

City of Big Rapids

WASTEWATER SYSTEM ASSET MANAGEMENT PLAN ANNUAL REPORT



JULY 2023

PROJECT NO. 820620

Prepared by:



**City of Big Rapids
Asset Management Plan Annual Report
FY 2022/23**

1. A description of the staffing levels maintained during the year;

The level of staffing maintained at the WWTP was held in accordance with the Asset Management Plan dated September 2014, and is outlined in the table below:

Title	Staffing Level
WWTP Superintendent	1 Full Time Equivalent (FTE)
IPP Coordinator	1 FTE
WWTP Operators	5 FTE
DPW Staff	2 FTE
WWTP Receptionist	1 Part Time (0.6 FTE)
City Hall Customer Service	1 Part Time (0.7 FTE)
Total:	10.3 FTE

2. A description of inspections and maintenance activities conducted and corrective actions taken during the previous year;

A description of the inspections, maintenance activities, and corrective actions for the 2022/23 FY are listed in the 2023 Expenditures Report (please see Appendix A). A sewer map with details of the sewer cleaning and televising can also be seen in Appendix A.

3. Expenditures for collection system maintenance activities, treatment works maintenance activities, corrective actions, and capital improvements during the previous year;

The detailed sewer fund expenditure report for 2022/23 FY and a map of collection system maintenance activities are included in Appendix A.

4. A summary of asset/areas identified for inspection/action (including capital improvement) in the upcoming year based on core elements (and Business Risk factors); the current state of the asset; the desired level of service, the most critical asset(s) to sustain performance; and the best life cycle cost;

A summary for the 2023/2024 FY is included in the 2023 Expenditures Report (Appendix A)

5. **A maintenance budget and capital improvement budget for the upcoming year, taking into account implementation of an effective asset management program meeting the core elements;**

The operations and maintenance budget for the 2023/2024 FY, including inspection and corrective action from the City of Big Rapids is included in Appendix B.

6. **An updated asset inventory based of the original submissions; and**

The current asset inventory can be found in Appendix C

Appendix C1: Collection System Asset Inventory

Appendix C2: Lift Station Asset Inventory

Appendix C3: WWTP Asset Inventory

7. **An updated OM&R report with updated rate schedule.**

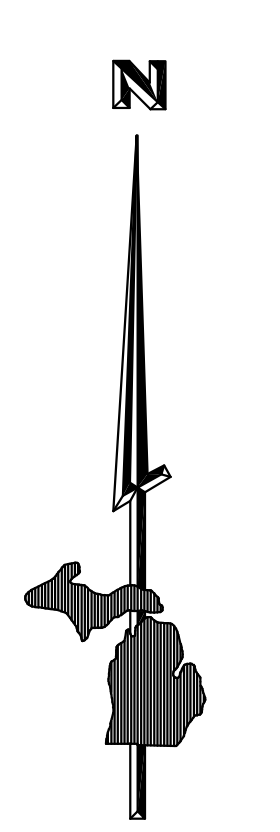
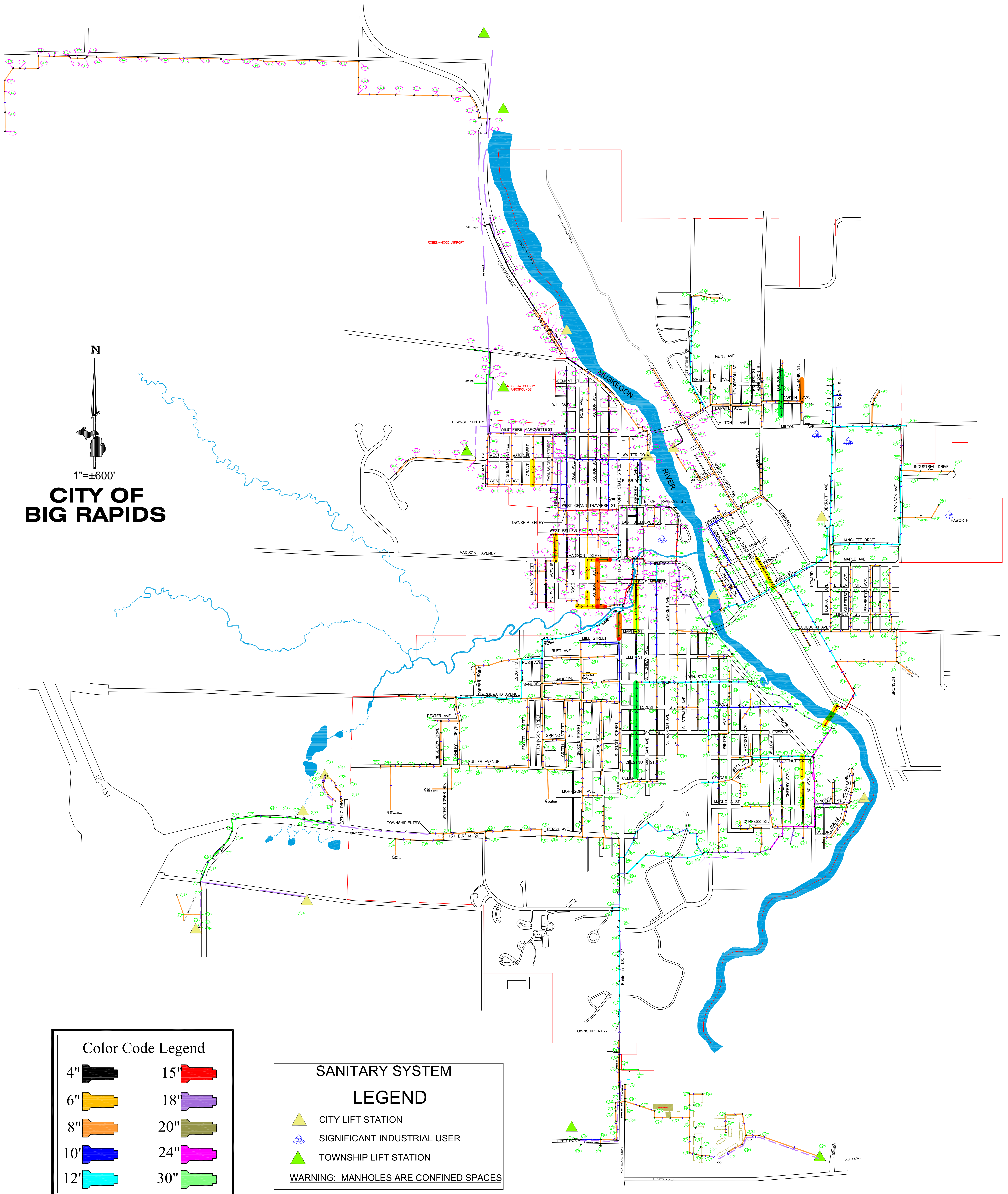
The current OM&R report and rate schedule can be found in Wastewater User Charge System Report 2023 (Appendix D).

Appendix A

Sewer Fund Expenditures FY 2022/23

City of Big Rapids
Expenditure Report 2023

Item	Item Description	Expenditures
FY 2022/23		
1	NPW System Improvements	\$ 132,400
2	Clarifier Rehabilitation	\$ 180,330
3	Sewer CIPs	\$ 165,918
4	Ultraviolet Lamps	\$ 2,887
5	Sewer Vactor & TV Video	\$ 6,227
6	West Screw Pump Replacement	\$ 6,620
	Subtotal:	\$ 494,382
Item	Item Description	Budget
FY 2023/24		
1	Novak Lane Improvements	\$ 498,000
2	East Screw Pump Replacement	\$ 320,000
3	Sanitary Sewer Replacement	\$ 21,000
4	Sanitary Sewer Replacement	\$ 180,000
5	IPP Vehicle	\$ 40,000
	Subtotal:	\$ 1,059,000



1"=±600'

CITY OF BIG RAPIDS

Color Code Legend	
4"	15"
6"	18"
8"	20"
10"	24"
12"	30"

SANITARY SYSTEM
LEGEND

CITY LIFT STATION

SIGNIFICANT INDUSTRIAL USER

TOWNSHIP LIFT STATION

WARNING: MANHOLES ARE CONFINED SPACES

REVISED 1-2-2014 RLS

- 2022/2023 Sewer Cleaning
- 2022/2023 Root Foamed
- 2022/2023 Sewer Replacement
- 2022/2023 New Manhole

PERIOD ENDING 06/30/2023

		2022-23	YTD BALANCE	ACTIVITY FOR	AVAILABLE	
GL NUMBER	DESCRIPTION	AMENDED BUDGET	NORMAL (ABNORMAL)	MONTH 06/30/2023 INCREASE (DECREASE)	BALANCE NORMAL (ABNORMAL)	% BDGT USED
Fund 590 - SEWAGE DISPOSAL SYSTEM						
Expenditures						
Dept 000 - SUBTOTAL						
590-000-994.009	INTERST-2009 SRF BONDS	0.00	0.00	0.00	0.00	0.00
Total Dept 000 - SUBTOTAL		0.00	0.00	0.00	0.00	0.00
Dept 560 - PRODUCTION						
590-560-702.000	SALARIES	274,200.00	300,160.68	52,733.87	(25,960.68)	109.47
590-560-702.999	SALARIES/CLOSE OUT PAY	0.00	0.00	0.00	0.00	0.00
590-560-703.000	SALARIES/PART-TIME	16,300.00	15,448.85	1,852.87	851.15	94.78
590-560-705.000	SALARIES-SEASONAL	0.00	0.00	0.00	0.00	0.00
590-560-706.100	COMP BUY OUT	4,000.00	661.47	0.00	3,338.53	16.54
590-560-709.000	OVERTIME PAY	7,000.00	5,285.22	123.65	1,714.78	75.50
590-560-710.000	DPW SERVICES	700.00	699.96	58.33	0.04	99.99
590-560-715.000	EMPLOYER FICA	23,100.00	24,853.98	4,100.76	(1,753.98)	107.59
590-560-716.300	HEALTH INSURANCE REIMBURSEMENT	7,700.00	7,125.00	855.00	575.00	92.53
590-560-717.000	EMPLOYER HEALTH INSURANCE PREMIUMS	57,100.00	49,290.38	2,897.46	7,809.62	86.32
590-560-718.000	INSURANCE-UNEMPLOYMENT COMP.	100.00	110.54	2.24	(10.54)	110.54
590-560-719.000	INSURANCE-WORKERS COMP.	6,000.00	5,616.42	(4,716.35)	383.58	93.61
590-560-720.000	DB MERS RETIREMENT	76,600.00	76,239.84	6,353.32	360.16	99.53
590-560-720.300	DC MERS EMPLOYER CONTRIBUTIONS	1,900.00	0.00	0.00	1,900.00	0.00
590-560-720.600	DC AFSCME EMPLOYER CONTRIBUTIONS	18,600.00	20,211.86	2,215.73	(1,611.86)	108.67
590-560-732.000	OPERATIONAL SUPPLIES	25,000.00	18,566.21	3,398.42	6,433.79	74.26
590-560-732.005	LAB OPERATIONAL SUPPLIES	25,000.00	24,745.97	76.99	254.03	98.98
590-560-736.000	UNIFORMS	1,200.00	741.00	0.00	459.00	61.75
590-560-743.000	CHEMICALS	30,000.00	50,226.70	0.00	(20,226.70)	167.42
590-560-801.000	CONTRACTED SERVICES	150,000.00	176,758.32	55,719.12	(26,758.32)	117.84
590-560-801.100	MDEQ PERMIT	7,500.00	4,118.85	0.00	3,381.15	54.92
590-560-802.000	ENGINEERING SERVICES	25,000.00	30,065.75	123.59	(5,065.75)	120.26
590-560-802.999	CONTRA ACCT ENG SERV	0.00	(5,852.02)	0.00	5,852.02	100.00
590-560-808.000	INDEPENDENT AUDIT FEES	3,400.00	3,083.65	0.00	316.35	90.70
590-560-814.000	INSURANCE COVERAGES	20,400.00	19,375.98	0.00	1,024.02	94.98
590-560-814.100	INSURANCE DEDUCTIBLE	0.00	36,927.09	24,505.37	(36,927.09)	100.00
590-560-822.200	LTD/LIFE/ADD	1,300.00	1,371.06	110.27	(71.06)	105.47
590-560-824.600	OPERATOR LICENSE FEES	500.00	96.90	0.00	403.10	19.38
590-560-860.000	TRAVEL EXPENSES	2,500.00	144.10	0.00	2,355.90	5.76
590-560-870.100	TRAINING	3,500.00	1,000.01	0.00	2,499.99	28.57
590-560-920.000	PUBLIC UTILITIES	195,000.00	197,853.16	12,450.60	(2,853.16)	101.46
590-560-930.000	OPERATIONAL REPAIRS & MAINT.	60,000.00	63,601.40	2,364.00	(3,601.40)	106.00
590-560-930.001	OPER MAINTENANCE-SOFTWARE	27,996.00	34,073.00	13,917.00	(6,077.00)	121.71
590-560-930.007	ULTRAVIOLET LAMPS	16,000.00	2,887.04	0.00	13,112.96	18.04
590-560-958.000	MEMBERSHIP FEES	800.00	759.17	0.00	40.83	94.90
590-560-961.000	LUNCHEON/DINNER MEETINGS	200.00	74.30	0.00	125.70	37.15
590-560-967.048	ASSET MANAGEMENT PROGRAM	0.00	0.00	0.00	0.00	0.00
590-560-967.130	PICTOMETRY AERIAL PHOTOS	0.00	0.00	0.00	0.00	0.00
590-560-967.999	PROJECT COSTS CONTRA	0.00	0.00	0.00	0.00	0.00
590-560-968.000	DEPRECIATION	0.00	330,802.80	0.00	(330,802.80)	100.00
590-560-977.000	EQUIPMENT	0.00	0.00	0.00	0.00	0.00
590-560-977.018	DISSOLVED OXYGEN PROBES	0.00	0.00	0.00	0.00	0.00
590-560-977.901	SECURITY CAMERAS	0.00	0.00	0.00	0.00	0.00
590-560-977.999	EQUIPMENT/CONTRA	0.00	0.00	0.00	0.00	0.00
590-560-980.000	OFFICE EQUIPMENT & FURNITURE	0.00	0.00	0.00	0.00	0.00
590-560-980.999	EQUIPMENT/CONTRA	0.00	0.00	0.00	0.00	0.00
Total Dept 560 - PRODUCTION		1,088,596.00	1,497,124.64	179,142.24	(408,528.64)	137.53

PERIOD ENDING 06/30/2023

		2022-23	YTD BALANCE	ACTIVITY FOR	AVAILABLE	
GL NUMBER	DESCRIPTION	AMENDED BUDGET	NORMAL (ABNORMAL)	MONTH 06/30/2023	BALANCE	% BDGT USED
				INCREASE (DECREASE)	NORMAL (ABNORMAL)	
Fund 590 - SEWAGE DISPOSAL SYSTEM						
Expenditures						
Dept 561 - TRANSMISSION						
590-561-702.000	SALARIES	8,500.00	8,901.73	987.47	(401.73)	104.73
590-561-702.999	SALARIES/CLOSE OUT PAY	0.00	0.00	0.00	0.00	0.00
590-561-710.000	DPW SERVICES	137,200.00	137,199.96	11,433.33	0.04	100.00
590-561-715.000	EMPLOYER FICA	700.00	656.10	68.34	43.90	93.73
590-561-717.000	EMPLOYER HEALTH INSURANCE PREMIUMS	2,500.00	2,364.46	167.02	135.54	94.58
590-561-720.000	DB MERS RETIREMENT	2,400.00	2,388.72	199.06	11.28	99.53
590-561-732.000	OPERATIONAL SUPPLIES	3,000.00	1,296.69	473.50	1,703.31	43.22
590-561-782.000	MAINTENANCE MATERIALS	3,500.00	930.00	0.00	2,570.00	26.57
590-561-801.000	CONTRACTED SERVICES	7,000.00	6,236.63	0.00	763.37	89.09
590-561-801.600	VACTOR & TV VIDEO	35,000.00	6,227.26	0.00	28,772.74	17.79
590-561-802.000	ENGINEERING	500.00	0.00	0.00	500.00	0.00
590-561-802.010	ENGINEERING-MECHANIC ST	0.00	11,079.49	0.00	(11,079.49)	100.00
590-561-943.000	EQUIPMENT RENTAL	39,000.00	43,321.85	0.00	(4,321.85)	111.08
590-561-967.062	IVES DRAIN PROJECT	0.00	0.00	0.00	0.00	0.00
590-561-967.068	SEWER TELEVISIONING & LINING	230,000.00	0.00	0.00	230,000.00	0.00
590-561-967.128	BELLEVUE-STORM SEWER	0.00	0.00	0.00	0.00	0.00
590-561-967.205	DNR PASSPORT GRANT MATCH	0.00	0.00	0.00	0.00	0.00
590-561-967.901	BUILDING RENOVATION-GRANT	0.00	0.00	0.00	0.00	0.00
590-561-967.999	PROJECT COSTS CONTRA	0.00	0.00	0.00	0.00	0.00
590-561-977.107	WIRELESS METER READING	71,900.00	70,257.72	0.00	1,642.28	97.72
590-561-977.999	EQUIPMENT/CONTRA	0.00	0.00	0.00	0.00	0.00
590-561-989.000	CIP HIGH PRIORITY	315,000.00	165,917.53	126,878.83	149,082.47	52.67
590-561-989.999	CIP HIGH PRIORITY CONTRA	0.00	(14,549.10)	0.00	14,549.10	100.00
590-561-998.000-P0034	CIP HIGH PRIORITY	0.00	14,549.10	0.00	(14,549.10)	100.00
Total Dept 561 - TRANSMISSION		856,200.00	456,778.14	140,207.55	399,421.86	53.35
Dept 562 - CUSTOMER SERVICES						
590-562-702.000	SALARIES	15,000.00	27,007.41	2,869.39	(12,007.41)	180.05
590-562-702.999	SALARIES/CLOSE OUT PAY	0.00	0.00	0.00	0.00	0.00
590-562-715.000	EMPLOYER FICA	1,200.00	2,047.17	204.95	(847.17)	170.60
590-562-717.000	EMPLOYER HEALTH INSURANCE PREMIUMS	3,000.00	1,173.50	0.00	1,826.50	39.12
590-562-720.000	DB MERS RETIREMENT	4,200.00	4,180.20	348.35	19.80	99.53
590-562-720.300	DC MERS EMPLOYER CONTRIBUTIONS	1,500.00	2,674.03	283.97	(1,174.03)	178.27
590-562-732.000	OPERATIONAL SUPPLIES	5,000.00	5,124.32	320.00	(124.32)	102.49
590-562-930.001	OPER MAINTENANCE-SOFTWARE	0.00	0.00	0.00	0.00	0.00
590-562-977.999	EQUIPMENT/CONTRA	0.00	0.00	0.00	0.00	0.00
590-562-984.000	SOFTWARE	0.00	0.00	0.00	0.00	0.00
Total Dept 562 - CUSTOMER SERVICES		29,900.00	42,206.63	4,026.66	(12,306.63)	141.16
Dept 563 - LIFT STATIONS						
590-563-710.000	DPW SERVICES	700.00	699.96	58.33	0.04	99.99
590-563-732.000	OPERATIONAL SUPPLIES	1,000.00	0.00	0.00	1,000.00	0.00
590-563-801.000	CONTRACTED SERVICES	5,000.00	5,000.00	0.00	0.00	100.00
590-563-920.000	PUBLIC UTILITIES	4,000.00	4,444.33	270.02	(444.33)	111.11
590-563-930.000	OPERATIONAL REPAIRS & MAINT.	5,000.00	1,074.43	0.00	3,925.57	21.49
Total Dept 563 - LIFT STATIONS		15,700.00	11,218.72	328.35	4,481.28	71.46
Dept 564 - BIG RAPIDS TOWNSHIP						
590-564-710.000	DPW SERVICES	700.00	699.96	58.33	0.04	99.99
590-564-943.000	EQUIPMENT RENTAL	0.00	0.00	0.00	0.00	0.00

PERIOD ENDING 06/30/2023

		2022-23	YTD BALANCE	ACTIVITY FOR	AVAILABLE	
GL NUMBER	DESCRIPTION	AMENDED BUDGET	NORMAL (ABNORMAL)	MONTH 06/30/2023	BALANCE	% BDGT
				INCREASE (DECREASE)	NORMAL (ABNORMAL)	USED
Fund 590 - SEWAGE DISPOSAL SYSTEM						
Expenditures						
Total Dept 564 - BIG RAPIDS TOWNSHIP		700.00	699.96	58.33	0.04	99.99
Dept 565 - INDUSTRIAL PRETREATMENT PROGRA						
590-565-702.000	SALARIES	95,500.00	53,325.40	6,207.68	42,174.60	55.84
590-565-706.100	COMP BUY OUT	500.00	0.00	0.00	500.00	0.00
590-565-709.000	OVERTIME PAY	3,000.00	2,812.71	298.85	187.29	93.76
590-565-710.000	DPW SERVICES	700.00	699.96	58.33	0.04	99.99
590-565-715.000	EMPLOYER FICA	7,600.00	4,550.40	490.79	3,049.60	59.87
590-565-716.300	HEALTH INSURANCE REIMBURSEMENT	3,400.00	3,420.00	285.00	(20.00)	100.59
590-565-717.000	EMPLOYER HEALTH INSURANCE PREMIUMS	20,700.00	0.00	0.00	20,700.00	0.00
590-565-718.000	INSURANCE-UNEMPLOYMENT COMP.	0.00	146.60	0.00	(146.60)	100.00
590-565-719.000	INSURANCE-WORKERS COMP.	0.00	0.00	0.00	0.00	0.00
590-565-720.000	DB MERS RETIREMENT	26,300.00	26,176.32	2,181.36	123.68	99.53
590-565-720.600	DC AFSCME EMPLOYER CONTRIBUTIONS	9,800.00	5,559.59	644.22	4,240.41	56.73
590-565-732.000	OPERATIONAL SUPPLIES	3,500.00	4,112.43	0.00	(612.43)	117.50
590-565-801.000	CONTRACTED SERVICES	8,000.00	8,922.86	2,688.00	(922.86)	111.54
590-565-822.200	LTD/LIFE/ADD	600.00	284.41	22.05	315.59	47.40
590-565-860.000	TRAVEL EXPENSES	400.00	0.00	0.00	400.00	0.00
Total Dept 565 - INDUSTRIAL PRETREATMENT PROGRA		180,000.00	110,010.68	12,876.28	69,989.32	61.12
Dept 906 - DEBT SERVICE						
590-906-991.009	PRINCIPAL-2009 SRF BONDS	0.00	0.00	0.00	0.00	0.00
590-906-994.009	INTEREST-2009 SRF BONDS	0.00	96,750.00	0.00	(96,750.00)	100.00
Total Dept 906 - DEBT SERVICE		0.00	96,750.00	0.00	(96,750.00)	100.00
Dept 966 - TRANSFER BETWEEN FUNDS-OUT						
590-966-995.101	CONTRIBUTION TO GENERAL	315,800.00	315,800.00	78,950.00	0.00	100.00
590-966-995.306	CONTRIBUTION TO SEWER DB	506,800.00	126,700.00	0.00	380,100.00	25.00
590-966-995.310	CONTRIBUTION TO MECHANIC ST DEBT SERVICE	41,500.00	41,500.00	10,375.00	0.00	100.00
590-966-995.598	CONTRIBUTION TO SEWER RP	543,700.00	543,700.00	135,925.00	0.00	100.00
590-966-995.731		0.00	0.00	0.00	0.00	0.00
590-966-999.310	CONTRIBUTION TO MECHANIC ST DEBT SERVICE	0.00	0.00	0.00	0.00	0.00
590-966-999.731	CONTRIBUTION TO DB MERS	0.00	0.00	0.00	0.00	0.00
Total Dept 966 - TRANSFER BETWEEN FUNDS-OUT		1,407,800.00	1,027,700.00	225,250.00	380,100.00	73.00
TOTAL EXPENDITURES		3,578,896.00	3,242,488.77	561,889.41	336,407.23	90.60
Fund 590 - SEWAGE DISPOSAL SYSTEM:						
TOTAL EXPENDITURES		3,578,896.00	3,242,488.77	561,889.41	336,407.23	90.60

PERIOD ENDING 06/30/2023

DB: Big Rapids

GL NUMBER	DESCRIPTION	2022-23	YTD BALANCE	ACTIVITY FOR	AVAILABLE	% BDGT USED
		AMENDED BUDGET	06/30/2023 NORMAL (ABNORMAL)	MONTH 06/30/2023 INCREASE (DECREASE)	BALANCE NORMAL (ABNORMAL)	
Fund 598 - SEWER REPLACEMENT FUND						
Expenditures						
Dept 560 - PRODUCTION						
598-560-802.000	ENGINEERING SERVICES	0.00	0.00	0.00	0.00	0.00
598-560-802.009	SLUDGE STORAGE TANK INSPECTION	0.00	0.00	0.00	0.00	0.00
598-560-802.955	ENGINEERING-HEADWORKS LOADING EVALUATION	0.00	0.00	0.00	0.00	0.00
598-560-930.009	SLUDGE STORAGE TANK CLEANING	0.00	0.00	0.00	0.00	0.00
598-560-967.083	WET WELL MODIFICATIONS	0.00	0.00	0.00	0.00	0.00
598-560-967.084	WATER WELL REHABILITATION	131,800.00	132,400.00	0.00	(600.00)	100.46
598-560-967.999	PROJECT COSTS CONTRA	0.00	0.00	0.00	0.00	0.00
598-560-977.007	KAESER BLOWER	0.00	0.00	0.00	0.00	0.00
598-560-977.017	LAB WATER MACHINE	0.00	0.00	0.00	0.00	0.00
598-560-977.018	DISSOLVED OXYGEN PROBES	0.00	0.00	0.00	0.00	0.00
598-560-977.023	LAB GLASSWARE WASHER	0.00	0.00	0.00	0.00	0.00
598-560-977.027	LAB PHASE CONTRAST MICROSCOPE	0.00	0.00	0.00	0.00	0.00
598-560-977.052	SCREW PUMP REPLACEMENT	78,000.00	6,620.16	0.00	71,379.84	8.49
598-560-977.999	EQUIPMENT/CONTRA	0.00	0.00	0.00	0.00	0.00
598-560-989.000	CIP HIGH PRIORITY	0.00	0.00	0.00	0.00	0.00
Total Dept 560 - PRODUCTION		209,800.00	139,020.16	0.00	70,779.84	66.26
Dept 561 - TRANSMISSION						
598-561-967.031	MITCHELL CREEK PARK SANITARY SEWER RPL.	0.00	0.00	0.00	0.00	0.00
598-561-967.068	SEWER TELEVISIONING & LINING	0.00	0.00	0.00	0.00	0.00
598-561-967.956	CLARIFIER PAINTING	145,000.00	180,329.51	0.00	(35,329.51)	124.37
598-561-967.999	PROJECT COSTS CONTRA	0.00	0.00	0.00	0.00	0.00
598-561-977.029	BACKFLOW PREVENTER-BRMS	0.00	0.00	0.00	0.00	0.00
598-561-977.999	EQUIPMENT/CONTRA	0.00	0.00	0.00	0.00	0.00
598-561-989.000	CIP HIGH PRIORITY	515,000.00	0.00	0.00	515,000.00	0.00
Total Dept 561 - TRANSMISSION		660,000.00	180,329.51	0.00	479,670.49	27.32
Dept 563 - LIFT STATIONS						
598-563-801.000	CONTRACTED SERVICES	0.00	0.00	0.00	0.00	0.00
598-563-967.034	REPLACE SUPERVISORS PARK LIFT STATION	0.00	0.00	0.00	0.00	0.00
598-563-967.123	WATERLOO LIFT STATION IMPROVEMENTS	0.00	0.00	0.00	0.00	0.00
598-563-967.999	PROJECT COSTS CONTRA	0.00	0.00	0.00	0.00	0.00
Total Dept 563 - LIFT STATIONS		0.00	0.00	0.00	0.00	0.00
TOTAL EXPENDITURES		869,800.00	319,349.67	0.00	550,450.33	36.72
Fund 598 - SEWER REPLACEMENT FUND:						
TOTAL EXPENDITURES		869,800.00	319,349.67	0.00	550,450.33	36.72
TOTAL EXPENDITURES - ALL FUNDS		4,448,696.00	3,561,838.44	561,889.41	886,857.56	80.06

Appendix B

Sewer Fund Budget FY 2023/24

07/10/2023 09:11 AM
User: C
DB: Big Rapids

BUDGET REPORT FOR CITY OF BIG RAPIDS
Fund: 590 SEWAGE DISPOSAL SYSTEM

Page: 1/6

		2023-24 COMM APPROVED BUDGET
GL NUMBER	DESCRIPTION	
ESTIMATED REVENUES		
Dept 000 - SUBTOTAL		
590-000-445.200	UTILITY BILLING-PENALTY	10,500
590-000-642.000	SALES & SERVICES	4,000
590-000-642.500	CONNECTION FEE	1,200
590-000-645.001	SEWER-DEBT SERVICE-BIG RAPIDS TWP	73,000
590-000-645.002	SEWER-DEBT SERVICE-GREEN TWP	14,000
590-000-645.998	UTILITY SALES - TAX ROLL	10,000
590-000-647.000	SEWER-IPP	85,000
590-000-647.100	SEWER-IPP-BIG RAPIDS TWP	54,000
590-000-647.200	SEWER-IPP-GREEN TWP	1,700
590-000-651.000	SEWER CHARGES-GENERAL	2,700,000
590-000-651.002	HIGH STRENGTH SURCHARGE	2,900
590-000-651.100	SEWER-PLANT O & M-BIG RAPIDS TWP	170,000
590-000-651.101	SEWER-COLLECTION O & M-BIG RAPIDS	35,000
590-000-651.102	SEWER-REPLACEMENT-BIG RAPIDS TWP	33,000
590-000-651.103	SEWER-ADMINISTRATION-BIG RAPIDS TWP	7,000
590-000-651.200	SEWER-PLANT O & M-GREEN TWP	35,000
590-000-651.201	SEWER-COLLECTION O & M-GREEN TWP	8,000
590-000-651.202	SEWER-REPLACEMENT-GREEN TWP	7,000
590-000-651.203	SEWER-ADMINISTRATION-GREEN TWP	1,700
590-000-680.000	MISCELLANEOUS INCOME	20,000
590-000-687.000	INSURANCE REFUNDS	1,500
Totals for dept 000 - SUBTOTAL		3,274,500
Dept 008 - INTEREST & RENTS		
590-008-665.000	INTEREST EARNED	1,000
Totals for dept 008 - INTEREST & RENTS		1,000
TOTAL ESTIMATED REVENUES		3,275,500

		2023-24 COMM APPROVED BUDGET
GL NUMBER	DESCRIPTION	
APPROPRIATIONS		
Dept 560 - PRODUCTION		
590-560-702.000	SALARIES	286,500
590-560-702.999	SALARIES/CLOSE OUT PAY	26,700
590-560-703.000	SALARIES/PART-TIME	16,000
590-560-706.100	COMP BUY OUT	3,000
590-560-709.000	OVERTIME PAY	6,000
590-560-710.000	DPW SERVICES	900
590-560-715.000	EMPLOYER FICA	25,900
590-560-716.300	HEALTH INSURANCE REIMBURSEMENT	6,900
590-560-717.000	EMPLOYER HEALTH INSURANCE PREMIUMS	44,800
590-560-718.000	INSURANCE-UNEMPLOYMENT COMP.	100
590-560-719.000	INSURANCE-WORKERS COMP.	4,500
590-560-720.000	DB MERS RETIREMENT	72,300
590-560-720.600	DC AFSCME EMPLOYER CONTRIBUTIONS	20,000
590-560-732.000	OPERATIONAL SUPPLIES	30,000
590-560-732.005	LAB OPERATIONAL SUPPLIES	25,000
590-560-736.000	UNIFORMS	1,200
590-560-743.000	CHEMICALS	50,000
590-560-801.000	CONTRACTED SERVICES	175,000
590-560-801.100	MDEQ PERMIT	7,500
590-560-802.000	ENGINEERING SERVICES	35,000
590-560-808.000	INDEPENDENT AUDIT FEES	3,500
590-560-814.000	INSURANCE COVERAGES	18,400
590-560-822.200	LTD/LIFE/ADD	1,300
590-560-824.600	OPERATOR LICENSE FEES	500
590-560-860.000	TRAVEL EXPENSES	2,500
590-560-870.100	TRAINING	3,500
590-560-920.000	PUBLIC UTILITIES	200,000
590-560-930.000	OPERATIONAL REPAIRS & MAINT.	75,000
590-560-930.001	OPER MAINTENANCE-SOFTWARE	17,000
590-560-930.007	ULTRAVIOLET LAMPS	16,000
590-560-958.000	MEMBERSHIP FEES	800
590-560-961.000	LUNCHEON/DINNER MEETINGS	200
Totals for dept 560 - PRODUCTION		1,176,000

		2023-24 COMM APPROVED BUDGET
GL NUMBER	DESCRIPTION	
APPROPRIATIONS		
Dept 561 - TRANSMISSION		
590-561-702.000	SALARIES	9,000
590-561-710.000	DPW SERVICES	80,000
590-561-715.000	EMPLOYER FICA	700
590-561-717.000	EMPLOYER HEALTH INSURANCE PREMIUMS	2,500
590-561-720.000	DB MERS RETIREMENT	2,400
590-561-732.000	OPERATIONAL SUPPLIES	3,000
590-561-782.000	MAINTENANCE MATERIALS	3,500
590-561-801.000	CONTRACTED SERVICES	7,000
590-561-801.600	VACTOR & TV VIDEO	30,000
590-561-943.000	EQUIPMENT RENTAL	41,000
590-561-967.068	SEWER TELEVISIONING & LINING	100,000
590-561-977.107	WIRELESS METER READING	40,000
590-561-989.000-P0072	CIP HIGH PRIORITY	21,000
590-561-989.000-P0073	CIP HIGH PRIORITY	40,000
Totals for dept 561 - TRANSMISSION		380,100
Dept 562 - CUSTOMER SERVICES		
590-562-702.000	SALARIES	28,900
590-562-715.000	EMPLOYER FICA	2,200
590-562-717.000	EMPLOYER HEALTH INSURANCE PREMIUMS	3,000
590-562-720.000	DB MERS RETIREMENT	4,000
590-562-720.300	DC MERS EMPLOYER CONTRIBUTIONS	2,500
590-562-732.000	OPERATIONAL SUPPLIES	5,000
Totals for dept 562 - CUSTOMER SERVICES		45,600
Dept 563 - LIFT STATIONS		
590-563-710.000	DPW SERVICES	700
590-563-732.000	OPERATIONAL SUPPLIES	1,000
590-563-801.000	CONTRACTED SERVICES	5,000
590-563-920.000	PUBLIC UTILITIES	5,000
590-563-930.000	OPERATIONAL REPAIRS & MAINT.	5,000
Totals for dept 563 - LIFT STATIONS		16,700
Dept 565 - INDUSTRIAL PRETREATMENT PROGRA		
590-565-702.000	SALARIES	55,900
590-565-709.000	OVERTIME PAY	3,000
590-565-715.000	EMPLOYER FICA	4,500
590-565-716.300	HEALTH INSURANCE REIMBURSEMENT	3,400

