred OPEB Inflows	2,075,682	2,245,439
<b>Total Deferred Inflows</b>	<b>3,013,005</b>	<b>2,515,762</b>
<b><u>Net Assets</u></b>		
Invested in Capital Assets, Net of Related Debt	56,996,427	59,656,322
Unrestricted	3,480,723	5,329,428
<b>Total Net Assets</b>	<b>60,477,150</b>	<b>64,985,750</b>
<b>Total Liabilities, Deferred Inflows, and Net Assets</b>	<b>\$ 75,491,548</b>	<b>\$ 80,037,589</b>



**City of Duluth  
Gas Utility Capital Leases Payable  
December 31, 2020**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2019</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2020</u>
<b>Gas Utility</b>								
Capital Leases								
AMR System	\$ 3,094,654	3/28/2008	2/1/2024	\$ 1,125,688	\$ 0	\$ 0	\$ 233,981	\$ 891,707
Capital Lease Total				\$ 1,125,688	\$ 0	\$ 0	\$ 233,981	\$ 891,707
<b>Total Gas Utility Capital Leases</b>				<u>\$ 1,125,688</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 233,981</u>	<u>\$ 891,707</u>

<u>Future Payments:</u>			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2021	\$ 242,932	\$ 31,516	\$ 274,448
2022	252,227	22,221	274,448
2023	261,876	12,571	274,447
2024	134,672	2,552	137,224
	<u>\$ 891,707</u>	<u>\$ 68,860</u>	<u>\$ 960,567</u>

**Gas Fund**  
**Schedule of Fixed Assets**  
**Year Ending December 31, 2020**

	<u>Balance Jan. 1, 2020</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2020</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 426,078	\$ 0	\$ 0	\$ 426,078	\$ 0	\$ 426,078
Infrastructure	71,554,926	2,729,147	0	74,284,073	22,809,522	51,474,551
Buildings and Structures	2,592,124	0	0	2,592,124	1,102,315	1,489,809
Equipment and Tools	8,703,859	157,718	553,674	8,307,903	6,742,350	1,565,553
Work in Progress	<u>4,537,418</u>	<u>3,853,868</u>	<u>2,799,248</u>	<u>5,592,038</u>	<u>0</u>	<u>5,592,038</u>
<b>Total</b>	<u>\$ 87,814,405</u>	<u>\$ 6,740,733</u>	<u>\$ 3,352,922</u>	<u>\$ 91,202,216</u>	<u>\$ 29,692,290</u>	<u>\$ 60,548,029</u>

## GAS STATISTICS

	2020	2019	2018	2017	2016	2015	2014
Gas sold MCF	5,731,748	5,984,783	5,603,857	5,218,978	4,770,804	4,766,168	5,224,178
Cost of gas sold	\$ 19,293,616	\$ 20,067,111	\$ 20,731,398	\$ 18,991,411	\$ 15,794,076	\$ 18,713,748	\$ 38,271,381
Cost per MCF sold	\$ 3.3661	\$ 3.3530	\$ 3.6995	\$ 3.6389	\$ 3.3106	\$ 3.9264	\$ 7.3258
Other operating costs, including maintenance(*)	\$ 9,274,230	\$ 9,942,276	\$ 10,587,922	\$ 10,528,802	\$ 9,409,848	\$ 9,543,411	\$ 9,364,188
Cost per MCF sold	\$ 1.6180	\$ 1.6613	\$ 1.8894	\$ 2.0174	\$ 1.9724	\$ 2.0023	\$ 1.7925
Interest charges	\$ 37,042	\$ 46,251	\$ 58,802	\$ 86,980	\$ 122,540	\$ 179,433	\$ 215,201
Cost per MCF sold	\$ 0.0065	\$ 0.0077	\$ 0.0105	\$ 0.0167	\$ 0.0257	\$ 0.0376	\$ 0.0412
Depreciation charge(**)	\$ 1,515,571	\$ 1,515,603	\$ 1,491,899	\$ 1,409,755	\$ 1,376,239	\$ 1,374,853	\$ 1,354,779
Cost per MCF sold	\$ 0.2644	\$ 0.2532	\$ 0.2662	\$ 0.2701	\$ 0.2885	\$ 0.2885	\$ 0.2593
Total cost per MCF sold	\$ 5.2550	\$ 5.2753	\$ 5.8656	\$ 5.9431	\$ 5.5971	\$ 6.2548	\$ 9.4188
Operating revenue	\$ 36,442,471	\$ 39,698,821	\$ 39,104,406	\$ 36,120,190	\$ 31,207,959	\$ 35,494,037	\$ 58,290,408
per MCF	\$ 7.0592	\$ 5.6713	\$ 6.9781	\$ 6.9209	\$ 6.5414	\$ 7.4471	\$ 11.1578
Gas meters in service	29,322	29,101	28,505	28,617	28,313	27,873	27,682
Gas main miles	560.50	556.60	553.40	549.40	543.80	539.40	534.90
Gas transmission miles	5.30	5.30	5.30	5.30	5.30	5.30	5.30
Gas meters per mile of main	52.31	52.28	51.51	52.09	52.07	51.67	51.75

(\*) Does not include depreciation for the cost of natural gas

(\*\*) Does not include depreciation due to change in Capital Policy



## GAS UTILITY ACTIVITIES 2020

### UTILITY OPERATIONS

ACTIVITY	WORK COMPLETED
<b>Services and Mains</b>	
Installations	20
Cutoffs	34
Valves inspected and operated	443
Hits	40

### CUSTOMER SERVICE

ACTIVITY	WORK COMPLETED
<b>Service Workorders Completed</b>	
Appliance service	3,406
Furnace cleaning	3,287
Tin shop/venting	405
<b>Meter Truck</b>	
Applications (water & gas)	5,436
Delinquent account service shut off/restore (water & gas)	518
Emergency (water & gas)	871
General (water & gas)	2,472
<b>Meter Shop</b>	
Gas meters repaired	756
Gas meters tested	625
Plumbing truck orders (water & gas)	571
<b>Other</b>	
Gas leak detection surveys	11,133
Inspect and paint gas meters and risers	3,006

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**Sewer Utility  
Statement of Net Income  
For The Year Ended December 31, 2019 and 2020  
(Unaudited)**

