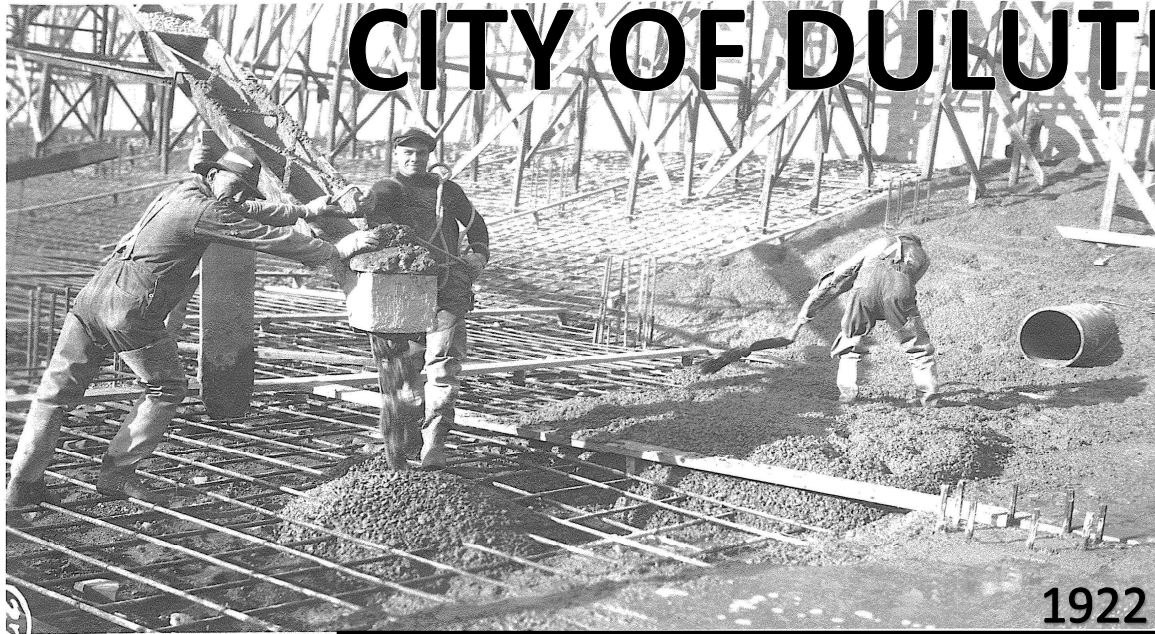


CITY OF DULUTH



Endion Reservoir: Then & Now



**Public Works & Utilities Department
2022 Annual Report**

2022

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Front cover photos:
 Black and white photo of Endion Reservoir during construction in 1922 and color photo taken with an ROV from inside the Endion Reservoir, both showing the 20" intake line for Middle Booster Station; photos from City Engineering Division staff & archives

OFFICERS OF THE DEPARTMENT

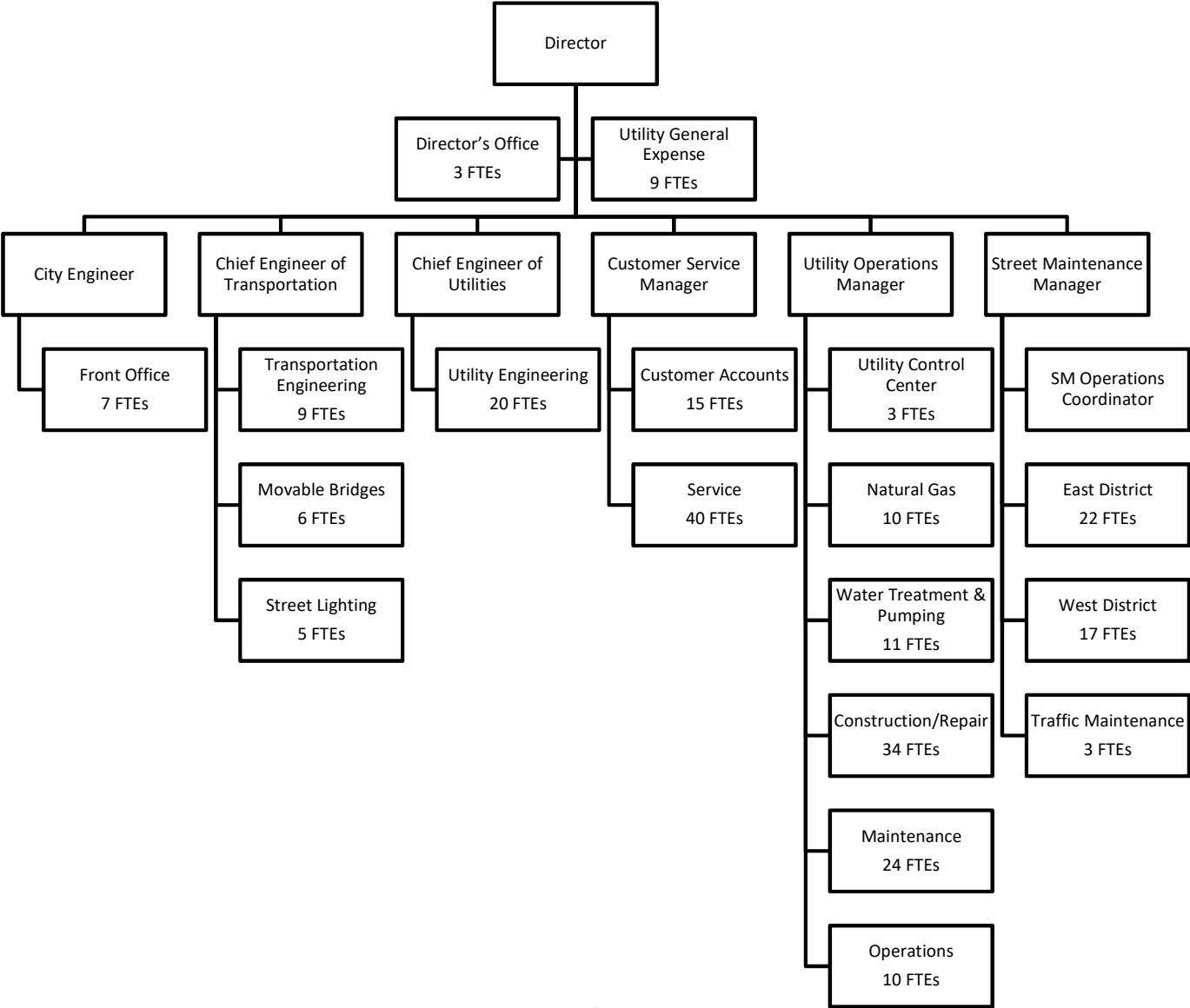
Mayor	.....	Emily Larson
Chief Administrative Officer	.....	Noah Schuchman
City Council Public Works & Utilities Committee		
Councilor Mike Mayou		
Duluth Public Utilities Commission		
Carrie Ryan, President	Councilor Noah Hobbs	
Chris Adatte, Vice President	Councilor Mike Mayou	
Andrea Crouse	Councilor Terese Tomanek	
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 2022

Total Budgeted FTEs: 256



**W
A
T
E
R**

**Water Utility
Statement of Net Income
For The Year Ended December 31, 2021 and 2022
(Unaudited)**

	2021		2022
<u>Operating Revenue</u>			
Metered Water Sales	\$ 15,790,658		\$ 15,840,690
Other	129,750		173,191
Total Operating Revenue	\$ 15,920,408		\$ 16,013,881
<u>Operating Expense</u>			
Director's Office	113,729		138,061
Capital Related Expenses	1,864,665		1,880,144
Utility General Expense	(907,354)		586,558
Engineering	592,908		643,362
Utility Operations	3,135,013		3,072,694
Water Treatment and Pumping	2,919,581		3,331,380
Customer Service	1,523,541		1,548,076
Total Operating Expense	(9,242,083)		(11,200,275)
Operating Income	6,678,325		4,813,606
<u>Other Revenue</u>			
Contributed Capital	154,087		7,011,073
Gain or Loss on the Sale of Fixed Assets	3,026		16,988
Transfer from Other Funds			
Administrative Billing Fee	100,000		135,000
Interest Income	(28,198)		(119,386)
Total Other Revenue	228,915		7,043,675
<u>Other Expenses and Transfers</u>			
Transfer to Other Funds			
Non-Capital Improvements	95,158		166,000
Reimbursement for MIS Programmer	59,075		53,850
Reimbursement for Fund 210 Costs	0		429
Interest on Long Term Debt	192,141		188,407
Total Other Expenses and Transfers	(346,374)		(408,686)
Net Income or Loss	\$ 6,560,866		\$ 11,448,595