07/10/2023 09:11 AM
User: C
DB: Big Rapids

BUDGET REPORT FOR CITY OF BIG RAPIDS
Fund: 590 SEWAGE DISPOSAL SYSTEM

Page: 4/6

		2023-24 COMM APPROVED BUDGET
GL NUMBER	DESCRIPTION	
APPROPRIATIONS		
Dept 565 - INDUSTRIAL PRETREATMENT PROGRA		
590-565-718.000	INSURANCE-UNEMPLOYMENT COMP.	100
590-565-719.000	INSURANCE-WORKERS COMP.	100
590-565-720.000	DB MERS RETIREMENT	24,900
590-565-720.600	DC AFSCME EMPLOYER CONTRIBUTIONS	5,500
590-565-732.000	OPERATIONAL SUPPLIES	5,000
590-565-801.000	CONTRACTED SERVICES	8,000
590-565-822.200	LTD/LIFE/ADD	300
590-565-860.000	TRAVEL EXPENSES	400
Totals for dept 565 - INDUSTRIAL PRETREATMENT PROGRA		111,100
Dept 906 - DEBT SERVICE		
590-906-991.009	PRINCIPAL-2009 SRF BONDS	420,000
590-906-994.009	INTEREST-2009 SRF BONDS	86,400
Totals for dept 906 - DEBT SERVICE		506,400
Dept 966 - TRANSFER BETWEEN FUNDS-OUT		
590-966-995.101	CONTRIBUTION TO GENERAL	343,400
590-966-995.598	CONTRIBUTION TO SEWER RP	400,000
Totals for dept 966 - TRANSFER BETWEEN FUNDS-OUT		743,400
TOTAL APPROPRIATIONS		2,979,300
NET OF REVENUES/APPROPRIATIONS - FUND 590		296,200
BEGINNING FUND BALANCE		
ENDING FUND BALANCE		

07/10/2023 09:11 AM
User: C
DB: Big Rapids

BUDGET REPORT FOR CITY OF BIG RAPIDS
Fund: 598 SEWER REPLACEMENT FUND

Page: 5/6

		2023-24
		COMM APPROVED
GL NUMBER	DESCRIPTION	BUDGET
ESTIMATED REVENUES		
Dept 931 - TRANSFER BETWEEN FUNDS-IN		
598-931-699.590	CONTRIBUTION FROM SEWER	400,000
Totals for dept 931 - TRANSFER BETWEEN FUNDS-IN		400,000
TOTAL ESTIMATED REVENUES		400,000

07/10/2023 09:11 AM
User: C
DB: Big Rapids

BUDGET REPORT FOR CITY OF BIG RAPIDS
Fund: 598 SEWER REPLACEMENT FUND

Page: 6/6

		2023-24
		COMM APPROVED
GL NUMBER	DESCRIPTION	BUDGET
APPROPRIATIONS		
Dept 560 - PRODUCTION		
598-560-989.000-P0070	CIP HIGH PRIORITY	320,000
Totals for dept 560 - PRODUCTION		320,000
Dept 561 - TRANSMISSION		
598-561-989.000-P0071	CIP HIGH PRIORITY	180,000
Totals for dept 561 - TRANSMISSION		180,000
TOTAL APPROPRIATIONS		500,000
NET OF REVENUES/APPROPRIATIONS - FUND 598		(100,000)
BEGINNING FUND BALANCE		
ENDING FUND BALANCE		
ESTIMATED REVENUES - ALL FUNDS		
APPROPRIATIONS - ALL FUNDS		3,675,500
NET OF REVENUES/APPROPRIATIONS - ALL FUNDS		3,479,300
BEGINNING FUND BALANCE - ALL FUNDS		196,200
ENDING FUND BALANCE - ALL FUNDS		

Appendix C
Asset Inventory

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Manholes:												
MH 001	8' Diameter	Manholes	6		879.6	0	1967	57	100	43	\$3,500	\$2,900
MH 001A	4' Diameter	Manholes	4.1		879.7	0	1967	57	100	43	\$1,300	\$1,500
MH 002	4' Diameter	Manholes	7.4	886.25	879.56	0	1967	57	100	43	\$1,300	\$2,200
MH 003	4' Diameter	Manholes	5.9	885.5	879.61	0	1967	57	100	43	\$1,300	\$1,900
MH 004	4' Diameter	Manholes	8.45	890.49	882.05	0	1967	57	100	43	\$1,300	\$2,400
MH 005	4' Diameter	Manholes	6	887.69	881.75	0	1967	57	100	43	\$1,300	\$1,900
MH 006	4' Diameter	Manholes	7.8			0	1967	57	100	43	\$1,300	\$2,300
MH 007	4' Diameter	Manholes	5.8	887.18	881.6	0	1967	57	100	43	\$1,300	\$1,900
MH 008	4' Diameter	Manholes	6.65	887.4	881.66	0	1967	57	100	43	\$1,300	\$2,000
MH 009	4' Diameter	Manholes	5.5	887.25	881.61	0	1967	57	100	43	\$1,300	\$1,800
MH 010	4' Diameter	Manholes	5.7	887.83	881.14	0	1967	57	100	43	\$1,300	\$1,800
MH 011	4' Diameter	Manholes	5.9	888.26	881.33	0	1967	57	100	43	\$1,300	\$1,900
MH 012	4' Diameter	Manholes	6.6	888.06	880.39	0	1967	57	100	43	\$1,300	\$2,000
MH 012A	4' Diameter	Manholes	6			0	1967	57	100	43	\$1,300	\$1,900
MH 013	4' Diameter	Manholes	6	888.38	882.46	0	1967	57	100	43	\$1,300	\$1,900
MH 014	4' Diameter	Manholes	5.8	888.47	883.32	0	1967	57	100	43	\$1,300	\$1,900
MH 015	4' Diameter	Manholes	6.2	888.97	883.32	0	1967	57	100	43	\$1,300	\$1,900
MH 016	4' Diameter	Manholes	5.7	889.16		0	1967	57	100	43	\$1,300	\$1,800
MH 017	4' Diameter	Manholes	5.85			0	1967	57	100	43	\$1,300	\$1,900
MH 018	4' Diameter	Manholes	8.2		884.7	0	1981	43	100	57	\$1,700	\$2,400
MH 019	4' Diameter	Manholes	8.5			0	1900	124	100	0	\$0	\$2,400
MH 020	4' Diameter	Manholes	4.6			0	1900	124	100	0	\$0	\$1,600
MH 021	4' Diameter	Manholes	8.4	893.16	885.31	0	1900	124	100	0	\$0	\$2,400
MH 022	9' Diameter	Manholes	17.2			0	1900	124	100	0	\$0	\$5,700
MH 023	4' Diameter	Manholes	4.7			0	1900	124	100	0	\$0	\$1,600
MH 024	4' Diameter	Manholes	13.5			0	1900	124	100	0	\$0	\$3,500
MH 024A	4' Diameter	Manholes	4.1			0	1983	41	100	59	\$1,800	\$1,500
MH 025	4' Diameter	Manholes	16.2			0	1900	124	100	0	\$0	\$4,100
MH 026	4' Diameter	Manholes	11.2	913.85	902.25	0	1900	124	100	0	\$0	\$3,000
MH 027	4' Diameter	Manholes	11.3	914.17	905.58	0	1900	124	100	0	\$0	\$3,000
MH 028	4' Diameter	Manholes	11.2		908	0	1900	124	100	0	\$0	\$3,000
MH 029	4' Diameter	Manholes	13.2	919.33	906.21	0	1900	124	100	0	\$0	\$3,500

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 030	4' Diameter	Manholes	13.1	920.49	907.85	0	1900	124	100	0	\$0	\$3,400
MH 031	4' Diameter	Manholes	12.8	921.81	908.35	0	1900	124	100	0	\$0	\$3,400
MH 032	4' Diameter	Manholes	8.85	920.24	910.78	0	1900	124	100	0	\$0	\$2,500
MH 033	4' Diameter	Manholes	10.1	922.71	912.26	0	1900	124	100	0	\$0	\$2,800
MH 034	4' Diameter	Manholes	9.5	921.82	913.19	0	1900	124	100	0	\$0	\$2,700
MH 035	4' Diameter	Manholes	9.2	922.51	914.11	0	1900	124	100	0	\$0	\$2,600
MH 036	4' Diameter	Manholes	6.5	920.07	915.54	0	1900	124	100	0	\$0	\$2,000
MH 037	4' Diameter	Manholes	9	925.81	916.71	0	1900	124	100	0	\$0	\$2,500
MH 038	4' Diameter	Manholes	9.8	928.89	917.98	0	1900	124	100	0	\$0	\$2,700
MH 039	4' Diameter	Manholes	9.6	929.32	919.11	0	1900	124	100	0	\$0	\$2,700
MH 040	4' Diameter	Manholes	8.4	928.35	920.11	0	1900	124	100	0	\$0	\$2,400
MH 041	4' Diameter	Manholes	8.2	928.17	920.95	0	1900	124	100	0	\$0	\$2,400
MH 042	4' Diameter	Manholes	9.2	928.26	919.03	0	1974	50	100	50	\$1,500	\$2,600
MH 043	4' Diameter	Manholes	10.1	929.71	919.56	0	1900	124	100	0	\$0	\$2,800
MH 044	4' Diameter	Manholes	8.6	929.45	920.75	0	1900	124	100	0	\$0	\$2,500
MH 045	4' Diameter	Manholes	5.6	927.32	921.72	0	1900	124	100	0	\$0	\$1,800
MH 046	4' Diameter	Manholes	6.7	929.47	922.77	0	1900	124	100	0	\$0	\$2,000
MH 046A	4' Diameter	Manholes	5.5			0	1900	124	100	0	\$0	\$1,800
MH 047	4' Diameter	Manholes	5.5	934.59	928.89	0	1900	124	100	0	\$0	\$1,800
MH 048	4' Diameter	Manholes	6.7	929.58	922.83	0	1900	124	100	0	\$0	\$2,000
MH 048a	4' Diameter	Manholes	5.2			0	1900	124	100	0	\$0	\$1,700
MH 049	4' Diameter	Manholes	5.5	929.86	924.26	0	1900	124	100	0	\$0	\$1,800
MH 049A	4' Diameter	Manholes	5.4	930.18	924.63	0	1900	124	100	0	\$0	\$1,800
MH 050	4' Diameter	Manholes	6.8	934.55	927.43	0	1900	124	100	0	\$0	\$2,100
MH 051	4' Diameter	Manholes	6.3	933.38	927.09	0	1900	124	100	0	\$0	\$2,000
MH 052	4' Diameter	Manholes	3.1			0	1900	124	100	0	\$0	\$1,300
MH 053	Rectangular	Manholes	9.2	917.15	906.88	0	1900	124	100	0	\$0	\$2,600
MH 054	Oval	Manholes	10.2	917.63	907.23	0	1900	124	100	0	\$0	\$2,800
MH 055	4' Diameter	Manholes	9.3	917.8	908.71	0	1900	124	100	0	\$0	\$2,600
MH 056	4' Diameter	Manholes	9.2	918	908.75	0	1900	124	100	0	\$0	\$2,600
MH 057	4' Diameter	Manholes	5.8	917.6	911.4	0	1900	124	100	0	\$0	\$1,900
MH 058	4' Diameter	Manholes	5.3			0	1900	124	100	0	\$0	\$1,700
MH 059	4' Diameter	Manholes	8.6	918.1	909.55	0	1900	124	100	0	\$0	\$2,500
MH 060	4' Diameter	Manholes	9.1	919.2	910.12	0	1900	124	100	0	\$0	\$2,600

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 061	4' Diameter	Manholes	10	921	910.76	0	1900	124	100	0	\$0	\$2,800
MH 062	4' Diameter	Manholes	7.7	921.77	913.01	0	1900	124	100	0	\$0	\$2,300
MH 062A	4' Diameter	Manholes	9.6	918.7	908.98	0	1900	124	100	0	\$0	\$2,700
MH 062B	4' Diameter	Manholes	9.1			0	1900	124	100	0	\$0	\$2,600
MH 063	4' Diameter	Manholes	5.2	920.4	915.75	0	1900	124	100	0	\$0	\$1,700
MH 063A	4' Diameter	Manholes	6.8	921.7	914.92	0	1900	124	100	0	\$0	\$2,100
MH 064	Rectangular	Manholes	4.2	920.32	917.37	0	1900	124	100	0	\$0	\$1,500
MH 065	UNK	Manholes	3.7	920.3	916.83	0	1900	124	100	0	\$0	\$1,400
MH 066	4' Diameter	Manholes	7.3	920.61	913.31	0	1900	124	100	0	\$0	\$2,200
MH 067	4' Diameter	Manholes	7.3	922.97	916.62	0	1900	124	100	0	\$0	\$2,200
MH 068	4' Diameter	Manholes	7.4	924.92	917.77	0	1900	124	100	0	\$0	\$2,200
MH 069	4' Diameter	Manholes	7.1	926.4	918.96	0	1900	124	100	0	\$0	\$2,100
MH 070	4' Diameter	Manholes	5			0	1900	124	100	0	\$0	\$1,700
MH 071	4' Diameter	Manholes	4.4			0	1900	124	100	0	\$0	\$1,600
MH 072	4' Diameter	Manholes	3.2			0	1900	124	100	0	\$0	\$1,300
MH 073	4' Diameter	Manholes	5.4			0	1900	124	100	0	\$0	\$1,800
MH 074	4' Diameter	Manholes	5.5	925.93	920.53	0	1900	124	100	0	\$0	\$1,800
MH 075	4' Diameter	Manholes	5.6	926.79	921.25	0	1900	124	100	0	\$0	\$1,800
MH 076	4' Diameter	Manholes	4.9	926.56	921.92	0	1900	124	100	0	\$0	\$1,700
MH 077	1' Diameter	Manholes	3.4			0	1900	124	100	0	\$0	\$1,000
MH 078	4' Diameter	Manholes	8.5			0	1900	124	100	0	\$0	\$2,400
MH 079	4' Diameter	Manholes	9.9	897.28	887.52	0	1900	124	100	0	\$0	\$2,700
MH 080	UNK	Manholes				0	1900	124	100	0	\$0	\$2,100
MH 081	UNK	Manholes				0	1900	124	100	0	\$0	\$2,100
MH 082	4' Diameter	Manholes	4.1			0	1900	124	100	0	\$0	\$1,500
MH 083	4' Diameter	Manholes	7.4			0	1900	124	100	0	\$0	\$2,200
MH 084	4' Diameter	Manholes	8.4			0	1900	124	100	0	\$0	\$2,400
MH 085	4' Diameter	Manholes	6.8			0	1900	124	100	0	\$0	\$2,100
MH 086	4' Diameter	Manholes	8.55			0	1900	124	100	0	\$0	\$2,400
MH 087	4' Diameter	Manholes	4.15			0	1900	124	100	0	\$0	\$1,500
MH 087A	4' Diameter	Manholes	4.6			0	1900	124	100	0	\$0	\$1,600
MH 088	4' Diameter	Manholes	6.6			0	1900	124	100	0	\$0	\$2,000
MH 089	4' Diameter	Manholes	8.6			0	1900	124	100	0	\$0	\$2,500
MH 090	4' Diameter	Manholes	8.6			0	1900	124	100	0	\$0	\$2,500

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 091	4' Diameter	Manholes	8.2			0	1908	116	100	0	\$0	\$2,400
MH 092	4' Diameter	Manholes	8.2			0	1908	116	100	0	\$0	\$2,400
MH 093	4' Diameter	Manholes	10	900.8	892.14	0	1908	116	100	0	\$0	\$2,800
MH 094	4' Diameter	Manholes	11.3	904.7	893.31	0	1908	116	100	0	\$0	\$3,000
MH 095	Oval	Manholes	11	905	893.75	0	1908	116	100	0	\$0	\$3,000
MH 096	4' Diameter	Manholes	10.9	907.9	897.01	0	1908	116	100	0	\$0	\$3,000
MH 097	4' Diameter	Manholes	8.7	908.19	898.5	0	1900	124	100	0	\$0	\$2,500
MH 098	4' Diameter	Manholes	8	907.83	900.05	0	1900	124	100	0	\$0	\$2,300
MH 099	4' Diameter	Manholes	6.5	907	900.33	0	1900	124	100	0	\$0	\$2,000
MH 100	4' Diameter	Manholes	5	906.52	901.5	0	1900	124	100	0	\$0	\$1,700
MH 101	4' Diameter	Manholes	11.3	908.83	897.21	0	1908	116	100	0	\$0	\$3,000
MH 102	4' Diameter	Manholes	12.7	910.84	898.4	0	1908	116	100	0	\$0	\$3,300
MH 103	4' Diameter	Manholes	14	913.92	899.22	0	1908	116	100	0	\$0	\$3,600
MH 104	Oval	Manholes	14.25	915.22	900.82	0	1908	116	100	0	\$0	\$3,700
MH 105	4' Diameter	Manholes	15.1	917	901.65	0	1908	116	100	0	\$0	\$3,900
MH 105A	4' Diameter	Manholes	9.8			0	1900	124	100	0	\$0	\$2,700
MH 105B	4' Diameter	Manholes	7.1			0	1900	124	100	0	\$0	\$2,100
MH 106	4' Diameter	Manholes	15.5	917.04	902.27	0	1908	116	100	0	\$0	\$3,900
MH 107	4' Diameter	Manholes	10.6	917.1	904.85	0	1908	116	100	0	\$0	\$2,900
MH 108	4' Diameter	Manholes	5			0	1900	124	100	0	\$0	\$1,700
MH 109	Oval	Manholes	9.8	918.22	908.43	0	1900	124	100	0	\$0	\$2,700
MH 109A	4' Diameter	Manholes		918.93	909.13	0	2005	19	100	81	\$2,400	\$2,100
MH 110	4' Diameter	Manholes	9.8	920.24	910.39	0	1900	124	100	0	\$0	\$2,700
MH 111	4' Diameter	Manholes	9.4	921.55	912.09	0	1900	124	100	0	\$0	\$2,600
MH 112	4' Diameter	Manholes	9.3	922.15	912.86	0	1900	124	100	0	\$0	\$2,600
MH 113	4' Diameter	Manholes	7.2	921.48	914.3	0	1900	124	100	0	\$0	\$2,200
MH 114	4' Diameter	Manholes	4.4			0	1999	25	100	75	\$2,300	\$1,600
MH 115	4' Diameter	Manholes	6.7	920.1	913.45	0	1900	124	100	0	\$0	\$2,000
MH 116	4' Diameter	Manholes	6.2	920.02	913.72	0	1900	124	100	0	\$0	\$1,900
MH 116A	UNK	Manholes		919.31	915.11	0	2005	19	100	81	\$2,400	\$2,100
MH 117	4' Diameter	Manholes	4.2	912.8	914.6	0	1900	124	100	0	\$0	\$1,500
MH 118	4' Diameter	Manholes	3.4			0	1999	25	100	75	\$2,300	\$1,300
MH 118A	4' Diameter	Manholes	4.6			0	1999	25	100	75	\$2,300	\$1,600
MH 119	Oval	Manholes	12.4	914.44	901.34	0	1908	116	100	0	\$0	\$3,300

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 120	4' Diameter	Manholes	4.5			0	1908	116	100	0	\$0	\$1,600
MH 120A	4' Diameter	Manholes	4	911.34	907.72	0	1900	124	100	0	\$0	\$1,500
MH 121	4' Diameter	Manholes	5.75	922.39	916.13	0	1900	124	100	0	\$0	\$1,800
MH 122	4' Diameter	Manholes	6.4			0	1900	124	100	0	\$0	\$2,000
MH 123	4' Diameter	Manholes	11.4	917.1	905.4	0	1908	116	100	0	\$0	\$3,100
MH 124	Oval	Manholes	11.1	915.07	904.02	0	1908	116	100	0	\$0	\$3,000
MH 125	Oval	Manholes	10.75	917.12	906.37	0	1908	116	100	0	\$0	\$2,900
MH 126	4' Diameter	Manholes	10.3	917.13	907.29	0	1908	116	100	0	\$0	\$2,800
MH 127	4' Diameter	Manholes	11.7	924.16	913.08	0	1900	124	100	0	\$0	\$3,100
MH 128	4' Diameter	Manholes	9	932.99	924.31	0	1900	124	100	0	\$0	\$2,500
MH 130	4' Diameter	Manholes	11.1	941.33		0	1900	124	100	0	\$0	\$3,000
MH 131	4' Diameter	Manholes	9.1	957.37	948.45	0	1900	124	100	0	\$0	\$2,600
MH 132	4' Diameter	Manholes	10.3	918.15	908.17	0	1908	116	100	0	\$0	\$2,800
MH 133	Oval	Manholes	10.4			0	1908	116	100	0	\$0	\$2,800
MH 134	4' Diameter	Manholes	6	920.6	912.8	0	1900	124	100	0	\$0	\$1,900
MH 135	4' Diameter	Manholes	8.5	932.55	924.73	0	1900	124	100	0	\$0	\$2,400
MH 136	4' Diameter	Manholes	9.3	938.18	930.22	0	1900	124	100	0	\$0	\$2,600
MH 137	4' Diameter	Manholes	4.8	935.12	931.08	0	1900	124	100	0	\$0	\$1,600
MH 138	4' Diameter	Manholes	10.4	955.12	944	0	1900	124	100	0	\$0	\$2,800
MH 139	4' Diameter	Manholes	12	977.99	965.91	0	1900	124	100	0	\$0	\$3,200
MH 140	4' Diameter	Manholes	6.4	949.37	943.09	0	1900	124	100	0	\$0	\$2,000
MH 141	4' Diameter	Manholes	3.5			0	1900	124	100	0	\$0	\$1,400
MH 142	UNK	Manholes	6.3	971.38	965.08	0	1900	124	100	0	\$0	\$2,000
MH 143	4' Diameter	Manholes	5.4	896.89	891.04	0	1900	124	100	0	\$0	\$1,800
MH 145	4' Diameter	Manholes	8.45	901.19	892.17	0	1900	124	100	0	\$0	\$2,400
MH 146	Rectangular	Manholes	11.4	918.51	906.18	0	1900	124	100	0	\$0	\$3,100
MH 146A	2' Diameter	Manholes	4.6			0	1900	124	100	0	\$0	\$1,300
MH 147	Rectangular	Manholes	10.9	927.04	913.88	0	1900	124	100	0	\$0	\$3,000
MH 148	4' Diameter	Manholes	12.3	929	916.67	0	1900	124	100	0	\$0	\$3,300
MH 149	Rectangular	Manholes	13.1	931.7	918.68	0	1900	124	100	0	\$0	\$3,400
MH 150	rectangular	Manholes	7.6	934.1	926.9	0	1900	124	100	0	\$0	\$2,200
MH 151	4' Diameter	Manholes	8.8			0	1900	124	100	0	\$0	\$2,500
MH 151A	Rectangular	Manholes	8.6			0	1900	124	100	0	\$0	\$2,500
MH 152	4' Diameter	Manholes	8	941.35	933.91	0	1900	124	100	0	\$0	\$2,300

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 153	4' Diameter	Manholes	8.8			0	1900	124	100	0	\$0	\$2,500
MH 154	Oval	Manholes	10.5	950.21	939.62	0	1900	124	100	0	\$0	\$2,900
MH 154A	4' Diameter	Manholes	9.9			0	1900	124	100	0	\$0	\$2,700
MH 155	Oval	Manholes	7.4	958.76	951.38	0	1900	124	100	0	\$0	\$2,200
MH 155A	4' Diameter	Manholes	11.2			0	1900	124	100	0	\$0	\$3,000
MH 156	4' Diameter	Manholes	9.9	973.15	963.79	0	1900	124	100	0	\$0	\$2,700
MH 156A	4' Diameter	Manholes	8			0	1900	124	100	0	\$0	\$2,300
MH 157	4' Diameter	Manholes	11.4	906.22	895.98	0	1900	124	100	0	\$0	\$3,100
MH 158	4' Diameter	Manholes	8.1	903	894.35	0	1900	124	100	0	\$0	\$2,300
MH 159	4' Diameter	Manholes	7.1	902.13	894.77	0	1900	124	100	0	\$0	\$2,100
MH 160	4' Diameter	Manholes	6.8	902.3	895.42	0	1900	124	100	0	\$0	\$2,100
MH 160A	4' Diameter	Manholes				0	1900	124	100	0	\$0	\$2,100
MH 161	4' Diameter	Manholes	5.4	901.4	895.85	0	1900	124	100	0	\$0	\$1,800
MH 162	4' Diameter	Manholes	8.45	906.4	896.94	0	1900	124	100	0	\$0	\$2,400
MH 162A	4' Diameter	Manholes	7	904.23		0	1900	124	100	0	\$0	\$2,100
MH 163	4' Diameter	Manholes	4.82	902.44	897.625	0	1900	124	100	0	\$0	\$1,600
MH 164	4' Diameter	Manholes	6.7	904.91	898.21	0	2013	11	100	89	\$2,700	\$2,000
MH 165	4' Diameter	Manholes	7.65	906.69	899.04	0	1900	124	100	0	\$0	\$2,300
MH 165A	4' Diameter	Manholes	7.1	906.72	899.62	0	1900	124	100	0	\$0	\$2,100
MH 165B	4' Diameter	Manholes	19.65			0	1900	124	100	0	\$0	\$4,800
MH 166	4' Diameter	Manholes	10.2	904.92	893.6	0	1900	124	100	0	\$0	\$2,800
MH 166A	4' Diameter	Manholes	11.7			0	1900	124	100	0	\$0	\$3,100
MH 167	4' Diameter	Manholes	9.25	908.44	899.26	0	1900	124	100	0	\$0	\$2,600
MH 168	4' Diameter	Manholes	8.15	920.33	912.8	0	1905	119	100	0	\$0	\$2,400
MH 169	4' Diameter	Manholes	9.05			0	1900	124	100	0	\$0	\$2,600
MH 170	4' Diameter	Manholes	8.2			0	1900	124	100	0	\$0	\$2,400
MH 171	4' Diameter	Manholes	5.6	940.91	935.07	0	1900	124	100	0	\$0	\$1,800
MH 172	4' Diameter	Manholes	6.45	949.87	940.12	0	1900	124	100	0	\$0	\$2,000
MH 173	4' Diameter	Manholes	13.3	919.2	899.87	0	1900	124	100	0	\$0	\$3,500
MH 173A	4' Diameter	Manholes	11.7			0	1900	124	100	0	\$0	\$3,100
MH 174	4' Diameter	Manholes	10.8			0	1900	124	100	0	\$0	\$2,900
MH 175	4' Diameter	Manholes	10.1	935.79	925.35	0	1900	124	100	0	\$0	\$2,800
MH 176	4' Diameter	Manholes	10	942.25	932.18	0	1900	124	100	0	\$0	\$2,800
MH 177	4' Diameter	Manholes	7.8	942.9	934.08	0	1900	124	100	0	\$0	\$2,300

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 177A	2' Diameter	Manholes	9.2	940.02	930.7	0	1900	124	100	0	\$0	\$2,300
MH 177B	Clean-out	Cleanouts	3			0	1900	124	90	0	\$0	\$700
MH 178	Oval	Manholes	9.7	946.28	937.24	0	1900	124	100	0	\$0	\$2,700
MH 179	4' Diameter	Manholes	5.3	948.34	943.32	0	1907	117	100	0	\$0	\$1,700
MH 179A	4' Diameter	Manholes	7.7			0	1900	124	100	0	\$0	\$2,300
MH 180	4' Diameter	Manholes	6.6			0	1907	117	100	0	\$0	\$2,000
MH 181	4' Diameter	Manholes	7.3	962.34	953.75	0	1913	111	100	0	\$0	\$2,200
MH 182	4' Diameter	Manholes	5	968.9	964.7	0	1900	124	100	0	\$0	\$1,700
MH 183	4' Diameter	Manholes	6			0	1900	124	100	0	\$0	\$1,900
MH 184	4' Diameter	Manholes	6.9			0	1900	124	100	0	\$0	\$2,100
MH 184A	4' Diameter	Manholes	7.2			0	1900	124	100	0	\$0	\$2,200
MH 185	4' Diameter	Manholes	7.4			0	1900	124	100	0	\$0	\$2,200
MH 185A	4' Diameter	Manholes	8.2			0	1900	124	100	0	\$0	\$2,400
MH 186	4' Diameter	Manholes	7	928.06	921.34	0	1900	124	100	0	\$0	\$2,100
MH 187	4' Diameter	Manholes	8.6	931.06	922.96	0	1900	124	100	0	\$0	\$2,500
MH 188	4' Diameter	Manholes	7.1	932.36	923.37	0	1911	113	100	0	\$0	\$2,100
MH 189	4' Diameter	Manholes	7.2			0	1900	124	100	0	\$0	\$2,200
MH 192	4' Diameter	Manholes	9.8	948.21	838.63	0	1900	124	100	0	\$0	\$2,700
MH 193	4' Diameter	Manholes	7.2	948.61	940.96	0	1901	123	100	0	\$0	\$2,200
MH 194	4' Diameter	Manholes	7.8	954.23	945.11	0	1900	124	100	0	\$0	\$2,300
MH 195	4' Diameter	Manholes	7.5	958.27	952.21	0	1900	124	100	0	\$0	\$2,200
MH 196	4' Diameter	Manholes	7.9	962.54	953.83	0	1900	124	100	0	\$0	\$2,300
MH 197	4' Diameter	Manholes	7	966.81	958.22	0	1900	124	100	0	\$0	\$2,100
MH 198	4' Diameter	Manholes	10.2	973.01	962.72	0	1900	124	100	0	\$0	\$2,800
MH 198A	4' Diameter	Manholes	9.65	980.22	970.22	0	1997	27	100	73	\$2,200	\$2,700
MH 200	4' Diameter	Manholes	7.8	988.33	980	0	1900	124	100	0	\$0	\$2,300
MH 201	4' Diameter	Manholes	7.7	988.33	9.80.81	0	1900	124	100	0	\$0	\$2,300
MH 202	4' Diameter	Manholes	5.4			0	1900	124	100	0	\$0	\$1,800
MH 203	4' Diameter	Manholes	2.9			0	1900	124	100	0	\$0	\$1,200
MH 204	4' Diameter	Manholes			900.44	0	2013	11	100	89	\$2,700	\$2,100
MH 204A	4' Diameter	Manholes	3.5			0	1900	124	100	0	\$0	\$1,400
MH 204B	2' Diameter	Manholes	16.1			0	1900	124	100	0	\$0	\$3,800
MH 204C	2' Diameter	Manholes	13			0	1900	124	100	0	\$0	\$3,100
MH 204D	4' Diameter	Manholes				0	1900	124	100	0	\$0	\$2,100

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 204E	4' Diameter	Manholes	8.8	915.68	902	0	2002	22	100	78	\$2,400	\$2,500
MH 205	4' Diameter	Manholes	11.15	917.93	906.78	0	2002	22	100	78	\$2,400	\$3,000
MH 206	4' Diameter	Manholes	6	926.78	915	0	2002	22	100	78	\$2,400	\$1,900
MH 207	4' Diameter	Manholes	8.6	931.23	920	0	2002	22	100	78	\$2,400	\$2,500
MH 207A	4' Diameter	Manholes	11.3	932.3	921	0	2002	22	100	78	\$2,400	\$3,000
MH 208	4' Diameter	Manholes	8.1	934.27	926.56	0	1927	97	100	3	\$100	\$2,300
MH 209	4' Diameter	Manholes	8.4	941.03	931.88	0	1912	112	100	0	\$0	\$2,400
MH 210	4' Diameter	Manholes	9.7	946.23	935.31	0	1927	97	100	3	\$100	\$2,700
MH 211	4' Diameter	Manholes	10	947.02	936.71	0	1900	124	100	0	\$0	\$2,800
MH 212	4' Diameter	Manholes	9	948.44	337.71	0	1900	124	100	0	\$0	\$2,500
MH 213	4' Diameter	Manholes	8.1	956.43	949.21	0	1900	124	100	0	\$0	\$2,300
MH 214	4' Diameter	Manholes	8.7	963.59	954.61	0	1900	124	100	0	\$0	\$2,500
MH 215	4' Diameter	Manholes	9	968.88	959.14	0	1900	124	100	0	\$0	\$2,500
MH 216	4' Diameter	Manholes	6.3			0	1900	124	100	0	\$0	\$2,000
MH 217	4' Diameter	Manholes	7.7	948.14	940.25	0	1927	97	100	3	\$100	\$2,300
MH 218	4' Diameter	Manholes	6.7	951.69	942.88	0	1927	97	100	3	\$100	\$2,000
MH 219	4' Diameter	Manholes	8.9	954.67	946.26	0	1927	97	100	3	\$100	\$2,500
MH 219A	UNK	Manholes				0	1927	97	100	3	\$100	\$2,100
MH 220	4' Diameter	Manholes	6.6	958.28	952.97	0	1927	97	100	3	\$100	\$2,000
MH 221	4' Diameter	Manholes	9	969.34	959.63	0	1927	97	100	3	\$100	\$2,500
MH 222	4' Diameter	Manholes	10.9			0	1900	124	100	0	\$0	\$3,000
MH 223	2' Diameter	Manholes	4.1			0	1900	124	100	0	\$0	\$1,200
MH 223A	2' Diameter	Manholes	3			0	1900	124	100	0	\$0	\$900
MH 224	4' Diameter	Manholes	7.7	947.01	939.35	0	1927	97	100	3	\$100	\$2,300
MH 225	4' Diameter	Manholes	7.75	952.1	944.41	0	1900	124	100	0	\$0	\$2,300
MH 226	4' Diameter	Manholes	8.65	958.81	950.28	0	1900	124	100	0	\$0	\$2,500
MH 227	4' Diameter	Manholes	8.85	965.4	956.78	0	1900	124	100	0	\$0	\$2,500
MH 228	4' Diameter	Manholes	9.45	966.2	956.85	0	1900	124	100	0	\$0	\$2,600
MH 229	4' Diameter	Manholes	8.4	970.4	961.68	0	1900	124	100	0	\$0	\$2,400
MH 230	4' Diameter	Manholes	5		970.1	0	1900	124	100	0	\$0	\$1,700
MH 231	4' Diameter	Manholes	10.4	987.57	977.17	0	1900	124	100	0	\$0	\$2,800
MH 232	4' Diameter	Manholes	6.9	999.97	993.07	0	1900	124	100	0	\$0	\$2,100
MH 233	4' Diameter	Manholes	6.3			0	1900	124	100	0	\$0	\$2,000
MH 233A	18" Diameter	Manholes	4.3			0	1900	124	100	0	\$0	\$1,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 234	4' Diameter	Manholes	6.8	947.19	936	0	2002	22	100	78	\$2,400	\$2,100
MH 234A	4' Diameter	Manholes	7.7	949.91	940	0	1900	124	100	0	\$0	\$2,300
MH 235	4' Diameter	Manholes	7	953.03	942	0	2002	22	100	78	\$2,400	\$2,100
MH 235A	4' Diameter	Manholes	6	950.88	942.85	0	2002	22	100	78	\$2,400	\$1,900
MH 236	4' Diameter	Manholes	6	956.49	950.49	0	2002	22	100	78	\$2,400	\$1,900
MH 237	4' Diameter	Manholes	7.5	958.5	951.8	0	1960	64	100	36	\$1,100	\$2,200
MH 238	4' Diameter	Manholes	8.1	962.8	956	0	1960	64	100	36	\$1,100	\$2,300
MH 239	4' Diameter	Manholes	7.6	973.6	965	0	1960	64	100	36	\$1,100	\$2,200
MH 240	4' Diameter	Manholes	7.5		985.43	0	1960	64	100	36	\$1,100	\$2,200
MH 241	4' Diameter	Manholes	6.4		988.05	0	1960	64	100	36	\$1,100	\$2,000
MH 242	4' Diameter	Manholes	7	961.4	954.34	0	1960	64	100	36	\$1,100	\$2,100
MH 243	4' Diameter	Manholes	7	966.9	959.87	0	1960	64	100	36	\$1,100	\$2,100
MH 244	4' Diameter	Manholes	8.7	972.5	965.34	0	1960	64	100	36	\$1,100	\$2,500
MH 245	4' Diameter	Manholes	8.9	981.2	972.9	0	1960	64	100	36	\$1,100	\$2,500
MH 246	4' Diameter	Manholes	10.2	989.4	980	0	1960	64	100	36	\$1,100	\$2,800
MH 246A	4' Diameter	Manholes	7			0	1960	64	100	36	\$1,100	\$2,100
MH 246B	4' Diameter	Manholes	8.4			0	1960	64	100	36	\$1,100	\$2,400
MH 246C	4' Diameter	Manholes	7.9			0	1960	64	100	36	\$1,100	\$2,300
MH 247	4' Diameter	Manholes	10.6	984.8	974.38	0	1960	64	100	36	\$1,100	\$2,900
MH 248	4' Diameter	Manholes	8.8	984.8	974.38	0	1960	64	100	36	\$1,100	\$2,500
MH 249	4' Diameter	Manholes	8.2	992.8	983.77	0	1960	64	100	36	\$1,100	\$2,400
MH 250	4' Diameter	Manholes	10.8	996	992	0	1960	64	100	36	\$1,100	\$2,900
MH 251	4' Diameter	Manholes	11.5	1002	986.17	0	1960	64	100	36	\$1,100	\$3,100
MH 252	4' Diameter	Manholes	9.1		1000.01	0	1900	124	100	0	\$0	\$2,600
MH 253	4' Diameter	Manholes	8.7	1011.36	1003.63	0	1900	124	100	0	\$0	\$2,500
MH 254	4' Diameter	Manholes	18.4	900.2	881.14	0	1976	48	100	52	\$1,600	\$4,600
MH 254A	4' Diameter	Manholes	5.5			0	1900	124	100	0	\$0	\$1,800
MH 255	4' Diameter	Manholes	7.1			0	1900	124	100	0	\$0	\$2,100
MH 256	4' Diameter	Manholes	8.1			0	1900	124	100	0	\$0	\$2,300
MH 257	4' Diameter	Manholes	8.6			0	1900	124	100	0	\$0	\$2,500
MH 258	4' Diameter	Manholes	8.9	905.24	896.61	0	1900	124	100	0	\$0	\$2,500
MH 259	4' Diameter	Manholes	9	906.2	897.13	0	1900	124	100	0	\$0	\$2,500
MH 260	4' Diameter	Manholes	9.3	911.34	902	0	1900	124	100	0	\$0	\$2,600
MH 260A	4' Diameter	Manholes	7.3			0	1900	124	100	0	\$0	\$2,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 261	3' Diameter	Manholes	8.7	913.38	904.93	0	1900	124	100	0	\$0	\$2,300
MH 262	4' Diameter	Manholes	7.2	913.97	906.55	0	1900	124	100	0	\$0	\$2,200
MH 263	4' Diameter	Manholes	8.9			0	1900	124	100	0	\$0	\$2,500
MH 264	4' Diameter	Manholes	8.1			0	1900	124	100	0	\$0	\$2,300
MH 265	4' Diameter	Manholes	9.8			0	1900	124	100	0	\$0	\$2,700
MH 266	4' Diameter	Manholes	11.8			0	1900	124	100	0	\$0	\$3,100
MH 266A	4' Diameter	Manholes	10.4			0	1900	124	100	0	\$0	\$2,800
MH 266B	4' Diameter	Manholes	10.9			0	1900	124	100	0	\$0	\$3,000
MH 267	UNK	Manholes				0	1900	124	100	0	\$0	\$2,100
MH 269	4' Diameter	Manholes	7.3			0	1900	124	100	0	\$0	\$2,200
MH 270	4' Diameter	Manholes	7.5	924.86	917.5	0	1900	124	100	0	\$0	\$2,200
MH 271	4' Diameter	Manholes	7.35	924.2	916.9	0	1900	124	100	0	\$0	\$2,200
MH 272	4' Diameter	Manholes	6.6	922.84	916.17	0	1900	124	100	0	\$0	\$2,000
MH 273	4' Diameter	Manholes	6.7	922.22	915.54	0	1900	124	100	0	\$0	\$2,000
MH 274	4' Diameter	Manholes	7.9	921.75	914.97	0	1900	124	100	0	\$0	\$2,300
MH 275	4' Diameter	Manholes	8.2			0	1900	124	100	0	\$0	\$2,400
MH 276	4' Diameter	Manholes	5.2			0	1900	124	100	0	\$0	\$1,700
MH 277	4' Diameter	Manholes	5.6	920.24	914.58	0	2003	21	100	79	\$2,400	\$1,800
MH 277A	4' Diameter	Manholes	5.3	920.62	915.31	0	2003	21	100	79	\$2,400	\$1,700
MH 278	4' Diameter	Manholes	6.7	919.7	913.7	0	1900	124	100	0	\$0	\$2,000
MH 279	4' Diameter	Manholes	7.35	919.28	911.03	0	1900	124	100	0	\$0	\$2,200
MH 280	4' Diameter	Manholes	6.3	920.1	913.8	0	1900	124	100	0	\$0	\$2,000
MH 280A	4' Diameter	Manholes	6.2	920.1	914.03	0	1900	124	100	0	\$0	\$1,900
MH 280B	4' Diameter	Manholes	4.4			0	1999	25	100	75	\$2,300	\$1,600
MH 281	4' Diameter	Manholes	6.1			0	1911	113	100	0	\$0	\$1,900
MH 282	4' Diameter	Manholes	6.7	921.08	914.34	0	1911	113	100	0	\$0	\$2,000
MH 282A	4' Diameter	Manholes	7.5			0	1911	113	100	0	\$0	\$2,200
MH 283	4' Diameter	Manholes	7.2	920.86	913.86	0	1911	113	100	0	\$0	\$2,200
MH 283A	2' Diameter	Manholes	2.2			0	1911	113	100	0	\$0	\$800
MH 284	4' Diameter	Manholes	3.7			0	1999	25	100	75	\$2,300	\$1,400
MH 285	4' Diameter	Manholes	7.7			0	1900	124	100	0	\$0	\$2,300
MH 285A	Rectangular	Manholes	4			0	1900	124	100	0	\$0	\$1,500
MH 286	4' Diameter	Manholes	7.4	917.7	90_.55	0	1900	124	100	0	\$0	\$2,200
MH 287	4' Diameter	Manholes	5.8	917.65	911.95	0	2005	19	100	81	\$2,400	\$1,900