	<b>2019</b>	<b>2020</b>
<b><u>Operating Revenue</u></b>		
General Sewage Revenue	\$ 17,726,420	\$ 17,312,572
Other	247,189	214,075
<b>Total Operating Revenue</b>	<b>\$ 17,973,609</b>	<b>\$ 17,526,647</b>
<b><u>Operating Expense</u></b>		
Director's Office	80,673	101,772
Capital Related Expenses	1,497,485	1,617,877
Utility General Expense	95,549	(145,980)
Engineering	629,558	570,519
Utility Operations	2,122,630	2,043,743
Wastewater Treatment	9,239,851	9,713,161
Inflow and Infiltration	989,015	894,346
Customer Service	473,173	551,502
<b>Total Operating Expense</b>	<b>(15,127,934)</b>	<b>(15,346,940)</b>
<b>Operating Income</b>	<b>2,845,675</b>	<b>2,179,707</b>
<b><u>Other Revenue</u></b>		
Contributed Assets	328,688	4,838,364
Gain or Loss on Sale of Fixed Assets	0	1,847
Transfer from Clean Water Fund to Cover Restricted Cash	70,265	70,265
Transfer from Other Funds Street Lighting	7,450	0
Intergovernmental	8,283	0
Interest Income	26,580	11,667
<b>Total Other Revenue</b>	<b>441,266</b>	<b>4,922,143</b>
<b><u>Other Expenses and Transfers</u></b>		
Transfer to Other Funds Non-Capital Improvements	51,601	70,093
Reimbursement for MIS Programmer	55,700	59,975
Interest on Long Term Debt	144,831	90,509
<b>Total Other Expenses and Transfers</b>	<b>(252,132)</b>	<b>(220,577)</b>
<b>Net Income or Loss</b>	<b>\$ 3,034,809</b>	<b>\$ 6,881,273</b>

**Sewer Utility  
Statement of Net Assets  
For The Year Ending December 31, 2019 and 2020  
(Unaudited)**

	<b>Assets &amp; Deferred Outflows</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Assets</u></b>		
Cash	\$ 2,509,334	\$ 1,014,946
Restricted Cash and Equivalents:		
Construction	716,899	836,142
Accounts Receivable (Net)	1,787,711	1,679,167
Special Assessments	17,733	19,401
Due from Other Funds	167	563
Due from Other Governments	342,551	1,624,954
Inventory	89,017	101,020
Prepays	<u>2,927,649</u>	<u>3,757,065</u>
<b>Total Current Assets</b>	<b>\$ <u>8,391,061</u></b>	<b>\$ <u>9,033,258</u></b>
<b><u>Utility Plant</u></b>		
In Service	80,854,579	80,752,889
Construction	<u>1,338,745</u>	<u>7,832,969</u>
Less Accumulated Depreciation	<u>(22,596,031)</u>	<u>(23,327,579)</u>
<b>Total Utility Plant Assets</b>	<b><u>59,597,293</u></b>	<b><u>65,258,279</u></b>
<b><u>Other Assets</u></b>		
Special Assessments Receivable	<u>94,760</u>	<u>78,666</u>
<b>Total Other Assets</b>	<b><u>94,760</u></b>	<b><u>78,666</u></b>
<b>Total Assets</b>	<b><u>68,083,114</u></b>	<b><u>74,370,203</u></b>
<b><u>Deferred Outflows</u></b>		
Deferred Loss from Debt Refunding	17,673	1,281
Deferred Pension Obligation Outflows	174,478	194,357
Deferred OPEB Outflows	<u>0</u>	<u>0</u>
<b>Total Deferred Outflows</b>	<b><u>192,151</u></b>	<b><u>195,638</u></b>
<b>Total Assets and Deferred Outflows</b>	<b>\$ <u><u>68,275,265</u></u></b>	<b>\$ <u><u>74,565,841</u></u></b>



**Sewer Utility**  
**Statement of Net Assets**  
**For The Year Ending December 31, 2019 and 2020**  
**(Unaudited)**

	<b>Liabilities &amp; Net Assets</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Liabilities</u></b>		
Accounts Payable	\$ 28,667	\$ 149,060
Contracts Payable	78,663	750,029
Notes Payable	252,000	256,000
Leases Payable	219,800	228,209
Due to Other Funds	33,003	11,386
Due to Other Governments	791,488	828,705
Interest Payable	54,176	36,229
Accrued Salaries Payable	68,388	86,552
Vacations Payable	156,744	186,160
Unearned Revenue	51,376	53,242
Bonds Payable	<u>1,021,318</u>	<u>689,765</u>
<b>Total Current Liabilities (Payable from Current Assets)</b>	<b>\$ <u>2,755,623</u></b>	<b>\$ <u>3,275,337</u></b>
<b><u>Long Term Liabilities</u></b>		
Notes Payable	637,000	381,000
Leases Payable	837,665	609,456
Pension Liability	1,736,140	1,908,514
Bonds Payable	1,675,258	985,493
Less Unamortized Bond Discount or Premium	<u>59,348</u>	<u>33,706</u>
<b>Total Long Term Liabilities</b>	<b><u>4,945,411</u></b>	<b><u>3,918,169</u></b>
<b>Total Liabilities</b>	<b><u>7,701,034</u></b>	<b><u>7,193,506</u></b>
<b><u>Deferred Inflows</u></b>		
Deferred Pension Obligation Inflows	401,856	113,122
Deferred OPEB Inflows	<u>704,030</u>	<u>909,595</u>
<b>Total Deferred Inflows</b>	<b><u>1,105,886</u></b>	<b><u>1,022,717</u></b>
<b><u>Net Assets</u></b>		
Invested in Capital Assets, Net of Related Debt	54,912,577	62,075,931
Legal Restricted Assets	716,899	836,142
Unrestricted	<u>3,838,869</u>	<u>3,437,545</u>
<b>Total Net Assets</b>	<b><u>59,468,345</u></b>	<b><u>66,349,618</u></b>
<b>Total Liabilities, Deferred Inflows, and Net Assets</b>	<b>\$ <u><u>68,275,265</u></u></b>	<b>\$ <u><u>74,565,841</u></u></b>

**City of Duluth**  
**Sewer Utility Bonds, Notes and Capital Leases Payable**  
**December 31, 2020**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2019</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2020</u>
<b>Sewer Utility</b>								
<b>Bonds</b>								
Revenue and General Obligation	\$ 1,244,000	2/19/2009	2/1/2024	\$ 481,575	\$ 0	\$ 0	\$ 91,317	\$ 390,258
Revenue and General Obligation	905,000	12/17/2009	2/1/2025	420,000	0	0	65,000	355,000
Revenue and General Obligation Refunding	2,265,000	11/29/2011	2/1/2020	345,000	0	0	345,000	0
Revenue and General Obligation Refunding	2,000,000	11/27/2012	2/1/2021	605,000	0	0	300,000	305,000
Revenue and General Obligation Refunding	1,110,000	11/5/2015	2/1/2023	665,000	0	0	160,000	505,000
Revenue and General Obligation Refunding	350,000	11/5/2015	2/1/2022	180,000	0	0	60,000	120,000
<b>Bond Total</b>				<b>\$ 2,696,575</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 1,021,317</b>	<b>\$ 1,675,258</b>
<b>Notes</b>								
Public Facilities Authority (Note 1)	\$ 1,973,033	7/12/2007	8/20/2022	\$ 465,000	\$ 0	\$ 0	\$ 153,000	\$ 312,000
Public Facilities Authority (Note 3)	279,117	11/18/2011	8/20/2021	55,000	0	0	27,000	28,000
Public Facilities Authority	1,255,464	10/29/2014	8/20/2024	369,000	0	0	72,000	297,000
<b>Note Total</b>				<b>\$ 889,000</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 252,000</b>	<b>\$ 637,000</b>
<b>Capital Leases</b>								
AMR System	\$ 2,907,099	3/28/2008	2/1/2024	\$ 1,057,465	\$ 0	\$ 0	\$ 219,800	\$ 837,665
<b>Capital Lease Total</b>				<b>\$ 1,057,465</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 219,800</b>	<b>\$ 837,665</b>
<b>Total Sewer Utility Bonds, Notes, and Capital Leases</b>				<b>\$ 4,643,040</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 1,493,117</b>	<b>\$ 3,149,923</b>