**Water Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)**

	Assets & Deferred Outflows	
	2021	2022
<u>Current Assets</u>		
Cash	\$ 7,325,298	\$ 9,148,975
Restricted Cash and Equivalents:		
Construction	169,660	0
Accounts Receivable (Net)	1,441,042	1,518,482
Special Assessments	13,327	12,694
Due from Other Funds	120,860	2,617,945
Due from Other Governments	156	465,327
Inventory	1,269,908	1,516,629
Prepays	<u>5,005,523</u>	<u>2,514,303</u>
Total Current Assets	\$ <u>15,345,774</u>	\$ <u>17,794,355</u>
<u>Utility Plant</u>		
In Service	106,172,995	113,470,780
Construction	<u>8,035,545</u>	<u>11,389,591</u>
Less Accumulated Depreciation	<u>(46,298,582)</u>	<u>(47,777,535)</u>
Total Utility Plant Assets	<u>67,909,958</u>	<u>77,082,836</u>
<u>Other Assets</u>		
Special Assessments Receivable	<u>64,749</u>	<u>55,479</u>
Total Other Assets	<u>64,749</u>	<u>55,479</u>
Total Assets	<u>83,320,481</u>	<u>94,932,670</u>
<u>Deferred Outflows</u>		
Deferred Pension Obligation Outflows	1,528,552	1,201,762
Deferred OPEB Outflows	<u>652,426</u>	<u>1,928,143</u>
Total Deferred Outflows	<u>2,180,978</u>	<u>3,129,905</u>
Total Assets and Deferred Outflows	\$ <u><u>85,501,459</u></u>	\$ <u><u>98,062,575</u></u>

Water Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)

	Liabilities & Net Assets	
	2021	2022
<u>Current Liabilities</u>		
Accounts Payable	\$ 251,647	\$ 624,926
Contracts Payable	226,821	1,211,825
Notes Payable	715,000	894,000
Leases Payable	275,156	0
Purchase Agreement Payable	0	285,684
Due to Other Funds	23,333	21,218
Due to Other Governments	37,228	34,809
Accrued Interest Payable	75,837	73,644
Accrued Salaries Payable	164,559	171,180
Vacations Payable	267,621	315,888
Unearned Revenue	72,307	84,158
Bonds Payable	340,000	256,000
Total Current Liabilities (Payable from Current Assets)	\$ 2,449,509	\$ 3,973,332
<u>Long Term Liabilities</u>		
Notes Payable	3,574,000	6,038,179
Leases Payable	432,599	0
Purchase Agreement Payable	0	146,915
Pension Liability	2,138,733	4,017,148
Bonds Payable	3,437,000	3,181,000
Less Unamortized Bond Discount or Premium	31,154	28,015
Total Long Term Liabilities	9,613,486	13,411,257
Total Liabilities	12,062,995	17,384,589
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	2,064,855	133,865
Deferred OPEB Inflows	2,572,267	294,184
Total Deferred Inflows	4,637,122	428,049
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	59,274,709	66,253,043
Unrestricted	9,526,633	13,996,894
Total Net Assets	68,801,342	80,249,937
Total Liabilities, Deferred Inflows, and Net Assets	\$ 85,501,459	\$ 98,062,575

City of Duluth
Water Utility Bonds, Notes, and Purchase Agreements Payable
December 31, 2022

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2021</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2022</u>
Water Utility								
Bonds								
Revenue and General Obligation	\$ 196,000	2/19/2009	2/1/2024	\$ 47,000	\$ 0	\$ 0	\$ 15,000	\$ 32,000
Revenue and General Obligation Refunding	515,000	11/5/2015	2/1/2022	90,000	0	0	90,000	0
Revenue and General Obligation	4,050,000	10/17/2018	2/1/2034	3,640,000	0	0	235,000	3,405,000
Bond Total				\$ 3,777,000	\$ 0	\$ 0	\$ 340,000	\$ 3,437,000
Notes								
Public Facilities Authority	\$ 1,293,200	9/14/2010	8/20/2025	\$ 363,000	\$ 0	\$ 0	\$ 89,000	\$ 274,000
Public Facilities Authority	3,344,131	12/14/2010	8/20/2025	972,000	0	0	239,000	733,000
Public Facilities Authority	1,221,631	11/29/2011	8/20/2026	417,000	0	0	81,000	336,000
Public Facilities Authority	4,778,806	3/24/2014	8/20/2029	2,537,000	0	0	306,000	2,231,000
Public Facilities Authority	3,857,531	1/24/2022	8/20/2042	0	0	3,444,710	86,531	3,358,179
Note Total				\$ 4,289,000	\$ 0	\$ 3,444,710	\$ 801,531	\$ 6,932,179
Purchase Agreements								
AMR System	\$ 3,375,986	3/28/2008	2/1/2024	\$ 707,755	\$ 0	\$ 0	\$ 275,156	\$ 432,599
Purchase Agreement Total				\$ 707,755	\$ 0	\$ 0	\$ 275,156	\$ 432,599
Total Water Utility Bonds, Notes, and Purchase Agreements				\$ 8,773,755	\$ 0	\$ 3,444,710	\$ 1,416,687	\$ 10,801,778

Future Payments:			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2023	\$ 1,435,684	\$ 191,789	\$ 1,627,473
2024	1,311,915	163,644	1,475,559
2025	1,170,000	143,391	1,313,391
2026	841,000	125,897	966,897
2027	770,000	111,940	881,940
2028	780,000	98,760	878,760
2029	795,000	85,304	880,304
2030	479,000	71,499	550,499
2031	490,000	60,463	550,463
2032	502,000	48,723	550,723
2033	514,000	36,447	550,447
2034	526,000	23,617	549,617
2035	193,000	16,048	209,048
2036	195,000	14,112	209,112
2037	197,000	12,156	209,156
2038	199,000	10,180	209,180
2039	201,000	8,184	209,184
2040	203,000	6,168	209,168
2041	205,000	4,132	209,132
2042	207,000	2,076	209,076
	\$ 11,214,599	\$ 1,234,530	\$ 12,449,129

Water Fund
Schedule of Fixed Assets
Year Ending December 31, 2022

	<u>Balance Jan. 1, 2022</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2022</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 208,963	\$ 0	\$ 0	\$ 208,963	\$ 0	\$ 208,963
Infrastructure	75,177,977	7,471,714	0	82,649,691	24,152,912	58,496,779
Buildings and Structures	22,338,952	0	0	22,338,952	16,267,263	6,071,689
Equipment and Tools	8,447,103	167,277	341,206	8,273,174	7,357,360	915,814
Work in Progress	<u>8,035,545</u>	<u>10,932,346</u>	<u>7,578,300</u>	<u>11,389,591</u>		<u>11,389,591</u>
Total	<u>\$ 114,208,540</u>	<u>\$ 18,571,337</u>	<u>\$ 7,919,506</u>	<u>\$ 124,860,371</u>	<u>\$ 47,777,535</u>	<u>\$ 77,082,836</u>