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 287A	4' Diameter	Manholes		918.9	912.51	0	2005	19	100	81	\$2,400	\$2,100
MH 288	Oval	Manholes	8.4			0	1900	124	100	0	\$0	\$2,400
MH 289	Oval	Manholes	6.4	918.27	912.55	0	1900	124	100	0	\$0	\$2,000
MH 289A	4' Diameter	Manholes	4			0	1900	124	100	0	\$0	\$1,500
MH 289B	2' Diameter	Manholes	3.5			0	1900	124	100	0	\$0	\$1,100
MH 290	Oval	Manholes	6.5			0	1900	124	100	0	\$0	\$2,000
MH 291	Oval	Manholes	8.3	916.53	907.87	0	1900	124	100	0	\$0	\$2,400
MH 292	4' Diameter	Manholes	9.5	916.21	905.57	0	1900	124	100	0	\$0	\$2,700
MH 293	4' Diameter	Manholes	4.7	914.8	911.72	0	1900	124	100	0	\$0	\$1,600
MH 294	4' Diameter	Manholes	5.6	915.82	910.22	0	1900	124	100	0	\$0	\$1,800
MH 295	Oval	Manholes	7.7	915.76	908.02	0	1900	124	100	0	\$0	\$2,300
MH 295A	UNK	Manholes				0	1900	124	100	0	\$0	\$2,100
MH 296	Oval	Manholes	11.8			0	1900	124	100	0	\$0	\$3,100
MH 297	4' Diameter	Manholes	11.3			0	1900	124	100	0	\$0	\$3,000
MH 298	4' Diameter	Manholes	9.5	915.24	905.62	0	1985	39	100	61	\$1,800	\$2,700
MH 298A	4' Diameter	Manholes	11.3			0	1900	124	100	0	\$0	\$3,000
MH 299	Oval	Manholes	10.6	915.71	905.23	0	1900	124	100	0	\$0	\$2,900
MH 300	4' Diameter	Manholes	10.6			0	1900	124	100	0	\$0	\$2,900
MH 302	4' Diameter	Manholes	7.5			0	1900	124	100	0	\$0	\$2,200
MH 303	4' Diameter	Manholes	6.8			0	1900	124	100	0	\$0	\$2,100
MH 304	4' Diameter	Manholes	9.3	910.18	902.32	0	1909	115	100	0	\$0	\$2,600
MH 305	Vault	Vault	6.6			0	1958	66	100	34	\$3,400	\$3,400
MH 306	UNK	Manholes				0	1958	66	100	34	\$1,000	\$2,100
MH 306A	UNK	Manholes				0	1958	66	100	34	\$1,000	\$2,100
MH 307	3' Diameter	Manholes	3.3		895.53	0	1958	66	100	34	\$700	\$1,100
MH 307A	4' Diameter	Manholes	4.3			0	1958	66	100	34	\$1,000	\$1,500
MH 308	4' Diameter	Manholes	5.1			0	1967	57	100	43	\$1,300	\$1,700
MH 308A	3' Diameter	Manholes	3.8			0	1967	57	100	43	\$900	\$1,200
MH 309	4' Diameter	Manholes	6.3	903.11	898.83	0	1967	57	100	43	\$1,300	\$2,000
MH 310	4' Diameter	Manholes	4.3	904.8	901	0	1967	57	100	43	\$1,300	\$1,500
MH 311	4' Diameter	Manholes	6.4			0	1967	57	100	43	\$1,300	\$2,000
MH 311A	4' Diameter	Manholes	3.9			0	1980	44	100	56	\$1,700	\$1,400
MH 312	4' Diameter	Manholes	8.2			0	1967	57	100	43	\$1,300	\$2,400
MH 313	4' Diameter	Manholes	7.3			0	1967	57	100	43	\$1,300	\$2,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 314	4' Diameter	Manholes	6.9			0	1967	57	100	43	\$1,300	\$2,100
MH 315	4' Diameter	Manholes	7.5			0	1967	57	100	43	\$1,300	\$2,200
MH 316	4' Diameter	Manholes	5.9			0	1967	57	100	43	\$1,300	\$1,900
MH 317	4' Diameter	Manholes	5.6			0	1967	57	100	43	\$1,300	\$1,800
MH 318	4' Diameter	Manholes	6.4			0	1967	57	100	43	\$1,300	\$2,000
MH 319	4' Diameter	Manholes	8.4	918	915.75	0	1967	57	100	43	\$1,300	\$2,400
MH 320	Vault	Vault	16.2			0	1967	57	100	43	\$4,300	\$5,500
MH 321	UNK	Manholes				0	1967	57	100	43	\$1,300	\$2,100
MH 322	4' Diameter	Manholes	5.4			0	1967	57	100	43	\$1,300	\$1,800
MH 323	4' Diameter	Manholes	6.7			0	1967	57	100	43	\$1,300	\$2,000
MH 324	4' Diameter	Manholes	7.7			0	1967	57	100	43	\$1,300	\$2,300
MH 325	4' Diameter	Manholes	8.3			0	1967	57	100	43	\$1,300	\$2,400
MH 326	4' Diameter	Manholes	7.4			0	1967	57	100	43	\$1,300	\$2,200
MH 327	4' Diameter	Manholes	5	921.1	916.35	0	1967	57	100	43	\$1,300	\$1,700
MH 328	4' Diameter	Manholes	5.6	922.4	917.25	0	1967	57	100	43	\$1,300	\$1,800
MH 329	4' Diameter	Manholes	5.5	921.31	915	0	1967	57	100	43	\$1,300	\$1,800
MH 330	4' Diameter	Manholes	6.6	920.01	914	0	1967	57	100	43	\$1,300	\$2,000
MH 331	4' Diameter	Manholes	6.1	918.81	913	0	1967	57	100	43	\$1,300	\$1,900
MH 332	4' Diameter	Manholes	7.6	917.21	910	0	1967	57	100	43	\$1,300	\$2,200
MH 333	4' Diameter	Manholes	5.6	921.11	916	0	1967	57	100	43	\$1,300	\$1,800
MH 334	4' Diameter	Manholes	6.6			0	1967	57	100	43	\$1,300	\$2,000
MH 335	4' Diameter	Manholes	5.8			0	1967	57	100	43	\$1,300	\$1,900
MH 336	4' Diameter	Manholes	6.8	925.54	919.56	0	1967	57	100	43	\$1,300	\$2,100
MH 337	4' Diameter	Manholes	9.2	924.82	915.8	0	1967	57	100	43	\$1,300	\$2,600
MH 338	4' Diameter	Manholes	6.4			0	1967	57	100	43	\$1,300	\$2,000
MH 339	4' Diameter	Manholes	5.7	902.04	896.02	0	1967	57	100	43	\$1,300	\$1,800
MH 340	4' Diameter	Manholes	9.8			0	1967	57	100	43	\$1,300	\$2,700
MH 341	4' Diameter	Manholes	6.4	907.68	897.84	0	1997	27	100	73	\$2,200	\$2,000
MH 341A	4' Diameter	Manholes	4.9	903.25	898.25	0	1997	27	100	73	\$2,200	\$1,700
MH 342	UNK	Manholes		909.85	902.81	0	1997	27	100	73	\$2,200	\$2,100
MH 343	4' Diameter	Manholes	11	916.32	904.25	0	1976	48	100	52	\$1,600	\$3,000
MH 344	4' Diameter	Manholes	14.2	919.99	905.14	0	1976	48	100	52	\$1,600	\$3,700
MH 345	4' Diameter	Manholes	11.1			0	1976	48	100	52	\$1,600	\$3,000
MH 346	4' Diameter	Manholes	10.4	925.5	915.32	0	1976	48	100	52	\$1,600	\$2,800

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 346A	4' Diameter	Manholes	11.3			0	1976	48	100	52	\$1,600	\$3,000
MH 347	Oval	Manholes	9.3	935.3	926.41	0	1976	48	100	52	\$1,600	\$2,600
MH 348	4' Diameter	Manholes	8.5			0	1976	48	100	52	\$1,600	\$2,400
MH 349	Rectangular	Manholes	4.3	934.14	924	0	2002	22	100	78	\$2,400	\$1,500
MH 349A	UNK	Manholes	6.87	938.3	931.43	0	1980	44	100	56	\$1,700	\$2,100
MH 349B	4' Diameter	Manholes	6.7	940.3	932.41	0	1980	44	100	56	\$1,700	\$2,000
MH 349C	4' Diameter	Manholes	6.6	934.25	929.9	0	2005	19	100	81	\$2,400	\$2,000
MH 349D	4' Diameter	Manholes	7.5	948.6	935.8	0	2005	19	100	81	\$2,400	\$2,200
MH 349E	4' Diameter	Manholes	12.95			0	2005	19	100	81	\$2,400	\$3,400
MH 350	4' Diameter	Manholes	6.6			0	1976	48	100	52	\$1,600	\$2,000
MH 350A	4' Diameter	Manholes	8.58	934.58	926	0	2002	22	100	78	\$2,400	\$2,500
MH 350B	4' Diameter	Manholes	10.48	945.48	935	0	2002	22	100	78	\$2,400	\$2,900
MH 351	4' Diameter	Manholes	7.2	1013.55	1006.29	0	1976	48	100	52	\$1,600	\$2,200
MH 352	4' Diameter	Manholes	6.4		1006	0	1976	48	100	52	\$1,600	\$2,000
MH 353	4' Diameter	Manholes	4.2			0	1976	48	100	52	\$1,600	\$1,500
MH 354	4' Diameter	Manholes	7.5			0	1976	48	100	52	\$1,600	\$2,200
MH 355	4' Diameter	Manholes	9.4			0	1910	114	100	0	\$0	\$2,600
MH 356	4' Diameter	Manholes	10.36	969.13	958.9	0	1910	114	100	0	\$0	\$2,800
MH 357	4' Diameter	Manholes	7.1	979.1	972.7	0	1910	114	100	0	\$0	\$2,100
MH 358	4' Diameter	Manholes				0	2004	20	100	80	\$2,400	\$2,100
MH 358A	4' Diameter	Manholes	5.53	977.17	971.64	0	1976	48	100	52	\$1,600	\$1,800
MH 359	3' Diameter	Manholes	2.98	975.04	972.06	0	1976	48	100	52	\$1,000	\$1,000
MH 360	4' Diameter	Manholes	9.5			0	1976	48	100	52	\$1,600	\$2,700
MH 361	4' Diameter	Manholes	12.5			0	1976	48	100	52	\$1,600	\$3,300
MH 361A	4' Diameter	Manholes	8			0	1976	48	100	52	\$1,600	\$2,300
MH 361B	4' Diameter	Manholes	9.6			0	1976	48	100	52	\$1,600	\$2,700
MH 361C	4' Diameter	Manholes	9.4			0	1976	48	100	52	\$1,600	\$2,600
MH 361D	4' Diameter	Manholes	8.1			0	1976	48	100	52	\$1,600	\$2,300
MH 362	4' Diameter	Manholes	14.4			0	1976	48	100	52	\$1,600	\$3,700
MH 363	4' Diameter	Manholes	12.9			0	1976	48	100	52	\$1,600	\$3,400
MH 363a	4' Diameter	Manholes	14			0	1976	48	100	52	\$1,600	\$3,600
MH 364	4' Diameter	Manholes	11.5			0	1976	48	100	52	\$1,600	\$3,100
MH 365	4' Diameter	Manholes	11.5			0	1976	48	100	52	\$1,600	\$3,100
MH 366	4' Diameter	Manholes	11.8			0	1976	48	100	52	\$1,600	\$3,100

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 367	4' Diameter	Manholes	10.1	989.1	980.85	0	1989	35	100	65	\$2,000	\$2,800
MH 368	4' Diameter	Manholes	10.2	987.4	979.4	0	1989	35	100	65	\$2,000	\$2,800
MH 369	4' Diameter	Manholes	7	981.3	973.45	0	1989	35	100	65	\$2,000	\$2,100
MH 370	4' Diameter	Manholes	5.4			0	1976	48	100	52	\$1,600	\$1,800
MH 371	4' Diameter	Manholes	7.4			0	1976	48	100	52	\$1,600	\$2,200
MH 372	4' Diameter	Manholes	9.7	974.8	966.73	0	1989	35	100	65	\$2,000	\$2,700
MH 373	4' Diameter	Manholes	6.7			0	1998	26	100	74	\$2,200	\$2,000
MH 374	4' Diameter	Manholes	9.4			0	1976	48	100	52	\$1,600	\$2,600
MH 374A	4' Diameter	Manholes	8.9			0	1976	48	100	52	\$1,600	\$2,500
MH 375	4' Diameter	Manholes	9.1		970.93	0	1976	48	100	52	\$1,600	\$2,600
MH 376	4' Diameter	Manholes	9.4		966.25	0	1976	48	100	52	\$1,600	\$2,600
MH 377	4' Diameter	Manholes	10.8	969.9	961.88	0	1989	35	100	65	\$2,000	\$2,900
MH 378	4' Diameter	Manholes	5.4	970.37	965.32	0	1989	35	100	65	\$2,000	\$1,800
MH 379	4' Diameter	Manholes	9.2	963.6	955.1	0	1989	35	100	65	\$2,000	\$2,600
MH 379A	UNK	Manholes			953.66	0	1976	48	100	52	\$1,600	\$2,100
MH 380	4' Diameter	Manholes	10.65	958.85	948.04	0	1976	48	100	52	\$1,600	\$2,900
MH 380A	4' Diameter	Manholes	8.1			0	1976	48	100	52	\$1,600	\$2,300
MH 381	4' Diameter	Manholes	11.9			0	1976	48	100	52	\$1,600	\$3,200
MH 382	4' Diameter	Manholes	12.5			0	1976	48	100	52	\$1,600	\$3,300
MH 383	4' Diameter	Manholes	9.9			0	1976	48	100	52	\$1,600	\$2,700
MH 383A	4' Diameter	Manholes			11.1	0	1976	48	100	52	\$1,600	\$2,100
MH 384	4' Diameter	Manholes	13.8			0	1976	48	100	52	\$1,600	\$3,600
MH 385	4' Diameter	Manholes	10			0	1976	48	100	52	\$1,600	\$2,800
MH 386	4' Diameter	Manholes	8.8			0	1976	48	100	52	\$1,600	\$2,500
MH 387	4' Diameter	Manholes	8.35	932.84	924.59	0	1974	50	100	50	\$1,500	\$2,400
MH 387A	4' Diameter	Manholes	8.8	934.61	925.84	0	1978	46	100	54	\$1,600	\$2,500
MH 387B	4' Diameter	Manholes	7.6	934.27	926.67	0	1991	33	100	67	\$2,000	\$2,200
MH 387C	4' Diameter	Manholes	8.1	9355	927.78	0	1991	33	100	67	\$2,000	\$2,300
MH 387D	4' Diameter	Manholes	5.9	934.54	928.55	0	1991	33	100	67	\$2,000	\$1,900
MH 388	4' Diameter	Manholes	8.1	931.79	923.59	0	1974	50	100	50	\$1,500	\$2,300
MH 389	4' Diameter	Manholes	8.8	931.69	922.89	0	1974	50	100	50	\$1,500	\$2,500
MH 390	4' Diameter	Manholes	7.7	930.02	922.34	0	1974	50	100	50	\$1,500	\$2,300
MH 391	4' Diameter	Manholes	6.35	929.5	922.75	0	1974	50	100	50	\$1,500	\$2,000
MH 392	4' Diameter	Manholes	8.2	930.17	922.3	0	1974	50	100	50	\$1,500	\$2,400

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 393	4' Diameter	Manholes	6.9	928.57	921.72	0	1974	50	100	50	\$1,500	\$2,100
MH 394	4' Diameter	Manholes	8.5			0	1976	48	100	52	\$1,600	\$2,400
MH 395	4' Diameter	Manholes	8.2			0	1976	48	100	52	\$1,600	\$2,400
MH 396	4' Diameter	Manholes	6.2	934.31	928.11	0	1976	48	100	52	\$1,600	\$1,900
MH 397	4' Diameter	Manholes	4.28	927.89	923.49	0	1976	48	100	52	\$1,600	\$1,500
MH 398	4' Diameter	Manholes	6.6	928.41	921.71	0	1976	48	100	52	\$1,600	\$2,000
MH 399	4' Diameter	Manholes	7.1	929.13	921.98	0	1976	48	100	52	\$1,600	\$2,100
MH 400	4' Diameter	Manholes	7.1	933.96	926.73	0	1976	48	100	52	\$1,600	\$2,100
MH 401	4' Diameter	Manholes	6.3	932.22	925.92	0	1976	48	100	52	\$1,600	\$2,000
MH 402	4' Diameter	Manholes	3.8	928.95	925.15	0	1976	48	100	52	\$1,600	\$1,400
MH 403	4' Diameter	Manholes	5.15	922.05	916.81	0	1976	48	100	52	\$1,600	\$1,700
MH 404	4' Diameter	Manholes	5	922.64	917.43	0	1976	48	100	52	\$1,600	\$1,700
MH 404a	2' Diameter	Manholes				0	1976	48	100	52	\$800	\$1,800
MH 405	4' Diameter	Manholes	7.8	926.68	919.45	0	1976	48	100	52	\$1,600	\$2,300
MH 406	4' Diameter	Manholes	7.4	924.66	918.85	0	1976	48	100	52	\$1,600	\$2,200
MH 407	4' Diameter	Manholes	6.8	926.12	919.06	0	1976	48	100	52	\$1,600	\$2,100
MH 408	4' Diameter	Manholes	5.8	923.05	917.74	0	1976	48	100	52	\$1,600	\$1,900
MH 409	4' Diameter	Manholes	3.9			0	1976	48	100	52	\$1,600	\$1,400
MH 410	4' Diameter	Manholes	6.8	923.08	916.5	0	1976	48	100	52	\$1,600	\$2,100
MH 410A	4' Diameter	Manholes				0	1976	48	100	52	\$1,600	\$2,100
MH 410B	UNK	Manholes				0	1976	48	100	52	\$1,600	\$2,100
MH 411	Clean-out	Cleanouts	4.8			0	1976	48	90	42	\$200	\$1,100
MH 412	4' Diameter	Manholes	5.5			0	1976	48	100	52	\$1,600	\$1,800
MH 413	4' Diameter	Manholes	5.3			0	1976	48	100	52	\$1,600	\$1,700
MH 414	Oval	Manholes	6.3	917.51	911.11	0	1976	48	100	52	\$1,600	\$2,000
MH 415	Oval	Manholes	6.6	915.53	909.11	0	1976	48	100	52	\$1,600	\$2,000
MH 416	4' Diameter	Manholes	3.7			0	1976	48	100	52	\$1,600	\$1,400
MH 417	4' Diameter	Manholes	9.8		910	0	1976	48	100	52	\$1,600	\$2,700
MH 418	4' Diameter	Manholes	8.4		909.73	0	1976	48	100	52	\$1,600	\$2,400
MH 419	4' Diameter	Manholes	7.4		908.34	0	1976	48	100	52	\$1,600	\$2,200
MH 420	4' Diameter	Manholes	8			0	1960	64	100	36	\$1,100	\$2,300
MH 421	4' Diameter	Manholes	7.6			0	1960	64	100	36	\$1,100	\$2,200
MH 422	4' Diameter	Manholes	6.6			0	1960	64	100	36	\$1,100	\$2,000
MH 423	4' Diameter	Manholes	4.7			0	1960	64	100	36	\$1,100	\$1,600

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 424	4' Diameter	Manholes	6.9	931.07	924.91	0	1973	51	100	49	\$1,500	\$2,100
MH 425	4' Diameter	Manholes	9.5	932.91	923.55	0	1973	51	100	49	\$1,500	\$2,700
MH 426	4' Diameter	Manholes	10.7	933.35	922.31	0	1973	51	100	49	\$1,500	\$2,900
MH 427	4' Diameter	Manholes	8.5	928.81	921.19	0	1973	51	100	49	\$1,500	\$2,400
MH 427A	4' Diameter	Manholes	8.3			0	1973	51	100	49	\$1,500	\$2,400
MH 428	4' Diameter	Manholes	10			0	1973	51	100	49	\$1,500	\$2,800
MH 428A	4' Diameter	Manholes	13.9			0	1973	51	100	49	\$1,500	\$3,600
MH 429	4' Diameter	Manholes	8.6			0	1973	51	100	49	\$1,500	\$2,500
MH 430	4' Diameter	Manholes	7.8	933.88	922.26	0	1973	51	100	49	\$1,500	\$2,300
MH 431	4' Diameter	Manholes	9.6	933.3	921.08	0	1973	51	100	49	\$1,500	\$2,700
MH 432	UNK	Manholes		931.5	919.9	0	1973	51	100	49	\$1,500	\$2,100
MH 433	4' Diameter	Manholes	9.3	930.2	918.72	0	1973	51	100	49	\$1,500	\$2,600
MH 434	4' Diameter	Manholes	9.4		917.54	0	1973	51	100	49	\$1,500	\$2,600
MH 435	4' Diameter	Manholes	9.5			0	1976	48	100	52	\$1,600	\$2,700
MH 436	4' Diameter	Manholes	6.4			0	1976	48	100	52	\$1,600	\$2,000
MH 437	4' Diameter	Manholes	8.9		929.24	0	1976	48	100	52	\$1,600	\$2,500
MH 438	4' Diameter	Manholes	8.7		932.33	0	1976	48	100	52	\$1,600	\$2,500
MH 438A	4' Diameter	Manholes	9.3			0	1976	48	100	52	\$1,600	\$2,600
MH 438B	4' Diameter	Manholes		941.81	932.1	0	1976	48	100	52	\$1,600	\$2,100
MH 438C	4' Diameter	Manholes		940.36	933.8	0	1990	34	100	66	\$2,000	\$2,100
MH 438D	4' Diameter	Manholes		941.79	934.2	0	1990	34	100	66	\$2,000	\$2,100
MH 438E	4' Diameter	Manholes		943.74	935	0	1990	34	100	66	\$2,000	\$2,100
MH 439	4' Diameter	Manholes	8.3		935.08	0	1976	48	100	52	\$1,600	\$2,400
MH 440	4' Diameter	Manholes	8.2		936.98	0	1976	48	100	52	\$1,600	\$2,400
MH 441	4' Diameter	Manholes	9	941	930.95	0	1976	48	100	52	\$1,600	\$2,500
MH 442	4' Diameter	Manholes	8.7	937.2	928.87	0	1976	48	100	52	\$1,600	\$2,500
MH 442A	4' Diameter	Manholes	8	0	0	0	1976	48	100	52	\$1,600	\$2,300
MH 442B	4' Diameter	Manholes	5.9			0	1976	48	100	52	\$1,600	\$1,900
MH 442C	4' Diameter	Manholes	6.5			0	1976	48	100	52	\$1,600	\$2,000
MH 442D	4' Diameter	Manholes	7.7			0	1976	48	100	52	\$1,600	\$2,300
MH 443	4' Diameter	Manholes	7.8	934	922.16	0	1976	48	100	52	\$1,600	\$2,300
MH 444	4' Diameter	Manholes	7.5	930.5	923	0	1976	48	100	52	\$1,600	\$2,200
MH 444A	4' Diameter	Manholes	8.1			0	1996	28	100	72	\$2,200	\$2,300
MH 444B	4' Diameter	Manholes	7.2			0	1976	48	100	52	\$1,600	\$2,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 444C	UNK	Manholes	12.2			0	1976	48	100	52	\$1,600	\$3,200
MH 444D	4' Diameter	Manholes	13.4			0	1976	48	100	52	\$1,600	\$3,500
MH 445	4' Diameter	Manholes	8.9	930.5	921.54	0	1976	48	100	52	\$1,600	\$2,500
MH 446	4' Diameter	Manholes	8.5	929.65	920.8	0	1976	48	100	52	\$1,600	\$2,400
MH 446A	4' Diameter	Manholes	7.5	0	921.3	0	1976	48	100	52	\$1,600	\$2,200
MH 446B	4' Diameter	Manholes	6.1	0	922.87	0	1976	48	100	52	\$1,600	\$1,900
MH 447	4' Diameter	Manholes	8.6		919.87	0	1976	48	100	52	\$1,600	\$2,500
MH 448	4' Diameter	Manholes	8.6		919.15	0	1976	48	100	52	\$1,600	\$2,500
MH 449	4' Diameter	Manholes	8.6		917.58	0	1976	48	100	52	\$1,600	\$2,500
MH 450	4' Diameter	Manholes	9		917.04	0	1976	48	100	52	\$1,600	\$2,500
MH 451	4' Diameter	Manholes	6.9			0	1976	48	100	52	\$1,600	\$2,100
MH 452	4' Diameter	Manholes	7.9			0	1976	48	100	52	\$1,600	\$2,300
MH 453	4' Diameter	Manholes	9.1	920.9	912.35	0	1976	48	100	52	\$1,600	\$2,600
MH 454	UNK	Manholes				0	1976	48	100	52	\$1,600	\$2,100
MH 455	4' Diameter	Manholes	14.4	921.1	911.46	0	1976	48	100	52	\$1,600	\$3,700
MH 456	4' Diameter	Manholes	4.4	926.8	921.01	0	1973	51	100	49	\$1,500	\$1,600
MH 457	4' Diameter	Manholes	6.1	925.8	920.11	0	1973	51	100	49	\$1,500	\$1,900
MH 459	4' Diameter	Manholes	5.8	927.4	921.68	0	1979	45	100	55	\$1,700	\$1,900
MH 460	4' Diameter	Manholes	7.4	926.8	919.75	0	1979	45	100	55	\$1,700	\$2,200
MH 461	4' Diameter	Manholes	7.7	925.9	917.63	0	1979	45	100	55	\$1,700	\$2,300
MH 462	4' Diameter	Manholes	8.6			0	1979	45	100	55	\$1,700	\$2,500
MH 463	4' Diameter	Manholes	10.1	926.2	916.15	0	1979	45	100	55	\$1,700	\$2,800
MH 464	4' Diameter	Manholes	11.5	927.2	915.52	0	1979	45	100	55	\$1,700	\$3,100
MH 465	4' Diameter	Manholes	7.1			0	1979	45	100	55	\$1,700	\$2,100
MH 466	4' Diameter	Manholes	11.5	926.5	914.22	0	1979	45	100	55	\$1,700	\$3,100
MH 467	4' Diameter	Manholes	12	925.06	912.87	0	1979	45	100	55	\$1,700	\$3,200
MH 467A	2' Diameter	Manholes	12.4			0	1976	48	100	52	\$800	\$3,000
MH 468	4' Diameter	Manholes	12.8			0	1996	28	100	72	\$2,200	\$3,400
MH 468A	4' Diameter	Manholes	12.5			0	1976	48	100	52	\$1,600	\$3,300
MH 469	4' Diameter	Manholes	4.3	927.98	923.1	0	1976	48	100	52	\$1,600	\$1,500
MH 470	4' Diameter	Manholes	7.1	928.15	921.55	0	1976	48	100	52	\$1,600	\$2,100
MH 471	4' Diameter	Manholes	8.5	929.39	920.69	0	1976	48	100	52	\$1,600	\$2,400
MH 472	4' Diameter	Manholes	6.2			0	1976	48	100	52	\$1,600	\$1,900
MH 473	4' Diameter	Manholes	4.4	923.86	919.26	0	1976	48	100	52	\$1,600	\$1,600

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 474	4' Diameter	Manholes	5.1	921.38	917.14	0	1976	48	100	52	\$1,600	\$1,700
MH 475	4' Diameter	Manholes	7.8	925.66	918.48	0	1976	48	100	52	\$1,600	\$2,300
MH 475A	4' Diameter	Manholes	7.3			0	1997	27	100	73	\$2,200	\$2,200
MH 476	4' Diameter	Manholes	7	924.85	917.85	0	1976	48	100	52	\$1,600	\$2,100
MH 477	4' Diameter	Manholes	6.9	923.14	916.48	0	1976	48	100	52	\$1,600	\$2,100
MH 478	4' Diameter	Manholes	8.7	924.2	915.5	0	1976	48	100	52	\$1,600	\$2,500
MH 479	4' Diameter	Manholes	8.3	927.09	914.49	0	1976	48	100	52	\$1,600	\$2,400
MH 480	4' Diameter	Manholes	18.3		887	0	1983	41	100	59	\$1,800	\$4,600
MH 481	4' Diameter	Manholes	10.8		909.2	0	1983	41	100	59	\$1,800	\$2,900
MH 482	4' Diameter	Manholes	9.3			0	1976	48	100	52	\$1,600	\$2,600
MH 484	4' Diameter	Manholes	5.4	890.44	885.62	0	1976	48	100	52	\$1,600	\$1,800
MH 484A	4' Diameter	Manholes	3.4			0	1976	48	100	52	\$1,600	\$1,300
MH 485	4' Diameter	Manholes	5.7			0	1900	124	100	0	\$0	\$1,800
MH 486	4' Diameter	Manholes	6.4	909.57	903.19	0	1976	48	100	52	\$1,600	\$2,000
MH 486A	4' Diameter	Manholes	7.1			0	1976	48	100	52	\$1,600	\$2,100
MH 486B	4' Diameter	Manholes	8.9			0	1994	30	100	70	\$2,100	\$2,500
MH 487	4' Diameter	Manholes	9.2			0	1976	48	100	52	\$1,600	\$2,600
MH 489	4' Diameter	Manholes	8.7	922.86	915.06	0	1976	48	100	52	\$1,600	\$2,500
MH 490	4' Diameter	Manholes	10			0	1900	124	100	0	\$0	\$2,800
MH 491	Oval	Manholes	8.85	923.31	914.71	0	1900	124	100	0	\$0	\$2,500
MH 491A	4' Diameter	Manholes	9.3			0	1900	124	100	0	\$0	\$2,600
MH 492	4' Diameter	Manholes	5.5			0	1976	48	100	52	\$1,600	\$1,800
MH 492A	4' Diameter	Manholes	5.2			0	1976	48	100	52	\$1,600	\$1,700
MH 492B	4' Diameter	Manholes	5.7	924.04	918.42	0	1976	48	100	52	\$1,600	\$1,800
MH 493	4' Diameter	Manholes	9.7	925.51	916.01	0	1976	48	100	52	\$1,600	\$2,700
MH 494	4' Diameter	Manholes	9.7	925.94	916.65	0	1976	48	100	52	\$1,600	\$2,700
MH 495	4' Diameter	Manholes	8.3	931.16	923.46	0	1976	48	100	52	\$1,600	\$2,400
MH 496	Oval	Manholes	9.1	933.4	924.37	0	1900	124	100	0	\$0	\$2,600
MH 497	4' Diameter	Manholes	9			0	1986	38	100	62	\$1,900	\$2,500
MH 498	4' Diameter	Manholes	8.4			0	1986	38	100	62	\$1,900	\$2,400
MH 499	4' Diameter	Manholes	9.3	938.63	929.55	0	1986	38	100	62	\$1,900	\$2,600
MH 500	4' Diameter	Manholes	9.3			0	1900	124	100	0	\$0	\$2,600
MH 501	4' Diameter	Manholes	9.5			0	1900	124	100	0	\$0	\$2,700
MH 502	4' Diameter	Manholes	9.3	937.31	927.23	0	1900	124	100	0	\$0	\$2,600