<b>Future Payments:</b>			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2021	\$ 1,173,974	\$ 81,010	\$ 1,254,984
2022	857,705	53,551	911,256
2023	664,216	29,399	693,615
2024	379,028	9,698	388,726
2025	75,000	1,500	76,500
	<b>\$ 3,149,923</b>	<b>\$ 175,158</b>	<b>\$ 3,325,081</b>

**Sewer Fund  
Schedule of Fixed Assets  
Year Ending December 31, 2020**

	<u>Balance Jan. 1, 2020</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2020</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 161,612	\$ 0	\$ 0	\$ 161,612	\$ 0	\$ 161,612
Infrastructure	66,896,252	508,644	0	67,404,896	14,572,032	52,832,864
Buildings and Structures	7,101,150	0	0	7,101,150	3,985,264	3,115,886
Equipment and Tools	6,695,565	157,604	767,938	6,085,231	4,770,283	1,314,948
Work in Progress	1,338,745	7,114,281	620,057	7,832,969	0	7,832,969
<b>Total</b>	<u>\$ 82,193,324</u>	<u>\$ 7,780,529</u>	<u>\$ 1,387,995</u>	<u>\$ 88,585,858</u>	<u>\$ 23,327,579</u>	<u>\$ 65,258,279</u>

## PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.
1	PS0880001	Triplex Submersible 6/16/2006	305,280 gal. 1	301,397 gal.	1 - 1700 2 - 1700 3 - 1700	KSB	1 - 83 hp 2 - 83 hp 3 - 83 hp	480 3	105	10"	SA0880119	Permanent Onsite 2779-150kW
2	PS0880002	Duplex Submersible 3/18/2009	2,160 gal. 1	927.6 gal.	1 - 23 2 - 23 1 & 2 - 35	Barnes	1 - 2 hp 2 - 2 hp	230 3	1 - 8 2 - 8	3"	SA0880117	All 60 Amp
3	PD0830003	Triplex Submersible 10/19/1999	397,872 gal. 4	N/A	1 - 265 2 - 1200 3 - 1200	KSB	1 - 10 hp 2 - 34 hp 3 - 34 hp	480 3	1 - 15.1 2 - 47.5 3 - 47.5	16"	SD1210001	Permanent Onsite 125kW
4	PS043004	Duplex Submersible 1/20/2006	3,024 gal. 6	927.52 gal.	1 - 100 2 - 100	KSB	1 - 5 hp 2 - 5 hp	208 3	1 - 15.4 2 - 15.4	4"	SW0430011	All 60 Amp
5	PS043005	Simplex Submersible 1970	720 gal. 6	97.3 gal.	1 - 67.42	Myers	1.9 hp	230 1	5.3	3"	SW0430012	
6	PS0410006	Duplex Submersible 8/12/2012	1,106,064 gal. 16	9,313.8 gal.	1 - 3000 2 - 3000 3 - 3000	RJB	50 hp 50 hp 50 hp C/G 5 hp	480 3	1 - 66.7 2 - 66.7 3 - 66.7 6	24"	CH0460269	Permanent #2772 gen set
6SF	PS0410049	Duplex Submersible		8 mg		KSB	1 - 50 hp 2 - 50 hp	480 3	69.4 69.4	24"		Permanent
7	PS1090007	Duplex Submersible 2006	78,048 gal. 16	N/A	1 - 400 2 - 400	KSB	6.5 hp 6.5 hp	208 3	23 23	6"	SA1090003	All 60 Amp
8	PS1090008	Triplex Submersible 2016	228,960 gal. 15	8,863.8 gal.	1 - 808 2 - 808	KSB	83 hp 83 hp 83 hp	480 3	105 105 105	8"	SA1090003	Permanent SG 250kW
9	PS1090009	Duplex Submersible New motors 2011	165,888 gal. 15	3,941 gal.	1 - 800 2 - 800 3 - 800	KSB Grinder	1 - 7.5 hp 2 - 7.5 hp	208 3	26.3 26.3 17	10"	SA1090015	All 60 Amp
10	PS1100010	Duplex Submersible 1996	N/A 15	N/A	1 - 208 2 - 247.1	KSB	1 - 2.4 hp 2 - 2.4 hp	208 3	8.7	4"	SA0009	All 60 Amp

## PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.
11	PS1110011	Duplex Submersible 1996	N/A 15	N/A	1 - 164.4 2 - 161.4	KSB	1 - 2.4 hp 2 - 2.4 hp	208 3	1 - 8.4 2 - 8.4	4"	SA1110002	All 60 Amp
12	PS1110012	Duplex Submersible 1996	80,640 gal. 15		1 - 170 2 - 170 (approx.)	KSB	1 - 2.4 hp 2 - 2.4 hp	208 3	1 - 6.9 2 - 6.9	4"	SA1110013	All 60 Amp
13	PS0400013	Duplex Submersible 1995	N/A 16	N/A	1 - 650 2 - 650 1 & 2 - 710	KSB	1 - 12.8 hp 2 - 12.8 hp	480 3	1 - 29 2 - 29	12"	SW0400031	2765 2767 200 Amp
14	PS0320014	Duplex Submersible 2013	50,976 gal. 18	1,008 gal.	1 - 230 2 - 230	Flygt	1 - 10 hp 2 - 10 hp	208 3	1 - 9.5 2 - 18.5	8"	SA0310022	2766 2770
15	PS0310015	Triplex Wet well Dry well ~1975	248,688 gal. 18	N/A	1 - 2400 2 - 2400 3 - 2400	Chicago	1 - 40 hp 2 - 40 hp 3 - 40 hp	480 3	54	10"	SW0310030	2765 2767 200 Amp
16	PS0300016	Duplex Submersible 2013	 23		1 - 1400 2 - 1400 1 & 2 - 2300	KSB	32 hp 32 hp	480 3	38.9 38.9	10"	SW0300016	2765 2766 200 Amp
17	PS0290017	Duplex Submersible ~1975 2001	243,072 gal. 23	N/A	1 - 1000 2 - 1000 1 & 2 - 1500	KSB	1 - 10 hp 2 - 10 hp	240 3	1 - 32.5 2 - 32.5	8"	SW0290038	2767 2765 200 Amp
18	PS0180018	Duplex Submersible 1996	N/A 26	N/A	1 - 58.56 2 - 54.92 1 & 2 - 85	KSB	1 - 1.75 hp 2 - 1.75 hp	208 3	1 - 6.9 2 - 6.9	6"	SA0180041	All 60 Amp
19	PS1230019	Duplex Submersible 2012	2,880 gal. 28	409 gal.	1 - 124 2 - 104 1 & 2 - 169	Meyers	1 - 2 hp 2 - 2 hp	240 3	1 - 9.0 2 - 9.0	4"	SW1230034	All 60 Amp
20	PS0090020	Duplex Submersible 2004			1 - 360 2 - 360 1 & 2 - 540	KSB	1 - 5 hp 2 - 5 hp	208 30	1 - 17.7		SA0090036	2765 2767 200 Amp
21	PS0020021	Duplex Submersible 2007	3,600 gal. 30	480 gal.	1 - 125 2 - 125	KSB	1 - 10 hp 2 - 10 hp	208 3	1 - 33.4 2 - 30.1	4"	SA0030035	All 60 Amp

## PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.
22	PS0730022	Duplex Submersible  2002	43,344 gal.  33		1 - 180 2 - 135.3  1-2:337.6	KSB	1 - 10 hp 2 - 3.4 hp	240  3	1 - 29.2 2 - 10.1	4"	SA0730023	2765 2767 200 Amp
23	PS0960023	Duplex Submersible  2014	3,168 gal.  11	295.5 gal.	1 - 100 2 - 100 1 & 2 - 118	KSB	1 - 5 hp 2 - 5 hp	240  1	15.4 15.4	4"	SA0960002	All 60 Amp
24	NEW PIER B	Duplex Submersible  2016			1 - 150 2 - 150 1 & 2 - 165	KSB	1 - 5 hp 2 - 5 hp	208  3	17.7 17.7		SA0400052	60 Amp
25	PS1030025	Duplex Submersible  2001	8,352 gal.  11		1 - 200 2 - 200 1 & 2 - 300	KSB	1 - 15 hp 2 - 15 hp	240  3	1 - 52 2 - 52		SA1000001	2767 2765 200 Amp
26	PS0920026	Duplex Submersible  1999	49,680 gal.  5		1 - 200 2 - 200 1 & 2 - 300	KSB	1 - 16.5 2 - 16.5	240  3	1 - 52 2 - 52	4"	SA0860115	2767  2765
27	PS0420027	Duplex Submersible  1984	4,320 gal.  13	145.9 gal.	1 - 46.8 2 - 49.4 1 & 2 - 73	Myers	1 - 2 hp 2 - 2 hp	240  3	1 - 7.5 2 - 7.5	3"	SA0420086	All 60 Amp
28	PS1170028	Duplex Submersible  1998	17,136 gal.  22	N/A	1 - 159 2 - 159	KSB	1 - 3.4 hp 2 - 3.4 hp	240  3	1 - 10.2 2 - 10.2	4"	SA1170006	All 60 Amp
29	PS0470029	Duplex Submersible  2008	5,184 gal.  13	456.3 gal.	1 - 159 2 - 159 1 & 2 - 238	Barnes	1 - 2 hp 2 - 2 hp	240  3	1 - 9 2 - 9	1.25"	SA0470148	All 60 Amp
30	PS0580030	Duplex Submersible  1989	14,112 gal.  20	377.8 gal.	1 - 120.6 2 - 124.6 1 & 2 - 200	Flygt  CP3102	1 - 5 hp 2 - 5 hp	208  3	1 - 9.2 2 - 9.2	6"	SA0580129	All 60 Amp
31	PS0600031	Duplex Submersible  1989	13,104 gal.  21	658.3 gal.	1 - 200.5 2 - 154.3 1 & 2 - 300	Flygt  CP3102	1 - 5 hp 2 - 5 hp	240  3	1 - 13 2 - 13	6"	SA0600032	All 60 Amp
32	PS0600032	Duplex Submersible  1989	5,472 gal.  21	613.4 gal.	1 - 139 2 - 155 1 & 2 - 300	Flygt  CP3102	1 - 5 hp 2 - 5 hp	240  3	1 - 13 2 - 13	4"	SA0600093	All 60 Amp

## PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.	
33	PS1280033	Duplex Submersible 1995	NA	420 gal.	1 - 140 2 - 140 1 & 2 - 210	KSB	1 - 3.25 hp 2 - 3.25 hp	208	1 - 9.8 2 - 9.8	4"	SA0030061	All 60 Amp	
34	PS0560034	Duplex Submersible 1993	NA 20	433.9 gal.	1 - 166 2 - 156 1 & 2 - 249	Flygt CP3127	1 - 10 hp 2 - 10 hp	480 3	1 - 13 1 - 13	4"	SA0560093	2767 2765 200 Amp	
35	PS0630035	Duplex Submersible 2007			1 - 200 2 - 200 1 & 2 - 300	KSB	1 - 7.5 2 - 7.5	208 3	1 - 26.7 2 - 26.7	4"	SA0610012	All 60 Amp	
36	PS0900036	Duplex Submersible 1992	1,152 gal. 11	980 gal.	1 - 195.4 2 - 196.7	Flygt CP3127X	1 - 10 hp 2 - 10 hp	240 3	1 - 26 2 - 26	Twin 4"	SA0900005	2767 2765 200 Amp	
37	PS0420037	Duplex Submersible 1984	3,888 gal. 13	441.4 gal.	1 - 186.5 2 - 191.9	Flygt CP3085	1 - 3 hp 2 - 3 hp	208 3	1 - 10 2 - 10	4"	SA0420080	All 60 Amp	
38	PS1120038	Duplex Submersible	Operated by Facilities Management										
39	PS0150039	Duplex Submersible 2013	20,880 gal. 23	643.2 gal.	1 - 282 2 - 280 1 & 2 - 359	KSB	1 - 5 hp 2 - 5 hp	208 3	1 - 17.7 2 - 17.7	6"	SA0180001	All 60 Amp	
40	PS0330040	Steel shell dry well with 6' concrete wet well	36,864 gal. 18	534.9 gal.	1 - 286.6 2 - 281.5	Fairbanks Morse	1 - 7.5 hp 2 - 7.5 hp	240 3	1 - 22.6 2 - 22.6	8"	SA0320008	All 60 Amp	
41	PS0680041	Duplex Submersible 2002	8,928 gal. 22		1 - 400 2 - 400	KSB	1 - 15 hp 2 - 15 hp	240 3	1 - 43.5 2 - 43.5	6"	SA0680029	2767 2765 200 Amp	
42	PS1320042	Duplex Submersible 1996	NA 22	NA	NA	KSB	1 - 5 hp 2 - 5 hp	480 3	1 - 7.8 2 - 7.8	4" 6"	SD1180032	2767 2765 200 Amp	
43	PS1280143	Duplex Submersible 2000			1 - 187 2 - 189 3 - 200	KSB	1 - 15 hp 2 - 15 hp	240 3	1 - 43.5 2 - 43.5	6"	SA1280001	2767 2765 200 Amp	