COMPARATIVE STATEMENT, OPERATING EXPENSE OF ALL STATIONS

Station	Year	Daily Average Gallons Pumped, Initial Supply	Gallons Pumped	K.W.H. Consumed	Electricity
Lakewood	2021	10,195,117	3,721,218,000	5,992,350	\$ 593,493
	2022	9,726,027	3,550,300,000	5,916,750	\$ 765,948
Middle	2021	2,577,813	940,902,000	1,261,901	\$ 143,542
	2022	2,608,847	952,229,000	668,934	\$ 95,622
Woodland	2021	1,697,304	619,516,000	1,574,623	\$ 194,060
	2022	1,810,844	660,958,000	1,484,688	\$ 188,618
West Duluth	2021	1,142,169	416,892,000	141,486	\$ 28,864
	2022	1,249,304	455,996,000	139,101	\$ 32,969
Orphanage	2021	235,873	86,094,000	68,131	\$ 9,304
	2022	225,995	82,488,000	58,124	\$ 9,887
Highland	2021	1,208,254	441,013,000	423,326	\$ 62,406
	2022	1,296,458	473,207,000	404,264	\$ 60,035
Arlington	2021	1,300,309	474,613,000	855,031	\$ 109,612
	2022	1,488,422	543,274,000	877,010	\$ 141,942
Lakeside	2021	133,854	48,857,000	64,689	\$ 13,186
	2022	134,164	48,970,000	57,333	\$ 13,885
Bay View	2021	494,517	180,499,000	226,345	\$ 29,772
	2022	530,170	193,512,000	299,547	\$ 39,815
Proctor	2021	370,827	135,352,000	210,441	\$ 33,851
	2022	400,523	146,191,000	210,568	\$ 35,682
Airport	2021	-	unmetered	10,685	\$ 2,099
	2022	-	unmetered	6,311	\$ 1,364
TOTALS	2021	19,356,037	7,064,956,000	10,829,008	\$ 1,220,189
	2022	19,470,754	7,107,125,000	10,122,629	\$ 1,385,766

WATER PLANT STATISTICS

	2022	2021	2020	2019	2018	2017	2016
Water Pumped							
Million Cubic Feet	474.57	497.48	536.84	600.37	623.28	655.20	666.81
Water Sold							
Million Cubic Feet	389.00	386.65	464.23	527.56	561.94	568.41	565.57
General & Distribution Operating							
Costs including Maintenance (*)	\$ 9,380,116	\$ 7,444,915	\$ 8,183,754	\$ 8,928,974	\$ 9,255,377	\$ 9,285,999	\$ 9,008,318
Cost per 100 Cubic Feet	\$ 2.4113	\$ 1.9255	\$ 1.7629	\$ 1.6925	\$ 1.6470	\$ 1.6337	\$ 1.5928
Interest charges	\$ 188,407	\$ 192,141	\$ 219,220	\$ 245,638	\$ 252,071	\$ 182,025	\$ 213,800
Cost per 100 Cubic Feet	\$ 0.0484	\$ 0.0497	\$ 0.0472	\$ 0.0466	\$ 0.0449	\$ 0.0320	\$ 0.0378
Depreciation charge	\$ 1,820,159	\$ 1,797,168	\$ 1,773,304	\$ 1,752,474	\$ 1,818,410	\$ 1,826,882	\$ 1,776,832
Cost per 100 Cubic Feet	\$ 0.4679	\$ 0.4648	\$ 0.3820	\$ 0.3322	\$ 0.3236	\$ 0.3214	\$ 0.3142
Total Cost per 100 Cubic Feet	\$ 2.9277	\$ 2.4400	\$ 2.1921	\$ 2.0712	\$ 2.0155	\$ 1.9871	\$ 1.9448
Operating revenue	\$ 16,013,881	\$ 15,920,408	\$ 15,099,895	\$ 15,142,720	\$ 14,925,155	\$ 14,445,384	\$ 14,488,756
Revenue per 100 Cubic Feet Sold	\$ 4.1167	\$ 4.1175	\$ 3.2527	\$ 2.8703	\$ 2.6560	\$ 2.5414	\$ 2.5618
Water meters in service	28,775	28,693	28,518	28,324	28,957	28,329	28,253
Water main miles	432.80	432.30	430.30	429.50	429.30	428.40	428.30
Water meters per mile of main	66.49	66.37	66.27	65.95	67.45	66.13	65.97
Hydrants on system	2,793	2,778	2,747	2,738	2,716	2,708	2,699

(*) Depreciation not included

WATER PURIFICATION 2022 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	282.5	35.2	1,075	6,882	8,750	986	0.031
February	260.1	33.9	1,000	6,570	8,015	917	0.028
March	284.8	33.0	1,089	7,266	9,105	1,012	0.032
April	272.0	33.5	1,052	7,035	9,500	980	0.034
May	277.7	36.0	1,154	7,457	9,750	1,001	0.037
June	305.5	39.6	1,479	8,497	10,250	1,101	0.034
July	330.3	43.2	1,526	9,498	12,850	1,183	0.021
August	345.9	50.9	1,313	10,109	13,515	1,190	0.021
September	329.5	55.2	1,242	9,476	12,150	1,143	0.019
October	294.6	51.6	1,123	8,532	11,650	1,036	0.019
November	277.9	44.1	1,076	7,636	9,990	992	0.019
December	289.6	38.1	1,122	7,586	9,875	1,035	0.019
TOTAL	3,550.3		14,251	96,544	125,400	12,576	
Average/Month	295.9	41.2	1,188	8,045	10,450	1,048	0.026

2022
LAKE SUPERIOR RAW WATER
AND DULUTH FINISHED WATER (LABORATORY ANALYSES)

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

	RAW	FINISHED
	Average	Average
Dissolved Oxygen, ppm	12.5	12.5
pH	8	9.1
Monthly Specific Conductance, Micromhos/cm	102.5	132.3
Alkalinity, ppm CaCO ₃	43	48
Sulfates, ppm	2.6	8.4
Fluoride, ppm	0.04	0.74
Turbidity, NTU	1.03	0.026
Total Dissolved Solids, ppm	N/A	62
Hardness, ppm CaCO ₃	N/A	44
Chlorine, Total, ppm Cl ₂	N/A	2.05
Monochloramine, ppm Cl ₂	N/A	2.07
Ammonia, Free, ppm NH ₃ -N	N/A	0.01
Ammonia, Total, ppm NH ₃ -N	N/A	0.42

BACTERIOLOGICAL DATA 2022

	RAW WATER INTAKE	DISTRIBUTION	
Average for	Number Samples	Number Samples	Number Samples Positive
January	13	94	0
February	15	92	0
March	18	91	0
April	15	92	0
May	16	93	0
June	17	91	0
July	15	91	0
August	19	93	0
September	16	91	0
October	17	91	0
November	15	91	0
December	13	91	0
TOTAL	189	1,101	0
Average for Month	15.8	91.8	0

LENGTH OF WATER MAINS IN FEET

Diameter Inches	Cast Iron	Ductile Iron	Steel	Copper	Polyvinyl Chloride	High Density Polyethylene	Total	Valves	Vaults
1				858		1	859	4	
1 1/4				24			24	1	
2				2,587		11,619	14,206	35	
3	1,350						1,350	10	
4	9,820	2,839				242	12,901	54	
6	951,150	146,420	569		1,729	13,244	1,113,112	2,448	
8	73,670	102,917	458		294	189,604	366,943	911	5
10	152,628	53,191	5,970			35,384	247,173	437	7
12	152,787	44,132	1,904			33,372	232,195	428	11
14						2,400	2,400		
16	72,751	24,418	11,018			1,998	110,185	136	1
18	1,390	435				2,092	3,917	5	
20	14,220	1,793	29,254			13,229	58,496	110	4
24	8,440	6,583	55			5,952	21,030	34	1
30			2,673				2,673	2	
36	25,066	11,722	11,384				48,172	33	3
42	181		49,224				49,405	6	
48							0		
TOTALS	1,463,453	394,450	112,509	3,469	2,023	309,137	2,285,041	4,654	32
Total Miles -							432.8		
Change from 2021 -							0.5	27	0

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.
TOTAL IN SERVICE			
12/31/2021	2,778	2,746	43,368
TOTAL IN SERVICE			
12/31/2022	2,793	2,766	43,571
Changes from 2021:	15	20	203

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
TOTAL	67,772,490				

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 2022

UTILITY OPERATIONS

ACTIVITY	WORK COMPLETED
Repair of water services	31
Repair of valves	57
Repair of main breaks	114
Install services	32
Fire Hydrants	
Replaced hydrants	15
Repaired hydrants	45
New hydrants	1
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
Meter Truck	
Gauge water service	58
Applications (water & gas)	8,919
Delinquent account service shut off/restore (water & gas)	2,249
Emergency (water & gas)	914
General (water & gas)	9,228
Meter Shop	
Water meters repaired	26
Water meters tested	8,226
Plumbing truck orders (water & gas)	499