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 502A	4' Diameter	Manholes	8.6			0	1990	34	100	66	\$2,000	\$2,500
MH 503	4' Diameter	Manholes	4.5	931.87	927.38	0	1976	48	100	52	\$1,600	\$1,600
MH 504	4' Diameter	Manholes	7.9	944.66	937.1	0	1907	117	100	0	\$0	\$2,300
MH 505	4' Diameter	Manholes	5.5			0	1976	48	100	52	\$1,600	\$1,800
MH 506	4' Diameter	Manholes	6.3			0	1976	48	100	52	\$1,600	\$2,000
MH 507	4' Diameter	Manholes	5.5			0	1976	48	100	52	\$1,600	\$1,800
MH 508	Oval	Manholes	9.5	940.17	930.01	0	1900	124	100	0	\$0	\$2,700
MH 509	4' Diameter	Manholes	10.3	944.29	933.54	0	1976	48	100	52	\$1,600	\$2,800
MH 510	4' Diameter	Manholes	6.8			0	1976	48	100	52	\$1,600	\$2,100
MH 511	4' Diameter	Manholes	7.4	933.66	926.84	0	1976	48	100	52	\$1,600	\$2,200
MH 511A	4' Diameter	Manholes	6.2			0	1976	48	100	52	\$1,600	\$1,900
MH 512	4' Diameter	Manholes	10.4	937.41	926.91	0	1976	48	100	52	\$1,600	\$2,800
MH 513	4' Diameter	Manholes	14.6	944.82	930.85	0	1976	48	100	52	\$1,600	\$3,800
MH 514	Vault	Vault	15.4	950.48	935.19	0	1976	48	100	52	\$5,200	\$5,300
MH 515	4' Diameter	Manholes	7.6			0	1900	124	100	0	\$0	\$2,200
MH 516	4' Diameter	Manholes	8.3			0	1976	48	100	52	\$1,600	\$2,400
MH 520	4' Diameter	Manholes	3.7			0	1976	48	100	52	\$1,600	\$1,400
MH 521	4' Diameter	Manholes	10.7	950.06	938.83	0	1907	117	100	0	\$0	\$2,900
MH 522	4' Diameter	Manholes	9.7	955.38	945.03	0	1907	117	100	0	\$0	\$2,700
MH 523	4' Diameter	Manholes	7.3	953.68	946.34	0	1907	117	100	0	\$0	\$2,200
MH 524	4' Diameter	Manholes	8.2			0	1907	117	100	0	\$0	\$2,400
MH 525	2' Diameter	Manholes	2.6			0	1907	117	100	0	\$0	\$900
MH 526	4' Diameter	Manholes	8.1	942.45	933.49	0	1900	124	100	0	\$0	\$2,300
MH 527	4' Diameter	Manholes	9.9	943.62	933.75	0	1900	124	100	0	\$0	\$2,700
MH 528	4' Diameter	Manholes	9.1	952.49	943.53	0	1901	123	100	0	\$0	\$2,600
MH 529	Oval	Manholes	10.4	960.41	950.25	0	1901	123	100	0	\$0	\$2,800
MH 530	Oval	Manholes	9.5	970.41	960.59	0	1901	123	100	0	\$0	\$2,700
MH 531	4' Diameter	Manholes	12.1	973.02	967.68	0	1976	48	100	52	\$1,600	\$3,200
MH 532	4' Diameter	Manholes	7			0	1976	48	100	52	\$1,600	\$2,100
MH 533	4' Diameter	Manholes	10	980.3	969.35	0	1976	48	100	52	\$1,600	\$2,800
MH 534	4' Diameter	Manholes	7.32	978.1	970.78	0	2004	20	100	80	\$2,400	\$2,200
MH 534A	4' Diameter	Manholes	5.9	976.88	970.98	0	2004	20	100	80	\$2,400	\$1,900
MH 535	4' Diameter	Manholes	8.9			0	1900	124	100	0	\$0	\$2,500
MH 536	4' Diameter	Manholes	6.4			0	1976	48	100	52	\$1,600	\$2,000

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 537	4' Diameter	Manholes	6.7			0	1976	48	100	52	\$1,600	\$2,000
MH 538	4' Diameter	Manholes	12.5			0	1976	48	100	52	\$1,600	\$3,300
MH 539	4' Diameter	Manholes	7.2	927.04	920.14	0	1976	48	100	52	\$1,600	\$2,200
MH 540	4' Diameter	Manholes	9.7	931.54	922.02	0	1976	48	100	52	\$1,600	\$2,700
MH 541	4' Diameter	Manholes	8.3			0	1976	48	100	52	\$1,600	\$2,400
MH 543	4' Diameter	Manholes	6.4			0	1910	114	100	0	\$0	\$2,000
MH 543A	4' Diameter	Manholes	10.5			0	1925	99	100	1	\$0	\$2,900
MH 544	4' Diameter	Manholes	5.7			0	1976	48	100	52	\$1,600	\$1,800
MH 545	4' Diameter	Manholes	7.7		881.25	0	1976	48	100	52	\$1,600	\$2,300
MH 545A	4' Diameter	Manholes	8.9			0	1976	48	100	52	\$1,600	\$2,500
MH 546	4' Diameter	Manholes	9.3		879.51	0	1976	48	100	52	\$1,600	\$2,600
MH 547	UNK	Manholes				0	1976	48	100	52	\$1,600	\$2,100
MH 548	4' Diameter	Manholes	9.8		879.2	0	1976	48	100	52	\$1,600	\$2,700
MH 549	4' Diameter	Manholes	9.3			0	1976	48	100	52	\$1,600	\$2,600
MH 550	4' Diameter	Manholes	8.5		883.74	0	1976	48	100	52	\$1,600	\$2,400
MH 550A	4' Diameter	Manholes	9.8			0	1976	48	100	52	\$1,600	\$2,700
MH 551	4' Diameter	Manholes	11.7		881.19	0	1976	48	100	52	\$1,600	\$3,100
MH 552	4' Diameter	Manholes	6.8			0	1980	44	100	56	\$1,700	\$2,100
MH 553	4' Diameter	Manholes	8.5			0	1980	44	100	56	\$1,700	\$2,400
MH 554	4' Diameter	Manholes	11.1			0	1980	44	100	56	\$1,700	\$3,000
MH 554A	4' Diameter	Manholes	19.5			0	1976	48	100	52	\$1,600	\$4,800
MH 555	4' Diameter	Manholes		900.4	881.54	0	1954	70	100	30	\$900	\$2,100
MH 555A	4' Diameter	Manholes		900.2	881.26	0	1976	48	100	52	\$1,600	\$2,100
MH 556	4' Diameter	Manholes				0	1976	48	100	52	\$1,600	\$2,100
MH 557	4' Diameter	Manholes	17.2	900	881.93	0	1976	48	100	52	\$1,600	\$4,300
MH 557A	4' Diameter	Manholes	9.3			0	1976	48	100	52	\$1,600	\$2,600
MH 558	4' Diameter	Manholes	16.2	900	882.3	0	1976	48	100	52	\$1,600	\$4,100
MH 559	4' Diameter	Manholes	15.7	897.8	882.6	0	1976	48	100	52	\$1,600	\$4,000
MH 559A	4' Diameter	Manholes	10.5			0	1976	48	100	52	\$1,600	\$2,900
MH 560	4' Diameter	Manholes	8.2	897.9	882.92	0	1976	48	100	52	\$1,600	\$2,400
MH 561	4' Diameter	Manholes	14.75	896.8	883.24	0	1976	48	100	52	\$1,600	\$3,800
MH 562	4' Diameter	Manholes	6.5	901.3	894.68	0	1976	48	100	52	\$1,600	\$2,000
MH 562A	2' Diameter	Manholes	3.8			0	1976	48	100	52	\$800	\$1,100
MH 562B	4' Diameter	Manholes	5.4			0	1976	48	100	52	\$1,600	\$1,800

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 563	4' Diameter	Manholes	7.2	901.1	893.77	0	1976	48	100	52	\$1,600	\$2,200
MH 564	4' Diameter	Manholes	7.4	900.6	892.26	0	1976	48	100	52	\$1,600	\$2,200
MH 565	4' Diameter	Manholes	9.4	900.3	892.01	0	1976	48	100	52	\$1,600	\$2,600
MH 566	4' Diameter	Manholes	15.4	898.2	883.58	0	1976	48	100	52	\$1,600	\$3,900
MH 567	4' Diameter	Manholes	7.3			0	1976	48	100	52	\$1,600	\$2,200
MH 568	4' Diameter	Manholes	15.3	898.5	884.3	0	1976	48	100	52	\$1,600	\$3,900
MH 569	4' Diameter	Manholes	15.8	900	883.92	0	1976	48	100	52	\$1,600	\$4,000
MH 570	4' Diameter	Manholes	7.5	898.2	884.8	0	1976	48	100	52	\$1,600	\$2,200
MH 571	4' Diameter	Manholes	6.6		898	0	1976	48	100	52	\$1,600	\$2,000
MH 572	4' Diameter	Manholes	5.7		898.5	0	1976	48	100	52	\$1,600	\$1,800
MH 573	4' Diameter	Manholes	9		899	0	1995	29	100	71	\$2,100	\$2,500
MH 574	4' Diameter	Manholes	11.5		899.63	0	1995	29	100	71	\$2,100	\$3,100
MH 575	4' Diameter	Manholes	13.7			0	1995	29	100	71	\$2,100	\$3,600
MH 576	4' Diameter	Manholes	14.4			0	1995	29	100	71	\$2,100	\$3,700
MH 577	4' Diameter	Manholes	23.2	907.2	884.22	0	1976	48	100	52	\$1,600	\$5,600
MH 579	5' Diameter	Manholes	13.6	888	884.67	0	1976	48	100	52	\$2,400	\$3,800
MH 580	4' Diameter	Manholes	6	889.9	884.84	0	1976	48	100	52	\$1,600	\$1,900
MH 581	4' Diameter	Manholes	6.9	911.8	905.45	0	1976	48	100	52	\$1,600	\$2,100
MH 582	4' Diameter	Manholes	7	915.38	908.28	0	1976	48	100	52	\$1,600	\$2,100
MH 583	4' Diameter	Manholes	5.5		928.4	0	1976	48	100	52	\$1,600	\$1,800
MH 584	4' Diameter	Manholes	9	913.09	904.23	0	1976	48	100	52	\$1,600	\$2,500
MH 585	4' Diameter	Manholes	7.5	929.13	921.49	0	1976	48	100	52	\$1,600	\$2,200
MH 586	4' Diameter	Manholes				0	1976	48	100	52	\$1,600	\$2,100
MH 587	4' Diameter	Manholes	6.1			0	1976	48	100	52	\$1,600	\$1,900
MH 588	4' Diameter	Manholes	8			0	1976	48	100	52	\$1,600	\$2,300
MH 589	4' Diameter	Manholes	6	892.8	887.53	0	1976	48	100	52	\$1,600	\$1,900
MH 590	4' Diameter	Manholes	11.6	898.5	889.9	0	1976	48	100	52	\$1,600	\$3,100
MH 591	4' Diameter	Manholes	11.7	900.2	892.87	0	1976	48	100	52	\$1,600	\$3,100
MH 593	4' Diameter	Manholes	8.8	890.7	880.8	0	1976	48	100	52	\$1,600	\$2,500
MH 594	4' Diameter	Manholes	14.7	894.2	881.1	0	1976	48	100	52	\$1,600	\$3,800
MH 595	4' Diameter	Manholes	14.3	911.2	899.06	0	1976	48	100	52	\$1,600	\$3,700
MH 597	4' Diameter	Manholes	11.6			0	1976	48	100	52	\$1,600	\$3,100
MH 598	4' Diameter	Manholes	14.2			0	1976	48	100	52	\$1,600	\$3,700
MH 599	4' Diameter	Manholes	13.4	964.68	951.5	0	1976	48	100	52	\$1,600	\$3,500

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 601	4' Diameter	Manholes	12.85	957.5	944	0	1959	65	100	35	\$1,100	\$3,400
MH 602	4' Diameter	Manholes	11.45	943.5	933.5	0	1959	65	100	35	\$1,100	\$3,100
MH 603	4' Diameter	Manholes	11.85	933.4	924	0	1959	65	100	35	\$1,100	\$3,200
MH 604	4' Diameter	Manholes	11.7	917.1	907.12	0	1976	48	100	52	\$1,600	\$3,100
MH 605	4' Diameter	Manholes	10.4	924.91	914	0	1959	65	100	35	\$1,100	\$2,800
MH 606	4' Diameter	Manholes	20	934	911.88	0	1976	48	100	52	\$1,600	\$4,900
MH 607	4' Diameter	Manholes	8.6			0	1976	48	100	52	\$1,600	\$2,500
MH 608	4' Diameter	Manholes	8.8			0	1976	48	100	52	\$1,600	\$2,500
MH 609	4' Diameter	Manholes	9			0	1976	48	100	52	\$1,600	\$2,500
MH 610	4' Diameter	Manholes	7.5			0	1976	48	100	52	\$1,600	\$2,200
MH 611	4' Diameter	Manholes	8.5			0	1976	48	100	52	\$1,600	\$2,400
MH 612	4' Diameter	Manholes	9.6			0	1976	48	100	52	\$1,600	\$2,700
MH 613	4' Diameter	Manholes	9.1			0	1976	48	100	52	\$1,600	\$2,600
MH 614	4' Diameter	Manholes	8.3			0	1976	48	100	52	\$1,600	\$2,400
MH 615	4' Diameter	Manholes	7.4			0	1976	48	100	52	\$1,600	\$2,200
MH 616	4' Diameter	Manholes	7.1			0	1976	48	100	52	\$1,600	\$2,100
MH 616A	4' Diameter	Manholes	7			0	1976	48	100	52	\$1,600	\$2,100
MH 616B	UNK	Manholes				0	1976	48	100	52	\$1,600	\$2,100
MH 617	4' Diameter	Manholes	12.3			0	1976	48	100	52	\$1,600	\$3,300
MH 618	4' Diameter	Manholes	8.2	912.91	903.41	0	1976	48	100	52	\$1,600	\$2,400
MH 619	4' Diameter	Manholes	7.5			0	1976	48	100	52	\$1,600	\$2,200
MH 620	4' Diameter	Manholes	6.8			0	1976	48	100	52	\$1,600	\$2,100
MH 621	4' Diameter	Manholes	6.2			0	1976	48	100	52	\$1,600	\$1,900
MH 622	4' Diameter	Manholes	6.8			0	1976	48	100	52	\$1,600	\$2,100
MH 623	4' Diameter	Manholes	6.4			0	1976	48	100	52	\$1,600	\$2,000
MH 624	4' Diameter	Manholes	8.7			0	1976	48	100	52	\$1,600	\$2,500
MH 625	4' Diameter	Manholes	9.3			0	1976	48	100	52	\$1,600	\$2,600
MH 626	4' Diameter	Manholes	7.5			0	1976	48	100	52	\$1,600	\$2,200
MH 627	4' Diameter	Manholes	5.1			0	1976	48	100	52	\$1,600	\$1,700
MH 638	4' Diameter	Manholes	15.6			0	1976	48	100	52	\$1,600	\$4,000
MH 638A	4' Diameter	Manholes	13.75			0	1976	48	100	52	\$1,600	\$3,600
MH 639	4' Diameter	Manholes	10.9			0	1976	48	100	52	\$1,600	\$3,000
MH 639A	4' Diameter	Manholes	9.5			0	1976	48	100	52	\$1,600	\$2,700
MH 640	4' Diameter	Manholes	22	935.2	913.7	0	1976	48	100	52	\$1,600	\$5,400

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 641	4' Diameter	Manholes	11.1			0	1976	48	100	52	\$1,600	\$3,000
MH 642	4' Diameter	Manholes	13.2			0	1976	48	100	52	\$1,600	\$3,500
MH 643	4' Diameter	Manholes	17.1			0	1976	48	100	52	\$1,600	\$4,300
MH 644	4' Diameter	Manholes	14.6			0	1976	48	100	52	\$1,600	\$3,800
MH 645	4' Diameter	Manholes	10			0	1976	48	100	52	\$1,600	\$2,800
MH 646	4' Diameter	Manholes	8.8			0	1976	48	100	52	\$1,600	\$2,500
MH 647	4' Diameter	Manholes	9.3			0	1976	48	100	52	\$1,600	\$2,600
MH 648	4' Diameter	Manholes	11.1			0	1976	48	100	52	\$1,600	\$3,000
MH 649	4' Diameter	Manholes	16.1			0	1976	48	100	52	\$1,600	\$4,100
MH 649A	4' Diameter	Manholes	12.7	952.4	943.66	0	1976	48	100	52	\$1,600	\$3,300
MH 649B	4' Diameter	Manholes	11.6	956.5	945.4	0	1976	48	100	52	\$1,600	\$3,100
MH 649C	4' Diameter	Manholes	11.6	958.7	947.55	0	1976	48	100	52	\$1,600	\$3,100
MH 651	4' Diameter	Manholes	8.85			0	1976	48	100	52	\$1,600	\$2,500
MH 652	4' Diameter	Manholes	9.15			0	1976	48	100	52	\$1,600	\$2,600
MH 653	4' Diameter	Manholes	8			0	1976	48	100	52	\$1,600	\$2,300
MH 654	4' Diameter	Manholes	8.6			0	1976	48	100	52	\$1,600	\$2,500
MH 655	4' Diameter	Manholes	11.9			0	1976	48	100	52	\$1,600	\$3,200
MH 656	4' Diameter	Manholes	12.4			0	1976	48	100	52	\$1,600	\$3,300
MH 657	4' Diameter	Manholes	13.55			0	1976	48	100	52	\$1,600	\$3,500
MH 658	4' Diameter	Manholes	9.8			0	1976	48	100	52	\$1,600	\$2,700
MH 658A	4' Diameter	Manholes	13.5			0	1976	48	100	52	\$1,600	\$3,500
MH 658B	4' Diameter	Manholes	14.05			0	1976	48	100	52	\$1,600	\$3,600
MH 659	4' Diameter	Manholes	9.65			0	1976	48	100	52	\$1,600	\$2,700
MH 660	4' Diameter	Manholes	15.2			0	1976	48	100	52	\$1,600	\$3,900
MH 661	4' Diameter	Manholes	16.35			0	1976	48	100	52	\$1,600	\$4,100
MH 662	4' Diameter	Manholes				0	1976	48	100	52	\$1,600	\$2,100
MH 663	4' Diameter	Manholes	6.75			0	1976	48	100	52	\$1,600	\$2,100
MH 664	4' Diameter	Manholes	12.2	898.6	888.03	0	2005	19	100	81	\$2,400	\$3,200
MH 665	6' Diameter	Manholes		898.6	886.21	0	2005	19	100	81	\$4,900	\$2,700
MH 666	6' Diameter	Manholes				0	2005	19	100	81	\$4,900	\$2,700
MH 667	4' Diameter	Manholes		897.5	885.18	0	2005	19	100	81	\$2,400	\$2,100
MH 668	4' Diameter	Manholes	5.61	927.48	921.87	0	2011	13	100	87	\$2,600	\$1,800
MH 669	4' Diameter	Manholes	3.8	926.97	923.12	0	2011	13	100	87	\$2,600	\$1,400
MH 670	4' Diameter	Manholes	4.43	928.42	923.98	0	2011	13	100	87	\$2,600	\$1,600

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
MH 671	4' Diameter	Manholes	6	0	924.72	0	2011	13	100	87	\$2,600	\$1,900

Pipe Segments:

Segment MH 1 to MH 1A	36	Pipe - Concrete	10	1	1A		1967	57	100	43	\$1,500	\$1,700
Segment MH 2 to MH 1	30	Pipe - Concrete	142.5	2	1		1967	57	100	43	\$20,400	\$23,500
Segment MH 3 to MH 2	30	Pipe - Concrete	134	3	2		1967	57	100	43	\$19,100	\$22,100
Segment MH 4 to MH 3	30	Pipe - Concrete	300	4	3		1967	57	100	43	\$42,900	\$49,400
Segment MH 5 to MH 4	30	Pipe - Concrete	288	5	4		1967	57	100	43	\$41,200	\$47,500
Segment MH 7 to MH 5	30	Pipe - Concrete	139	7	5		1967	57	100	43	\$19,900	\$22,900
Segment MH 8 to MH 7	30	Pipe - Concrete	204	8	7		1967	57	100	43	\$29,200	\$33,600
Segment MH 9 to MH 8	30	Pipe - Concrete	235	9	8		1967	57	100	43	\$33,600	\$38,700
Segment MH 10 to MH 9	30	Pipe - CIPP	197	10	9	Pipe - Concrete	2017	7	100	93	\$60,600	\$32,500
Segment MH 11 to MH 10	30	Pipe - CIPP	98	11	10	Pipe - Concrete	2017	7	100	93	\$30,200	\$16,200
Segment MH 12 to MH 11	30	Pipe - CIPP	56	12	11	Pipe - Concrete	2017	7	100	93	\$17,200	\$9,200
Segment MH 13 to MH 12	30	Pipe - CIPP	84	13	12	Pipe - Concrete	2017	7	100	93	\$25,900	\$13,900
Segment MH 14 to MH 13	30	Pipe - CIPP	212	14	13	Pipe - Concrete	2017	7	100	93	\$65,200	\$34,900
Segment MH 15 to MH 14	30	Pipe - CIPP	204	15	14	Pipe - Concrete	2017	7	100	93	\$62,800	\$33,600
Segment MH 16 to MH 15	30	Pipe - CIPP	171	16	15	Pipe - Concrete	2016	8	100	92	\$52,000	\$28,200
Segment MH 17 to MH 16	30	Pipe - CIPP	203	17	16	Pipe - Concrete	2016	8	100	92	\$61,800	\$33,500
Segment MH 18 to MH 17	30	Pipe - CIPP	226	18	17	Pipe - Concrete	2016	8	100	92	\$68,800	\$37,200
Segment MH 19 to MH 18	30	Pipe - Concrete	168	19	18		1900	124	100	0	\$0	\$27,700
Segment MH 21 to MH 19	18	Pipe - Concrete	8	21	19		1900	124	100	0	\$0	\$1,200
Segment MH 20 to MH 21	18	Pipe - Concrete	40	20	21		1900	124	100	0	\$0	\$6,100
Segment MH 79 to MH 20	18	Pipe - Concrete	132	79	20		1900	124	100	0	\$0	\$20,100
Segment MH 80 to MH 79	18	Pipe - Concrete	271	80	79		1900	124	100	0	\$0	\$41,200
Segment MH 81 to MH 80	18	Pipe - Concrete	114	81	80		1900	124	100	0	\$0	\$17,400
Segment MH 82 to MH 81	18	Pipe - Concrete	159	82	81		1900	124	100	0	\$0	\$24,200
Segment MH 83 to MH 82	18	Pipe - Concrete	160	83	82		1900	124	100	0	\$0	\$24,300
Segment MH 84 to MH 83	18	Pipe - Concrete	135	84	83		1900	124	100	0	\$0	\$20,500
Segment MH 85 to MH 84	18	Pipe - Concrete	211	85	84		1900	124	100	0	\$0	\$32,100
Segment MH 86 to MH 85	18	Pipe - Concrete	155	86	85		1900	124	100	0	\$0	\$23,600
Segment MH 87 to MH 86	15	Pipe - Concrete	53	87	86		1900	124	100	0	\$0	\$7,900
Segment MH 87A to MH 87	15	Pipe - Concrete	180	87A	87		1900	124	100	0	\$0	\$26,800
Segment MH 88 to MH 87A	15	Pipe - Clay	265	88	87A		1900	124	100	0	\$0	\$39,500

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 89 to MH 88	15	Pipe - Clay	250	89	88		1900	124	100	0	\$0	\$37,200
Segment MH 90 to MH 89	20	Pipe - PVC	253	90	89		1900	124	100	0	\$0	\$39,300
Segment MH 91 to MH 90	20	Pipe - PVC	164	91	90		1900	124	100	0	\$0	\$25,500
Segment MH 92 to MH 91	15	Pipe - Clay	43	92	91		1908	116	100	0	\$0	\$6,400
Segment MH 93 to MH 92	15	Pipe - Clay	53	93	92		1908	116	100	0	\$0	\$7,900
Segment MH 95 to MH 94	15	Pipe - Clay	14	95	94		1908	116	100	0	\$0	\$2,100
Segment MH 97 to MH 96	18	Pipe - Concrete	182	97	96		1900	124	100	0	\$0	\$27,700
Segment MH 98 to MH 97	18	Pipe - Concrete	219	98	97		1900	124	100	0	\$0	\$33,300
Segment MH 99 to MH 98	18	Pipe - Concrete	228	99	98		1900	124	100	0	\$0	\$34,700
Segment MH 100 to MH 99	12	Pipe - Clay	253	100	99		1900	124	100	0	\$0	\$29,500
Segment MH 303 to MH 100	12	Pipe - Clay	209	303	100		1900	124	100	0	\$0	\$24,400
Segment MH 302 to MH 303	10	Pipe - CIPP	197	302	303	Pipe - Clay	2007	17	100	83	\$45,800	\$18,100
Segment MH 298 to MH 302	10	Pipe - CIPP	200	298	302	Pipe - Clay	2007	17	100	83	\$46,500	\$18,400
Segment MH 296 to MH 298	10	Pipe - CIPP	178	296	298	Pipe - Clay	2007	17	100	83	\$41,400	\$16,400
Segment MH 297 to MH 296	10	Pipe - CIPP	49	297	296	Pipe - Clay	2007	17	100	83	\$11,400	\$4,500
Segment MH 288 to MH 297	10	Pipe - Clay	379	288	297		1900	124	100	0	\$0	\$34,800
Segment MH 285 to MH 288	10	Pipe - Clay	66	285	288		1900	124	100	0	\$0	\$6,100
Segment MH 289B to MH 289A	8	Pipe - Clay	157	289B	289A		1900	124	100	0	\$0	\$13,800
Segment MH 289 to MH 289A	8	Pipe - Clay	443	289	289A		1900	124	100	0	\$0	\$38,900
Segment MH 289 to MH 290	8	Pipe - CIPP	487	289	290	Pipe - Clay	1998	26	100	74	\$96,400	\$42,800
Segment MH 290 to MH 291	8	Pipe - CIPP	486	290	291	Pipe - Clay	1998	26	100	74	\$96,200	\$42,700
Segment MH 291 to MH 292	8	Pipe - CIPP	482	291	292	Pipe - Clay	1998	26	100	74	\$95,400	\$42,300
Segment MH 292 to MH 106	8	Pipe - CIPP	488	292	106	Pipe - Clay	1998	26	100	74	\$96,600	\$42,800
Segment MH 293 to MH 294	8	Pipe - CIPP	262	293	294	Pipe - Clay	1998	26	100	74	\$51,900	\$23,000
Segment MH 294 to MH 295	8	Pipe - CIPP	486	294	295	Pipe - Clay	1998	26	100	74	\$96,200	\$42,700
Segment MH 295 to MH 295A	8	Pipe - CIPP	272	295	295A	Pipe - Clay	1998	26	100	74	\$53,900	\$23,900
Segment MH 295A to MH 298	10	Pipe - CIPP	216	295A	298	Pipe - PVC	1998	26	100	74	\$44,800	\$19,900
Segment MH 298 to MH 298A	10	Pipe - CIPP	225	298	298A	Pipe - PVC	1998	26	100	74	\$46,700	\$20,700
Segment MH 298A to MH 299	8	Pipe - CIPP	258	298A	299	Pipe - Clay	1998	26	100	74	\$51,100	\$22,600
Segment MH 299 to MH 300	8	Pipe - Clay	243.5	299	300		1900	124	100	0	\$0	\$21,400
Segment MH 300 to MH 104	8	Pipe - Clay	243	300	104		1900	124	100	0	\$0	\$21,300
Segment N. Lateral to MH 281	6	Pipe - Clay	212	N. Lateral	281		1911	113	100	0	\$0	\$17,300
Segment MH 281 to MH 282	8	Pipe - Clay	281	281	282		1911	113	100	0	\$0	\$24,700
Segment MH 282 to MH 282A	8	Pipe - Clay	218.5	282	282A		1911	113	100	0	\$0	\$19,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 282A to MH 283	8	Pipe - Clay	230	282A	283		1911	113	100	0	\$0	\$20,200
Segment MH 283 to MH 283A	8	Pipe - Clay	245	283	283A		1911	113	100	0	\$0	\$21,500
Segment MH 283A to MH 284	8	Pipe - Clay	250	283A	284		1999	25	100	75	\$50,200	\$21,900
Segment MH 280B to MH 280A	8	Pipe - PVC	489	280B	280A		1999	25	100	75	\$98,100	\$42,900
Segment MH 280A to MH 280	8	Pipe - Clay	38	280A	280	0	1900	124	100	0	\$0	\$3,300
Segment MH 280 to MH 284	12	Pipe - Metal	165	280	284		1999	25	80	55	\$33,300	\$19,200
Segment MH 280 to MH 284	8	Pipe - Clay	100	280	284		1900	124	100	0	\$0	\$8,800
Segment MH 284 to MH 285A	8	Pipe - Clay	206	284	285A		1900	124	100	0	\$0	\$18,100
Segment MH 285A to MH 286	8	Pipe - Clay	277	285A	286		1900	124	100	0	\$0	\$24,300
Segment MH 268 to MH 109	10	Pipe - Clay	486	268	109		1900	124	100	0	\$0	\$44,700
Segment MH 109 to MH 107	10	Pipe - Clay	498	109	107		1900	124	100	0	\$0	\$45,800
Segment MH 108 to MH 107	6	Pipe - Clay	265.5	108	107		1900	124	100	0	\$0	\$21,600
Segment S. Lateral to MH 287	6	Pipe - Clay	126	S. Lateral	287		2005	19	100	81	\$25,300	\$10,300
Segment MH 287 to MH 107	8	Pipe - Clay	141.5	287	107		2005	19	100	81	\$30,600	\$12,400
Segment MH 107 to MH 106	15	Pipe - Clay	417.5	107	106		1908	116	100	0	\$0	\$62,200
Segment MH 106 to MH 105	15	Pipe - Clay	225.5	106	105		1908	116	100	0	\$0	\$33,600
Segment MH 105 to MH 104	15	Pipe - Clay	179	105	104		1908	116	100	0	\$0	\$26,700
Segment MH 104 to MH 103	15	Pipe - Clay	188	104	103		1908	116	100	0	\$0	\$28,000
Segment MH 103 to MH 102	20	Pipe - Concrete	285	103	102		1908	116	100	0	\$0	\$44,300
Segment MH 102 to MH 101	20	Pipe - Concrete	144	102	101		1908	116	100	0	\$0	\$22,400
Segment MH 101 to MH 96	20	Pipe - Concrete	63	101	96		1908	116	100	0	\$0	\$9,800
Segment S. Lateral to MH 101	12	Pipe - Clay	347	S. Lateral	101		1900	124	100	0	\$0	\$40,400
Segment N. Lateral to MH 303	6	Pipe - Clay	429	N. Lateral	303		1900	124	100	0	\$0	\$35,000
Segment N. Lateral to MH 304	8	Pipe - Clay	423	N. Lateral	304		1909	115	100	0	\$0	\$37,100
Segment MH 304 to MH 102	8	Pipe - Clay	397	304	102		1909	115	100	0	\$0	\$34,800
Segment S. Lateral to MH 109A	8	Pipe - PVC	261	S. Lateral	109A		2005	19	100	81	\$56,500	\$22,900
Segment MH 280 to MH 277A	8	Pipe - Concrete	68	280	277A		2003	21	100	79	\$14,400	\$6,000
Segment MH 277A to MH 277	8	Pipe - PVC	184	277A	277		2003	21	100	79	\$38,800	\$16,100
Segment MH 277 to MH 278	8	Pipe - PVC	241	277	278		2003	21	100	79	\$50,900	\$21,200
Segment MH 278 to MH 279	8	Pipe - Clay	238	278	279		1900	124	100	0	\$0	\$20,900
Segment MH 279 to MH 110	8	Pipe - Clay	231	279	110		1900	124	100	0	\$0	\$20,300
Segment MH 114 to MH 276	6	Pipe - Clay	205	114	276		1999	25	100	75	\$38,200	\$16,700
Segment MH 276 to MH 113	6	Pipe - Clay	241	276	113		1900	124	100	0	\$0	\$19,600
Segment MH 113 to MH 275	6	Pipe - Clay	245	113	275		1900	124	100	0	\$0	\$20,000