## PUMPING STATIONS - SEWAGE PUMPING EQUIPMENT

	Station GIS Location	Station Type - Year Updated	Daily Flow - Basin No.	Wet Well Capacity	Pump Cap. GPM each unit	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Force Main Discharge GIS Location	Aux. Power Gen. Set No.
44	PS0010144	Duplex Submersible  2000			1 - 179 2 - 173 3 - 200	KSB	1 - 10 hp 2 - 10 hp	208	29 29	6"	PS1280143	2767  2765 200 Amp
45	PS0880045	Triplex Submersible  2012		2 MG	1 - 2200 2 - 2200 3 - 2200	KSB	1 - 50 hp 2 - 50 hp 3 - 50 hp	480	69 69 69	12"	SW0830136	Permanent on site 2778 100kW
46	PS0090046	Duplex Submersible Grinder ~2005				Barnes	1 - 2 hp 2 - 2 hp	240	16  16	1.25"	SA0090132	
47	PS0090047	(in Bethany Crisis Shelter) ~2005				Barnes	1 - 1 hp 2 - 1 hp	240	9.2 9.2	1.25"	SA0090083	
48	PS0080048	  ~2005				Barnes	1 - 2 hp 2 - 2 hp	208	9.2 9.2		SW0080024	60 Amp
49	PS0410049	Duplex Submersible		8 MG		KSB	1 - 50 hp 2 - 50 hp	480	69.4 69.4	24"		Permanent 2772
50	PW042001	Storage Basin  2007		1 MG	No Pumps	Gravity In  Gravity Out						
51	PS0430001	Storage Basin  Oct. 2010		3 MG		KSB	1 - 10 hp 2 - 10 hp	208	32.7 32.7		SA0930190	Permanent on site 2777
53	PS0060001	Duplex Submersible  2012			1 - 525 2 - 525 1 & 2 - 1100	KSB	1 - 10 hp 2 - 10 hp	208	23.2 23.2	6"	SW00800024	2765 2767



## LENGTH OF SANITARY SEWER PIPE IN FEET

### PIPE MATERIAL

Dia. Inches	Force Main	ABS	ACP	BRA	CI/DI	CIPP	CMP	HDPE	PVC	RCP	UNK	VCP	Totals
1	113												113
1 1/4	328												328
1 1/2	1,575												1,575
2	26,972								651				27,623
3	16,925												16,925
4	25,300				272								25,572
6	12,938		83			55			1,250		176	5,595	20,097
8	9,605	7,046	4,490		11,405	231,794		1,387	470,272	306	1,887	781,339	1,519,530
9						6,500						19,743	26,243
10	5,452	36			3,607	35,571		45	33,894	3,301	638	61,943	144,487
12	4,187	51			1,459	16,804		513	21,279	43,919		39,188	127,401
14					163								163
15						8,456			11,900	32,534		23,789	76,678
16	5,972				356			1,000		48			7,376
18				348	79	14,455	1,064		987	10,545		16,581	44,060
20				118	12	1,113				466		2,111	3,821
21				111		438			1,094	6,521	7	654	8,827
22				1,233		1,339						1,223	3,796
24	704			852	1,295	2,480			693	10,266		4,079	20,368
26				598		564				419			1,582
27						456				720		530	1,706
28				1,387									1,387
30				499	119	1,284				2,875			4,778
32						1,885				403			2,288
34						562							562
36				1,425	3,060				105	1,760			6,351
42				467				386					853
45				467									467
48				348	35			1,167		707			2,257
55				80									80
UNK	4,790								345	9	352	342	5,838
<b>Total</b>	<b>114,862</b>	<b>7,133</b>	<b>4,573</b>	<b>7,934</b>	<b>21,862</b>	<b>323,757</b>	<b>1,064</b>	<b>4,498</b>	<b>542,471</b>	<b>114,800</b>	<b>3,060</b>	<b>957,118</b>	<b>2,103,131</b>

Note: The City of Duluth Sanitary Sewer system includes 8,643 manholes.

**Miles of Pipe- 398.3**

ABS - Acrylonitrile Butadiene Styrene

CIPP - Cured in Place Pipe

RCP - Reinforced Concrete Pipe

ACP - Asbestos Cement Pipe

CMP - Corrugated Metal Pipe

UNK - Unknown

BRA - Brick Arch

HDPE - High Density Polyethylene

VCP - Vitrified Clay Pipe

CI/DI - Cast or Ductile Iron

PVC - Polyvinyl Chloride

Note: Pipe quantities are derived from Geographic Information System.

## SANITARY SEWER ACTIVITIES 2020

ACTIVITY	WORK COMPLETED
Sewer calls	166
Cleaning sanitary sewer pipe	400,394 ft
Televising sanitary sewer pipe	285,812 ft
<b>I &amp; I inspections (Inflow and Infiltration Grant Program)</b>	
Homes inspected	1,742
Point of Sale certificates	1,448
Point of Sale waivers	215
Laterals rehabilitated	130
<b>Inspections for connections and disconnections</b>	
Connections	69 services
Disconnections	16 services

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**Clean Water Utility  
Statement of Net Income  
For The Year Ended December 31, 2019 and 2020  
(Unaudited)**

	<b>2019</b>		<b>2020</b>
<b><u>Operating Revenue</u></b>			
Charges for Services	\$ <u>1,641,800</u>		\$ <u>1,638,279</u>
<b>Total Operating Revenue</b>	\$ <u>1,641,800</u>		\$ <u>1,638,279</u>
<b><u>Operating Expense</u></b>			
Clean Water Expense	<u>879,610</u>		<u>987,770</u>
<b>Total Operating Expense</b>	<u>(879,610)</u>		<u>(987,770)</u>
<b>Operating Income</b>	<u>762,190</u>		<u>650,509</u>
<b><u>Other Revenue</u></b>			
Interest Income	<u>8,596</u>		<u>5,363</u>
<b>Total Other Revenue</b>	<u>8,596</u>		<u>5,363</u>
<b><u>Other Expenses and Transfers</u></b>			
Transfer to Sewer Fund to Cover Restricted Cash	70,265		70,265
Interest on Long Term Debt	<u>0</u>		<u>88,352</u>
<b>Total Other Expenses and Transfers</b>	<u>(70,265)</u>		<u>(158,617)</u>
<b>Net Income or Loss</b>	\$ <u><u>700,521</u></u>		\$ <u><u>497,255</u></u>

**Clean Water Utility  
Statement of Net Assets  
For The Year Ending December 31, 2019 and 2020  
(Unaudited)**

	<b>Assets</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Assets</u></b>		
Cash	\$ 804,268	\$ 671,615
Accounts Receivable (Net)	<u>152,919</u>	<u>151,342</u>
<b>Total Current Assets</b>	\$ <u>957,187</u>	\$ <u>822,957</u>
<b><u>Utility Plant</u></b>		
In Service	40,378,099	40,378,099
Less Accumulated Depreciation	<u>(3,999,045)</u>	<u>(4,565,916)</u>
<b>Total Utility Plant Assets</b>	<u>36,379,054</u>	<u>35,812,183</u>
<b>Total Assets</b>	\$ <u><u>37,336,241</u></u>	\$ <u><u>36,635,140</u></u>

**Clean Water Utility**  
**Statement of Net Assets**  
**For The Year Ending December 31, 2019 and 2020**  
**(Unaudited)**