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**Gas Utility
Statement of Net Income
For The Year Ended December 31, 2021 and 2022
(Unaudited)**

	2021	2022
<u>Operating Revenue</u>		
Residential Sales	\$ 24,124,430	\$ 33,562,173
Commercial & Industrial - Firm	9,923,401	15,300,287
Commercial & Industrial - Interruptible	5,388,568	8,854,714
Servicing Appliances	1,006,006	1,220,636
Other	547,247	686,761
Total Operating Revenue	\$ 40,989,652	\$ 59,624,571
<u>Operating Expense</u>		
Director's Office	134,115	157,184
Capital Related Expenses	1,615,572	1,633,014
Utility General Expense	(1,077,630)	517,948
Engineering	1,134,814	1,097,185
Utility Operations	2,004,228	1,750,029
Natural Gas	26,084,434	37,335,430
Customer Service	5,533,072	5,413,301
Total Operating Expense	(35,428,605)	(47,904,091)
Operating Income	5,561,047	11,720,480
<u>Other Revenue</u>		
Contributed Assets	105,745	131,410
Gain or Loss on Sale of Fixed Assets	(4,117)	22,265
Interest Income	(73,767)	(122,850)
Total Other Revenue	27,861	30,825
<u>Other Expenses and Transfers</u>		
Interest Expense	27,713	18,273
Transfers to Other Funds		
Payment to City in Lieu of Taxes	2,550,973	2,869,276
Non-Capital Improvements	59,474	103,750
Reimbursement for MIS Programmer	59,075	53,850
Credit Home Energy Fund for Rebate	0	306
Total Other Expenses and Transfers	(2,697,235)	(3,045,455)
Net Income or Loss	\$ 2,891,673	\$ 8,705,850

Gas Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)

	Assets & Deferred Outflows	
	2021	2022
<u>Current Assets</u>		
Cash	\$ 1,397,025	\$ 8,880,290
Restricted Cash and Equivalents:		
Customer Deposits	1,845,869	1,706,810
Accounts Receivable (Net)	8,084,519	9,485,650
Special Assessments	198	0
Advances to Other Funds	39,000	0
Due from Other Governments	1,226,949	0
Inventory	1,250,047	1,454,608
Prepaid Expenses	4,902,215	1,825,131
Prepaid Gas	1,562,817	1,919,615
	<u>\$ 20,308,639</u>	<u>\$ 25,272,104</u>
<u>Utility Plant</u>		
In Service	89,473,357	92,524,994
Construction	5,228,037	4,568,311
	<u>94,701,394</u>	<u>97,093,305</u>
Less Accumulated Depreciation	(31,994,138)	(33,427,276)
	<u>62,707,256</u>	<u>63,666,029</u>
Total Utility Plant Assets	<u>62,707,256</u>	<u>63,666,029</u>
<u>Other Assets</u>		
Special Assessments Receivable	6,272	6,272
	<u>6,272</u>	<u>6,272</u>
Total Other Assets	<u>6,272</u>	<u>6,272</u>
Total Assets	<u>83,022,167</u>	<u>88,944,405</u>
<u>Deferred Outflows</u>		
Deferred Pension Obligation Outflows	2,232,684	1,670,288
Deferred OPEB Outflows	950,459	2,594,808
	<u>3,183,143</u>	<u>4,265,096</u>
Total Deferred Outflows	<u>3,183,143</u>	<u>4,265,096</u>
Total Assets and Deferred Outflows	<u>\$ 86,205,310</u>	<u>\$ 93,209,501</u>

Gas Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)

	Liabilities & Net Assets	
	2021	2022
<u>Current Liabilities</u>		
Accounts Payable	\$ 3,658,819	\$ 5,850,954
Contracts Payable	729,678	292,443
Leases Payable	252,227	0
Purchase Agreement Payable	0	261,877
Due to Other Funds	26,400	24,785
Due to Other Governments	108,828	150,150
Accrued Interest Payable	10,156	6,208
Accrued Salaries Payable	233,068	230,362
Accrued Vacations Payable	421,060	468,883
Unearned Revenue	1,034,431	1,277,264
Customer Deposits	<u>1,845,869</u>	<u>1,706,809</u>
Total Current Liabilities (Payable from Current Assets)	\$ <u>8,320,536</u>	\$ <u>10,269,735</u>
<u>Long Term Liabilities</u>		
Accrued Vacations Payable	30,208	20,291
Leases Payable	396,549	0
Purchase Agreement Payable	0	134,672
Pension Liability	3,123,947	5,583,299
Total Long Term Liabilities	<u>3,550,704</u>	<u>5,738,262</u>
Total Liabilities	<u>11,871,240</u>	<u>16,007,997</u>
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	3,016,039	186,054
Deferred OPEB Inflows	<u>3,440,608</u>	<u>432,177</u>
Total Deferred Inflows	<u>6,456,647</u>	<u>618,231</u>
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	62,058,480	63,269,480
Unrestricted	<u>5,818,943</u>	<u>13,313,793</u>
Total Net Assets	<u>67,877,423</u>	<u>76,583,273</u>
Total Liabilities, Deferred Inflows, and Net Assets	\$ <u>86,205,310</u>	\$ <u>93,209,501</u>

**City of Duluth
Gas Utility Purchase Agreements Payable
December 31, 2022**

Gas Utility	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2021</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2022</u>
Purchase Agreements AMR System	\$ 3,094,654	3/28/2008	2/1/2024	\$ 648,775	\$ 0	\$ 0	\$ 252,226	\$ 396,549
Purchase Agreement Total				\$ 648,775	\$ 0	\$ 0	\$ 252,226	\$ 396,549
Total Gas Utility Purchase Agreements				<u>\$ 648,775</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 252,226</u>	<u>\$ 396,549</u>

<u>Future Payments:</u>				
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>	
2023	\$ 261,877	\$ 12,571	\$ 274,448	
2024	134,672	2,552	137,224	
	<u>\$ 396,549</u>	<u>\$ 15,123</u>	<u>\$ 411,672</u>	

Gas Fund
Schedule of Fixed Assets
Year Ending December 31, 2022

	<u>Balance Jan. 1, 2022</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2022</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 426,078	\$ 0	\$ 0	\$ 426,078	\$ 0	\$ 426,078
Infrastructure	78,114,562	3,034,653	0	81,149,215	24,872,108	56,277,107
Buildings and Structures	2,592,124	0	0	2,592,124	1,191,259	1,400,865
Equipment and Tools	8,340,593	173,898	156,914	8,357,577	7,363,909	993,668
Work in Progress	<u>5,228,037</u>	<u>2,385,970</u>	<u>3,045,696</u>	<u>4,568,311</u>	<u>0</u>	<u>4,568,311</u>
Total	<u>\$ 94,701,394</u>	<u>\$ 5,594,521</u>	<u>\$ 3,202,610</u>	<u>\$ 97,093,305</u>	<u>\$ 33,427,276</u>	<u>\$ 63,666,029</u>