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 275 to MH 112	6	Pipe - Clay	239	275	112		1900	124	100	0	\$0	\$19,500
Segment E. Lateral to MH 118	8	Pipe - PVC	115	E. Lateral	118		1999	25	100	75	\$23,100	\$10,100
Segment MH 118A to MH 118	8	Pipe - PVC	203	118A	118		1999	25	100	75	\$40,700	\$17,800
Segment W. Lateral to MH 118A	8	Pipe - PVC	105	W. Lateral	118A	0	1999	25	100	75	\$21,000	\$9,200
Segment Lateral to MH 269	8	Pipe - Clay	71	Lateral	269		1900	124	100	0	\$0	\$6,200
Segment MH 269 to MH 270	10	Pipe - Concrete	251	269	270		1900	124	100	0	\$0	\$23,100
Segment MH 270 to MH 271	10	Pipe - Concrete	232.5	270	271		1900	124	100	0	\$0	\$21,400
Segment MH 271 to MH 272	10	Pipe - Concrete	232.5	271	272		1900	124	100	0	\$0	\$21,400
Segment MH 272 to MH 273	10	Pipe - Concrete	240	272	273		1900	124	100	0	\$0	\$22,100
Segment MH 273 to MH 274	10	Pipe - Concrete	229	273	274		1900	124	100	0	\$0	\$21,100
Segment MH 274 to MH 116	10	Pipe - Concrete	230	274	116		1900	124	100	0	\$0	\$21,200
Segment MH 116 to MH 115	10	Pipe - Concrete	215	116	115		1900	124	100	0	\$0	\$19,800
Segment MH 115 to MH 112	10	Pipe - Concrete	211	115	112		1900	124	100	0	\$0	\$19,400
Segment MH 112 to MH 111	10	Pipe - Concrete	190	112	111		1900	124	100	0	\$0	\$17,500
Segment MH 111 to MH 110	10	Pipe - Concrete	189	111	110		1900	124	100	0	\$0	\$17,400
Segment MH 110 to MH 109A	8	Pipe - Clay	112	110	109A		2005	19	100	81	\$24,300	\$9,800
Segment MH 109A to MH 109	8	Pipe - Clay	162	109A	109		1900	124	100	0	\$0	\$14,200
Segment MH 309 to MH 308	8	Pipe - Clay	68	309	308		1967	57	100	43	\$7,900	\$6,000
Segment MH 308 to MH 308A	8	Pipe - Clay	59	308	308A		1967	57	100	43	\$6,800	\$5,200
Segment MH 308A to MH 307	8	Pipe - Clay	30.5	308A	307		1958	66	100	34	\$2,800	\$2,700
Segment MH 307 to MH 307A	8	Pipe - Clay	108	307	307A		1958	66	100	34	\$9,900	\$9,500
Segment MH 307A to MH 306	8	Pipe - Clay	168	307A	306		1958	66	100	34	\$15,400	\$14,800
Segment MH 306 to MH 306A	8	Pipe - CIPP	105	306	306A	Pipe - Clay	2007	17	100	83	\$23,300	\$9,200
Segment MH 306A to MH 305	8	Pipe - CIPP	94	306A	305	Pipe - Clay	2007	17	100	83	\$20,900	\$8,300
Forcemain MH 305 to MH 100	4	Forcemain - Metal	175	305	100	Forcemain - Metal	2007	17	100	83	\$23,100	\$9,100
Segment MH 133 to MH 132	15	Pipe - CIPP	96	133	132	Pipe - Clay	2007	17	100	83	\$23,900	\$14,300
Segment MH 142 to MH 140	8	Pipe - CIPP	566	142	140	Pipe - Clay	2007	17	100	83	\$125,600	\$49,700
Segment MH 141 to MH 140	8	Pipe - CIPP	214	141	140	Pipe - Clay	2007	17	100	83	\$47,500	\$18,800
Segment MH 140 to MH 137	8	Pipe - CIPP	205	140	137	Pipe - Clay	2007	17	100	83	\$45,500	\$18,000
Segment MH 139 to MH 138	8	Pipe - CIPP	387	139	138	Pipe - Clay	2007	17	100	83	\$85,900	\$34,000
Segment MH 138 to MH 137	8	Pipe - CIPP	177	138	137	Pipe - Clay	2007	17	100	83	\$39,300	\$15,500
Segment MH 137 to MH 136	8	Pipe - CIPP	194	137	136	Pipe - Clay	2007	17	100	83	\$43,000	\$17,000
Segment MH 136 to MH 135	10	Pipe - CIPP	194	136	135	Pipe - Concrete	2007	17	100	83	\$45,100	\$17,900
Segment MH 135 to MH 134	8	Pipe - CIPP	208	135	134	Pipe - Concrete	2007	17	100	83	\$46,100	\$18,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 134 to MH 132	8	Pipe - CIPP	297	134	132	Pipe - Concrete	2007	17	100	83	\$65,900	\$26,100
Segment S. Lateral to MH 131	8	Pipe - Clay	182	S. Lateral	131		1900	124	100	0	\$0	\$16,000
Segment MH 131 to MH 130	8	Pipe - Clay	343.5	131	130		1900	124	100	0	\$0	\$30,200
Segment MH 130 to MH 128	8	Pipe - Clay	70	130	128		1900	124	100	0	\$0	\$6,100
Segment MH 128 to MH 127	8	Pipe - Clay	81	128	127		1900	124	100	0	\$0	\$7,100
Segment MH 127 to MH 126	8	Pipe - CIPP	402	127	126	Pipe - Clay	2007	17	100	83	\$89,200	\$35,300
Segment MH 132 to MH 126	15	Pipe - CIPP	211	132	126	Pipe - Clay	2007	17	100	83	\$52,400	\$31,400
Segment MH 126 to MH 125	15	Pipe - CIPP	196	126	125	Pipe - Clay	2007	17	100	83	\$48,600	\$29,200
Segment MH 125 to MH 124	15	Pipe - CIPP	204	125	124	Pipe - Clay	2007	17	100	83	\$50,600	\$30,400
Segment MH 124 to MH 123	15	Pipe - CIPP	201.5	124	123	Pipe - Clay	2007	17	100	83	\$50,100	\$30,000
Segment MH 123 to MH 119	15	Pipe - CIPP	380	123	119	Pipe - Clay	2007	17	100	83	\$94,400	\$56,600
Segment S. Lateral to MH 124	6	Pipe - Clay	374	S. Lateral	124		1900	124	100	0	\$0	\$30,500
Segment N. Lateral to MH 124	6	Pipe - Clay	375	N. Lateral	124		1900	124	100	0	\$0	\$30,600
Segment S. Lateral to MH 123	8	Pipe - Clay	250	S. Lateral	123		1900	124	100	0	\$0	\$21,900
Segment MH 105B to MH 105A	8	Pipe - Clay	189.5	105B	105A		1900	124	100	0	\$0	\$16,600
Segment MH 105A to MH 105	8	Pipe - Clay	195	105A	105		1900	124	100	0	\$0	\$17,100
Segment MH 544 to MH 543	8	Pipe - Clay	240	544	543		1925	99	100	1	\$900	\$21,100
Segment MH 543 to MH 543A	8	Pipe - Clay	198	543	543A		1925	99	100	1	\$700	\$17,400
Segment MH 543A to MH 94	8	Pipe - Clay	189	543A	94		1925	99	100	1	\$700	\$16,600
Segment MH 334 to MH 122	8	Pipe - Clay	347	334	122		1900	124	100	0	\$0	\$30,500
Segment MH 122 to MH 121	8	Pipe - Clay	198	122	121		1900	124	100	0	\$0	\$17,400
Segment MH 121 to MH 120A	8	Pipe - Clay	364	121	120A		1900	124	100	0	\$0	\$31,900
Segment MH 120A to MH 120	8	Pipe - PVC	48	120A	120		1976	48	100	52	\$6,700	\$4,200
Segment MH 120 to MH 119	10	Pipe - PVC	452	120	119		1908	116	100	0	\$0	\$41,600
Segment MH 119 to MH 103	18	Pipe - Concrete	481	119	103		1908	116	100	0	\$0	\$73,100
Segment MH 172 to MH 171	8	Pipe - Clay	190	172	171		1900	124	100	0	\$0	\$16,700
Segment MH 171 to MH 170	8	Pipe - Clay	105	171	170		1900	124	100	0	\$0	\$9,200
Segment MH 170 to MH 169	8	Pipe - Clay	199	170	169		1900	124	100	0	\$0	\$17,500
Segment MH 169 to MH 168	8	Pipe - Clay	196	169	168		1900	124	100	0	\$0	\$17,200
Segment MH 168 to MH 167	8	Pipe - Clay	247.5	168	167		1900	124	100	0	\$0	\$21,700
Segment MH 167 to MH 166	8	Pipe - Clay	78	167	166		1900	124	100	0	\$0	\$6,800
Segment MH 166 to MH 166A	8	Pipe - Clay	110	166	166A		1900	124	100	0	\$0	\$9,700
Segment MH 166A to MH 165	12	Pipe - Concrete	58	166A	165		1900	124	100	0	\$0	\$6,800
Segment MH 335 to MH 169	8	Pipe - Clay	271	335	169		1900	124	100	0	\$0	\$23,800

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment N. Lateral to MH 336	8	Pipe - Clay	137	N. Lateral	336		1905	119	100	0	\$0	\$12,000
Segment MH 336 to MH 337	8	Pipe - Clay	159	336	337		1905	119	100	0	\$0	\$14,000
Segment E. Lateral to MH 337	8	Pipe - Clay	167	E. Lateral	337		1905	119	100	0	\$0	\$14,700
Segment MH 337 to MH 168	10	Pipe - Clay	488	337	168		1905	119	100	0	\$0	\$44,900
Segment MH 160A to MH 160	8	Pipe - Clay	430	160A	160		1900	124	100	0	\$0	\$37,800
Segment MH 160 to MH 159	15	Pipe - Clay	97	160	159		1900	124	100	0	\$0	\$14,500
Segment MH 159 to MH 158	15	Pipe - Clay	115	159	158		1900	124	100	0	\$0	\$17,100
Segment MH 158 to MH 157	15	Pipe - Clay	108	158	157		1900	124	100	0	\$0	\$16,100
Segment MH 157 to MH 145	18	Pipe - Concrete	206	157	145		1900	124	100	0	\$0	\$31,300
Segment MH 145 to MH 143	18	Pipe - Concrete	320	145	143		1900	124	100	0	\$0	\$48,700
Segment MH 143 to MH 86	18	Pipe - Concrete	58	143	86		1900	124	100	0	\$0	\$8,800
Segment MH 348 to MH 347	10	Pipe - Clay	303	348	347		1900	124	100	0	\$0	\$27,900
Segment MH 347 to MH 346A	12	Pipe - Clay	259.5	347	346A		1900	124	100	0	\$0	\$30,200
Segment MH 346A to MH 346	12	Pipe - Clay	232	346A	346		1900	124	100	0	\$0	\$27,000
Segment MH 346 to MH 345	12	Pipe - Clay	240	346	345		1900	124	100	0	\$0	\$28,000
Segment MH 345 to MH 344	12	Pipe - Clay	204.5	345	344		1900	124	100	0	\$0	\$23,800
Segment MH 344 to MH 343	12	Pipe - Clay	240	344	343		1900	124	100	0	\$0	\$28,000
Segment MH 343 to MH 342	12	Pipe - Clay	291	343	342		1997	27	100	73	\$62,300	\$33,900
Segment MH 342 to MH 341A	8	Pipe - PVC	84	342	341A		1997	27	100	73	\$16,400	\$7,400
Segment MH 341A to MH 341	8	Pipe - PVC	46	341A	341		1997	27	100	73	\$9,000	\$4,000
Segment MH 341 to MH 340	8	Pipe - PVC	73	341	340		1997	27	100	73	\$14,200	\$6,400
Segment MH 340 to MH 339	8	Pipe - Clay	85	340	339		1900	124	100	0	\$0	\$7,500
Segment MH 339 to MH 338	8	Pipe - Clay	90	339	338		1900	124	100	0	\$0	\$7,900
Segment MH 338 to MH 159	8	Pipe - Clay	58	338	159		1900	124	100	0	\$0	\$5,100
Segment MH 151A to MH 151	8	Pipe - Clay	108	151A	151		1900	124	100	0	\$0	\$9,500
Segment MH 151 to MH 150	8	Pipe - Concrete	341	151	150		1900	124	100	0	\$0	\$29,900
Segment MH 150 to MH 149	10	Pipe - Concrete	449	150	149		1900	124	100	0	\$0	\$41,300
Segment MH 149 to MH 148	10	Pipe - Concrete	223	149	148		1900	124	100	0	\$0	\$20,500
Segment MH 148 to MH 147	12	Pipe - Concrete	220	148	147		1900	124	100	0	\$0	\$25,600
Segment MH 147 to MH 146	12	Pipe - Concrete	478	147	146		1900	124	100	0	\$0	\$55,700
Segment MH 146 to MH 145	12	Pipe - Concrete	351	146	145		1900	124	100	0	\$0	\$40,900
Segment MH 146A to MH 146	6	Pipe - PVC	102	146A	146		1976	48	100	52	\$13,200	\$8,300
Segment S. Lateral to MH 541	8	Pipe - Concrete	290	S. Lateral	541		1976	48	100	52	\$40,400	\$25,400
Segment MH 541 to MH 540	8	Pipe - Clay	479	541	540		1976	48	100	52	\$66,800	\$42,000

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 540 to MH 539	8	Pipe - Clay	469	540	539		1976	48	100	52	\$65,400	\$41,200
Segment MH 539 to MH 538	8	Pipe - Clay	283	539	538		1976	48	100	52	\$39,500	\$24,800
Segment MH 538 to MH 537	8	Pipe - Clay	200	538	537		1976	48	100	52	\$27,900	\$17,600
Segment MH 537 to MH 536	8	Pipe - Clay	25.5	537	536		1976	48	100	52	\$3,600	\$2,200
Segment MH 536 to MH 84	8	Pipe - Concrete	7	536	84		1976	48	100	52	\$1,000	\$600
Segment W. Lateral to MH 505	8	Pipe - Clay	344	W. Lateral	505		1976	48	100	52	\$47,900	\$30,200
Segment S. Lateral to MH 506	6	Pipe - Clay	279	S. Lateral	506		1976	48	100	52	\$36,100	\$22,700
Segment MH 506 to MH 505	6	Pipe - Clay	27	506	505		1976	48	100	52	\$3,500	\$2,200
Segment MH 505 to MH 78	8	Pipe - Clay	183	505	78		1976	48	100	52	\$25,500	\$16,100
Segment MH 78 to MH 482	8	Pipe - PVC	15	78	482		1976	48	100	52	\$2,100	\$1,300
Segment MH 482 to MH 481	12	Pipe - PVC	65	482	481		1983	41	100	59	\$11,200	\$7,600
Segment MH 481 to MH 480	10	Pipe - Clay	33	481	480		1983	41	100	59	\$5,500	\$3,000
Segment MH 480 to MH 18	10	Pipe - Clay	67	480	18		1983	41	100	59	\$11,100	\$6,200
Segment MH 503 to MH 484	8	Pipe - Clay	404	503	484		1976	48	100	52	\$56,300	\$35,500
Segment MH 484A to MH 484	6	Pipe - Clay	235	484A	484		1976	48	100	52	\$30,400	\$19,100
Segment MH 484 to MH 510	8	Pipe - Clay	165	484	510		1976	48	100	52	\$23,000	\$14,500
Segment MH 510 to MH 16	8	Pipe - Clay	105	510	16		1976	48	100	52	\$14,600	\$9,200
Segment MH 349D to MH 349C	8	Pipe - Concrete	310	349D	349C		2005	19	100	81	\$67,200	\$27,200
Segment MH 349C to MH 349B	8	Pipe - Concrete	269	349C	349B		2005	19	100	81	\$58,300	\$23,600
Segment MH 349B to MH 349A	8	Pipe - Concrete	241	349B	349A		1980	44	100	56	\$36,200	\$21,200
Segment MH 349A to MH 349	8	Pipe - Concrete	383	349A	349		1980	44	100	56	\$57,500	\$33,600
Segment MH 237 to MH 236	12	Pipe - PVC	360	237	236		2002	22	100	78	\$82,300	\$42,000
Segment MH 236 to MH 235A	12	Pipe - PVC	300	236	235A		2002	22	100	78	\$68,500	\$35,000
Segment MH 235A to MH 235	12	Pipe - PVC	300	235A	235		2002	22	100	78	\$68,500	\$35,000
Segment MH 235 to MH 234A	12	Pipe - PVC	300	235	234A		2002	22	100	78	\$68,500	\$35,000
Segment MH 234A to MH 234	12	Pipe - PVC	295	234A	234		2002	22	100	78	\$67,400	\$34,400
Segment MH 234 to MH 350	12	Pipe - PVC	300	234	350		2002	22	100	78	\$68,500	\$35,000
Segment MH 350 to MH 349	12	Pipe - PVC	465	350	349		2002	22	100	78	\$106,300	\$54,200
Segment MH 349 to MH 207	12	Pipe - PVC	411	349	207		2002	22	100	78	\$93,900	\$47,900
Segment MH 207 to MH 206	12	Pipe - PVC	190	207	206		2002	22	100	78	\$43,400	\$22,200
Segment MH 206 to MH 205	12	Pipe - PVC	200	206	205		2002	22	100	78	\$45,700	\$23,300
Segment MH 205 to MH 204E	12	Pipe - PVC	150	205	204E		2013	11	100	89	\$39,100	\$17,500
Segment MH 204E to MH 204D	12	Pipe - PVC	68	204E	204D		2013	11	100	89	\$17,700	\$7,900
Segment MH 204D to MH 204C	12	Pipe - PVC	113	204D	204C		2013	11	100	89	\$29,400	\$13,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 204C to MH 204B	12	Pipe - PVC	384	204C	204B		2013	11	100	89	\$100,100	\$44,800
Segment MH 204B to MH 204A	12	Pipe - PVC	348	204B	204A		2013	11	100	89	\$90,700	\$40,600
Segment MH 204A to MH 204	12	Pipe - PVC	464	204A	204		2013	11	100	89	\$120,900	\$54,100
Segment MH 204 to MH 173	12	Pipe - Clay	69	204	173		2013	11	100	89	\$18,000	\$8,000
Segment S. Lateral to MH 357	6	Pipe - Clay	47	S. Lateral	357		1976	48	100	52	\$6,100	\$3,800
Segment MH 357 to MH 356	8	Pipe - Clay	426.5	357	356		1910	114	100	0	\$0	\$37,500
Segment MH 356 to MH 355	8	Pipe - Clay	365.5	356	355		1910	114	100	0	\$0	\$32,100
Segment MH 355 to MH 178	8	Pipe - Clay	518	355	178		1910	114	100	0	\$0	\$45,500
Segment MH 178 to MH 176	8	Pipe - Clay	393.5	178	176		1900	124	100	0	\$0	\$34,600
Segment MH 177 to MH 176	8	Pipe - Clay	344	177	176		1900	124	100	0	\$0	\$30,200
Segment MH 176 to MH 175	8	Pipe - Clay	405	176	175		1900	124	100	0	\$0	\$35,500
Segment MH 175 to MH 174	8	Pipe - Clay	338	175	174		1900	124	100	0	\$0	\$29,700
Segment MH 147 to MH 173A	12	Pipe - Clay	576	147	173A		1900	124	100	0	\$0	\$67,100
Segment MH 173A to MH 173	12	Pipe - Clay	33.5	173A	173		1900	124	100	0	\$0	\$3,900
Segment MH 201 to MH 200	8	Pipe - Clay	194	201	200	0	1900	124	100	0	\$0	\$17,000
Segment MH 203 to MH 202	8	Pipe - CIPP	176	203	202	Pipe - Concrete	2016	8	100	92	\$43,300	\$15,400
Segment MH 202 to MH 200	8	Pipe - CIPP	198	202	200	Pipe - Concrete	2016	8	100	92	\$48,700	\$17,400
Segment MH 200 to MH 198A	8	Pipe - Clay	246	200	198A	0	1997	27	100	73	\$48,000	\$21,600
Segment MH 198A to MH 198	8	Pipe - Clay	262	198A	198	0	1997	27	100	73	\$51,200	\$23,000
Segment MH 198 to MH 197	8	Pipe - Clay	281	198	197	0	1900	124	100	0	\$0	\$24,700
Segment MH 197 to MH 196	8	Pipe - Clay	266	197	196	0	1900	124	100	0	\$0	\$23,400
Segment MH 196 to MH 195	8	Pipe - Clay	278	196	195	0	1900	124	100	0	\$0	\$24,400
Segment MH 195 to MH 194	8	Pipe - Clay	217	195	194	0	1900	124	100	0	\$0	\$19,000
Segment MH 194 to MH 192	8	Pipe - Clay	279.5	194	192	0	1900	124	100	0	\$0	\$24,600
Segment MH 192 to MH 177A	8	Pipe - Clay	345	192	177A	0	1900	124	100	0	\$0	\$30,300
Segment MH 177B to MH 177A	8	Pipe - Clay	297	177B	177A		1900	124	100	0	\$0	\$26,100
Segment MH 209 to MH 177A	8	Pipe - Clay	755	209	177A	0	1912	112	100	0	\$0	\$66,300
Segment MH 177A to MH 187	8	Pipe - Clay	480	117A	187	0	1900	124	100	0	\$0	\$42,100
Segment E. Lateral to MH 189	8	Pipe - Clay	324	E. Lateral	189	0	1905	119	100	0	\$0	\$28,400
Segment MH 189 to MH 187	8	Pipe - Clay	328	189	187	0	1905	119	100	0	\$0	\$28,800
Segment W. Lateral to MH 188	8	Pipe - Clay	214	W. Lateral	188	0	1911	113	100	0	\$0	\$18,800
Segment MH 188 to MH 187	8	Pipe - Clay	372	188	187	0	1911	113	100	0	\$0	\$32,700
Segment MH 187 to MH 186	8	Pipe - Clay	294	187	186	0	1900	124	100	0	\$0	\$25,800
Segment MH 186 to MH 185	10	Pipe - Clay	203	186	185	0	1900	124	100	0	\$0	\$18,700

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 185 to MH 185A	10	Pipe - Clay	170	185	185A	0	1900	124	100	0	\$0	\$15,600
Segment MH 185A to MH 174	10	Pipe - Clay	367	185A	174	0	1900	124	100	0	\$0	\$33,800
Segment MH 184A to MH 184	6	Pipe - Clay	77	184A	184		1900	124	100	0	\$0	\$6,300
Segment MH 184 to MH 183	6	Pipe - Clay	148	184	183		1900	124	100	0	\$0	\$12,100
Segment MH 183 to MH 182	8	Pipe - Clay	391	183	182		1900	124	100	0	\$0	\$34,300
Segment MH 182 to MH 181	8	Pipe - Clay	219	182	181		2019	5	100	95	\$55,600	\$19,200
Segment MH 181 to MH 180	8	Pipe - Clay	354	181	180		2019	5	100	95	\$89,900	\$31,100
Segment MH 180 to MH 179	8	Pipe - Clay	355	180	179		2019	5	100	95	\$90,100	\$31,200
Segment MH 179 to MH 193	8	Pipe - Clay	182	179	193		1901	123	100	0	\$0	\$16,000
Segment MH 193 to MH 192	8	Pipe - Clay	198	193	192		1901	123	100	0	\$0	\$17,400
Segment MH 179 to MH 179A	8	Pipe - Clay	170	179	179A		1900	124	100	0	\$0	\$14,900
Segment MH 179A to MH 178	8	Pipe - Clay	190	179A	178		1900	124	100	0	\$0	\$16,700
Segment MH 223A to MH 223	6	Pipe - Clay	166	223A	223		1900	124	100	0	\$0	\$13,500
Segment MH 223 to MH 222	6	Pipe - Clay	176	223	222		1900	124	100	0	\$0	\$14,400
Segment S. Lateral to MH 222	8	Pipe - Clay	565	S. Lateral	222		1900	124	100	0	\$0	\$49,600
Segment MH 222 to MH 221	8	Pipe - Clay	100	222	221		1900	124	100	0	\$0	\$8,800
Segment MH 221 to MH 220	8	Pipe - Clay	266	221	220		1900	124	100	0	\$0	\$23,400
Segment MH 220 to MH 219	8	Pipe - Clay	269	220	219		1900	124	100	0	\$0	\$23,600
Segment MH 215 to MH 219A	8	Pipe - Clay	244.5	215	219A		1900	124	100	0	\$0	\$21,500
Segment MH 219A to MH 219	8	Pipe - Clay	194	219A	219		1900	124	100	0	\$0	\$17,000
Segment MH 219 to MH 218	8	Pipe - Clay	256	219	218		1900	124	100	0	\$0	\$22,500
Segment MH 218 to MH 217	8	Pipe - Clay	275	218	217		1900	124	100	0	\$0	\$24,200
Segment MH 217 to MH 210	8	Pipe - Clay	253	217	210		1900	124	100	0	\$0	\$22,200
Segment MH 354 to MH 216	8	Pipe - Clay	256	354	216	0	1900	124	100	0	\$0	\$22,500
Segment MH 216 to MH 215	8	Pipe - Clay	271	216	215	0	1900	124	100	0	\$0	\$23,800
Segment MH 215 to MH 214	8	Pipe - Clay	262	215	214	0	1900	124	100	0	\$0	\$23,000
Segment MH 214 to MH 213	8	Pipe - Clay	250	214	213	0	1900	124	100	0	\$0	\$21,900
Segment MH 213 to MH 212	8	Pipe - Clay	218	213	212	0	1900	124	100	0	\$0	\$19,100
Segment MH 192 to MH 212	8	Pipe - CIPP	320	192	212	Pipe - Clay	2012	12	100	88	\$75,300	\$28,100
Segment MH 212 to MH 211	8	Pipe - Clay	212	212	211	0	2012	12	100	88	\$40,600	\$15,100
Segment MH 211 to MH 210	8	Pipe - Clay	230	211	210	0	2012	12	100	88	\$43,900	\$16,400
Segment MH 210 to MH 209	10	Pipe - Clay	297	210	209		1900	124	100	0	\$0	\$27,300
Segment MH 209 to MH 208	10	Pipe - Clay	242	209	208		1900	124	100	0	\$0	\$22,200
Segment MH 208 to MH 207	10	Pipe - Clay	235	208	207		1900	124	100	0	\$0	\$21,600

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 233A to MH 233	6	Pipe - PVC	59	233A	233		1976	48	100	52	\$7,700	\$4,800
Segment MH 233 to MH 232	8	Pipe - Clay	140	233	232		1900	124	100	0	\$0	\$12,300
Segment MH 232 to MH 231	8	Pipe - Clay	334	232	231		1900	124	100	0	\$0	\$29,300
Segment MH 231 to MH 230	8	Pipe - Clay	306	231	230		1900	124	100	0	\$0	\$26,900
Segment MH 230 to MH 229	8	Pipe - Clay	360	230	229		1900	124	100	0	\$0	\$31,600
Segment MH 228 to MH 227	8	Pipe - Concrete	281.5	228	227		1900	124	100	0	\$0	\$24,700
Segment MH 227 to MH 226	8	Pipe - Concrete	250.5	227	226		1900	124	100	0	\$0	\$22,000
Segment MH 226 to MH 225	8	Pipe - Concrete	252	226	225		1900	124	100	0	\$0	\$22,100
Segment MH 225 to MH 224	8	Pipe - Concrete	258	225	224		1900	124	100	0	\$0	\$22,600
Segment MH 241 to MH 240	8	Pipe - PVC	279	241	240		1960	64	100	36	\$27,000	\$24,500
Segment MH 240 to MH 239	8	Pipe - PVC	279	240	239		1960	64	100	36	\$27,000	\$24,500
Segment MH 234 to MH 224	8	Pipe - Clay	325	234	224		1900	124	100	0	\$0	\$28,500
Segment MH 224 to MH 210	8	Pipe - Clay	275	224	210		1900	124	100	0	\$0	\$24,200
Segment S. Lateral to MH 351	8	Pipe - PVC	54	S. Lateral	351		1976	48	100	52	\$7,500	\$4,800
Segment MH 351 to MH 352	8	Pipe - Clay	201	351	352		1976	48	100	52	\$28,000	\$17,700
Segment S. Lateral to MH 352	8	Pipe - PVC	838	S. Lateral	352		1976	48	100	52	\$116,800	\$73,600
Segment MH 352 to MH 353	8	Pipe - Clay	153	352	353		1976	48	100	52	\$21,300	\$13,400
Segment MH 353 to MH 253	8	Pipe - PVC	250	353	253		1976	48	100	52	\$34,800	\$21,900
Segment MH 253 to MH 252	8	Pipe - Concrete	244	253	252		1976	48	100	52	\$34,000	\$21,400
Segment MH 252 to MH 251	8	Pipe - Concrete	275	252	251		1976	48	100	52	\$38,400	\$24,200
Segment W. Lateral to MH 246C	8	Pipe - PVC	368.7	W. Lateral	246C		1976	48	100	52	\$51,400	\$32,400
Segment MH 246C to MH 246B	8	Pipe - PVC	398	246C	246B		1976	48	100	52	\$55,500	\$34,900
Segment MH 246B to MH 246A	8	Pipe - PVC	156	246B	246A		1976	48	100	52	\$21,700	\$13,700
Segment MH 246A to MH 246	8	Pipe - PVC	60	246A	246		1976	48	100	52	\$8,400	\$5,300
Segment MH 156A to MH 156	8	Pipe - Clay	241	156A	156		1900	124	100	0	\$0	\$21,200
Segment MH 156 to MH 155A	8	Pipe - Clay	252	156	155A		1900	124	100	0	\$0	\$22,100
Segment MH 155A to MH 155	8	Pipe - Clay	285	155A	155		1900	124	100	0	\$0	\$25,000
Segment MH 155 to MH 154A	8	Pipe - Clay	242	155	154A		1900	124	100	0	\$0	\$21,300
Segment MH 154A to MH 154	8	Pipe - Clay	250	154A	154		1900	124	100	0	\$0	\$21,900
Segment MH 154 to MH 153	8	Pipe - Clay	213	154	153		1900	124	100	0	\$0	\$18,700
Segment MH 153 to MH 152	8	Pipe - Clay	192	153	152		1900	124	100	0	\$0	\$16,900
Segment MH 152 to MH 535	12	Pipe - Clay	260	152	535		1976	48	100	52	\$39,700	\$30,300
Segment MH 535 to MH 527	12	Pipe - CIPP	126	535	527	Pipe - Clay	2007	17	100	83	\$30,600	\$14,700
Segment MH 527 to MH 526	12	Pipe - CIPP	255	527	526	Pipe - Clay	2007	17	100	83	\$62,000	\$29,700

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 526 to MH 508	12	Pipe - CIPP	409	526	508	Pipe - Clay	2007	17	100	83	\$99,400	\$47,700
Segment MH 508 to MH 502	12	Pipe - Clay	132	508	502		1900	124	100	0	\$0	\$15,400
Segment MH 502 to MH 502A	12	Pipe - Clay	83	502	502A		1990	34	100	66	\$16,100	\$9,700
Segment MH 502A to MH 497	12	Pipe - Clay	121	502A	497		1990	34	100	66	\$23,400	\$14,100
Segment MH 497 to MH 496	12	Pipe - Clay	36	497	496		1986	38	100	62	\$6,600	\$4,200
Segment MH 496 to MH 491A	12	Pipe - Clay	362	496	491A		1900	124	100	0	\$0	\$42,200
Segment MH 491A to MH 491	12	Pipe - Clay	60	491A	491		1900	124	100	0	\$0	\$7,000
Segment MH 491 to MH 490	12	Pipe - Clay	310	491	490		1900	124	100	0	\$0	\$36,100
Segment MH 490 to MH 12A	20	Pipe - Clay	87	490	12A		1976	48	100	52	\$14,100	\$13,500
Segment MH 12A to MH 12	20	Pipe - Clay	40	12A	12		1976	48	100	52	\$6,500	\$6,200
Segment MH 359 to MH 358	6	Pipe - Clay	179	359	358		2004	20	100	80	\$35,500	\$14,600
Segment MH 358 to MH 534A	6	Pipe - Metal	82	358	534A		2004	20	80	60	\$15,300	\$6,700
Segment MH 534A to MH 534	6	Pipe - Metal	125	534A	534		2004	20	80	60	\$23,300	\$10,200
Segment MH 534 to MH 533	8	Pipe - Clay	295	534	533		2004	20	100	80	\$63,100	\$25,900
Segment MH 533 to MH 532	8	Pipe - CIPP	200	533	532	Pipe - Clay	2012	12	100	88	\$47,000	\$17,600
Segment MH 532 to MH 531	8	Pipe - CIPP	217	532	531	Pipe - Clay	2012	12	100	88	\$51,000	\$19,000
Segment MH 531 to MH 530	8	Pipe - CIPP	205	531	530	Pipe - Clay	2012	12	100	88	\$48,200	\$18,000
Segment MH 530 to MH 529	8	Pipe - Clay	489	530	529		1901	123	100	0	\$0	\$42,900
Segment MH 529 to MH 528	8	Pipe - Clay	480	529	528		1901	123	100	0	\$0	\$42,100
Segment MH 528 to MH 527	8	Pipe - Clay	476	528	527		1901	123	100	0	\$0	\$41,800
Segment MH 522 to MH 521	8	Pipe - Clay	210	522	521		1907	117	100	0	\$0	\$18,400
Segment MH 521 to MH 509	8	Pipe - Clay	156	521	509		1907	117	100	0	\$0	\$13,700
Segment MH 509 to MH Main	8	Pipe - Clay	42	509	Main		1976	48	100	52	\$5,900	\$3,700
Segment MH 525 to MH 524	8	Pipe - Clay	414.5	525	524		1907	117	100	0	\$0	\$36,400
Segment MH 524 to MH 523	8	Pipe - Clay	495	524	523		1907	117	100	0	\$0	\$43,500
Segment MH 523 to MH 504	8	Pipe - Clay	400	523	504		1907	117	100	0	\$0	\$35,100
Segment MH 504 to MH 502	8	Pipe - Clay	484	504	502		1907	117	100	0	\$0	\$42,500
Segment S. Lateral to MH 507	8	Pipe - Clay	180	S. Lateral	507		1976	48	100	52	\$25,100	\$15,800
Segment MH 507 to MH 504	8	Pipe - Clay	260	507	504		1976	48	100	52	\$36,300	\$22,800
Segment MH 520 to MH 516	6	Pipe - Clay	240	520	516		1976	48	100	52	\$31,100	\$19,600
Segment MH 516 to MH 515	8	Pipe - Clay	75	516	515		1976	48	100	52	\$10,500	\$6,600
Segment MH 515 to MH 501	8	Pipe - Clay	120	515	501		1900	124	100	0	\$0	\$10,500
Segment MH 501 to MH 500	10	Pipe - PVC	280	501	500		1986	38	100	62	\$48,700	\$25,700
Segment MH 500 to MH 499	10	Pipe - PVC	148	500	499		1986	38	100	62	\$25,700	\$13,600

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 499 to MH 498	10	Pipe - PVC	326	499	498		1986	38	100	62	\$56,700	\$30,000
Segment MH 498 to MH 497	10	Pipe - PVC	158	498	497		1986	38	100	62	\$27,500	\$14,500
Segment MH 499 to MH 495	10	Pipe - Clay	192	499	495		1986	38	100	62	\$33,400	\$17,700
Segment MH 495 to MH 494	10	Pipe - Clay	178	495	494		1976	48	100	52	\$26,000	\$16,400
Segment MH 494 to MH 493	10	Pipe - Clay	23	494	493		1976	48	100	52	\$3,400	\$2,100
Segment MH 493 to MH 489	10	Pipe - Clay	207	493	489		1976	48	100	52	\$30,200	\$19,000
Segment MH 489 to MH 487	10	Pipe - Clay	198	489	487		1976	48	100	52	\$28,900	\$18,200
Segment MH 487 to MH 486B	10	Pipe - Clay	36	487	486B		1994	30	100	70	\$7,000	\$3,300
Segment MH 486B to MH 486A	10	Pipe - Clay	185	486B	486A		1994	30	100	70	\$36,300	\$17,000
Segment MH 486A to MH 486	10	Pipe - Clay	178.5	486A	486		1976	48	100	52	\$26,000	\$16,400
Segment MH 486 to MH 6	10	Pipe - Clay	185	486	6		1976	48	100	52	\$27,000	\$17,000
Segment MH 6 to MH 5	10	Pipe - Clay	194	6	5		1976	48	100	52	\$28,300	\$17,900
Segment S. Lateral to MH 514	8	Pipe - Clay	146	S. Lateral	514		1976	48	100	52	\$20,300	\$12,800
Segment MH 514 to MH 513	8	Pipe - Clay	251	514	513		1976	48	100	52	\$35,000	\$22,000
Segment MH 513 to MH 512	8	Pipe - Clay	138	513	512		1976	48	100	52	\$19,200	\$12,100
Segment MH 512 to MH 511	8	Pipe - Clay	192	512	511		1976	48	100	52	\$26,800	\$16,900
Segment MH 511 to MH 511A	8	Pipe - Clay	164	511	511A		1976	48	100	52	\$22,800	\$14,400
Segment MH 511A to MH 494	8	Pipe - Clay	329	511A	494		1976	48	100	52	\$45,900	\$28,900
Segment MH 492B to MH 492A	8	Pipe - Clay	131	492B	492A		1976	48	100	52	\$18,200	\$11,500
Segment MH 492A to MH 492	8	Pipe - Clay	71	492A	492		1976	48	100	52	\$9,900	\$6,200
Segment MH 492 to MH 493	8	Pipe - Clay	200	492	493		1976	48	100	52	\$27,900	\$17,600
Segment N. Lateral to MH 487	6	Pipe - Clay	278	N. Lateral	487		1976	48	100	52	\$36,000	\$22,700
Segment S. Lateral to MH 487	8	Pipe - Clay	280	S. Lateral	487		1976	48	100	52	\$39,000	\$24,600
Segment S. Lateral to MH 486A	6	Pipe - PVC	135	S. Lateral	486A		1976	48	100	52	\$17,500	\$11,000
Segment N. Lateral to MH 485	6	Pipe - Clay	34	N. Lateral	485		1900	124	100	0	\$0	\$2,800
Segment MH 485 to MH 491A	6	Pipe - CIPP	200	485	491A	Pipe - Clay	2007	17	100	83	\$41,200	\$16,300
Segment S. Lateral to MH 361D	8	Pipe - PVC	304	S. Lateral	361D		1989	35	100	65	\$52,900	\$26,700
Segment MH 361D to MH 361C	8	Pipe - PVC	298	361D	361C		1976	48	100	52	\$41,600	\$26,200
Segment MH 361C to MH 361B	8	Pipe - PVC	323	361C	361B		1976	48	100	52	\$45,000	\$28,300
Segment MH 361B to MH 361A	8	Pipe - PVC	314.5	361B	361A		1976	48	100	52	\$43,900	\$27,600
Segment MH 361A to MH 361	8	Pipe - PVC	107	361A	361		1976	48	100	52	\$14,900	\$9,400
Segment MH 360 to MH 361	8	Pipe - PVC	341	360	361		1976	48	100	52	\$47,500	\$29,900
Segment MH 361 to MH 362	8	Pipe - PVC	405	361	362		1976	48	100	52	\$56,400	\$35,500
Segment MH 362 to MH 363	8	Pipe - PVC	400	362	363		1976	48	100	52	\$55,800	\$35,100