	<b>Liabilities &amp; Net Assets</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Liabilities</u></b>		
Accounts Payable	\$ 9,000	\$ 0
Notes Payable	1,171,000	1,186,000
Interest Payable	34,370	28,296
Unearned Revenue	3,766	6,165
Bonds Payable	14,681	15,235
<b>Total Current Liabilities (Payable from Current Assets)</b>	<b>\$ 1,232,817</b>	<b>\$ 1,235,696</b>
<b><u>Long Term Liabilities</u></b>		
Notes Payable	5,448,000	4,262,000
Bonds Payable	62,742	47,507
<b>Total Long Term Liabilities</b>	<b>5,510,742</b>	<b>4,309,507</b>
<b>Total Liabilities</b>	<b>6,743,559</b>	<b>5,545,203</b>
<b><u>Net Assets</u></b>		
Invested in Capital Assets, Net of Related Debt	29,682,631	30,301,441
Unrestricted	910,051	788,496
<b>Total Net Assets</b>	<b>30,592,682</b>	<b>31,089,937</b>
<b>Total Liabilities and Net Assets</b>	<b>\$ 37,336,241</b>	<b>\$ 36,635,140</b>

**City of Duluth  
Clean Water Utility Bonds and Notes Payable  
December 31, 2020**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2019</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2020</u>
<b>Clean Water Utility</b>								
Bonds								
Revenue and General Obligation	\$ 200,000	2/19/2009	2/1/2024	\$ 77,424	\$ 0	\$ 0	\$ 14,682	\$ 62,742
Bond Total				\$ 77,424	\$ 0	\$ 0	\$ 14,682	\$ 62,742
Notes								
Public Facilities Authority	\$ 796,835	8/20/2009	8/20/2024	\$ 298,000	\$ 0	\$ 0	\$ 57,000	\$ 241,000
Public Facilities Authority	2,414,150	11/25/2009	8/20/2024	931,000	0	0	179,000	752,000
Public Facilities Authority	3,753,059	7/28/2010	8/20/2025	1,587,000	0	0	256,000	1,331,000
Public Facilities Authority	8,504,224	7/28/2010	8/20/2025	3,540,000	0	0	572,000	2,968,000
Public Facilities Authority	278,149	11/18/2011	8/20/2021	61,000	0	0	31,000	30,000
Public Facilities Authority	265,418	11/30/2011	8/20/2021	57,000	0	0	28,000	29,000
Public Facilities Authority	476,537	9/10/2012	8/20/2022	145,000	0	0	48,000	97,000
Note Total				\$ 6,619,000	\$ 0	\$ 0	\$ 1,171,000	\$ 5,448,000
<b>Total Clean Water Utility Bonds and Notes</b>				\$ 6,696,424	\$ 0	\$ 0	\$ 1,171,000	\$ 5,510,742

<b>Future Payments:</b>			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2021	\$ 1,201,235	\$ 77,683	\$ 1,278,918
2022	1,159,235	60,694	1,219,929
2023	1,125,790	43,988	1,169,778
2024	1,142,482	27,504	1,169,986
2025	882,000	11,096	893,096
	\$ 5,510,742	\$ 220,965	\$ 5,731,707

**Clean Water Fund  
Schedule of Fixed Assets  
Year Ending December 31, 2020**

	<u>Balance Jan. 1, 2020</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2020</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 525,000	\$ 0	\$ 0	\$ 525,000	\$ 0	\$ 525,000
Infrastructure	39,680,981	0	0	39,680,981	4,393,798	35,287,183
Equipment and Tools	172,118	0	0	172,118	172,118	0
Work in Progress	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<u>\$ 40,378,099</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 40,378,099</u>	<u>\$ 4,565,916</u>	<u>\$ 35,812,183</u>



# **STORMWATER**

**Stormwater Utility  
Statement of Net Income  
For The Year Ended December 31, 2019 and 2020  
(Unaudited)**

	<b>2019</b>	<b>2020</b>
<b><u>Operating Revenue</u></b>		
Stormwater Charges	\$ 5,255,575	\$ 5,382,638
Other	40,263	17,655
<b>Total Operating Revenue</b>	<b>\$ 5,295,838</b>	<b>\$ 5,400,293</b>
<b><u>Operating Expense</u></b>		
Director's Office	141,416	101,737
Capital Related Expenses	517,101	511,674
Utility General Expense	183,473	121,208
Engineering	719,255	767,732
Utility Operations	1,717,131	1,823,452
Customer Service	327,968	337,083
<b>Total Operating Expense</b>	<b>(3,606,344)</b>	<b>(3,662,886)</b>
<b>Operating Income</b>	<b>1,689,494</b>	<b>1,737,407</b>
<b><u>Other Revenue</u></b>		
Grants Non-Capital	29,645	0
Contributed Assets	0	63,034
Gain or Loss on Sale of Fixed Assets	4,623	1,831
Transfer from Other Funds		
Street Lighting	5,600	0
Interest Income	14,030	15,989
<b>Total Other Revenue</b>	<b>53,898</b>	<b>80,854</b>
<b><u>Other Expenses and Transfers</u></b>		
Bond Interest	6,363	2,363
Transfer to Other Funds		
Non-Capital Improvements	20,641	28,037
Street Sweeping	450,000	450,000
Reimbursement for MIS Programmer	55,600	59,975
<b>Total Other Expenses and Transfers</b>	<b>(532,604)</b>	<b>(540,375)</b>
<b>Net Income or Loss</b>	<b>\$ 1,210,788</b>	<b>\$ 1,277,886</b>

**Stormwater Utility**  
**Statement of Net Assets**  
**For The Year Ending December 31, 2019 and 2020**  
**(Unaudited)**

	<b>Assets &amp; Deferred Outflows</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Assets</u></b>		
Cash	\$ 1,131,961	\$ 1,666,349
Accounts Receivable	510,466	540,006
Special Assessments	26,931	27,644
Due from Other Funds	4,978	591
Due from Other Governments	0	63,034
Inventory	94,458	100,781
Prepays	2,006,596	2,382,635
<b>Total Current Assets</b>	<b>\$ 3,775,390</b>	<b>\$ 4,781,040</b>
<b><u>Utility Plant</u></b>		
In Service	22,293,881	22,255,663
Construction	1,970,301	2,059,780
Less Accumulated Depreciation	(5,224,911)	(4,912,781)
<b>Total Utility Plant Assets</b>	<b>19,039,271</b>	<b>19,402,662</b>
<b><u>Other Assets</u></b>		
Special Assessments Receivable	578	578
<b>Total Other Assets</b>	<b>578</b>	<b>578</b>
<b>Total Assets</b>	<b>22,815,239</b>	<b>24,184,280</b>
<b><u>Deferred Outflows</u></b>		
Deferred Pension Obligation Outflows	123,292	0
Deferred OPEB Outflows	0	146,670
<b>Total Deferred Outflows</b>	<b>123,292</b>	<b>146,670</b>
<b>Total Assets and Deferred Outflows</b>	<b>\$ 22,938,531</b>	<b>\$ 24,330,950</b>