GAS STATISTICS

	2022	2021	2020	2019	2018	2017	2016
Gas sold MCF	6,168,117	5,678,028	5,731,748	5,984,783	5,603,857	5,218,978	4,770,804
Cost of gas sold	\$ 36,775,067	\$ 25,527,796	\$ 19,293,616	\$ 20,067,111	\$ 20,731,398	\$ 18,991,411	\$ 15,794,076
Cost per MCF sold	\$ 5.9621	\$ 4.4959	\$ 3.3661	\$ 3.3530	\$ 3.6995	\$ 3.6389	\$ 3.3106
Other operating costs, including maintenance(*)	\$ 9,538,972	\$ 8,337,025	\$ 9,274,230	\$ 9,942,276	\$ 10,587,922	\$ 10,528,802	\$ 9,409,848
Cost per MCF sold	\$ 1.5465	\$ 1.4683	\$ 1.6180	\$ 1.6613	\$ 1.8894	\$ 2.0174	\$ 1.9724
Interest charges	\$ 18,273	\$ 27,713	\$ 37,042	\$ 46,251	\$ 58,802	\$ 86,980	\$ 122,540
Cost per MCF sold	\$ 0.0030	\$ 0.0049	\$ 0.0065	\$ 0.0077	\$ 0.0105	\$ 0.0167	\$ 0.0257
Depreciation charge(**)	\$ 1,590,052	\$ 1,563,784	\$ 1,515,571	\$ 1,515,603	\$ 1,491,899	\$ 1,409,755	\$ 1,376,239
Cost per MCF sold	\$ 0.2578	\$ 0.2754	\$ 0.2644	\$ 0.2532	\$ 0.2662	\$ 0.2701	\$ 0.2885
Total cost per MCF sold	\$ 7.7694	\$ 6.2445	\$ 5.2550	\$ 5.2753	\$ 5.8656	\$ 5.9431	\$ 5.5971
Operating revenue	\$ 59,624,571	\$ 40,989,652	\$ 36,442,471	\$ 39,698,821	\$ 39,104,406	\$ 36,120,190	\$ 31,207,959
per MCF	\$ 9.6666	\$ 7.2190	\$ 6.3580	\$ 6.6333	\$ 6.9781	\$ 6.9209	\$ 6.5414
Gas meters in service	30,083	29,794	29,322	29,101	28,505	28,617	28,313
Gas main miles	569.90	565.80	560.50	556.60	553.40	549.40	543.80
Gas transmission miles	5.30	5.30	5.30	5.30	5.30	5.30	5.30
Gas meters per mile of main	52.79	52.66	52.31	52.28	51.51	52.09	52.07

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

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

LENGTH OF GAS MAINS IN FEET

Diameter - Inches	Polyethylene	Steel	Total	Valves
1/2	2,210		2,210	
1	51,272		51,272	78
1 1/4	1	2,273	2,274	26
2	1,941,322	19,189	1,960,511	1,009
3	398,574	4,503	403,077	267
4	3,219	33,543	36,762	70
6	79,529	57,604	137,133	121
8	42,949	131,144	174,093	98
10	5	119,986	119,991	43
12	18,662	10,207	28,869	22
14		5	5	
16		92,624	92,624	8
Totals	2,537,743	471,078	3,008,821	1,742

Total Miles Gas Main 569.9

Added in 2022 4.1

Pressure Regulators 34

Gas Valves added in 2022 2

Note: Valves used only as plugs on end of mains are not included in the above table.
Gas main quantities are derived from Geographic Information System.

GAS UTILITY ACTIVITIES 2022

UTILITY OPERATIONS

ACTIVITY	WORK COMPLETED
Services and Mains	
Installations	15
Cutoffs	22
Valves inspected and operated	466
Hits	33

CUSTOMER SERVICE

ACTIVITY	WORK COMPLETED
Service Workorders Completed	
Appliance service	4,478
Furnace cleaning	3,262
Tin shop/venting	484
Meter Truck	
Applications (water & gas)	8,919
Delinquent account service shut off/restore (water & gas)	2,249
Emergency (water & gas)	914
General (water & gas)	9,228
Meter Shop	
Gas meters repaired	478
Gas meters tested	518
Plumbing truck orders (water & gas)	499
Other	
Gas leak detection surveys	6,016
Inspect and paint gas meters and risers	6,509

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**Sewer Utility
Statement of Net Income
For The Year Ended December 31, 2021 and 2022
(Unaudited)**

	2021		2022
<u>Operating Revenue</u>			
General Sewage Revenue	\$ 17,950,464		\$ 18,496,665
Other	247,153		229,001
Total Operating Revenue	\$ 18,197,617		\$ 18,725,666
<u>Operating Expense</u>			
Director's Office	108,830		132,830
Capital Related Expenses	1,612,971		1,696,436
Utility General Expense	(452,912)		293,674
Engineering	622,994		687,531
Utility Operations	2,084,574		2,291,028
Wastewater Treatment	9,701,041		9,781,768
Inflow and Infiltration	631,600		592,810
Customer Service	403,949		476,355
Total Operating Expense	(14,713,047)		(15,952,432)
Operating Income	3,484,570		2,773,234
<u>Other Revenue</u>			
Contributed Assets	1,040,374		0
Gain or Loss on Sale of Fixed Assets	(794)		0
Transfer from Clean Water Fund to Cover Restricted Cash	70,265		11,300
Interest Income	(8,292)		(77,899)
Total Other Revenue	1,101,553		(66,599)
<u>Other Expenses and Transfers</u>			
Transfer to Other Funds			
Non-Capital Improvements	59,474		103,750
Reimbursement for MIS Programmer	59,075		53,850
Reimbursement for Fund 210 Costs	0		306
Interest on Long Term Debt	57,411		32,894
Total Other Expenses and Transfers	(175,960)		(190,800)
Net Income or Loss	\$ 4,410,163		\$ 2,515,835

**Sewer Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)**

	Assets & Deferred Outflows	
	2021	2022
<u>Current Assets</u>		
Cash	\$ 2,577,472	\$ 6,046,222
Restricted Cash and Equivalents:		
Construction	955,385	473,140
Accounts Receivable (Net)	1,705,642	1,788,628
Special Assessments	12,826	12,143
Due from Other Governments	813,806	187,673
Inventory	87,682	95,655
Prepays	<u>5,000,366</u>	<u>3,171,133</u>
Total Current Assets	\$ 11,153,179	\$ 11,774,594
<u>Utility Plant</u>		
In Service	89,275,200	90,653,157
Construction	<u>1,432,293</u>	<u>482,624</u>
Less Accumulated Depreciation	<u>(24,854,544)</u>	<u>(26,463,304)</u>
Total Utility Plant Assets	65,852,949	64,672,477
<u>Other Assets</u>		
Special Assessments Receivable	<u>69,366</u>	<u>61,575</u>
Total Other Assets	69,366	61,575
Total Assets	<u>77,075,494</u>	<u>76,508,646</u>
<u>Deferred Outflows</u>		
Deferred Pension Obligation Outflows	924,076	703,969
Deferred OPEB Outflows	<u>253,176</u>	<u>1,114,546</u>
Total Deferred Outflows	<u>1,177,252</u>	<u>1,818,515</u>
Total Assets and Deferred Outflows	\$ <u>78,252,746</u>	\$ <u>78,327,161</u>

**Sewer Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)**

	Liabilities & Net Assets	
	2021	2022
<u>Current Liabilities</u>		
Accounts Payable	\$ 45,349	\$ 81,087
Contracts Payable	233,496	86,016
Notes Payable	231,000	75,000
Leases Payable	236,940	0
Purchase Agreement Payable	0	246,005
Due to Other Funds	8,726	19,081
Due to Other Governments	790,087	837,536
Interest Payable	25,535	15,493
Accrued Salaries Payable	93,898	94,555
Vacations Payable	179,244	192,041
Unearned Revenue	43,778	55,730
Bonds Payable	389,765	343,211
Total Current Liabilities (Payable from Current Assets)	\$ 2,277,818	\$ 2,045,755
<u>Long Term Liabilities</u>		
Notes Payable	150,000	75,000
Leases Payable	372,515	0
Purchase Agreement Payable	0	126,510
Pension Liability	1,292,957	2,353,167
Bonds Payable	595,729	252,518
Less Unamortized Bond Discount or Premium	18,096	5,981
Total Long Term Liabilities	2,429,297	2,813,176
Total Liabilities	4,707,115	4,858,931
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	1,248,295	78,415
Deferred OPEB Inflows	1,537,555	114,199
Total Deferred Inflows	2,785,850	192,614
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	63,858,904	63,548,252
Legal Restricted Assets	955,385	473,140
Unrestricted	5,945,492	9,254,224
Total Net Assets	70,759,781	73,275,616
Total Liabilities, Deferred Inflows, and Net Assets	\$ 78,252,746	\$ 78,327,161

City of Duluth
Sewer Utility Bonds, Notes, and Purchase Agreements Payable
December 31, 2022