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment S. Lateral to MH 363A	8	Pipe - PVC	94	S. Lateral	363A		1976	48	100	52	\$13,100	\$8,300
Segment MH 363A to MH 363	8	Pipe - PVC	106	363A	363		1976	48	100	52	\$14,800	\$9,300
Segment MH 363 to MH 364	8	Pipe - PVC	330	363	364		1976	48	100	52	\$46,000	\$29,000
Segment MH 364 to MH 365	8	Pipe - PVC	330	364	365		1976	48	100	52	\$46,000	\$29,000
Segment MH 365 to MH 366	8	Pipe - PVC	400	365	366		1989	35	100	65	\$69,600	\$35,100
Segment MH 366 to MH 367	8	Pipe - PVC	97	366	367		1989	35	100	65	\$16,900	\$8,500
Segment MH 370 to MH 371	8	Pipe - PVC	235	370	371		1989	35	100	65	\$40,900	\$20,600
Segment MH 371 to MH 372	8	Pipe - PVC	158	371	372		1989	35	100	65	\$27,500	\$13,900
Segment MH 374 to MH 374A	8	Pipe - Clay	103	374	374A		1976	48	100	52	\$14,400	\$9,000
Segment MH 374A to MH 375	8	Pipe - Clay	78	374A	375		1976	48	100	52	\$10,800	\$6,800
Segment MH 375 to MH 376	8	Pipe - Clay	196	375	376		1976	48	100	52	\$27,300	\$17,200
Segment MH 376 to MH Main	8	Pipe - Clay	250	376	Main		1976	48	100	52	\$34,800	\$21,900
Segment MH 378 to MH 377	8	Pipe - Concrete	202.5	378	377		1989	35	100	65	\$35,300	\$17,800
Segment MH 379 to MH 379A	8	Pipe - PVC	137	379	379A		1989	35	100	65	\$23,800	\$12,000
Segment MH 379A to MH 380	8	Pipe - Clay	230	379A	380		1976	48	100	52	\$32,100	\$20,200
Segment MH 380A to MH 380	12	Pipe - Concrete	96	380A	380		1976	48	100	52	\$14,700	\$11,200
Segment MH 380 to MH 649C	12	Pipe - Concrete	93	380	649C		1976	48	100	52	\$14,200	\$10,800
Segment MH 649C to MH 649B	12	Pipe - Clay	182	649C	649B		1976	48	100	52	\$27,800	\$21,200
Segment MH 649B to MH 649A	12	Pipe - Clay	178	649B	649A		1976	48	100	52	\$27,200	\$20,800
Segment MH 649A to MH 649	12	Pipe - Clay	147	649A	649		1976	48	100	52	\$22,400	\$17,100
Segment MH 649 to MH 648	12	Pipe - Clay	310	649	648		1976	48	100	52	\$47,300	\$36,100
Segment MH 648 to MH 647	12	Pipe - Clay	243	648	647		1976	48	100	52	\$37,100	\$28,300
Segment MH 647 to MH 646	12	Pipe - Clay	270	647	646		1976	48	100	52	\$41,200	\$31,500
Segment MH 646 to MH 645A	12	Pipe - Clay	85	646	645A		1976	48	100	52	\$13,000	\$9,900
Segment MH 645A to MH 645	12	Pipe - Clay	21	645A	645		1976	48	100	52	\$3,200	\$2,400
Segment MH 645 to MH 644	12	Pipe - Clay	115	645	644		1976	48	100	52	\$17,600	\$13,400
Segment MH 644 to MH 643	12	Pipe - Clay	154	644	643		1976	48	100	52	\$23,500	\$18,000
Segment MH 643 to MH 642	12	Pipe - Clay	104	643	642		1976	48	100	52	\$15,900	\$12,100
Segment MH 642 to MH 641	12	Pipe - Clay	138	642	641		1976	48	100	52	\$21,100	\$16,100
Segment MH 641 to MH 639	12	Pipe - Clay	191	641	639		1976	48	100	52	\$29,100	\$22,200
Segment MH 639 to MH 638A	12	Pipe - Clay	243	639	638A		1976	48	100	52	\$37,100	\$28,300
Segment MH 638A to MH 638	12	Pipe - Clay	27	638A	638		1976	48	100	52	\$4,100	\$3,200
Segment MH 638 to MH 640	12	Pipe - Clay	83	638	640		1979	45	100	55	\$13,400	\$9,700
Segment MH 627 to MH 626	12	Pipe - Concrete	246	627	626		1976	48	100	52	\$37,600	\$28,700

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 626 to MH 625	12	Pipe - Concrete	257	626	625		1976	48	100	52	\$39,200	\$30,000
Segment MH 625 to MH 624	12	Pipe - Concrete	290	625	624		1976	48	100	52	\$44,300	\$33,800
Segment MH 624 to MH 623	12	Pipe - Concrete	292	624	623		1976	48	100	52	\$44,600	\$34,000
Segment MH 623 to MH 622	12	Pipe - Concrete	289	623	622		1976	48	100	52	\$44,100	\$33,700
Segment MH 622 to MH 621	12	Pipe - Concrete	293.5	622	621		1976	48	100	52	\$44,800	\$34,200
Segment MH 621 to MH 620	12	Pipe - Concrete	289.5	621	620		1976	48	100	52	\$44,200	\$33,700
Segment MH 620 to MH 384	12	Pipe - Concrete	292.5	620	384		1976	48	100	52	\$44,600	\$34,100
Segment S. Lateral to MH 386	12	Pipe - Concrete	72	S. Lateral	386		1976	48	100	52	\$11,000	\$8,400
Segment MH 386 to MH 385	12	Pipe - Concrete	60	386	385		1976	48	100	52	\$9,200	\$7,000
Segment MH 385 to MH 384	12	Pipe - Concrete	140	385	384		1976	48	100	52	\$21,400	\$16,300
Segment MH 384 to MH 383A	12	Pipe - Concrete	354	384	383A		1976	48	100	52	\$54,000	\$41,200
Segment MH 383A to MH 383	12	Pipe - Concrete	179	383A	383		1976	48	100	52	\$27,400	\$20,900
Segment MH 383 to MH 382	12	Pipe - Concrete	47	383	382		1976	48	100	52	\$7,200	\$5,500
Segment MH 382 to MH 381	12	Pipe - Concrete	15	382	381		1976	48	100	52	\$2,300	\$1,800
Segment MH 381 to MH 381A	12	Pipe - Clay	172	381	381A		1976	48	100	52	\$26,300	\$20,000
Segment MH 381A to MH 381B	12	Pipe - PVC	269	381A	381B		1976	48	100	52	\$41,100	\$31,400
Segment MH 381B to MH 381C	12	Pipe - PVC	237	381B	381C		1976	48	100	52	\$36,200	\$27,600
Segment MH 381C to MH 381D	12	Pipe - PVC	300	381C	381D		1976	48	100	52	\$45,800	\$35,000
Segment MH 381D to MH 381E	12	Pipe - PVC	240	381D	381E		1976	48	100	52	\$36,600	\$28,000
Segment MH 381E to MH 381F	12	Pipe - PVC	264	381E	381F		1976	48	100	52	\$40,300	\$30,800
Segment MH 381F to MH 638A	12	Pipe - PVC	302	381F	638A		1976	48	100	52	\$46,100	\$35,200
Segment MH 599 to MH 601	8	Pipe - Clay	350	599	601		1959	65	100	35	\$32,900	\$30,700
Segment MH 601 to MH 602	8	Pipe - Clay	200	601	602		1959	65	100	35	\$18,800	\$17,600
Segment MH 602 to MH 603	8	Pipe - Clay	68	602	603		1959	65	100	35	\$6,400	\$6,000
Segment MH 603 to MH 605	8	Pipe - Clay	34	603	605		1959	65	100	35	\$3,200	\$3,000
Segment MH 605 to MH 604	8	Pipe - Clay	81	605	604		1976	48	100	52	\$11,300	\$7,100
Segment N. Lateral to MH 587	6	Pipe - Clay	191	N. Lateral	587		1976	48	100	52	\$24,700	\$15,600
Segment MH 587 to MH 586	8	Pipe - Clay	231	587	586		1976	48	100	52	\$32,200	\$20,300
Segment MH 586 to MH 585	8	Pipe - Clay	161.5	586	585		1976	48	100	52	\$22,500	\$14,200
Segment MH 585 to MH 588	8	Pipe - Clay	319	585	588	0	1976	48	100	52	\$44,500	\$28,000
Segment MH 588 to MH 590	8	Pipe - Clay	150	588	590		1976	48	100	52	\$20,900	\$13,200
Segment MH 583 to MH 582	6	Pipe - Clay	390	583	582		1976	48	100	52	\$50,500	\$31,800
Segment MH 582 to MH 581	6	Pipe - Clay	152	582	581		1976	48	100	52	\$19,700	\$12,400
Segment MH 581 to MH 584	8	Pipe - Clay	400	581	584		1976	48	100	52	\$55,800	\$35,100

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 584 to MH 577	8	Pipe - Clay	190	584	577		1976	48	100	52	\$26,500	\$16,700
Segment MH 577 to MH 576	8	Pipe - PVC	116	577	576		1995	29	100	71	\$22,100	\$10,200
Segment MH 576 to MH 575	8	Pipe - PVC	225	576	575		1995	29	100	71	\$42,800	\$19,800
Segment MH 575 to MH 574	8	Pipe - PVC	41	575	574		1995	29	100	71	\$7,800	\$3,600
Segment MH 574 to MH 573	8	Pipe - PVC	216	574	573		1995	29	100	71	\$41,100	\$19,000
Segment MH 572 to MH 571	8	Pipe - Clay	209	572	571		1976	48	100	52	\$29,100	\$18,300
Segment MH 571 to MH 258	8	Pipe - Clay	166	571	258		1976	48	100	52	\$23,200	\$14,600
Segment MH 570 to MH 568	18	Pipe - Clay	304	570	568		1976	48	100	52	\$48,400	\$46,200
Segment MH 568 to MH 569	8	Pipe - PVC	36	568	569		1976	48	100	52	\$5,000	\$3,200
Segment MH 567 to MH 566	8	Pipe - Clay	236	567	566		1976	48	100	52	\$32,900	\$20,700
Segment MH 562 to MH 563	8	Pipe - Clay	248	562	563		1976	48	100	52	\$34,600	\$21,800
Segment MH 563 to MH 564	8	Pipe - Clay	124	563	564		1976	48	100	52	\$17,300	\$10,900
Segment MH 564 to MH 565	8	Pipe - Clay	178	564	565		1976	48	100	52	\$24,800	\$15,600
Segment MH 565 to MH 566	8	Pipe - Clay	218	565	566		1976	48	100	52	\$30,400	\$19,100
Segment W. Lateral to MH 617	12	Pipe - CIPP	154	W. Lateral	617	Pipe - Clay	2012	12	100	88	\$39,700	\$18,000
Segment MH 617 to MH 614	12	Pipe - Clay	202	617	614		1976	48	100	52	\$30,900	\$23,600
Segment S. Lateral to MH 615	6	Pipe - Clay	68	S. Lateral	615		1976	48	100	52	\$8,800	\$5,500
Segment MH 615 to MH 614	6	Pipe - Clay	238	615	614		1976	48	100	52	\$30,800	\$19,400
Segment MH 613 to MH 614	8	Pipe - Clay	152	613	614		1976	48	100	52	\$21,200	\$13,300
Segment MH 614 to MH 612	8	Pipe - Clay	257	614	612	Sectional Liner Repair	2012	12	100	88	\$60,500	\$22,600
Segment MH 616B to MH 616A	8	Pipe - Clay	131	616B	616A		1976	48	100	52	\$18,200	\$11,500
Segment MH 616A to MH 616	8	Pipe - Clay	137	616A	616		1976	48	100	52	\$19,100	\$12,000
Segment MH 616 to MH 612	8	Pipe - Clay	177	616	612		1976	48	100	52	\$24,700	\$15,500
Segment MH 612 to MH 611	8	Pipe - Clay	225	612	611		1976	48	100	52	\$31,400	\$19,800
Segment MH 611 to MH 610	8	Pipe - Clay	236	611	610		1976	48	100	52	\$32,900	\$20,700
Segment MH 610 to MH 609	8	Pipe - Clay	114	610	609		1976	48	100	52	\$15,900	\$10,000
Segment MH 609 to MH 608	10	Pipe - CIPP	36	609	608	Pipe - Clay	2012	12	100	88	\$8,800	\$3,300
Segment W. Lateral to MH 619	8	Pipe - CIPP	167	W. Lateral	619	Pipe - Clay	2012	12	100	88	\$39,300	\$14,700
Segment MH 619 to MH 618	8	Pipe - Clay	207	619	618		1976	48	100	52	\$28,900	\$18,200
Segment N. Lateral to MH 618	8	Pipe - Concrete	260	N. Lateral	618		1976	48	100	52	\$36,300	\$22,800
Segment MH 618 to MH 608	8	Pipe - Clay	40	618	608		1976	48	100	52	\$5,600	\$3,500
Segment MH 608 to MH 260	12	Pipe - Clay	153	608	260		1976	48	100	52	\$23,400	\$17,800
Segment S. Lateral to MH 607	6	Pipe - CIPP	234	S. Lateral	607	Pipe - Clay	2012	12	100	88	\$51,100	\$19,100
Segment MH 607 to MH 620	6	Pipe - Clay	252	607	620		1976	48	100	52	\$32,600	\$20,500

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment N. Lateral to MH 262	6	Pipe - Clay	316	N. Lateral	262		1900	124	100	0	\$0	\$25,800
Segment MH 262 to MH 261	6	Pipe - Clay	166	262	261		1900	124	100	0	\$0	\$13,500
Segment MH 261 to MH 260A	6	Pipe - CIPP	199	261	260A	Pipe - Clay	2012	12	100	88	\$43,500	\$16,200
Segment MH 260A to MH 260	8	Pipe - Clay	40	260A	260		1900	124	100	0	\$0	\$3,500
Segment MH 260 to MH 259	12	Pipe - Clay	375	260	259		1900	124	100	0	\$0	\$43,700
Segment MH 259 to MH 258	12	Pipe - CIPP	39	259	258	Pipe - Clay	2012	12	100	88	\$10,100	\$4,600
Segment MH 258 to MH 257	12	Pipe - CIPP	205	258	257	Pipe - Clay	2012	12	100	88	\$52,800	\$23,900
Segment MH 257 to MH 256	12	Pipe - Clay	202	257	256		1900	124	100	0	\$0	\$23,600
Segment MH 562A to MH 562B	12	Pipe - Clay	134	562A	562B		1976	48	100	52	\$20,400	\$15,600
Segment MH 562B to MH 256	12	Pipe - CIPP	250	562B	256	Pipe - Clay	2012	12	100	88	\$64,400	\$29,100
Segment MH 256 to MH 255	12	Pipe - CIPP	120	256	255	Pipe - Clay	2012	12	100	88	\$30,900	\$14,000
Segment MH 255 to MH 254	12	Pipe - Clay	66	255	254		1976	48	100	52	\$10,100	\$7,700
Segment MH 254 to MH 594	24	Pipe - Concrete	298.5	254	594		1976	48	100	52	\$49,500	\$47,300
Segment MH 594 to MH 593	24	Pipe - Concrete	220	594	593		1976	48	100	52	\$36,500	\$34,900
Segment MH 593 to MH 1	24	Pipe - Concrete	103.51	593	1		1976	48	100	52	\$17,200	\$16,400
Forcemain MH 547 to MH 559	4	Forcemain - Metal	630	547	559		1976	48	100	52	\$52,300	\$32,900
Segment S. Lateral to MH 554	8	Pipe - PVC	160	S. Lateral	554		1980	44	100	56	\$24,000	\$14,100
Segment MH 554 to MH 553	8	Pipe - PVC	120	554	553		1980	44	100	56	\$18,000	\$10,500
Segment MH 553 to MH 552	8	Pipe - PVC	430	553	552		1980	44	100	56	\$64,500	\$37,800
Segment MH 552 to MH 549	8	Pipe - PVC	307	552	549		1980	44	100	56	\$46,100	\$27,000
Segment MH 550 to MH 550A	8	Pipe - Clay	200	550	550A		1975	49	100	51	\$27,300	\$17,600
Segment MH 550A to MH 551	8	Pipe - Clay	201	550A	551		1975	49	100	51	\$27,500	\$17,700
Segment MH 551 to MH 549	8	Pipe - Clay	285	551	549		1975	49	100	51	\$39,000	\$25,000
Segment MH 549 to MH 548	8	Pipe - Clay	67	549	548		1975	49	100	51	\$9,100	\$5,900
Segment MH 545 to MH 545A	8	Pipe - Clay	288	545	545A		1975	49	100	51	\$39,400	\$25,300
Segment MH 545A to MH 546	8	Pipe - Clay	187	545A	546		1975	49	100	51	\$25,500	\$16,400
Segment MH 546 to MH 548	8	Pipe - Clay	188	546	548		1975	49	100	51	\$25,700	\$16,500
Segment MH 548 to MH 547	8	Pipe - Clay	27	548	547		1975	49	100	51	\$3,700	\$2,400
Segment MH 373C to MH 373B	8	Pipe - PVC	178	373C	373B		1998	26	100	74	\$35,300	\$15,600
Segment MH 373B to MH 373A	8	Pipe - PVC	191	373B	373A		1998	26	100	74	\$37,800	\$16,800
Segment MH 373A to MH 373	8	Pipe - PVC	140	373A	373		1998	26	100	74	\$27,700	\$12,300
Segment MH 373 to MH 373D	8	Pipe - PVC	54	373	373D		1998	26	100	74	\$10,700	\$4,800
Segment MH 387A to MH 387	12	Pipe - Concrete	99	387A	387		1974	50	100	50	\$14,500	\$11,500
Segment MH 52 to MH 51	6	Pipe - Clay	374	52	51	0	1900	124	100	0	\$0	\$23,600

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 51 to MH 50	8	Pipe - Clay	393	51	50		1900	124	100	0	\$0	\$34,500
Segment N. Lateral to MH 400	8	Pipe - CIPP	28	N. Lateral	400	0	1976	48	100	52	\$3,200	\$2,000
Segment MH 400 to MH 401	8	Pipe - CIPP	256	400	401	0	1976	48	100	52	\$29,000	\$18,300
Segment MH 401 to MH 50	8	Pipe - CIPP	309	401	50	0	1976	48	100	52	\$35,000	\$22,000
Segment MH 402 to MH 50	8	Pipe - Clay	259	402	50		1976	48	100	52	\$36,100	\$22,700
Segment MH 50 to MH 48	8	Pipe - Clay	383	50	48	0	1900	124	100	0	\$0	\$33,600
Segment N. Lateral to MH 49A	8	Pipe - CIPP	128	N. Lateral	49A	Pipe - Clay	2015	8	100	92	\$32,200	\$11,600
Segment MH 49A to MH 49	8	Pipe - CIPP	74	49A	49	Pipe - Clay	2015	8	100	92	\$14,500	\$5,200
Segment MH 49 to MH 48A	8	Pipe - CIPP	144	49	48A	Pipe - Clay	2015	8	100	92	\$48,200	\$17,300
Segment MH 48A to MH 48	8	Pipe - CIPP	233	48A	48	Pipe - Clay	2015	8	100	92	\$34,100	\$12,200
Segment MH 47 to MH 46A	8	Pipe - CIPP	206	47	46A	Pipe - Clay	2015	8	100	92	\$35,800	\$12,800
Segment MH 46A to MH 46	8	Pipe - CIPP	184	46A	46	Pipe - Clay	2015	8	100	92	\$39,900	\$14,300
Segment MH 48 to MH 46	8	Pipe - Clay	67	48	46		1900	124	100	0	\$0	\$5,900
Segment MH 46 to MH 45	8	Pipe - Clay	217	46	45		1900	124	100	0	\$0	\$19,000
Segment MH 671 to MH 670	8	Pipe - PVC	240	671	670		2011	13	100	87	\$55,800	\$21,100
Segment MH 670 to MH 669	8	Pipe - PVC	247	670	669		2011	13	100	87	\$57,400	\$21,700
Segment MH 669 to MH 668	8	Pipe - PVC	323	669	668		2011	13	100	87	\$75,100	\$28,300
Segment MH 668 to MH 45	8	Pipe - Concrete	45	668	45		2011	13	100	87	\$10,500	\$4,000
Segment MH 45 to MH 44	8	Pipe - Clay	377	45	44		1900	124	100	0	\$0	\$33,100
Segment MH 399 to MH 44	8	Pipe - Clay	233	399	44		1900	124	100	0	\$0	\$20,500
Segment MH 397 to MH 398	8	Pipe - CIPP	351	397	398	Pipe - Clay	2015	8	100	92	\$69,900	\$25,000
Segment MH 398 to MH 44	8	Pipe - Clay	412	398	44	Pipe - Clay	2015	8	100	92	\$100,900	\$36,200
Segment MH 44 to MH 43	8	Pipe - Clay	385	44	43	0	1900	124	100	0	\$0	\$33,800
Segment MH 396A to MH 396	8	Pipe - Clay	263	396A	396	0	1976	48	100	52	\$36,700	\$23,100
Segment MH 396 to MH 43	8	Pipe - CIPP	422	396	43	Pipe - Clay	2015	8	100	92	\$82,800	\$29,700
Segment MH 43 to MH 42	8	Pipe - Clay	156	43	42		1974	50	100	50	\$20,900	\$13,700
Segment MH 42 to MH 41	8	Pipe - Clay	116	42	41		1974	50	100	50	\$15,600	\$10,200
Segment MH 391 to MH 392	6	Pipe - Clay	227	391	392		1900	124	100	0	\$0	\$18,500
Segment MH 392 to MH 41	6	Pipe - Clay	156	392	41		1900	124	100	0	\$0	\$12,700
Segment MH 41 to MH 395	8	Pipe - Clay	144	41	395		1900	124	100	0	\$0	\$12,600
Segment MH 395 to MH 40	8	Pipe - Clay	220	395	40		1900	124	100	0	\$0	\$19,300
Segment MH 424 to MH 425	8	Pipe - Clay	275	424	425		1973	51	100	49	\$36,200	\$24,200
Segment MH 425 to MH 426	8	Pipe - Clay	311	425	426		1973	51	100	49	\$40,900	\$27,300
Segment MH 426 to MH 427	8	Pipe - Clay	281	426	427		1973	51	100	49	\$37,000	\$24,700

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 427 to MH 427A	8	Pipe - Clay	158	427	427A		1973	51	100	49	\$20,700	\$13,900
Segment MH 427A to MH 40	8	Pipe - Clay	130	427A	40		1973	51	100	49	\$17,100	\$11,400
Segment MH 40 to MH 394	8	Pipe - Clay	35	40	394		1973	51	100	49	\$4,600	\$3,100
Segment MH 394 to MH 39	8	Pipe - Clay	260	394	39		1973	51	100	49	\$34,200	\$22,800
Segment MH 39 to MH 38	8	Pipe - Clay	286	39	38		1900	124	100	0	\$0	\$25,100
Segment MH 38 to MH 37	8	Pipe - Clay	310	38	37		1900	124	100	0	\$0	\$27,200
Segment MH 37 to MH 36	8	Pipe - Clay	292.5	37	36		1900	124	100	0	\$0	\$25,700
Segment MH 404 to MH 403	8	Pipe - Clay	158	404	403		1900	124	100	0	\$0	\$13,900
Segment MH 403 to MH 36	8	Pipe - Clay	160	403	36		1900	124	100	0	\$0	\$14,100
Segment MH 36 to MH 35	8	Pipe - Clay	290	36	35		1900	124	100	0	\$0	\$25,400
Segment MH 35 to MH 34	8	Pipe - Clay	244	35	34		1900	124	100	0	\$0	\$21,400
Segment MH 34 to MH 33	8	Pipe - Clay	243	34	33		1900	124	100	0	\$0	\$21,300
Segment MH 405 to MH 406	8	Pipe - Clay	179	405	406		1976	48	100	52	\$24,900	\$15,700
Segment MH 406 to MH 407	8	Pipe - Clay	262	406	407		1976	48	100	52	\$36,500	\$23,000
Segment MH 407 to MH 408	8	Pipe - Clay	306	407	408		1976	48	100	52	\$42,700	\$26,900
Segment MH 409 to MH 408	8	Pipe - Clay	130	409	408		1976	48	100	52	\$18,100	\$11,400
Segment MH 408 to MH 410	8	Pipe - Clay	333	408	410		1976	48	100	52	\$46,400	\$29,200
Segment MH 410 to MH 410A	8	Pipe - Clay	6	410	410A		1976	48	100	52	\$800	\$500
Segment MH 410A to MH 410B	8	Pipe - Clay	80	410A	410B		1976	48	100	52	\$11,200	\$7,000
Segment MH 410B to MH 33	8	Pipe - CIPP	105	410B	33	Pipe - Clay	2007	17	100	83	\$23,300	\$9,200
Segment MH 33 to MH 32	8	Pipe - CIPP	335	33	32	Pipe - Clay	2007	17	100	83	\$74,300	\$29,400
Segment N. Lateral to MH 32	6	Pipe - CIPP	299	N. Lateral	32	Pipe - Clay	2007	17	100	83	\$61,700	\$24,400
Segment MH 32 to MH 31	10	Pipe - CIPP	320	32	31	Pipe - Clay	2007	17	100	83	\$74,400	\$29,400
Segment MH 31 to MH 30	10	Pipe - Clay	414	31	30		1900	124	100	0	\$0	\$38,100
Segment MH 30 to MH 29	10	Pipe - Clay	412	30	29		1900	124	100	0	\$0	\$37,900
Segment MH 29 to MH 28	8	Pipe - CIPP	157	29	28	Pipe - Clay	2007	17	100	83	\$34,900	\$13,800
Segment MH 417 to MH 418	8	Pipe - Clay	233	417	418		1976	48	100	52	\$32,500	\$20,500
Segment MH 418 to MH 419	8	Pipe - CIPP	220	418	419	Pipe - Clay	2007	17	100	83	\$48,800	\$19,300
Segment MH 419 to MH 28	8	Pipe - CIPP	125.5	419	28	Pipe - Clay	2007	17	100	83	\$27,900	\$11,000
Segment MH 28 to MH 27	10	Pipe - CIPP	409	28	27	Pipe - Clay	2008	16	100	84	\$96,200	\$37,600
Segment MH 420 to MH 421	8	Pipe - CIPP	218	420	421	Pipe - Clay	2008	16	100	84	\$49,000	\$19,100
Segment MH 421 to MH 422	8	Pipe - CIPP	207	421	422	Pipe - Clay	2008	16	100	84	\$46,500	\$18,200
Segment MH 423 to MH 422	8	Pipe - CIPP	190	423	422	Pipe - Clay	2008	16	100	84	\$42,600	\$16,700
Segment MH 422 to MH 27	8	Pipe - CIPP	160	422	27	Pipe - Clay	2008	16	100	84	\$36,000	\$14,100

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 27 to MH 26	10	Pipe - CIPP	401	27	26	Pipe - Clay	2008	16	100	84	\$94,400	\$36,900
Segment MH 428A to MH 428	10	Pipe - CIPP	220	428A	428	Pipe - Clay	2007	17	100	83	\$51,100	\$20,200
Segment E. Lateral to MH 428	10	Pipe - Concrete	169	E. Lateral	428		1980	44	100	56	\$26,600	\$15,500
Segment MH 428 to MH 429	12	Pipe - Concrete	220	428	429		1980	44	100	56	\$36,200	\$25,600
Segment E. Lateral to MH 429	10	Pipe - Concrete	158	E. Lateral	429		1980	44	100	56	\$24,800	\$14,500
Segment MH 429 to MH 430	12	Pipe - Concrete	391	429	430		1980	44	100	56	\$64,200	\$45,600
Segment MH 440 to MH 439	12	Pipe - Clay	200	440	439		1976	48	100	52	\$30,600	\$23,300
Segment MH 439 to MH 438A	12	Pipe - Clay	300	439	438A		1976	48	100	52	\$45,800	\$35,000
Segment MH 438A to MH 438	12	Pipe - CIPP	100	438A	438	Pipe - Clay	2007	17	100	83	\$24,300	\$11,600
Segment MH 438 to MH 437	12	Pipe - CIPP	400	438	437	Pipe - Clay	2007	17	100	83	\$97,200	\$46,600
Segment MH 437 to MH 430	12	Pipe - CIPP	440	437	430	Pipe - Clay	2007	17	100	83	\$107,000	\$51,300
Segment MH 434 to MH 435	12	Pipe - CIPP	254	434	435	Pipe - Concrete	2007	17	100	83	\$61,700	\$29,600
Segment MH 435 to MH 436	12	Pipe - CIPP	232	435	436	Pipe - Concrete	2007	17	100	83	\$56,400	\$27,000
Segment MH 436 to MH 452	12	Pipe - CIPP	240	436	452	Pipe - Concrete	2007	17	100	83	\$58,300	\$28,000
Segment MH 441 to MH 442	12	Pipe - CIPP	400	441	442	Pipe - Clay	2007	17	100	83	\$97,200	\$46,600
Segment MH 442 to MH 442A	12	Pipe - Clay	198	442	442A		1976	48	100	52	\$30,200	\$23,100
Segment MH 442D to MH 442C	8	Pipe - PVC	240	442D	442C		1976	48	100	52	\$33,400	\$21,100
Segment MH 442C to MH 442B	8	Pipe - PVC	401	442C	442B		1976	48	100	52	\$55,900	\$35,200
Segment MH 442B to MH 442A	8	Pipe - PVC	396	442B	442A		1976	48	100	52	\$55,200	\$34,700
Segment MH 442A to MH 443	12	Pipe - PVC	210	442A	443		1976	48	100	52	\$32,100	\$24,500
Segment MH 443 to MH 444	12	Pipe - Clay	400	443	444		1976	48	100	52	\$61,000	\$46,600
Segment MH 444 to MH 444A	12	Pipe - Concrete	300	444	444A		1996	28	100	72	\$63,300	\$35,000
Segment MH 444D to MH 444C	8	Pipe - PVC	280	444D	444C		1996	28	100	72	\$54,000	\$24,600
Segment MH 444C to MH 444A	8	Pipe - PVC	623	444C	444A		1996	28	100	72	\$120,000	\$54,700
Segment MH 444A to MH 445	8	Pipe - PVC	92	444A	445		1996	28	100	72	\$17,700	\$8,100
Segment MH 445 to MH 446	12	Pipe - Clay	400	445	446		1976	48	100	52	\$61,000	\$46,600
Segment MH 446B to MH 446A	12	Pipe - Clay	221	446B	446A	0	1976	48	100	52	\$33,700	\$25,800
Segment MH 446A to MH 446	12	Pipe - Clay	221	446A	446	0	1976	48	100	52	\$33,700	\$25,800
Segment MH 446 to MH 447	12	Pipe - Clay	358	446	447	0	1976	48	100	52	\$54,700	\$41,700
Segment MH 447 to MH 448	12	Pipe - Clay	300	447	448		1976	48	100	52	\$45,800	\$35,000
Segment MH 448 to MH 449	12	Pipe - Clay	300	448	449		1976	48	100	52	\$45,800	\$35,000
Segment MH 449 to MH 450	12	Pipe - Clay	310	449	450		1976	48	100	52	\$47,300	\$36,100
Segment MH 450 to MH 451	12	Pipe - Concrete	353	450	451		1976	48	100	52	\$53,900	\$41,100
Segment MH 451 to MH 452	12	Pipe - Concrete	70	451	452		1976	48	100	52	\$10,700	\$8,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 452 to MH 453	12	Pipe - Concrete	86	452	453		1976	48	100	52	\$13,200	\$10,000
Segment MH 454 to MH 453	12	Pipe - Concrete	61	454	453		1976	48	100	52	\$9,300	\$7,100
Segment NW Lateral to MH 58	6	Pipe - Clay	117	NW Lateral	58		1900	124	100	0	\$0	\$9,500
Segment MH 58 to MH 57	8	Pipe - Clay	217	58	57		1900	124	100	0	\$0	\$19,000
Segment MH 416 to MH 57	8	Pipe - Clay	194	416	57		1976	48	100	52	\$27,000	\$17,000
Segment MH 57 to MH 55	8	Pipe - Clay	405	57	55		1900	124	100	0	\$0	\$35,500
Segment MH 77 to MH 76	6	Pipe - Clay	188	77	76		1900	124	100	0	\$0	\$15,300
Segment MH 76 to MH 75	8	Pipe - Concrete	227	76	75		1900	124	100	0	\$0	\$19,900
Segment MH 75 to MH 74	8	Pipe - Concrete	200	75	74		1900	124	100	0	\$0	\$17,600
Segment MH 74 to MH 73	8	Pipe - Concrete	241	74	73		1900	124	100	0	\$0	\$21,200
Segment MH 73 to MH 70	8	Pipe - Concrete	231	73	70		1900	124	100	0	\$0	\$20,300
Segment MH 72 to MH 71	8	Pipe - Concrete	218	72	71		1900	124	100	0	\$0	\$19,100
Segment MH 71 to MH 70	8	Pipe - Concrete	190	71	70		1900	124	100	0	\$0	\$16,700
Segment MH 70 to MH 68	8	Pipe - Concrete	328	70	68		1900	124	100	0	\$0	\$28,800
Segment MH 465 to MH 69	8	Pipe - Concrete	72	465	69		1976	48	100	52	\$10,100	\$6,300
Segment MH 69 to MH 68	8	Pipe - Concrete	389	69	68		1900	124	100	0	\$0	\$34,200
Segment MH 68 to MH 67	8	Pipe - Concrete	380	68	67		1900	124	100	0	\$0	\$33,400
Segment MH 469 to MH 470	8	Pipe - Concrete	227	469	470		1976	48	100	52	\$31,700	\$19,900
Segment MH 470 to MH 471	8	Pipe - Concrete	236	470	471		1976	48	100	52	\$32,900	\$20,700
Segment MH 471 to MH 472	8	Pipe - Concrete	238.5	471	472		1976	48	100	52	\$33,200	\$20,900
Segment MH 472 to MH 473	8	Pipe - Concrete	240	472	473		1976	48	100	52	\$33,400	\$21,100
Segment MH 473 to MH 474	8	Pipe - Concrete	187.5	473	474		1976	48	100	52	\$26,100	\$16,500
Segment MH 474 to MH 67	8	Pipe - Concrete	160	474	67		1976	48	100	52	\$22,300	\$14,100
Segment MH 67 to MH 66	8	Pipe - Concrete	380	67	66		1900	124	100	0	\$0	\$33,400
Segment MH 475A to MH 475	8	Pipe - CIPP	297	475A	475	Pipe- - Metal	2015	9	100	91	\$39,100	\$14,100
Segment MH 475 to MH 476	8	Pipe - CIPP	150	475	476	Pipe - Concrete	2015	9	100	91	\$37,500	\$13,500
Segment MH 476 to MH 477	8	Pipe - CIPP	243	476	477	Pipe - Concrete	2015	9	100	91	\$50,100	\$18,100
Segment MH 477 to MH 478	8	Pipe - CIPP	240	477	478	Pipe - Concrete	2015	9	100	91	\$49,700	\$18,000
Segment MH 478 to MH 479	8	Pipe - CIPP	184	478	479	Pipe - Concrete	2015	9	100	91	\$33,200	\$12,000
Segment MH 479 to MH 66	8	Pipe - CIPP	171	479	66	Pipe - Concrete	2015	9	100	91	\$32,700	\$11,800
Segment MH 66 to MH 65	8	Pipe - Clay	320	66	65		1900	124	100	0	\$0	\$28,100
Segment MH 64 to MH 63	8	Pipe - Clay	270	64	63		1900	124	100	0	\$0	\$23,700
Segment MH 63A to MH 62	8	Pipe - Clay	250	63A	62		1900	124	100	0	\$0	\$21,900
Segment MH 62 to MH 62B	8	Pipe - Clay	275	62	62B		1900	124	100	0	\$0	\$24,200