**Stormwater Utility**  
**Statement of Net Assets**  
**For The Year Ending December 31, 2019 and 2020**  
**(Unaudited)**

	<b>Liabilities &amp; Net Assets</b>	
	<b>2019</b>	<b>2020</b>
<b><u>Current Liabilities</u></b>		
Accounts Payable	\$ 21,126	\$ 34,486
Contracts Payable	19,097	77,605
Due to Other Funds	23,042	9,849
Due to Other Governments	521	0
Accrued Interest Payable	5,204	3,531
Accrued Salaries Payable	49,178	70,717
Vacations Payable	121,906	147,679
Unearned Revenue	11,774	20,523
Bonds Payable	135,000	140,000
<b>Total Current Liabilities (Payable from Current Assets)</b>	<b>\$ 386,848</b>	<b>\$ 504,390</b>
<b><u>Long Term Liabilities</u></b>		
Pension Liability	1,226,815	1,440,245
Bonds Payable	285,000	145,000
Less Unamortized Bond Discount or Premium	13,631	7,092
<b>Total Long Term Liabilities</b>	<b>1,525,446</b>	<b>1,592,337</b>
<b>Total Liabilities</b>	<b>1,912,294</b>	<b>2,096,727</b>
<b><u>Deferred Inflows</u></b>		
Deferred Pension Obligation Inflows	283,965	85,366
Deferred OPEB Inflows	349,925	478,624
<b>Total Deferred Inflows</b>	<b>633,890</b>	<b>563,990</b>
<b><u>Net Assets</u></b>		
Invested in Capital Assets, Net of Related Debt	18,605,640	19,110,570
Unrestricted	1,786,707	2,559,663
<b>Total Net Assets</b>	<b>20,392,347</b>	<b>21,670,233</b>
<b>Total Liabilities, Deferred Inflows, and Net Assets</b>	<b>\$ 22,938,531</b>	<b>\$ 24,330,950</b>

**City of Duluth  
Stormwater Utility Bonds Payable  
December 31, 2020**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2019</u>	<u>Issued</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2020</u>
<b>Stormwater Utility Bonds</b>							
Revenue and General Obligation Refunding	\$ 790,000	11/5/2015	2/1/2022	\$ <u>420,000</u>	\$ <u>0</u>	\$ <u>135,000</u>	\$ <u>285,000</u>
Bond Total				\$ <u>420,000</u>	\$ <u>0</u>	\$ <u>135,000</u>	\$ <u>285,000</u>
<b>Total Stormwater Utility Bonds</b>				\$ <u><u>420,000</u></u>	\$ <u><u>0</u></u>	\$ <u><u>135,000</u></u>	\$ <u><u>285,000</u></u>

<b>Future Payments:</b>			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2021	\$ 140,000	\$ 6,450	\$ 146,450
2022	145,000	2,175	147,175
	\$ <u>285,000</u>	\$ <u>8,625</u>	\$ <u>293,625</u>

**Stormwater Fund  
Schedule of Fixed Assets  
Year Ending December 31, 2020**

	<u>Balance Jan. 1, 2020</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2020</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 13,743	\$ 0	\$ 0	\$ 13,743	\$ 0	\$ 13,743
Infrastructure	17,872,267	666,471	0	18,538,738	2,624,501	15,914,237
Buildings and Structures	1,401,897	0	0	1,401,897	462,626	939,271
Equipment and Tools	3,005,974	60,860	765,549	2,301,285	1,825,654	475,631
Work in Progress	<u>1,970,301</u>	<u>789,561</u>	<u>700,082</u>	<u>2,059,780</u>	<u>0</u>	<u>2,059,780</u>
Total	<u>\$ 24,264,182</u>	<u>\$ 1,516,892</u>	<u>\$ 1,465,631</u>	<u>\$ 24,315,443</u>	<u>\$ 4,912,781</u>	<u>\$ 19,402,662</u>

## PUMPING STATIONS - STORMWATER PUMPING EQUIPMENT

	Station Location	Station Type - Year Updated	Pump G.P.M.	Pump Mfg.	Motor HP	Motor Voltage - Phase	Motor F.L.A.	Force Main Size	Discharge Location
1	1801 Minnesota Ave.	Simplex Submersible  1980	760	Flygt CP-3101	5	230  3	13.4	6"	AP1100004
2	13th St. S & St. Louis Ave.	Simplex Submersible  1984	750	Hydromatic S6L	3	230  3	14	6"	AP1090017

## LENGTH OF STORM SEWERS IN FEET

Dia. Inch.	BR	CMP	CPD	CI/DI	HDPE	NCP	PPC	PVC	RCP	STN	TMP	TP	VCP	UNK	Totals
2								43					22		65
3					5			5				840			850
4			33,340					508,539	1,034			237		135,562	678,712
6		2,860	128	172	12			20,466	76			245	3,121	17,797	44,877
8		243	50	152	34	48		15,174	583			117	818	4,729	21,948
10		2,172	21	268	47		64	5,066	12,772				3,331	16,530	40,272
12		41,179	13,231	1,615	28,897	779		24,109	394,903				2,846	57,253	564,812
13									47						47
14				38					233					301	571
15		6,840	476	25	9,118	170		3,308	169,159				2,352	32,996	224,443
16		89		689	590				213					781	2,362
17														91	91
18		7,151	838		4,910	50		2,727	107,325				1,278	22,818	147,098
20		50	90		198				1,080					3,111	4,529
21		338		84				49	36,978				1,719	3,586	42,755
22								207	747						954
24	277	3,052	46	127	2,525			612	75,738	160			463	14,562	97,561
26	2,171				160			48	3,865					11,438	17,683
27	75	50			28		84		14,573					929	15,740
28	662	119							3,532					2,089	6,402
29									336						336
30	155	965	51		2,482				37,701		143			5,230	46,727
31									320						320
32	372				24				2,731					387	3,514
33									711						711
34								45	666					289	1,000
36		1,728	232		1,129	460	476		32,346					7,657	44,028
38						43			85						128
40									724	659				56	1,439
42	200	134		304	46		242		10,746				85	180	11,938
44		139							3,641					385	4,165
45							111		331						442
46					46									72	118
48	69	1,238		99	265		731	22	17,590	949	78			3,504	24,544
50	240								284					36	560



## LENGTH OF STORM SEWERS IN FEET

Dia. Inch.	BR	CMP	CPD	CI/DI	HDPE	NCP	PPC	PVC	RCP	STN	TMP	TP	VCP	UNK	Totals
51									996						996
52									448						448
54	94						117		10,446					2,709	13,366
56							84		89	58				65	296
58									54						54
60	36	746				28	362		4,136	366				1,553	7,227
62									112					58	170
66		110					58		632	70				265	1,134
72		517					483		2,287	1,523				401	5,211
73														79	79
78									399						399
84	203	484					112	138	658	1,540					3,136
88									128						128
96		106							755	129				224	1,213
108									608						608
120									748	368				258	1,375
122									54						54
128	105	58							63	726				552	1,504
132									170						170
144									127						127
192									49						49
UNK	725	378	83		152		1,352	2,115	6,659	193			52	91,969	103,677
<b>Totals</b>	<b>5,384</b>	<b>70,744</b>	<b>48,586</b>	<b>3,574</b>	<b>50,669</b>	<b>1,577</b>	<b>4,320</b>	<b>582,628</b>	<b>960,688</b>	<b>6,742</b>	<b>222</b>	<b>1,440</b>	<b>16,087</b>	<b>440,503</b>	<b>2,193,165</b>

Note: The Storm Sewer system also includes 11,027 catch basins and 5,157 manholes.  
 Pipe quantities are derived from Geographic Information System.