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2021</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2022</u>
Sewer Utility								
Bonds								
Revenue and General Obligation	\$ 1,244,000	2/19/2009	2/1/2024	\$ 295,493	\$ 0	\$ 0	\$ 94,764	\$ 200,729
Revenue and General Obligation	905,000	12/17/2009	2/1/2025	290,000	0	0	70,000	220,000
Revenue and General Obligation Refunding	1,110,000	11/5/2015	2/1/2023	340,000	0	0	165,000	175,000
Revenue and General Obligation Refunding	350,000	11/5/2015	2/1/2022	60,000	0	0	60,000	0
Bond Total				\$ 985,493	\$ 0	\$ 0	\$ 389,764	\$ 595,729
Notes								
Public Facilities Authority (Note 1)	\$ 1,973,033	7/12/2007	8/20/2022	\$ 157,000	\$ 0	\$ 0	\$ 157,000	\$ 0
Public Facilities Authority	1,255,464	10/29/2014	8/20/2024	224,000	0	0	74,000	150,000
Note Total				\$ 381,000	\$ 0	\$ 0	\$ 231,000	\$ 150,000
Purchase Agreements								
AMR System	\$ 2,907,099	3/28/2008	2/1/2024	\$ 609,456	\$ 0	\$ 0	\$ 236,941	\$ 372,515
Purchase Agreement Total				\$ 609,456	\$ 0	\$ 0	\$ 236,941	\$ 372,515
Total Sewer Utility Bonds, Notes, and Purchase Agreements				\$ 1,975,949	\$ 0	\$ 0	\$ 857,705	\$ 1,118,244

Future Payments:				
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>	
2023	\$ 664,216	\$ 29,399	\$ 693,615	
2024	379,028	9,698	388,726	
2025	75,000	1,500	76,500	
	\$ 1,118,244	\$ 40,597	\$ 1,158,841	

**Sewer Fund
Schedule of Fixed Assets
Year Ending December 31, 2022**

	<u>Balance Jan. 1, 2022</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2022</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 161,612	\$ 0	\$ 0	\$ 161,612	\$ 0	\$ 161,612
Infrastructure	75,924,394	1,313,140	0	77,237,534	16,650,193	60,587,341
Buildings and Structures	7,101,150	0	0	7,101,150	4,311,898	2,789,252
Equipment and Tools	6,088,044	70,900	6,083	6,152,861	5,501,213	651,648
Work in Progress	1,432,293	382,065	1,331,734	482,624	0	482,624
Total	<u>\$ 90,707,493</u>	<u>\$ 1,766,105</u>	<u>\$ 1,337,817</u>	<u>\$ 91,135,781</u>	<u>\$ 26,463,304</u>	<u>\$ 64,672,477</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 3	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 3	69 69 69	12"	SW0830136	Permanent on site 2778 100kW
46	PS0090046	Duplex Submersible Grinder ~2005				Barnes	1 - 2 hp 2 - 2 hp	240 3	16 16	1.25"	SA0090132	
47	PS0090047	(in Bethany Crisis Shelter) ~2005				Barnes	1 - 1 hp 2 - 1 hp	240 1	9.2 9.2	1.25"	SA0090083	
48	PS0080048	 ~2005				Barnes	1 - 2 hp 2 - 2 hp	208 3	9.2 9.2		SW0080024	60 Amp
49	PS0410049	Duplex Submersible		8 MG		KSB	1 - 50 hp 2 - 50 hp	480 3	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 3	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 3	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	113.00												113.00
1 1/4	328.00												328.00
1 1/2	1,575.00												1,575.00
2	27,695.00								523.12				28,218.12
3	16,927.00												16,927.00
4	25,315.00				271.98								25,586.98
6	12,938.00		92.65			202.00			1,550.96		176.00	5,760.30	20,719.90
8	9,606.00	6,117.49	4,490.57		11,808.48	242,797.00		1,699.90	482,929.83	305.59	1,887.00	765,364.43	1,527,006.30
9						6,500.00						19,744.77	26,244.77
10	5,452.00		36.28		3,606.70	35,062.00		45.24	34,151.06	3,301.08	638.00	62,454.87	144,747.23
12	4,213.00		51.19		1,392.18	18,187.00		513.01	21,657.71	42,488.09		38,695.78	127,197.97
14					163.03								163.03
15						9,244.00			11,917.37	32,531.18		22,678.50	76,371.06
16	5,299.00					495.47		999.86		48.12			6,842.45
18				348.25	79.22	14,521.00	918.68		1,133.00	10,550.13		16,557.29	44,107.57
20	753.00			118.37	12.13	1,114.00				465.86		2,377.82	4,841.17
21					111.17	438.00			1,094.57	6,459.67	7.00	654.49	8,764.91
22				1,677.35		895.00						1,221.15	3,793.51
24	704.00			466.93	1,294.75	2,480.00			693.35	10,136.68		4,079.45	19,855.16
26				479.39		564.00				419.11			1,462.50
27						456.00				720.11		529.96	1,706.07
28				1,386.60									1,386.60
30				499.10	303.94	1,284.00				2,875.19			4,962.23
32						1,885.00				403.03			2,288.03
34						562.00							562.00
36				1,405.30	3,060.26	358.00			105.00	1,401.91			6,330.47
42				466.79	19.88			386.89					873.56
45				467.07									467.07
48				237.60	35.34			1,166.72		633.66			2,073.32
55				79.65									79.65
UNK	4,653.00								345.23	9.09	41.00	342.00	5,390.33
Total	115,571.00	6,117.49	4,670.69	7,632.40	22,654.51	336,549.00	918.68	4,811.62	556,101.20	112,748.51	2,749.00	940,460.83	2,110,984.93

Note: The City of Duluth Sanitary Sewer system includes 8,711 manholes.

ABS - Acrylonitrile Butadiene Styrene
 ACP - Asbestos Cement Pipe
 BRA - Brick Arch
 CI/DI - Cast or Ductile Iron

CIPP - Cured in Place Pipe
 CMP - Corrugated Metal Pipe
 HDPE - High Density Polyethylene
 PVC - Polyvinyl Chloride

Miles of Pipe- 399.8
 RCP - Reinforced Concrete Pipe
 UNK - Unknown
 VCP - Vitrified Clay Pipe

Note: Pipe quantities are derived from Geographic Information System.

SANITARY SEWER ACTIVITIES 2022

ACTIVITY	WORK COMPLETED
Sewer calls	242
Cleaning sanitary sewer pipe	371,564 ft
Televising sanitary sewer pipe	7,294 ft
I & I inspections (Inflow and Infiltration Grant Program)	
Homes inspected	1,261
Point of Sale certificates	1,213
Point of Sale waivers	9
Laterals rehabilitated	100
Inspections for connections and disconnections	
Connections	242
Disconnections	28

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**Clean Water Utility
Statement of Net Income
For The Year Ended December 31, 2021 and 2022
(Unaudited)**

	2021		2022
<u>Operating Revenue</u>			
Charges for Services	\$ <u>1,639,309</u>		\$ <u>1,649,877</u>
Total Operating Revenue	\$ <u>1,639,309</u>		\$ <u>1,649,877</u>
<u>Operating Expense</u>			
Clean Water Expense	<u>827,812</u>		<u>792,904</u>
Total Operating Expense	<u>(827,812)</u>		<u>(792,904)</u>
Operating Income	<u>811,497</u>		<u>856,973</u>
<u>Other Revenue</u>			
Interest Income	<u>(4,957)</u>		<u>(11,460)</u>
Total Other Revenue	<u>(4,957)</u>		<u>(11,460)</u>
<u>Other Expenses and Transfers</u>			
Transfer to Sewer Fund to Cover Restricted Cash	70,265		11,300
Interest on Long Term Debt	<u>71,523</u>		<u>54,638</u>
Total Other Expenses and Transfers	<u>(141,788)</u>		<u>(65,938)</u>
Net Income or Loss	\$ <u><u>664,752</u></u>		\$ <u><u>779,575</u></u>