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 62B to MH 62A	8	Pipe - Clay	31	62B	62A		1900	124	100	0	\$0	\$2,700
Segment MH 55 to MH 54	12	Pipe - Clay	153	55	54		1900	124	100	0	\$0	\$17,800
Segment MH 54 to MH 53	12	Pipe - Clay	142	54	53		1900	124	100	0	\$0	\$16,600
Segment MH 411 to MH 412	8	Pipe - Clay	155	411	412		1976	48	100	52	\$21,600	\$13,600
Segment MH 412 to MH 413	8	Pipe - Clay	195	412	413		1976	48	100	52	\$27,200	\$17,100
Segment MH 413 to MH 414	8	Pipe - Clay	210	413	414		2019	5	100	95	\$53,300	\$18,400
Segment MH 414 to MH 415	8	Pipe - Clay	410	414	415		1976	48	100	52	\$57,200	\$36,000
Segment MH 415 to MH 53	8	Pipe - CIPP	413	415	53	Pipe - Clay	2016	8	100	92	\$101,600	\$36,300
Segment MH 53 to MH 26	12	Pipe - Clay	326	53	26		1900	124	100	0	\$0	\$38,000
Segment MH 26 to MH 25	12	Pipe - Clay	144	26	25		1900	124	100	0	\$0	\$16,800
Segment MH 25 to MH 24	12	Pipe - Clay	50	25	24		1900	124	100	0	\$0	\$5,800
Segment MH 24 to MH 24A	12	Pipe - PVC	231	24	24A		1983	41	100	59	\$40,000	\$26,900
Segment MH 24A to MH 23	12	Pipe - PVC	65	24A	23		1983	41	100	59	\$11,200	\$7,600
Segment MH 23 to MH 22	12	Pipe - PVC	73	23	22		1973	51	100	49	\$10,500	\$8,500
Forcemain MH 22 to MH 20	6	Forcemain - Metal	416	22	20		1973	51	100	49	\$35,100	\$23,500
Segment MH 651 to MH 652	12	Pipe - PVC	45.5	651	652		1973	51	100	49	\$6,600	\$5,300
Segment MH 652 to MH 653	12	Pipe - PVC	345	652	653		1973	51	100	49	\$49,700	\$40,200
Segment MH 653 to MH 654	12	Pipe - PVC	353	653	654		1973	51	100	49	\$50,800	\$41,100
Segment MH 654 to MH 655	12	Pipe - PVC	351	654	655		1973	51	100	49	\$50,500	\$40,900
Segment MH 655 to MH 656	12	Pipe - PVC	130	655	656		1973	51	100	49	\$18,700	\$15,200
Segment MH 656 to MH 657	12	Pipe - PVC	255	656	657		1973	51	100	49	\$36,700	\$29,700
Segment MH 657 to MH 658	12	Pipe - PVC	380	657	658		1973	51	100	49	\$54,700	\$44,300
Segment MH 467 to MH 468	8	Pipe - Concrete	24	467	468		1979	45	100	55	\$3,500	\$2,100
Segment SW Lateral to MH 467A	8	Pipe - Concrete	347	SW Lateral	467A		1996	28	100	72	\$66,800	\$30,500
Segment MH 467A to MH 468	8	Pipe - PVC	25	467A	468		1996	28	100	72	\$4,900	\$2,200
Segment MH 468 to MH 658B	8	Pipe - PVC	448	468	658B		1996	28	100	72	\$86,300	\$39,300
Segment MH 658B to MH 658A	8	Pipe - PVC	350	658B	658A		1976	48	100	52	\$48,800	\$30,700
Segment MH 658A to MH 658	8	Pipe - PVC	370	658A	658		1976	48	100	52	\$51,600	\$32,500
Segment MH 658 to MH 659	15	Pipe - PVC	320	658	659		1976	48	100	52	\$49,900	\$47,700
Segment MH 659 to MH 660	15	Pipe - PVC	388	659	660		1976	48	100	52	\$60,500	\$57,800
Segment SW Lateral to MH 660	12	Pipe - PVC	67	SW Lateral	660		1976	48	100	52	\$10,200	\$7,800
Segment MH 660 to MH 661	15	Pipe - PVC	232	660	661		1976	48	100	52	\$36,200	\$34,600
Segment MH 661 to MH 662	15	Pipe - PVC	120	661	662		1976	48	100	52	\$18,700	\$17,900
Segment MH 662 to MH 663	15	Pipe - PVC	174	662	663		1976	48	100	52	\$27,100	\$25,900

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 663 to MH 2	15	Pipe - PVC	442	663	2		1976	48	100	52	\$69,000	\$65,800
Segment MH 640 to MH 606	18	Pipe - Concrete	65	640	606		1976	48	100	52	\$10,400	\$9,900
Segment MH 606 to MH 604	18	Pipe - Concrete	170	606	604		1976	48	100	52	\$27,100	\$25,900
Segment MH 604 to MH 595	18	Pipe - Concrete	288	604	595		1976	48	100	52	\$45,900	\$43,800
Segment MH 595 to MH 591	18	Pipe - Concrete	238	595	591		1976	48	100	52	\$37,900	\$36,200
Segment MH 591 to MH 591A	18	Pipe - Concrete	30	591	591A		1976	48	100	52	\$4,800	\$4,600
Segment MH 591A to MH 590	18	Pipe - Concrete	213	591A	590		1976	48	100	52	\$34,000	\$32,400
Segment MH 590 to MH 589	18	Pipe - Concrete	252	590	589		1976	48	100	52	\$40,100	\$38,300
Segment MH 589 to MH 580	24	Pipe - Concrete	287	589	580		1976	48	100	52	\$47,600	\$45,500
Segment MH 580 to MH 579	24	Pipe - Concrete	102	580	579		1976	48	100	52	\$16,900	\$16,200
Segment MH 579 to MH 577	24	Pipe - Concrete	260	579	577		1976	48	100	52	\$43,100	\$41,200
Segment MH 577 to MH 569	24	Pipe - Concrete	172	577	569		1976	48	100	52	\$28,600	\$27,300
Segment MH 569 to MH 566	24	Pipe - Concrete	225	569	566		1976	48	100	52	\$37,400	\$35,700
Segment MH 566 to MH 561	24	Pipe - Concrete	225	566	561		1976	48	100	52	\$37,400	\$35,700
Segment MH 561 to MH 560	24	Pipe - Concrete	214	561	560		1976	48	100	52	\$35,500	\$33,900
Segment MH 560 to MH 559	24	Pipe - Concrete	216	560	559		1976	48	100	52	\$35,800	\$34,200
Segment MH 559 to MH 558	24	Pipe - Concrete	202	559	558		1976	48	100	52	\$33,500	\$32,000
Segment MH 557A to MH 557	8	Pipe - Clay	46	557A	557		1976	48	100	52	\$6,400	\$4,000
Segment MH 558 to MH 557	24	Pipe - Concrete	245	558	557		1976	48	100	52	\$40,700	\$38,800
Segment MH 557 to MH 556	8	Pipe - Clay	165	557	556		1976	48	100	52	\$23,000	\$14,500
Segment MH 557 to MH 555	24	Pipe - Concrete	262	557	555		1976	48	100	52	\$43,500	\$41,500
Segment MH 555 to MH 555A	24	Pipe - Concrete	187	555	555A		1976	48	100	52	\$31,000	\$29,600
Segment MH 555A to MH 254	24	Pipe - Concrete	82	555A	254		1976	48	100	52	\$13,600	\$13,000
Segment MH 254 to MH 594	24	Pipe - Concrete	285	254	594		1976	48	100	52	\$47,300	\$45,200
Segment MH 229 to MH 228	8	Pipe - Clay	267	229	228		2019	5	100	95	\$67,800	\$23,400
Segment MH 173 to MH 165A	12	Pipe - Concrete	66	173	165A		1978	46	100	54	\$10,400	\$7,700
Segment MH 165 to MH 164	15	Pipe - PVC	120	165	164		2013	11	100	89	\$31,900	\$17,900
Segment MH 164 to MH 163	15	Pipe - PVC	250	164	163		2013	11	100	89	\$66,500	\$37,200
Segment MH 163 to MH 162	15	Pipe - PVC	208	163	162		2013	11	100	89	\$55,400	\$31,000
Segment MH 162 to MH 161	15	Pipe - Clay	255	162	161		1978	46	100	54	\$41,300	\$38,000
Segment MH 161 to MH 160	15	Pipe - Clay	193	161	160		1978	46	100	54	\$31,300	\$28,800
Segment MH 96 to MH 95	20	Pipe - Concrete	294	96	95		1978	46	100	54	\$49,600	\$45,600
Segment MH 94 to MH 93	15	Pipe - Clay	230	94	93		1978	46	100	54	\$37,300	\$34,300
Segment MH 65 to MH 63	8	Pipe - Clay	308	65	63		1978	46	100	54	\$44,600	\$27,000

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 63 to MH 63A	8	Pipe - Clay	273	63	63A		1978	46	100	54	\$39,500	\$24,000
Segment MH 62A to MH 55	8	Pipe - Clay	196	62A	55		1978	46	100	54	\$28,300	\$17,200
Segment MH 56 to MH 59	12	Pipe - PVC	364	56	59		1978	46	100	54	\$57,700	\$42,400
Segment MH 59 to MH 60	12	Pipe - PVC	260	59	60		1978	46	100	54	\$41,200	\$30,300
Segment MH 60 to MH 61	12	Pipe - PVC	290	60	61		1978	46	100	54	\$46,000	\$33,800
Segment MH 61 to MH 455	12	Pipe - PVC	320	61	455		1978	46	100	54	\$50,700	\$37,300
Segment MH 455 to MH 453	12	Pipe - PVC	405	455	453		1978	46	100	54	\$64,200	\$47,200
Segment MH 664 to MH 665	8	Pipe - PVC	326	664	665		2005	19	100	81	\$70,600	\$28,600
Segment MH 665 to MH 666	8	Pipe - PVC	203	665	667		2005	19	100	81	\$44,000	\$17,800
Segment MH 666 to MH 667	4	Forcemain - PVC	38	665	667		2005	19	100	81	\$4,900	\$2,000
Segment MH 667 to MH 668	4	Forcemain - PVC	179	665	667		2005	19	100	81	\$23,000	\$9,300
Segment MH 668 to MH 394	4	Forcemain - PVC	463	665	667		2005	19	100	81	\$59,700	\$24,200
Segment MH 287A to MH 287	8	Pipe - PVC	140	287A	287		2005	19	100	81	\$30,300	\$12,300
Segment MH 118 to MH 117	8	Pipe - PVC	494	118	117		2004	20	100	80	\$105,700	\$43,400
Segment MH 117 to MH 116A	8	Pipe - PVC	181	117	116A	0	2004	20	100	80	\$38,700	\$15,900
Segment MH 116A to MH 116	8	Pipe - PVC	290	116A	116	0	2004	20	100	80	\$62,000	\$25,400
Segment MH 387D to MH 387C	10	Pipe - PVC	277	387D	387C	0	1991	33	100	67	\$52,000	\$25,500
Segment MH 387C to MH 387B	10	Pipe - PVC	275	387C	387B	0	1991	33	100	67	\$51,600	\$25,300
Segment MH 387B to MH 387A	8	Pipe - PVC	164	387B	387A	0	1991	33	100	67	\$26,200	\$12,800
Segment MH 387A to MH 387	8	Pipe - Concrete	220	387A	387	0	1978	46	100	54	\$28,300	\$17,200
Segment MH 387 to MH 388	8	Pipe - Concrete	242	387	388	0	1974	50	100	50	\$28,900	\$18,900
Segment MH 388 to MH 389	10	Pipe - Concrete	234	388	389	0	1974	50	100	50	\$27,900	\$18,300
Segment MH 389 to MH 390	10	Pipe - Concrete	239	389	390	0	1974	50	100	50	\$28,700	\$18,800
Segment MH 390 to MH 393	10	Pipe - Concrete	303	390	393	0	1974	50	100	50	\$37,300	\$24,500
Segment MH 393 to MH 42	10	Pipe - Concrete	281	393	42	0	1974	50	100	50	\$33,600	\$22,000
Segment MH 342 to MH 341A	8	Pipe - PVC	104	342	341A	0	1997	27	100	73	\$20,300	\$9,100
Segment MH 341A to MH 341	8	Pipe - PVC	98	341A	341	0	1997	27	100	73	\$19,200	\$8,600
Segment MH 348E to MH 348D	8	Pipe - PVC	200	348E	348D	0	1990	34	100	66	\$35,300	\$17,600
Segment MH 348D to MH 348C	8	Pipe - PVC	118	348D	348C	0	1990	34	100	66	\$20,900	\$10,400
Segment MH 348C to MH 348B	8	Pipe - PVC	340	348C	348B	0	1990	34	100	66	\$60,000	\$29,800
Segment MH 348B to MH 348	8	Pipe - PVC	58	348B	348	0	1990	34	100	66	\$10,200	\$5,100
Segment MH 246 to MH 245	8	Pipe - Concrete	288	246	245	0	1960	64	100	36	\$27,900	\$25,300
Segment MH 245 to MH 244	8	Pipe - Concrete	288	245	244	0	1960	64	100	36	\$27,900	\$25,300
Segment MH 244 to MH 243	8	Pipe - Concrete	288	244	243	0	1960	64	100	36	\$27,900	\$25,300

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 243 to MH 242	8	Pipe - Concrete	288	243	242	0	1960	64	100	36	\$27,900	\$25,300
Segment MH 242 to MH 237	8	Pipe - Concrete	188	242	237	0	1960	64	100	36	\$18,200	\$16,500
Segment MH 237 to MH 238	8	Pipe - Concrete	215	237	238	0	1960	64	100	36	\$20,800	\$18,900
Segment MH 238 to MH 239	8	Pipe - Concrete	215	238	239	0	1960	64	100	36	\$20,800	\$18,900
Segment MH 248 to MH 247	8	Pipe - Concrete	120	248	247	0	1960	64	100	36	\$11,600	\$10,500
Segment MH 247 to MH 243	8	Pipe - Concrete	361	247	243	0	1960	64	100	36	\$34,900	\$31,700
Segment MH 251 to MH 250	8	Pipe - Concrete	288	251	250	0	1960	64	100	36	\$27,900	\$25,300
Segment MH 250 to MH 249	8	Pipe - Concrete	288	250	249	0	1960	64	100	36	\$27,900	\$25,300
Segment MH 249 to MH 247	8	Pipe - Concrete	288	249	247	0	1960	64	100	36	\$27,900	\$25,300
Forcemain MH 321 to MH 333	4	Forcemain - Metal	735	321	333	0	1966	58	100	42	\$49,400	\$38,400
Segment MH 333 to MH 329	10	Pipe - Concrete	300	333	329	0	1966	58	100	42	\$35,400	\$27,600
Segment MH 329 to MH 330	8	Pipe - Concrete	300	329	330	0	1966	58	100	42	\$33,800	\$26,300
Segment MH 330 to MH 331	8	Pipe - Concrete	300	330	331	0	1966	58	100	42	\$33,800	\$26,300
Segment MH 331 to MH 332	8	Pipe - Concrete	300	331	332	0	1966	58	100	42	\$33,800	\$26,300
Segment MH 332 to MH 310	8	Pipe - Concrete	200	332	310	0	1966	58	100	42	\$22,600	\$17,600
Segment MH 310 to MH 309	8	Pipe - Concrete	360	310	309	0	1966	58	100	42	\$40,600	\$31,600
Segment MH 328 to MH 327	8	Pipe - Concrete	300	328	327	0	1966	58	100	42	\$33,800	\$26,300
Segment MH 327 to MH 319	8	Pipe - Concrete	200	327	319	0	1966	58	100	42	\$22,600	\$17,600
Segment MH 459 to MH 460	8	Pipe - PVC	435	459	460	0	1979	45	100	55	\$64,100	\$38,200
Segment MH 460 to MH 461	8	Pipe - PVC	465	460	461	0	1979	45	100	55	\$68,500	\$40,800
Segment MH 461 to MH 463	8	Pipe - PVC	329	461	463	0	1979	45	100	55	\$48,500	\$28,900
Segment MH 463 to MH 464	8	Pipe - PVC	130	463	464	0	1979	45	100	55	\$19,200	\$11,400
Segment MH 464 to MH 466	8	Pipe - PVC	280	464	466	0	1979	45	100	55	\$41,300	\$24,600
Segment MH 466 to MH 467	8	Pipe - PVC	300	466	467	0	1979	45	100	55	\$44,200	\$26,300
Segment MH 430 to MH 431	8	Pipe - Concrete	295	430	431	0	1979	45	100	55	\$43,500	\$25,900
Segment MH 431 to MH 432	12	Pipe - Concrete	295	431	432	0	1973	51	100	49	\$42,500	\$34,400
Segment MH 432 to MH 433	12	Pipe - Concrete	295	432	433	0	1973	51	100	49	\$42,500	\$34,400
Segment MH 433 to MH 434	12	Pipe - Concrete	295	433	434	0	1973	51	100	49	\$42,500	\$34,400
Segment MH 18 to MH 480	8	Pipe - Clay	80	18	480	0	1983	41	100	59	\$12,700	\$7,000
Segment MH 480 to MH 481	10	Pipe - Clay	40	480	481	0	1983	41	100	59	\$6,600	\$3,700
Segment MH 367 to MH 368	8	Pipe - PVC	309	367	368	0	1989	35	100	65	\$53,800	\$27,100
Segment MH 368 to MH 369	8	Pipe - PVC	297	368	369	0	1989	35	100	65	\$51,700	\$26,100
Segment MH 369 to MH 372	8	Pipe - PVC	24	369	372	0	1989	35	100	65	\$4,200	\$2,100
Segment MH 372 to MH 377	8	Pipe - PVC	373	372	377	0	1989	35	100	65	\$64,900	\$32,700

Appendix C1: Collection System Asset Inventory

Component Description	Capacity / Size	Asset Class	Depth (MHs) or Length (Segments) (ft)	Rim Elev. (MH) or High MH (Segments)	Invert Elev. (MH) or Low MH (Segments)	Segment Notes	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Rehab/ Replacement Cost
Segment MH 377 to MH 379	8	Pipe - PVC	305	377	379	0	1989	35	100	65	\$53,100	\$26,800

Appendix C2: Lift Station Asset Inventory

Equipment Description	Asset ID	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Replacement Cost
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Lift Station, County Garage

Wet Well Structure			Concrete Structures (Wet Well, Basin, Etc.)	NA	2006	18	100	82	\$41,212	\$50,000
Pump #1, Co. Garage LS	B010101	30 GPM, 2 HP	Pumps (<25HP)	PEABODY BARN	2006	18	15	0	\$0	\$3,500
Pump #2, Co. Garage LS	B010102	30 GPM, 2 HP	Pumps (<25HP)	PEABODY BARN	2006	18	15	0	\$0	\$3,500
Valve, Check #1			Valves (Discharge, Check, Suction, Etc.)	NK	2006	18	30	12	\$870	\$2,100
Valve, Check #2			Valves (Discharge, Check, Suction, Etc.)	NK	2006	18	30	12	\$870	\$2,100
Piping and Fittings			Pipe - PVC	NK	2006	18	100	82	\$16,485	\$20,000
Control Panel, Co. Garage LS	B010300		Control	NK	2006	18	15	0	\$0	\$15,000
Electrical			Electrical	NK	2006	18	20	2	\$1,818	\$15,000

Lift Station, N State Street:

Wet Well Structure			Concrete Structures (Wet Well, Basin, Etc.)	NA	2019	5	100	95	\$47,716	\$50,000
Dry Well Structure			Access Structures	NA	2019	5	100	95	\$47,716	\$50,000
Pump #1, N State St. LS	B020101	150 GPM, 4.8 HP	Pumps (<25HP)	GORMAN RUPP	2019	5	15	10	\$2,434	\$3,500
Pump #2, N State St. LS	B020102	150 GPM, 4.8 HP	Pumps (<25HP)	GORMAN RUPP	2019	5	15	10	\$2,434	\$3,500
Valve, Discharge Gate #1			Valves (Discharge, Check, Suction, Etc.)	NK	2019	5	30	25	\$1,696	\$2,000
Valve, Discharge Gate #2			Valves (Discharge, Check, Suction, Etc.)	NK	2019	5	30	25	\$1,696	\$2,000
Valve, Check #1			Valves (Discharge, Check, Suction, Etc.)	NK	2019	5	30	25	\$1,780	\$2,100
Valve, Check #2			Valves (Discharge, Check, Suction, Etc.)	NK	2019	5	30	25	\$1,780	\$2,100
Piping and Fittings			Pipe - Metal	NK	2019	5	80	75	\$23,573	\$25,000
Control Panel, N State St. LS	B020300		Control	NK	2019	5	15	10	\$24,343	\$35,000
Electrical			Electrical	NK	2019	5	20	15	\$11,575	\$15,000
Sump Pump, N State St. LS	B020400		Pumps - Sump	NK	2019	5	10	5	\$543	\$1,000
Standby Generator			Generators	NK	1998	25	25	0	\$0	\$30,000

Lift Station, Maple Street (Not Used):

Wet Well Structure (not used)			Concrete Structures (Wet Well, Basin, Etc.)	NA	1983	41	100	59	\$17,822	\$30,000
Pump #1, Maple St. LS (not used)	B030101		Pumps (<25HP)	GORMAN RUPP	1983	41	15	0	\$0	\$2,800
Pump #2, Maple St. LS (not used)	B030102		Pumps (<25HP)	GORMAN RUPP	1983	41	15	0	\$0	\$2,800
Motor #1, Maple St. LS Pump (not used)	B030201		Motors (<25HP)	GORMAN RUPP	1983	41	10	0	\$0	\$700
Motor #2,Maple St. LS Pump (not used)	B030202		Motors (<25HP)	GORMAN RUPP	1983	41	10	0	\$0	\$700
Control Panel, Maple St. LS (not used)	B030300		Control	NK	1983	41	15	0	\$0	\$30,000
Electrical			Electrical	NK	1983	41	20	0	\$0	\$5,000

Appendix C2: Lift Station Asset Inventory

Equipment Description	Asset ID	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Replacement Cost
Lift Station, Novak Lane:										
Wet Well Structure			Concrete Structures (Wet Well, Basin, Etc.)	NA	1976	48	100	52	\$26,201	\$50,000
Pump #1, Novak Lane St. LS	B040101	110 GPM, 2.7 HP	Pumps (<25HP)	GORMAN RUPP	1998	25	15	0	\$0	\$3,500
Pump #2, Novak Lane LS	B040102	110 GPM, 2.7 HP	Pumps (<25HP)	GORMAN RUPP	1998	25	15	0	\$0	\$3,500
Valve Chamber Structure			Access Structures	NA	1976	48	100	52	\$15,721	\$30,000
Valve, Discharge Gate #1			Valves (Discharge, Check, Suction, Etc.)	NK	1998	25	30	5	\$318	\$2,000
Valve, Discharge Gate #2			Valves (Discharge, Check, Suction, Etc.)	NK	1998	25	30	5	\$318	\$2,000
Valve, Check #1			Valves (Discharge, Check, Suction, Etc.)	NK	1998	25	30	5	\$334	\$2,100
Valve, Check #2			Valves (Discharge, Check, Suction, Etc.)	NK	1998	25	30	5	\$334	\$2,100
Piping and Fittings			Pipe - Metal	NK	1998	25	80	55	\$13,692	\$20,000
Control Panel, Novak Lane LS	B040300		Control	NK	1998	25	15	0	\$0	\$30,000
Electrical			Electrical	NK	1998	25	20	0	\$0	\$15,000
Standby Generator			Generators	NK	2009	15	25	10	\$12,513	\$30,000
Lift Station, Waterloo:										
Building, Waterloo LS			Buildings - non office	NA	1953	71	100	29	\$35,267	\$120,000
Wet Well Structure			Concrete Structures (Wet Well, Basin, Etc.)	NA	1953	71	100	29	\$8,817	\$30,000
Roof Exhaust Fan, Waterloo LS	B050100		HVAC (Air Handling Unit, Etc.)	NK	2020	4	25	21	\$1,286	\$1,500
Pump #1, Waterloo LS	B050201	150 GPM, 4.8 HP	Pumps (<25HP)	GORMAN RUPP	2020	4	15	11	\$2,668	\$3,500
Pump #2, Waterloo LS	B050202	150 GPM, 4.8 HP	Pumps (<25HP)	GORMAN RUPP	2020	4	15	11	\$2,668	\$3,500
Valve, Discharge Gate #1			Valves (Discharge, Check, Suction, Etc.)	NK	2020	4	30	26	\$1,762	\$2,000
Valve, Discharge Gate #2			Valves (Discharge, Check, Suction, Etc.)	NK	2020	4	30	26	\$1,762	\$2,000
Valve, Check #1			Valves (Discharge, Check, Suction, Etc.)	NK	2020	4	30	26	\$1,850	\$2,100
Valve, Check #2			Valves (Discharge, Check, Suction, Etc.)	NK	2020	4	30	26	\$1,850	\$2,100
Piping and Fittings			Pipe - Metal	NK	2020	4	80	76	\$23,885	\$25,000
Control Panel, Waterloo LS	B050400		Control	NK	2020	4	15	11	\$22,866	\$30,000
Electrical			Electrical	NK	2020	4	20	16	\$16,433	\$20,000
Electrical Transformer, Waterloo LS	B050500		Electrical Service (Trans, CBs, Switchgear...)	SQUARE D	2020	4	30	26	\$2,731	\$3,100
Step Down Transformer, Waterloo LS	B050600		Electrical Service (Trans, CBs, Switchgear...)	ACME ELEC	2020	4	30	26	\$441	\$500
Sump Pump, Waterloo LS	B050700		Pumps (<25HP)	3M	2020	4	15	11	\$762	\$1,000
Dehumidifier, Waterloo LS	B050800		HVAC (Air Handling Unit, Etc.)	NK	2020	4	25	21	\$686	\$800

Appendix C2: Lift Station Asset Inventory

Equipment Description	Asset ID	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	Replacement Cost
Lift Station, Tioga Park:										
Wet Well Structure		6' diam.	Concrete Structures (Wet Well, Basin, Etc.)	NA	2005	19	100	81	\$40,712	\$50,000
Pump #1, Tioga Park LS		100 GPM, 7.5 HP	Pumps (<25HP)	NK	2005	19	15	0	\$0	\$3,500
Pump #2, Tioga Park LS		100 GPM, 7.5 HP	Pumps (<25HP)	NK	2005	19	15	0	\$0	\$3,500
Valve Chamber Structure			Access Structures	NA	2005	19	100	81	\$24,427	\$30,000
Valve, Discharge Gate #1			Valves (Discharge, Check, Suction, Etc.)	NK	2005	19	30	11	\$762	\$2,000
Valve, Discharge Gate #2			Valves (Discharge, Check, Suction, Etc.)	NK	2005	19	30	11	\$762	\$2,000
Valve, Check #1			Valves (Discharge, Check, Suction, Etc.)	NK	2005	19	30	11	\$800	\$2,100
Valve, Check #2			Valves (Discharge, Check, Suction, Etc.)	NK	2005	19	30	11	\$800	\$2,100
Piping and Fittings			Pipe - Metal	NK	2005	19	80	61	\$15,356	\$20,000
Control Panel, Tioga Park LS			Control	NK	2005	19	15	0	\$0	\$30,000
Electrical			Electrical	NK	2005	19	20	1	\$1,425	\$20,000

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Headworks Building:										
Building, Headworks		Building	NA	1994	29	100	71	\$199,047	\$220,800	\$279,700
Roll Up Door, Headworks		Equipment	NK	1994	29	30	1	\$97	\$2,000	\$2,500
Wall Exhaust Fan, Headworks Eq Rm.		HVAC	CARNES	1994	29	25	0	\$0	\$600	\$800
Air Handler, Headworks		HVAC	REZNOR	2015	9	25	16	\$12,421	\$14,890	\$18,900
Atmospheric Detector, Headworks		Equipment	GASTECH	1994	29	30	1	\$50	\$1,000	\$1,300
Wall Exhaust Fan, Headworks Sample Rm.		HVAC	NK	1994	29	25	0	\$0	\$600	\$800
Electrical Transformer, Headworks Sample Rm.		Electrical	SQUARE D	1994	29	30	1	\$198	\$4,000	\$5,100
Distribution Panel, Headworks		Control	SQUARE D	1994	29	30	1	\$97	\$2,000	\$2,500
Lighting Panel, Headworks		Electrical	SQUARE D	1994	29	30	1	\$50	\$1,000	\$1,300
Alarm Panel, Headworks		Control	GASTECH	1994	29	30	1	\$50	\$1,000	\$1,300
Plant Influent:										
Automatic Sampler, Plant Influent		Equipment	AMER SIGMA	2014	9	30	21	\$5,332	\$6,000	\$7,600
Flow Meter, Plant Influent		Meter	NK	1994	29	10	0	\$0	\$4,000	\$5,100
Screenings Removal:										
Influent Channel Structure		Concrete Structure	NA	2015	8	100	92	\$26,727	\$23,000	\$29,100
Influent Rotating Screen	4200 GPM	Equipment	HUBER	2015	8	30	22	\$142,058	\$154,000	\$195,100
Drive, Influent Rotating Screen		Equipment	BAUER	2015	8	30	22	\$3,713	\$4,000	\$5,100
Motor, Influent Rotating Screen	3 HP	Motor (<25HP)	BALDOR	2015	8	10	2	\$240	\$1,000	\$1,300
Control Panel, Influent Rotating Screen		Control	ELEMECH	2015	8	30	22	\$11,068	\$12,000	\$15,200
Manual Bypass Screen		Bar Screen	NA	1994	29	20	0	\$0	\$2,000	\$2,500
Grit Removal:										
Grit Chamber Structure	138"D	Concrete Structure	NA	1994	29	100	71	\$28,323	\$31,400	\$39,800
Grit Chamber Mixer		Equipment	JOHN MEUNIER	1994	29	30	1	\$1,180	\$24,000	\$30,400
Grit Chamber Mixer Gear Reducer		Equipment	SEW-EURO	1994	29	30	1	\$198	\$4,000	\$5,100
Grit Chamber Mixer Motor	1 HP	Motor (<25HP)	SEW-EURO	1994	29	10	0	\$0	\$2,000	\$2,500
Grit Chamber Airlift Blower	70 CFM @ 6 PSI	Blower	KERR PUMP	1994	29	25	0	\$0	\$8,000	\$10,100
Grit Chamber Airlift Blower Motor	5 HP	Motor (<25HP)	BALDOR	1994	29	10	0	\$0	\$1,000	\$1,300
Control Panel, Grit Chamber Blower		Blower	NK	1994	29	25	0	\$0	\$1,000	\$1,300
Grit Dewatering Auger		Equipment	JOHN MEUNIER	1994	29	30	1	\$3,540	\$72,000	\$91,200
Grit Dewatering Auger Drive	11 RPM	Equipment	DODGE	1994	29	30	1	\$345	\$7,000	\$8,900
Grit Dewatering Auger Motor	2 HP	Motor (<25HP)	BALDOR	1994	29	10	0	\$0	\$1,000	\$1,300
Control Panel, Mectan Grit Chamber		Concrete Structure	MECTAN	1994	29	100	71	\$1,779	\$2,000	\$2,500

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Secondary Influent:										
Secondary Influent Lift Pump Wet Well Structure		Concrete Structure	NA	1976	48	100	52	\$66,394	\$100,000	\$126,700
Lift Pump #1, Secondary Influent Screw (West)	50",	Equipment	SPAANS	2022	1	30	29	\$99,528	\$95,660	\$104,500
Lift Pump #2, Secondary Influent Screw (East)	52 5/8", 4167 GPM	Equipment	LAKESIDE	2002	22	30	8	\$78,240	\$220,000	\$278,700
Reducer, Screw Lift Pump #2 (East)		Pump (<25HP)	DODGE	2002	22	15	0	\$0	\$4,000	\$5,100
Screw Lift Pump #1 Motor (West)	50HP	Motor (<25HP)	WEG	2022	1	10	9	\$3,172	\$2,900	\$3,700
Screw Lift Pump #2 Motor (East)	50HP	Motor (<25HP)	SIEMENS	2002	22	10	0	\$0	\$2,900	\$3,700
Control Panel, Screw Lift Pump #2		Control	NK	2002	22	30	8	\$3,565	\$10,000	\$12,700
Screw Pump Bearing Lube Pump #2		Equipment	WOERNER	2002	22	30	8	\$1,993	\$5,600	\$7,100
Reducer, Screw Pump Bearing Lube Pump #2		Equipment	NK	2002	22	30	8	\$365	\$1,000	\$1,300
Motor, Screw Pump Bearing Lube Pump #2	1/3HP	Motor (<25HP)	NK	2002	22	10	0	\$0	\$600	\$800
Control Panel, Screw Pump Lube Pump #2		Control	NK	2002	22	30	8	\$702	\$2,000	\$2,500
Lift Hoist, Screw Pump	8 Ton	Equipment	HARRINGTON	1999	24	30	6	\$521	\$2,000	\$2,500
Grease Lube Pump and Control Panel, Shed Building		Pump (<25HP)	WORNER	2022	1	15	14	\$11,491	\$10,000	\$12,700
Splitter Structure, Secondary Influent Flow		Concrete Structure	NA	1988	35	100	65	\$67,377	\$81,600	\$103,400
Gate, Weir Equalization Basin Inlet	4'	Valve	NK	1987	36	30	0	\$0	\$47,600	\$60,300
Gate, Weir Equalization Basin Inlet	4'	Valve	NK	1987	36	30	0	\$0	\$47,600	\$60,300
Screw Pump Wet Well Slide Gate #1	20" x 20"	Valve	NK	2019	4	30	26	\$6,632	\$6,000	\$7,600
Screw Pump Wet Well Slide Gate #2	20" x 20"	Valve	NK	2019	4	30	26	\$6,632	\$6,000	\$7,600
Screw Pump Wet Well Stop Plate	18" x 53"	Valve	NK	2019	4	30	26	\$6,632	\$6,000	\$7,600
Grease & Grit Removal:										
Building, Grit & Grease	1536 SQ FT	Building	NA	2009	15	100	85	\$398,946	\$368,640	\$467,000
Structure, Grit & Grease Channels		Concrete Structure	NA	2009	15	100	85	\$60,055	\$55,500	\$70,300
Gate, Stop Plate Grease/Grit System Inlet Isolation		Valve	NK	2009	15	30	15	\$1,286	\$2,000	\$2,500
Screw Conveyer		Equipment	SCHREIBER	2009	15	30	15	\$6,531	\$10,000	\$12,700
Grit Classifier		Equipment	SCHREIBER	2009	15	30	15	\$189,706	\$291,250	\$368,900
Grit Blower 1		Blower	SCHREIBER	2009	15	25	10	\$11,637	\$22,000	\$27,900
Grit Blower 2		Blower	SCHREIBER	2009	15	25	10	\$11,637	\$22,000	\$27,900
Control Panel, Grit & Grease Removal		Control	SCHREIBER	2009	15	30	15	\$19,541	\$30,000	\$38,000
Piping, Process	150'	Pipe - Metal	NA	2009	15	80	65	\$53,405	\$51,550	\$65,300

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Secondary Flow Equalization:										
Tank, Equalization Basin	500,000 GAL	Concrete Structure	NA	1987	36	100	64	\$203,191	\$250,000	\$316,700
Diffusers, Coarse Bubble		Equipment	NK	2009	15	30	15	\$24,427	\$37,500	\$47,500
Level Monitor Meter, Equalization Basin		Meter	NK	2009	15	10	0	\$0	\$1,000	\$1,300
Flow Meter, Equalization Basin Return	8"	Meter	NK	2009	15	10	0	\$0	\$5,100	\$6,500
Control Valve and Actuator, Equalization Basin Return	8"	Valve and Actuator Set	NK	2009	15	30	15	\$6,017	\$9,200	\$11,700
Secondary Control & SDC Building:										
Secondary Control & SDC Building	6900 SQ FT	Building	NA	1976	47	100	53	\$929,175	\$1,380,000	\$1,748,100
Roll Up Door, Secondary Control & SDC		Equipment	NK	1976	47	30	0	\$0	\$10,000	\$12,700
Air Handler, Secondary Control & SDC	320KBTU/Hr,3HP	HVAC	APPLIED AIR	1976	47	25	0	\$0	\$19,800	\$25,100
MAU, Grit & Grease Removal		HVAC	NK	2009	15	25	10	\$3,003	\$5,700	\$7,200
Wall Exhaust Fan, Blower Room		HVAC	NK	1976	47	25	0	\$0	\$400	\$500
Wall Intake Louvre		HVAC	NK	1976	47	25	0	\$0	\$2,000	\$2,500
Motor Control Center 1		MCC	NK	2009	15	20	5	\$6,866	\$20,000	\$25,300
Motor Control Center 2		MCC	NK	2009	15	20	5	\$15,468	\$45,000	\$57,000
Motor Control Center 3		MCC	NK	1976	47	20	0	\$0	\$20,000	\$25,300
Panel, Distribution PPB		Control	NK	1976	47	30	0	\$0	\$2,000	\$2,500
Electrical Transformer		Electrical	NK	1976	47	30	0	\$0	\$1,000	\$1,300
Panel, Lighting LPB		Control	NK	1976	47	30	0	\$0	\$2,000	\$2,500
Panel, Distribution EPP-B		Control	NK	1976	47	30	0	\$0	\$1,000	\$1,300
Panel, Lighting ELP-B		Control	SQUARE D	1976	47	30	0	\$0	\$1,000	\$1,300
Panel, Lighting LP-BB		Control	SQUARE D	1976	47	30	0	\$0	\$1,000	\$1,300
Roof Exhaust Fan, SDC Room		HVAC	NK	1994	29	25	0	\$0	\$1,000	\$1,300
Piping, Process	450'	Pipe - Metal	NA	2009	15	80	65	\$103,621	\$100,000	\$126,700