**Miles of Pipe 415**

BR - Brick  
 CMP - Corrugated Metal  
 CPD - Corrugated Polyethylene Drainage Pipe  
 CI/DI - Cast or Ductile Iron  
 HDPE - High Density Polyethylene

NCP - Non-Reinforced Concrete Perforated Pipe  
 PPC - Pour-in-Place Concrete  
 PVC - Polyvinyl Chloride  
 RCP - Reinforced Concrete  
 STN - Stone

TMP - Timber Pipe  
 TP - Thermoplastic  
 VCP - Vitrified Clay Pipe  
 UNK - Unknown

## DULUTH CREEKS AND STREAMS

Creek or Stream	Drainage Area (square miles)
Amity	16.60
58th Ave E	0.59
50th Ave E	0.63
47th Ave E	0.36
43rd Ave E	0.59
40th Ave E	0.45
38th Ave E	0.03
37th Ave E	0.13
34th Ave E	0.53
Tischer	7.30
Chester	7.30
Oregon	0.85
Brewery	1.66
Greys	0.63
Clarkhouse	1.00
Buckingham	1.10
Miller	9.70
Coffee	1.76
Merritt	2.30
32nd Ave W	0.73
41st Ave W	0.36
Keene	6.40

Creek or Stream	Drainage Area (square miles)
44th Ave W	0.78
49th Ave W	0.80
62nd Ave W	0.90
Kingsbury	8.60
68th Ave W	0.15
79th Ave W	0.14
82nd Ave W	0.26
Knowlton	1.56
84th Ave W	0.23
86th Ave W	0.08
Gogebic Street	0.34
Lenroot Street	0.61
Stewart Street	1.97
Morgan Park	1.31
U. S. Steel	2.70
Gary Street	0.33
Bowser Street	0.08
Heard Street	0.06
Sargent	3.30
Fond du Lac	0.58
Mission	10.30
Lester River	35.60

## MPCA MS4 CREEK DATA

MS4 Discharge Waterbodies	Water Quality Status	Cause of Impairment	TMDL Development Status	Other
Lake Superior	ORVW Impaired	Mercury (fish tissue) PCB (fish tissue)	Not started	Restricted Discharge Area
St Louis River	Impaired	Mercury (fish tissue and water column) PCB (fish tissue and water column) DDT Dieldrin Dioxin Toxaphene Fecal Coliform Aquatic Macroinvertebrate Bioassessments	TMDL Approved	Area of Concern & Protected Water
Amity Creek	Impaired	Total Suspended Solids	TMDL Approved	Trout stream
E Br Amity	Impaired	Total Suspended Solids	TMDL Approved	Trout stream
Lester River	Impaired	Mercury (water column) Mercury (fish tissue) Total Suspended Solids	TMDL Approved TMDL Approved TMDL Approved	Trout stream
Lester River Beach				
Twin Ponds- Buckingham Creek	Impaired (Upper Twin Ponds)	PCB (fish tissue)- Upper Twin Mercury (fish tissue)- South Twin	Not started Not started	Trout stream
Miller Creek	Impaired	Temperature Lack of coldwater assemblage Aquatic Macroinvertebrates E. coli Chloride	TMDL Approved TMDL in process** TMDL in process** TMDL Approved TMDL in process**	Trout stream
Chester Creek	Impaired	Mercury E. coli	Not started TMDL Approved	Trout stream Beach TMDL
Keene Creek	Impaired	E. coli	TMDL Approved	Trout stream
Kingsbury Creek	Impaired	Fish Bioassessment, Aquatic Macroinvertebrates Total Suspended Solids	Related to TSS TDML TMDL Approved	Trout stream, Related to TSS
Mission Creek				Trout stream
Sargent Creek	Impaired	E. coli	TMDL Approved	Trout stream, Beach TMDL
Boy Scout Boat Launch	Impaired	E. coli	Draft TMDL	Related to Sargent Creek
Stewart Creek	Impaired	E. coli	TMDL Approved	Trout stream, Beach TMDL
Clyde Ave Boat Launch	Impaired	E. coli	Draft TMDL/Temp Deferred	Related to Stewart Creek

## MPCA MS4 CREEK DATA

MS4 Discharge Waterbodies	Water Quality Status	Cause of Impairment	TMDL Development Status	Other
Tischer Creek	Impaired	E. coli	TMDL Approved	Trout stream
Brighton Beach				
58th Ave E				
50th Ave E				
47th Ave E				
43rd Ave E				
42nd Ave E Beach				
38th Ave E				
37th Ave E				
34th Ave E				
Oregon				
Brewery				
Greys				
Clarkhouse				
Coffee				Trout stream
Merritt	Impaired	E. coli	TMDL Approved	Trout stream
Lakewalk/16th Ave Beach				
Leif Erickson Beach	Impaired	E. coli	Draft TMDL	Related to Chester Creek
Lakewalk/2nd Ave Beach				
13th St S Beach (Lake)				
15th St S Beach (Harbor)	Impaired	E. coli	Draft TMDL	
20th St S Beach (Harbor)	Impaired	E. coli	Draft TMDL	No Regulated MS4
Lafayette Com Club Beach				
Park Point Beach House				
Sky Harbor Beach (Harbor)	Impaired	E. coli	Draft TMDL	
32nd Ave W				
41st Ave W				
44th Ave W				
49th Ave W				
62nd Ave W				
68th Ave W				
79th Ave W				
82nd Ave W				

## MPCA MS4 CREEK DATA

MS4 Discharge Waterbodies	Water Quality Status	Cause of Impairment	TMDL Development Status	Other
Knowlton				Trout stream
84th Ave W				
85th Ave W				
Gogebic St				
Lenroot St				
Morgan Park				
U.S. Steel				
Gary St				
Bowser				
Heard St				

\*Not listed as underway in the MPCA status file:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/impaired-waters-list.html>

\*\*Expected to be completed by 2025.

## STORMWATER UTILITY ACTIVITIES 2020

ACTIVITY	WORK COMPLETED
Catch basin repair or rehab	102
Culverts repaired or replaced	50
Ditch line (dug or repaired and seeded or sodded)	7,795 ft
Illicit discharges detected and removed	2
Line flushing/cleaning	2,841 ft
Manhole repair or rehab	22
Outfalls inspected	323
Sediment trap cleaning	17,187 cubic ft
Stream restoration	0 project sites
Structural sedimentation basins inspected	51%
Televising storm sewer pipe	796 ft
Presentations	0
Radio, television, and newspaper articles	307