**Clean Water Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)**

	Assets	
	2021	2022
<u>Current Assets</u>		
Cash	\$ 690,081	\$ 865,156
Accounts Receivable (Net)	<u>162,082</u>	<u>165,359</u>
Total Current Assets	\$ <u>852,163</u>	\$ <u>1,030,515</u>
<u>Utility Plant</u>		
In Service	40,378,099	40,378,099
Less Accumulated Depreciation	<u>(5,132,787)</u>	<u>(5,699,659)</u>
Total Utility Plant Assets	<u>35,245,312</u>	<u>34,678,440</u>
Total Assets	\$ <u><u>36,097,475</u></u>	\$ <u><u>35,708,955</u></u>

**Clean Water Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)**

	Liabilities & Net Assets	
	2021	2022
<u>Current Liabilities</u>		
Accounts Payable	\$ 6,000	\$ 2,000
Notes Payable	1,144,000	1,110,000
Interest Payable	22,135	16,079
Unearned Revenue	5,145	6,341
Bonds Payable	15,235	15,789
Total Current Liabilities (Payable from Current Assets)	\$ 1,192,515	\$ 1,150,209
<u>Long Term Liabilities</u>		
Notes Payable	3,118,000	2,008,000
Bonds Payable	32,271	16,482
Total Long Term Liabilities	3,150,271	2,024,482
Total Liabilities	4,342,786	3,174,691
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	30,935,806	31,528,169
Unrestricted	818,883	1,006,095
Total Net Assets	31,754,689	32,534,264
Total Liabilities and Net Assets	\$ 36,097,475	\$ 35,708,955

**City of Duluth
Clean Water Utility Bonds and Notes Payable
December 31, 2022**

		<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2021</u>	<u>Issued</u>	<u>Draw Down</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2022</u>
Clean Water Utility									
Bonds									
	Revenue and General Obligation	\$ 200,000	2/19/2009	2/1/2024	\$ 47,507	\$ 0	\$ 0	\$ 15,236	\$ 32,271
Bond Total					\$ 47,507	\$ 0	\$ 0	\$ 15,236	\$ 32,271
Notes									
	Public Facilities Authority	\$ 796,835	8/20/2009	8/20/2024	\$ 183,000	\$ 0	\$ 0	\$ 60,000	\$ 123,000
	Public Facilities Authority	2,414,150	11/25/2009	8/20/2024	570,000	0	0	186,000	384,000
	Public Facilities Authority	3,753,059	7/28/2010	8/20/2025	1,071,000	0	0	263,000	808,000
	Public Facilities Authority	8,504,224	7/28/2010	8/20/2025	2,389,000	0	0	586,000	1,803,000
	Public Facilities Authority	476,537	9/10/2012	8/20/2022	49,000	0	0	49,000	0
Note Total					\$ 4,262,000	\$ 0	\$ 0	\$ 1,144,000	\$ 3,118,000
Total Clean Water Utility Bonds and Notes					<u>\$ 4,309,507</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 1,144,000</u>	<u>\$ 3,150,271</u>

<u>Future Payments:</u>			
<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2023	\$ 1,125,789	\$ 43,988	\$ 1,169,777
2024	1,142,482	27,504	1,169,986
2025	<u>882,000</u>	<u>11,096</u>	<u>893,096</u>
	\$ 3,150,271	\$ 82,588	\$ 3,232,859

**Clean Water Fund
Schedule of Fixed Assets
Year Ending December 31, 2022**

	<u>Balance Jan. 1, 2022</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2022</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	5,527,541	34,153,440
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>
Total	<u>\$ 40,378,099</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 40,378,099</u>	<u>\$ 5,699,659</u>	<u>\$ 34,678,440</u>

STORMWATER

Stormwater Utility
Statement of Net Income
For The Year Ended December 31, 2021 and 2022
(Unaudited)

	2021	2022
<u>Operating Revenue</u>		
Stormwater Charges	\$ 6,267,455	\$ 7,819,848
Other	30,792	61,476
Total Operating Revenue	\$ 6,298,247	\$ 7,881,324
<u>Operating Expense</u>		
Director's Office	108,775	132,760
Capital Related Expenses	536,114	617,413
Utility General Expense	(109,294)	328,671
Engineering	751,599	771,760
Utility Operations	1,758,080	1,721,183
Customer Service	315,532	318,980
Total Operating Expense	(3,360,806)	(3,890,767)
Operating Income	2,937,441	3,990,557
<u>Other Revenue</u>		
Grants Non-Capital	6,784	20,509
Contributed Assets	39,146	0
Gain or Loss on Sale of Fixed Assets	(779)	0
Interest Income	(8,129)	(69,581)
Total Other Revenue	37,022	(49,072)
<u>Other Expenses and Transfers</u>		
Bond Interest	(1,807)	(192)
Transfer to Other Funds		
Non-Capital Improvements	23,790	41,500
Street Sweeping	450,000	450,000
Reimbursement for MIS Programmer	59,075	53,850
Reimbursement for Fund 210 Costs	0	184
Total Other Expenses and Transfers	(531,058)	(545,342)
Net Income or Loss	\$ 2,443,405	\$ 3,396,143

Stormwater Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)

	Assets & Deferred Outflows	
	2021	2022
<u>Current Assets</u>		
Cash	\$ 2,976,001	\$ 5,885,746
Accounts Receivable	670,489	797,992
Special Assessments	21,862	25,679
Due from Other Funds	1,535	210
Due from Other Governments	0	27,666
Inventory	89,987	101,793
Prepays	3,000,018	1,890,698
Total Current Assets	\$ 6,759,892	\$ 8,729,784
<u>Utility Plant</u>		
In Service	23,080,230	25,194,559
Construction	2,039,419	521,339
Less Accumulated Depreciation	(5,327,726)	(5,777,127)
Total Utility Plant Assets	19,791,923	19,938,771
<u>Other Assets</u>		
Special Assessments Receivable	578	1,090
Total Other Assets	578	1,090
Total Assets	26,552,393	28,669,645
<u>Deferred Outflows</u>		
Deferred Pension Obligation Outflows	732,502	538,137
Deferred OPEB Outflows	113,885	598,654
Total Deferred Outflows	846,387	1,136,791
Total Assets and Deferred Outflows	\$ 27,398,780	\$ 29,806,436

Stormwater Utility
Statement of Net Assets
For The Year Ending December 31, 2021 and 2022
(Unaudited)

	Liabilities & Net Assets	
	2021	2022
<u>Current Liabilities</u>		
Accounts Payable	\$ 30,176	\$ 39,349
Contracts Payable	28,464	24,797
Due to Other Funds	4,671	16,358
Due to Other Governments	0	1,624
Accrued Interest Payable	1,797	0
Accrued Salaries Payable	73,555	72,958
Vacations Payable	137,642	149,059
Unearned Revenue	17,972	83,677
Bonds Payable	145,000	0
Total Current Liabilities (Payable from Current Assets)	\$ 439,277	\$ 387,822
<u>Long Term Liabilities</u>		
Pension Liability	1,024,909	1,798,840
Less Unamortized Bond Discount or Premium	570	0
Total Long Term Liabilities	1,025,479	1,798,840
Total Liabilities	1,464,756	2,186,662
<u>Deferred Inflows</u>		
Deferred Pension Obligation Inflows	989,506	59,943
Deferred OPEB Inflows	830,880	50,050
Total Deferred Inflows	1,820,386	109,993
<u>Net Assets</u>		
Invested in Capital Assets, Net of Related Debt	19,646,353	19,938,771
Unrestricted	4,467,285	7,571,010
Total Net Assets	24,113,638	27,509,781
Total Liabilities, Deferred Inflows, and Net Assets	\$ 27,398,780	\$ 29,806,436

**City of Duluth
Stormwater Utility Bonds Payable
December 31, 2022**

	<u>Issued</u>	<u>Issue Date</u>	<u>Final Maturity</u>	<u>Principal Outstanding 12/31/2021</u>	<u>Issued</u>	<u>Retired</u>	<u>Principal Outstanding 12/31/2022</u>
Stormwater Utility							
Bonds							
Revenue and General Obligation Refunding	\$ 790,000	11/5/2015	2/1/2022	\$ 145,000	\$ 0	\$ 145,000	\$ 0
Bond Total				\$ 145,000	\$ 0	\$ 145,000	\$ 0
Total Stormwater Utility Bonds				<u>\$ 145,000</u>	<u>\$ 0</u>	<u>\$ 145,000</u>	<u>\$ 0</u>

**Stormwater Fund
Schedule of Fixed Assets
Year Ending December 31, 2022**

	<u>Balance Jan. 1, 2022</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance Dec. 31, 2022</u>	<u>Accumulated Depreciation</u>	<u>Book Value</u>
Lands and Grounds	\$ 13,743	\$ 0	\$ 0	\$ 13,743	\$ 0	\$ 13,743
Infrastructure	19,359,795	2,070,230	0	21,430,025	3,168,645	18,261,380
Buildings and Structures	1,401,897	0	0	1,401,897	518,702	883,195
Equipment and Tools	2,304,795	48,227	4,128	2,348,894	2,089,780	259,114
Work in Progress	<u>2,039,419</u>	<u>552,163</u>	<u>2,070,243</u>	<u>521,339</u>	<u>0</u>	<u>521,339</u>
Total	<u>\$ 25,119,649</u>	<u>\$ 2,670,620</u>	<u>\$ 2,074,371</u>	<u>\$ 25,715,898</u>	<u>\$ 5,777,127</u>	<u>\$ 19,938,771</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/STL	CPD	CI/DI	HDPE	NCP	PPC	PVC	RCP	STN	TMP	TP	VCP	UNK	Totals
2								72.86					21.80		94.66
3					4.70			4.90				840.33			849.94
4			35,773.73					504,955.25	1,033.59			237.24		140,873.98	682,873.79
6		2,735.94	128.26	171.70	12.25			22,594.88	75.94			245.15	3,135.42	17,638.64	46,738.19
8		341.16	50.37	294.80	41.00	48.40		16,948.73	592.52			117.24	818.22	4,726.56	23,979.00
10		3,004.55	20.98	219.00	59.00		64.35	5,303.52	12,789.12				3,560.28	16,349.91	41,370.71
12		40,673.00	13,252.88	1,566.00	15,490.00	779.08		24,722.36	394,184.78				3,551.02	57,299.31	551,518.43
13									46.83						46.83
14				38.00					232.57					300.67	571.25
15		7,674.17	476.01		4,850.00	167.82		3,308.32	170,541.15				2,587.67	32,042.78	221,647.91
16		89.20		502.00	590.00				212.51					781.32	2,175.04
17														91.31	91.31
18		7,191.00	935.72		4,967.00	50.27		3,590.84	109,312.92				1,805.92	22,398.42	150,252.10
20		50.42		90.00	198.37				1,076.20					3,110.96	4,525.95
21		337.58		84.00				49.33	36,609.14				1,719.34	3,488.37	42,287.75
22								206.85	937.08						1,143.94
24	276.91	3,319.01	46.44	119.00	1,313.00			611.94	78,014.83	160.14			1,171.51	14,041.48	99,074.26
26	2,584.39				160.34			47.62	3,622.33					11,168.40	17,583.09
27	75.31	50.05			28.22		84.17		14,609.00					928.88	15,775.64
28	1,134.66	119.46							3,567.46					1,505.48	6,327.05
29									335.57						335.57
30	154.58	1,114.14	50.58		2,481.75				38,477.49		143.00			5,217.14	47,638.69
31									319.86						319.86
32	581.77				23.53				2,454.79					387.21	3,447.29
33									711.15						711.15
34							45.39		621.53					288.53	955.45
36	185.87	1,564.79	231.69		1,171.19	459.91	475.62		32,803.24					7,399.40	44,291.72
38							42.66		85.45						128.11
40									724.52	659.05				56.27	1,439.84
42	200.35	134.37		103.00	46.28		241.71		10,567.06				84.63	141.00	11,518.40
44		138.63							3,702.56					385.20	4,226.39
45							110.60		331.20						441.80
46					45.98									72.02	118.00
48	68.65	1,237.70		99.00	265.42		731.08	21.67	17,765.03	948.80	78.00			3,388.28	24,603.63
50	239.81								283.92					17.06	540.79

LENGTH OF STORM SEWERS IN FEET

Dia. Inch.	BR	CMP/STL	CPD	CI/DI	HDPE	NCP	PPC	PVC	RCP	STN	TMP	TP	VCP	UNK	Totals
51									1,019.20						1,019.20
52									448.03						448.03
54	94.06						116.92		10,449.92					2,547.76	13,208.65
55							84.00								84.00
56									89.10	57.60				65.30	212.00
58									54.43						54.43
60	36.26	847.00				27.59	361.78		4,173.54	366.30				1,552.88	7,365.35
62									112.05					57.83	169.88
66		109.83							631.54	69.79				264.74	1,075.89
68							58.00								58.00
72		517.18					483.04		2,309.94	1,523.33				400.79	5,234.28
73														79.34	79.34
78									398.57						398.57
84	203.01	484.34					111.55	138.30	658.21	1,540.48					3,135.89
88									128.30						128.30
96		106.32							754.42	128.73				223.73	1,213.20
108									608.49						608.49
120									748.23	368.26				258.42	1,374.91
122									54.02						54.02
128	105.29	57.77							58.68	726.38				551.82	1,499.94
132									170.24						170.24
144									127.41						127.41
192									49.22						49.22
UNK	665.77	533.09	82.61		151.93		1,352.04	2,075.47	6,502.81	192.70			74.61	91,229.36	102,860.39
Totals	6,606.70	72,430.71	51,049.26	3,286.50	31,899.97	1,533.08	4,362.91	584,652.83	966,187.67	6,741.56	221.00	1,439.96	18,530.42	441,330.59	2,190,273.17

Note: The Storm Sewer system also includes 11,204 catch basins and 5,216 manholes.

Miles of Pipe 414.8

Pipe quantities are derived from Geographic Information System.

BR - Brick
 CMP/STL - Corrugated Metal (iron or steel)/Steel
 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 High-Risk for Impairment	Mercury E. coli Chloride	Not started TMDL Approved Data suggests TMDL pending	Trout stream Beach TMDL
Keene Creek	Impaired	E. coli Chloride	TMDL Approved TMDL in process**	Trout stream
Kingsbury Creek	Impaired	Fish Bioassessment, Aquatic Macroinvertebrates Total Suspended Solids Chloride	Related to TSS TDML TMDL Approved TMDL in process**	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	TMDL Approved	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	High-Risk for Impairment	Chloride	Data suggests TMDL pending	Trout stream
Merritt	Impaired	E. coli	TMDL Approved	Trout stream
Lakewalk/16th Ave Beach				
Leif Erickson Beach	Impaired	E. coli	TMDL Approved	Related to Chester Creek
Lakewalk/2nd Ave Beach				
13th St S Beach (Lake)				
15th St S Beach (Harbor)	Impaired	E. coli	TMDL Approved	
20th St S Beach (Harbor)	Impaired	E. coli	TMDL Approved	
Lafayette Com Club Beach				
Park Point Beach House				
Sky Harbor Beach (Harbor)	Impaired	E. coli	TMDL Approved	
32nd Ave W				
41st Ave W				
44th Ave W				
49th Ave W				
62nd Ave W				
68th Ave W				
79th Ave W				
82nd Ave W				
Knowlton				Trout stream
84th Ave W				
85th Ave W				

MPCA MS4 CREEK DATA

MS4 Discharge Waterbodies	Water Quality Status	Cause of Impairment	TMDL Development Status	Other
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 2022

ACTIVITY	WORK COMPLETED
Catch basin repair or rehab	66
Construction Site Inspections Completed	384
Culverts repaired or replaced	31
Ditch line (dug or repaired and seeded or sodded)	3,529
Illicit discharges detected and removed	4
Line flushing/cleaning	217 lines, 16,162 ft
Manhole repair or rehab	22
Outfalls inspected	0
Sediment trap cleaning	40%
Structural sedimentation basins inspected	40%
Televising storm sewer pipe	51 lines, 7,294 ft
Presentations	9
Radio, television, and newspaper articles	510,942 total reach with RSPT