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Secondary Aeration:										
Structure, Aeration Influent Channel		Concrete Structure	NA	1976	47	100	53	\$7,867	\$11,700	\$14,800
Sampler, Automatic (Secondary Influent)		Equipment	NK	2014	9	30	21	\$5,332	\$6,000	\$7,600
Tank, Aeration Basin 1		Concrete Structure	NA	1976	47	100	53	\$134,691	\$200,000	\$253,400
Tank, Aeration Basin 2		Concrete Structure	NA	1976	47	100	53	\$134,691	\$200,000	\$253,400
Tank, Aeration Basin 3		Concrete Structure	NA	1976	47	100	53	\$134,691	\$200,000	\$253,400
Tank, Aeration Basin 4		Concrete Structure	NA	2009	15	100	85	\$216,473	\$200,000	\$253,400
Gate, Weir Aeration Tank 1 Inlet Isolation	3'	Valve	NK	2015	9	30	21	\$6,572	\$7,300	\$9,200
Gate, Weir Aeration Tank 2 Inlet Isolation	3'	Valve	NK	2015	9	30	21	\$6,572	\$7,300	\$9,200
Gate, Weir Aeration Tank 3 Inlet Isolation	3'	Valve	NK	2015	9	30	21	\$6,572	\$7,300	\$9,200
Gate, Weir Aeration Tank 4 Inlet Isolation	3'	Valve	NK	2015	9	30	21	\$6,572	\$7,300	\$9,200
Gate, Weir Between Aeration Tanks 1 & 2	24"	Valve	NK	1976	47	30	0	\$0	\$17,400	\$22,000
Gate, Weir Between Aeration Tanks 2 & 3	24"	Valve	NK	1976	47	30	0	\$0	\$17,400	\$22,000
Gate, Weir Between Aeration Tanks 3 & 4	24"	Valve	NK	2009	15	30	15	\$11,313	\$17,400	\$22,000
Gate, Sluice Aeration Tank 2 Bypass Pipe	26"	Valve	NK	1976	47	30	0	\$0	\$19,800	\$25,100
Gate, Sluice Aeration Tank 4 Bypass Pipe	26"	Valve	NK	2009	15	30	15	\$12,908	\$19,800	\$25,100
Stop Plate, Aeration Tank 1 Isolation at Collections Channel	3'	Valve	NK	1976	47	30	0	\$0	\$2,000	\$2,500
Stop Plate, Aeration Tank 2 Isolation at Collections Channel	3'	Valve	NK	1976	47	30	0	\$0	\$2,000	\$2,500
Stop Plate, Aeration Tank 3 Isolation at Collections Channel	3'	Valve	NK	1976	47	30	0	\$0	\$2,000	\$2,500
Stop Plate, Aeration Tank 4 Isolation at Collections Channel	3'	Valve	NK	2009	15	30	15	\$1,286	\$2,000	\$2,500
Valve, Plug Aeration Tank 1 Drain	6"	Valve	NK	1976	47	30	0	\$0	\$1,000	\$1,300
Valve, Plug Aeration Tank 2 Drain	6"	Valve	NK	1976	47	30	0	\$0	\$1,000	\$1,300
Valve, Plug Aeration Tank 3 Drain	6"	Valve	NK	1976	47	30	0	\$0	\$1,000	\$1,300
Valve, Mud Aeration Tank 4 Drain	6"	Valve	NK	2009	15	30	15	\$2,160	\$3,300	\$4,200
Valve, Plug RAS Discharge to Aeration Tank Distribution	8"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Plug RAS Discharge to Screw Pump Outfall Channel	8"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Meter, Dissolved Oxygen 1		Meter	NK	2009	15	10	0	\$0	\$1,800	\$2,300
Meter, Dissolved Oxygen 2		Meter	NK	2009	15	10	0	\$0	\$1,800	\$2,300
Meter, Dissolved Oxygen 3		Meter	NK	2009	15	10	0	\$0	\$1,800	\$2,300
Meter, Dissolved Oxygen 4		Meter	NK	2009	15	10	0	\$0	\$1,800	\$2,300
Structure, Aeration Effl Flow Splitter		Concrete Structure	NA	1988	35	100	65	\$10,621	\$12,900	\$16,300
Gate, Weir Aeration Effl Flow Splitter	4'	Valve	NK	2015	9	30	21	\$7,643	\$8,450	\$10,700
Gate, Weir Aeration Effl Flow Splitter	4'	Valve	NK	2015	9	30	21	\$7,643	\$8,450	\$10,700

Appendix C3: WWTP Asset Inventory

Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Aeration and Equalization Air:										
Blower, Aeration #1	1700 SCFM, 7 PSIG	Blower	SPENCER	2009	15	25	10	\$66,026	\$125,000	\$158,300
Blower, Aeration #2	1700 SCFM, 7 PSIG	Blower	SPENCER	2009	15	25	10	\$66,026	\$125,000	\$158,300
Blower, Aeration #3	1700 SCFM, 7 PSIG	Blower	SPENCER	2009	15	25	10	\$66,026	\$125,000	\$158,300
Motor, Aeration Blower #1	100 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$6,000	\$7,600
Motor, Aeration Blower #2	100 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$6,000	\$7,600
Motor, Aeration Blower #3	100 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$6,000	\$7,600
VFD, Aeration Blower #1		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$15,000	\$19,000
VFD, Aeration Blower #2		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$15,000	\$19,000
VFD, Aeration Blower #3		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$15,000	\$19,000
Compressor		Equipment	NK	2009	15	30	15	\$10,182	\$15,625	\$19,800
Flowmeter, Air Flow		Meter	NK	1976	47	10	0	\$0	\$600	\$800
Piping, Air Distribution		Pipe - Metal	NK	1976	47	80	33	\$209,986	\$400,000	\$506,700
Valve, Butterfly Aeration Blower 1 Inlet Isolation	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Butterfly Aeration Blower 2 Inlet Isolation	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Butterfly Aeration Blower 3 Inlet Isolation	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Check Aeration Blower 1	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Check Aeration Blower 2	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Check Aeration Blower 3	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Butterfly Aeration Blower 1 Outlet Isolation	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Butterfly Aeration Blower 2 Outlet Isolation	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Butterfly Aeration Blower 3 Outlet Isolation	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve and Actuator, Butterfly Aeration Tank 1 Air Supply Isolation	10"	Valve	NK	2015	9	30	21	\$9,572	\$10,600	\$13,400
Valve and Actuator, Butterfly Aeration Tank 2 Air Supply Isolation	10"	Valve	NK	2015	9	30	21	\$9,572	\$10,600	\$13,400
Valve and Actuator, Butterfly Aeration Tank 3 Air Supply Isolation	10"	Valve	NK	2015	9	30	21	\$9,572	\$10,600	\$13,400
Valve and Actuator, Butterfly Aeration Tank 4 Air Supply Isolation	10"	Valve	NK	2015	9	30	21	\$9,572	\$10,600	\$13,400
Valve, Butterfly Aeration Tank 1 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100
Valve, Butterfly Aeration Tank 1 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100
Valve, Butterfly Aeration Tank 1 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100
Valve, Butterfly Aeration Tank 2 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100
Valve, Butterfly Aeration Tank 2 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100
Valve, Butterfly Aeration Tank 2 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100
Valve, Butterfly Aeration Tank 3 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100
Valve, Butterfly Aeration Tank 3 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100

Appendix C3: WWTP Asset Inventory

Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Valve, Butterfly Aeration Tank 3 Air Supply Dist Isolation	6"	Valve	NK	1976	47	30	0	\$0	\$900	\$1,100
Valve, Butterfly Aeration Tank 4 Air Supply Dist Isolation	6"	Valve	NK	2009	15	30	15	\$566	\$900	\$1,100
Valve, Butterfly Aeration Tank 4 Air Supply Dist Isolation	6"	Valve	NK	2009	15	30	15	\$566	\$900	\$1,100
Valve, Butterfly Aeration Tank 4 Air Supply Dist Isolation	6"	Valve	NK	2009	15	30	15	\$566	\$900	\$1,100
Diffusers, Basin 1 Fine Bubble		Equipment	EDI	2015	9	30	21	\$45,218	\$50,000	\$63,300
Diffusers, Basin 2 Fine Bubble		Equipment	EDI	2012	12	30	18	\$38,882	\$50,000	\$63,300
Diffusers, Basin 3 Fine Bubble		Equipment	EDI	2010	14	30	16	\$34,662	\$50,000	\$63,300
Diffusers, Basin 4 Fine Bubble		Equipment	EDI	2009	15	30	15	\$32,552	\$50,000	\$63,300
Valve, Air Flow Control		Valve	NK	2000	24	30	6	\$2,733	\$10,000	\$12,700
Valve, Blowoff Air Control		Valve	NK	1999	24	30	6	\$792	\$3,000	\$3,800
Valve, Butterfly Equalization Basin Air Supply Isolation	6"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Blower, Equalization Basin	60 HP, 3,600 RPM	Blower	NK	2009	15	25	10	\$39,624	\$75,000	\$95,000
VFD, Equalization Basin Blower		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$15,000	\$19,000
Valve, Butterfly Equalization Basin Blower Inlet Isolation	6"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Check Equalization Basin Blower	6"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Butterfly Equalization Basin Blower Outlet Isolation	6"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
MAU, Blower Building		HVAC	NK	1976	47	25	0	\$0	\$10,000	\$12,700

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Secondary Clarification:										
Tank, Secondary Clarifier #1	50' D	Concrete Structure	NA	1976	47	100	53	\$168,337	\$250,000	\$316,700
Tank, Secondary Clarifier #2	50' D	Concrete Structure	NA	1976	47	100	53	\$168,337	\$250,000	\$316,700
Sludge Collector, Secondary Clarifier #1		Equipment	EIMCO	1999	24	30	6	\$95,031	\$360,000	\$456,000
Sludge Collector, Secondary Clarifier #2		Equipment	EIMCO	1999	24	30	6	\$95,031	\$360,000	\$456,000
Drive, Sec Clar Sludge Collector #1		Equipment	NK	1999	24	30	6	\$2,647	\$10,000	\$12,700
Drive, Sec Clar Sludge Collector #2		Equipment	NK	1999	24	30	6	\$2,647	\$10,000	\$12,700
Reducer, Sec Clar Motor #1		Equipment	SEW-EURO	1999	24	30	6	\$417	\$1,600	\$2,000
Reducer, Sec Clar Motor #2		Equipment	SEW-EURO	1999	24	30	6	\$417	\$1,600	\$2,000
Motor, Sec Clar Sludge Collector #1	2.2 HP	Motor (<25HP)	NK	1999	24	10	0	\$0	\$1,000	\$1,300
Motor, Sec Clar Sludge Collector #2	2.2 HP	Motor (<25HP)	NK	1999	24	10	0	\$0	\$1,000	\$1,300
Valve, Drain Secondary Clarifier 1	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, Drain Secondary Clarifier 2	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Secondary Scum:										
Structure, Secondary Scum Pit #1		Concrete Structure	NA	1976	47	100	53	\$6,272	\$9,300	\$11,800
Structure, Secondary Scum Pit #2		Concrete Structure	NA	1976	47	100	53	\$6,272	\$9,300	\$11,800
Pump, Secondary Scum #1	2 HP	Pump (<25HP)	GORMAN RUPP	1976	47	15	0	\$0	\$17,000	\$21,500
Pump, Secondary Scum #2	2 HP	Pump (<25HP)	GORMAN RUPP	1976	47	15	0	\$0	\$17,000	\$21,500
Panel, Secondary Scum Pump Control #1		Control	CUTLER-HAMR	1976	47	30	0	\$0	\$2,000	\$2,500
Panel, Secondary Scum Pump Control #2		Control	CUTLER-HAMR	1976	47	30	0	\$0	\$2,000	\$2,500
UV Disinfection Building:										
Building, UV Disinfection Control		Building	NA	2006	17	100	83	\$659,799	\$630,000	\$798,100
Electrical Transformer		Electrical	SQUARE D	2006	17	30	13	\$760	\$1,400	\$1,800
Panel, Distribution UV (PP 1)		Control	SQUARE D	2006	17	30	13	\$380	\$700	\$900
Panel, Lighting (BP 1)		Control	SQUARE D	2006	17	30	13	\$380	\$700	\$900
Louver, Air Intake 1 SW (UV Bldg)		HVAC	LOREN COOK	2006	17	25	8	\$61	\$140	\$200
Louver, Air Intake 2 SE (UV Bldg)		HVAC	LOREN COOK	2006	17	25	8	\$61	\$140	\$200
Fan, Ventilation 1 NE (UV Bldg)		HVAC	LOREN COOK	2006	17	25	8	\$123	\$280	\$400
Fan, Ventilation 2 NW (UV Bldg)		HVAC	LOREN COOK	2006	17	25	8	\$123	\$280	\$400
Heater, Room Air (UV Disinfection Bldg)		HVAC	REZNOR	2006	17	25	8	\$276	\$700	\$900
Hoist, Chainfall		Equipment	NK	2006	17	30	13	\$296	\$560	\$700

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Effluent Disinfection:										
Valve, Sluice Gate UV Interim Bypass Gate	24"	Valve	NK	2006	17	30	13	\$10,602	\$19,800	\$25,100
Structure, Rise Well 1 (South)		Concrete Structure	NA	2006	17	100	83	\$11,905	\$11,400	\$14,400
Structure, Rise Well 2 (North)		Concrete Structure	NA	2006	17	100	83	\$11,905	\$11,400	\$14,400
Valve, Mud Rise Well Drain 1 (South)	4"	Valve	NK	2006	17	30	13	\$1,394	\$2,600	\$3,300
Valve, Mud Rise Well Drain 1 (North)	4"	Valve	NK	2006	17	30	13	\$1,394	\$2,600	\$3,300
Meter, Dissolved Oxygen Effluent		Meter	NK	2006	17	10	0	\$0	\$1,800	\$2,300
Valve and Actuator, UV Inlet Sluice Gate 1 (North)	24"	Valve	RODNEY HUNT	2006	17	30	13	\$1,267	\$2,400	\$3,000
Valve and Actuator, UV Inlet Sluice Gate 2 (South)	24"	Valve	RODNEY HUNT	2006	17	30	13	\$1,267	\$2,400	\$3,000
Structure, UV Channel 1 (South)		Concrete Structure	NA	2006	17	100	83	\$11,161	\$10,625	\$13,500
Structure, UV Channel 2 (North)		Concrete Structure	NA	2006	17	100	83	\$11,161	\$10,625	\$13,500
UV Disinfection System Bank 1 (North)		Equipment	TROJAN UV	2011	13	30	17	\$7,087	\$9,600	\$12,200
UV Disinfection System Bank 2 (South)		Equipment	TROJAN UV	2011	13	30	17	\$7,087	\$9,600	\$12,200
UV System Control Center (SCC) 1 (South)		MCC	TROJAN UV	2006	17	20	3	\$2,538	\$15,000	\$19,000
UV System Control Center (SCC) 2 (North)		MCC	TROJAN UV	2006	17	20	3	\$2,538	\$15,000	\$19,000
UV Hydraulic System Control Center (HSC)		MCC	TROJAN UV	2006	17	20	3	\$2,538	\$15,000	\$19,000
Structure, UV Outfall Well 1 (South)		Concrete Structure	NA	2006	17	100	83	\$10,086	\$9,625	\$12,200
Structure, UV Outfall Well 2 (North)		Concrete Structure	NA	2006	17	100	83	\$10,086	\$9,625	\$12,200
Structure, UV Drainage Sump		Concrete Structure	NA	2006	17	100	83	\$6,531	\$6,250	\$7,900
Pump, UV Drainage Sump 1		Pump (<25HP)	NK	2006	17	15	0	\$0	\$700	\$900
Pump, UV Drainage Sump 2		Pump (<25HP)	NK	2006	17	15	0	\$0	\$700	\$900
Tank, Final Effl Water Pressurization #1		Concrete Structure	AMTROL	1976	47	100	53	\$2,020	\$3,000	\$3,800
Tank, Final Effl Water Pressurization #2		Concrete Structure	AMTROL	1976	47	100	53	\$2,020	\$3,000	\$3,800
Final Effluent:										
Flowmeter, Plant Effluent		Meter	NK	2009	15	10	0	\$0	\$1,250	\$1,600
Structure, Effluent Channel		Concrete Structure	NA	1976	47	100	53	\$11,800	\$17,500	\$22,200
Sampler, Automatic (Final Effluent)		Equipment	NK	2014	9	30	21	\$5,332	\$6,000	\$7,600

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Waste Activated Sludge:										
Pump, Waste Activated Sludge 1	120 GPM	Pump (<25HP)	MOYNO IND	2009	15	15	0	\$573	\$15,900	\$20,100
Pump, Waste Activated Sludge 2	120 GPM	Pump (<25HP)	MOYNO IND	2009	15	15	0	\$573	\$15,900	\$20,100
Motor, Waste Activated Sludge Pump 1	5 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$600	\$800
Motor, Waste Activated Sludge Pump 2	5 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$600	\$800
Gear Reducer, WAS Pump 1		Equipment	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Gear Reducer, WAS Pump 2		Equipment	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Panel, WAS Pump 1		Control	NK	2009	15	30	15	\$6,531	\$10,000	\$12,700
Panel, WAS Pump 2		Control	NK	2009	15	30	15	\$6,531	\$10,000	\$12,700
Flowmeter, Waste Activated Sludge	4"	Meter	NK	2009	15	10	0	\$0	\$3,800	\$4,800
Valve, Plug WAS Pump 1 Suction Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, Plug WAS Pump 2 Suction Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, Check WAS Pump 1	4"	Valve	NK	2009	15	30	15	\$771	\$1,200	\$1,500
Valve, Check WAS Pump 2	4"	Valve	NK	2009	15	30	15	\$771	\$1,200	\$1,500
Valve, Plug WAS Pump 1 Discharge Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug WAS Pump 2 Discharge Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug WAS Supply to Gravity Thickener Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug WAS Supply to S. Digester Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug WAS Supply to S. Digester Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug GT Suction Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Gravity Thickening:										
Tank, Gravity Thickener	90,000 GAL	Concrete Structure	NA	2009	15	100	85	\$97,387	\$90,000	\$114,000
Sludge Collector, Gravity Thickener		Equipment	NK	2009	15	30	15	\$9,771	\$15,000	\$19,000
Valve, Plug GT Decant	4"	Valve	NK	2015	9	30	21	\$643	\$700	\$900
Valve, Plug GT Decant	4"	Valve	NK	2015	9	30	21	\$643	\$700	\$900
Sludge Transfer Pump 1	60 GPM	Pump (<25HP)	MOYNO	2009	15	15	0	\$293	\$8,100	\$10,300
Sludge Transfer Pump 2	60 GPM	Pump (<25HP)	MOYNO	2009	15	15	0	\$293	\$8,100	\$10,300
Motor, Sludge Transfer Pump 1	3HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$500	\$600
Motor, Sludge Transfer Pump 2	3HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$500	\$600
VFD, Sludge Transfer Pump 1		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$7,500	\$9,500
VFD, Sludge Transfer Pump 2		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$7,500	\$9,500
Panel, Digester Building Control		Control	NK	2009	15	30	15	\$6,531	\$10,000	\$12,700
Valve, Plug GT Sludge to STP1 Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug GT Sludge to STP2 Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug GT Sludge to DSP Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug N Digester Sludge to STP1 Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug N Digester Sludge to DSP Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug S Digester Sludge to STP1 Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug S Digester Sludge to DSP Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug Digested Sludge Source Selection (N or S)	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Check STP1 Pump	4"	Valve	NK	2009	15	30	15	\$771	\$1,200	\$1,500
Valve, Check STP2 Pump	4"	Valve	NK	2009	15	30	15	\$771	\$1,200	\$1,500
Valve, STP1 Sludge Discharge Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, STP2 Sludge Discharge Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug N/S Digester to GT	4"	Valve	NK	2015	9	30	21	\$643	\$700	\$900
Valve, Plug N/S Digester to GT	4"	Valve	NK	2015	9	30	21	\$643	\$700	\$900
Valve, Plug N Digester Influent Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug S Digester Influent Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug N Digester Sludge Withdrawal Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve and Actuator, Plug N Digester Sludge Withdrawal Isolation	6"	Valve	NK	2009	15	30	15	\$8,125	\$12,500	\$15,800
Valve, Plug S Digester Sludge Withdrawal Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, SDC Return to S Digester Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, SDC Return to N Digester Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600

Appendix C3: WWTP Asset Inventory

Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Aerobic Digestion:										
Building, Digester Control	574 SQ FT	Building	NA	1976	47	100	53	\$96,633	\$143,500	\$181,800
Piping, Process	245'	Pipe - Metal	NA	2009	15	80	65	\$103,621	\$100,000	\$126,700
Tank, North Digester	264,000 GAL	Concrete Structure	NA	2009	15	100	85	\$324,624	\$300,000	\$380,000
Tank, South Digester	264,000 GAL	Concrete Structure	NA	1976	47	100	53	\$201,983	\$300,000	\$380,000
Valve, Plug N Digester Decant	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug S Digester Decant	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug S Digester Decant	4"	Valve	NK	2015	9	30	21	\$643	\$700	\$900
Valve, Plug S Digester Decant	4"	Valve	NK	2015	9	30	21	\$643	\$700	\$900
Blower, Aerobic Digestion 1	125 HP	Blower	KAESER	2009	15	25	10	\$36,329	\$68,750	\$87,100
Blower, Aerobic Digestion 2	125 HP	Blower	KAESER	2009	15	25	10	\$36,329	\$68,750	\$87,100
Blower, Aerobic Digestion 3	125 HP	Blower	KAESER	2009	15	25	10	\$36,329	\$68,750	\$87,100
Blower, Aerobic Digestion 4	125 HP	Blower	KAESER	2009	15	25	10	\$36,329	\$68,750	\$87,100
VFD, Aerobic Digestion Blower 1		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$15,000	\$19,000
VFD, Aerobic Digestion Blower 2		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$15,000	\$19,000
VFD, Aerobic Digestion Blower 3		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$15,000	\$19,000
VFD, Aerobic Digestion Blower 4		Variable Frequency Drive (VFD)	NK	2009	15	10	0	\$0	\$15,000	\$19,000
Valve, Butterfly N Aerobic Digester Blower Inlet Isolation	10"	Valve	NK	2009	15	30	15	\$823	\$1,300	\$1,600
Valve, Butterfly N Aerobic Digester Blower Inlet Isolation	10"	Valve	NK	2009	15	30	15	\$823	\$1,300	\$1,600
Valve, Butterfly S Aerobic Digester Blower Inlet Isolation	10"	Valve	NK	2009	15	30	15	\$823	\$1,300	\$1,600
Valve, Butterfly S Aerobic Digester Blower Inlet Isolation	10"	Valve	NK	2009	15	30	15	\$823	\$1,300	\$1,600
Valve, Check N Aerobic Digester Blower	8"	Valve	NK	2009	15	30	15	\$2,160	\$3,300	\$4,200
Valve, Check N Aerobic Digester Blower	8"	Valve	NK	2009	15	30	15	\$2,160	\$3,300	\$4,200
Valve, Check S Aerobic Digester Blower	8"	Valve	NK	2009	15	30	15	\$2,160	\$3,300	\$4,200
Valve, Check S Aerobic Digester Blower	8"	Valve	NK	2009	15	30	15	\$2,160	\$3,300	\$4,200
Valve, Butterfly N Aerobic Digester Blower Outlet Isolation	8"	Valve	NK	2009	15	30	15	\$720	\$1,100	\$1,400
Valve, Butterfly N Aerobic Digester Blower Outlet Isolation	8"	Valve	NK	2009	15	30	15	\$720	\$1,100	\$1,400
Valve, Butterfly S Aerobic Digester Blower Outlet Isolation	8"	Valve	NK	2009	15	30	15	\$720	\$1,100	\$1,400
Valve, Butterfly S Aerobic Digester Blower Outlet Isolation	8"	Valve	NK	2009	15	30	15	\$720	\$1,100	\$1,400
Valve, Butterfly N Digester Air Supply Isolation	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Butterfly S Digester Air Supply Isolation	12"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Ultrasonic Level Transducer, North Digester		Control	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Ultrasonic Level Transducer, South Digester		Control	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Pump, Digested Sludge Pump	30 GPM	Pump (<25HP)	MOYNO	1994	29	15	0	\$0	\$27,000	\$34,200

Appendix C3: WWTP Asset Inventory

Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Motor, Digested Sludge Pump	5HP	Motor (<25HP)	RELIANCE	1994	29	10	0	\$0	\$3,000	\$3,800
Valve, Check DSP	4"	Valve	NK	2009	15	30	15	\$771	\$1,200	\$1,500
Valve, Plug DSP Discharge Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug DSP Discharge Selection to Blower Building	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve Plug DSP Discharge Selection to S Digester	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve Plug DSP Discharge Selection to N Digester	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Flowmeter, Digested Sludge Pump	3"	Meter	NK	1994	29	10	0	\$0	\$4,000	\$5,100
SDC Sludge Thickening:										
Tank, SDC Conditioning		Concrete Structure	NK	1994	29	100	71	\$1,779	\$2,000	\$2,500
Mixer, SDC Conditioning Tank		Equipment	NK	1994	29	30	1	\$19	\$400	\$500
Sieve Drum Concentrator		Equipment	ROEDIGER	1994	29	30	1	\$7,374	\$150,000	\$190,000
Motor, Sieve Drum Concentrator	1 HP	Motor (<25HP)	NK	1994	29	10	0	\$0	\$4,000	\$5,100
Panel, Control (SDC)		Control	NK	1994	29	30	1	\$369	\$7,500	\$9,500
Valve, Plug SDC Feed	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug SDC Bypass	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Pinch SDC Concentrate Drain	4"	Valve	NK	2009	15	30	15	\$1,234	\$1,900	\$2,400
Flowmeter, SDC Spray Water	3"	Meter	NK	1994	29	10	0	\$0	\$400	\$500
Valve, Butterfly S Foam Suppression Water Supply Iso	4"	Valve	NK	2009	15	30	15	\$463	\$700	\$900
Valve, Butterfly N Foam Suppression Water Supply Iso	4"	Valve	NK	2009	15	30	15	\$463	\$700	\$900
Pump, SDC Thickened Sludge	30 GPM	Pump (<25HP)	MOYNO	2009	15	15	0	\$1,083	\$30,000	\$38,000
Reducer, SDC Thickened Sludge Pump		Equipment	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Motor, SDC Thickened Sludge Pump	3/4 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$300	\$400
Valve, Plug SDC TSP Suction Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, SDC TSP Check	4"	Valve	NK	2009	15	30	15	\$771	\$1,200	\$1,500
Valve, SDC TSP Discharge to Storage Tank	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, SDC TSP Discharge to Digester	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Valve, Plug SDC Return to GT Isolation	4"	Valve	NK	2009	15	30	15	\$309	\$500	\$600
Flowmeter, SDC Thickened Sludge	3"	Meter	NK	2009	15	10	0	\$0	\$3,400	\$4,300
Feeder, Polyblend #1		Equipment	NK	2009	15	30	15	\$13,010	\$20,000	\$25,300
Feeder, Polyblend #2		Equipment	NK	2009	15	30	15	\$13,010	\$20,000	\$25,300
Sludge Storage:										
Tank, Sludge Storage #1	362,780 GAL	Concrete Structure	NA	1990	33	100	67	\$302,026	\$355,000	\$449,700
Tank, Sludge Storage #2	362,780 GAL	Concrete Structure	NA	1990	33	100	67	\$302,026	\$355,000	\$449,700

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Return Activated Sludge:										
Pump, Return Activated Sludge #1	480 GPM	Pump (<25HP)	CORNELL	2009	15	15	0	\$587	\$16,250	\$20,600
Pump, Return Activated Sludge #2	480 GPM	Pump (<25HP)	CORNELL	2009	15	15	0	\$587	\$16,250	\$20,600
Pump, Return Activated Sludge #3	480 GPM	Pump (<25HP)	CORNELL	2009	15	15	0	\$587	\$16,250	\$20,600
Motor, Return Activated Sludge Pump #1	5 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$600	\$800
Motor, Return Activated Sludge Pump #2	5 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$600	\$800
Motor, Return Activated Sludge Pump #3	5 HP	Motor (<25HP)	NK	2009	15	10	0	\$0	\$600	\$800
Valve, Plug East Clarifier RAS Manifold Isolation	8"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Plug West Clarifier RAS Manifold Isolation	8"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Plug RAS Source Selection	8"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Plug RAS Source Selection	8"	Valve	NK	2009	15	30	15	\$977	\$1,500	\$1,900
Valve, Plug RAS Pump 1 Suction Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, Plug RAS Pump 2 Suction Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, Plug RAS Pump 3 Suction Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, Check RAS Pump 1	6"	Valve	NK	2009	15	30	15	\$1,388	\$2,100	\$2,700
Valve, Check RAS Pump 2	6"	Valve	NK	2009	15	30	15	\$1,388	\$2,100	\$2,700
Valve, Check RAS Pump 3	6"	Valve	NK	2009	15	30	15	\$1,388	\$2,100	\$2,700
Valve, Plug RAS Pump 1 Discharge Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, Plug RAS Pump 2 Discharge Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve, Plug RAS Pump 3 Discharge Isolation	6"	Valve	NK	2009	15	30	15	\$669	\$1,000	\$1,300
Valve and Actuator, Plug RAS Flow Control Pneumatic	8"	Valve	NK	2009	15	30	15	\$8,125	\$12,500	\$15,800
Valve, Gate RAS Isolation	10"	Valve	NK	2009	15	30	15	\$1,903	\$2,900	\$3,700
Valve and Actuator, Plug RAS Pump 1 Flow Control	6"	Valve	NK	2009	15	30	15	\$8,125	\$12,500	\$15,800
Valve and Actuator, Plug RAS Pump 2 Flow Control	6"	Valve	NK	2009	15	30	15	\$8,125	\$12,500	\$15,800
Valve and Actuator, Plug RAS Pump 3 Flow Control	6"	Valve	NK	2009	15	30	15	\$8,125	\$12,500	\$15,800
Panel, RAS Pump Control #1		Control	NK	1976	47	30	0	\$0	\$10,000	\$12,700
Panel, RAS Pump Control #2		Control	NK	1976	47	30	0	\$0	\$10,000	\$12,700
Panel, RAS Pump Control #3		Control	NK	1976	47	30	0	\$0	\$10,000	\$12,700
Flowmeter, Return Activated Sludge A	6"	Meter	NK	2009	15	10	0	\$0	\$2,300	\$2,900
Flowmeter, Return Activated Sludge B	6"	Meter	NK	2009	15	10	0	\$0	\$2,300	\$2,900
Flowmeter, Return Activated Sludge C	6"	Meter	NK	2009	15	10	0	\$0	\$2,300	\$2,900

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Ferric Chloride Addition:										
Building, Chemical	30' x 20'	Building	NK	1994	29	100	71	\$108,170	\$120,000	\$152,000
Tank, FeCl3 Storage		Concrete Structure	NK	1994	29	100	71	\$3,629	\$4,000	\$5,100
Pump, FeCl3 Transfer #1		Pump (<25HP)	NK	1994	29	15	0	\$0	\$2,000	\$2,500
Pump, FeCl3 Transfer #2		Pump (<25HP)	NK	1994	29	15	0	\$0	\$2,000	\$2,500
Motor, FeCl3 Transfer Pump #1	3/4 HP	Motor (<25HP)	NK	1994	29	10	0	\$0	\$200	\$300
Motor, FeCl3 Transfer Pump #2	3/4 HP	Motor (<25HP)	NK	1994	29	10	0	\$0	\$200	\$300
Tank, FeCl3 Day		Concrete Structure	NK	1994	29	100	71	\$2,704	\$3,000	\$3,800
Pump, FeCl3 Metering		Pump (<25HP)	HAGUE EQUIP	1994	29	15	0	\$0	\$2,000	\$2,500
Stormwater Pump Station 1:										
Wet Well Structure		Concrete Structure	NA	1976	48	100	52	\$19,913	\$30,000	\$38,000
Pump #1, PS-1		Pump (<25HP)	NK	2013	11	15	4	\$1,034	\$2,800	\$3,500
Pump #2, PS-1		Pump (<25HP)	NK	2013	11	15	4	\$1,034	\$2,800	\$3,500
Control Panel, PS-1		Control	NK	2013	11	30	19	\$24,612	\$30,000	\$38,000
Storm Water Pump Station 2:										
Wet Well Structure		Concrete Structure	NA	1976	48	100	52	\$19,913	\$30,000	\$38,000
Pump #1, PS-2		Pump (<25HP)	NK	2013	11	15	4	\$1,034	\$2,800	\$3,500
Pump #2, PS-2		Pump (<25HP)	NK	2013	11	15	4	\$1,034	\$2,800	\$3,500
Control Panel, PS-2		Control	NK	2013	11	30	19	\$24,612	\$30,000	\$38,000

Appendix C3: WWTP Asset Inventory

Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Laboratory:										
Laboratory Fume Hood		Laboratory Equipment	NK	1994	29	25	0	\$0	\$5,700	\$7,200
Laboratory Water Deionizer		Laboratory Equipment	BARNSTEAD	2018	6	25	19	\$6,219	\$1,200	\$8,000
Laboratory Incubator (BOD)		Laboratory Equipment	FISHER SCIEN	2018	6	25	19	\$7,773	\$4,000	\$10,000
Laboratory Incubator (E coli)		Laboratory Equipment	MILLIPORE	1997	26	25	0	\$0	\$2,400	\$3,000
Laboratory Drying Oven		Laboratory Equipment	VWR SCIEN	1995	28	25	0	\$0	\$2,600	\$3,300
Laboratory Muffle Furnace		Laboratory Equipment	THERMOLYNE	1994	29	25	0	\$0	\$2,900	\$3,700
Laboratory Balance, Analytical		Laboratory Equipment	O'HAUS	1994	29	25	0	\$0	\$4,600	\$5,800
Laboratory Meter, Specific Ion #1 - NH4		Laboratory Equipment	ORION INST	1994	29	25	0	\$0	\$600	\$800
Laboratory Meter, Specific Ion #2 - pH		Laboratory Equipment	ORION INST	1997	26	25	0	\$0	\$600	\$800
Laboratory Meter, Specific Ion #3 - D.O.		Laboratory Equipment	YSI	1994	29	25	0	\$0	\$2,600	\$3,300
Laboratory Spectrophotometer (UV/Vis)		Laboratory Equipment	ATI UNICAM	1994	29	25	0	\$0	\$3,500	\$4,400
Laboratory Microscope		Laboratory Equipment	LEICA	1997	26	25	0	\$0	\$800	\$1,000
Office Computer		Laboratory Equipment	INSIGHT	1994	29	25	0	\$0	\$800	\$1,000
Sampler, Automatic Portable #1		Laboratory Equipment	AMER SIGMA	1992	31	25	0	\$0	\$6,000	\$7,600
Sampler, Automatic Portable #2		Laboratory Equipment	AMER SIGMA	2007	17	25	8	\$2,561	\$6,000	\$7,600
Auxiliary and Support Systems:										
SCADA		SCADA Software	NK	1994	30	25	0	\$0	\$150,000	\$190,000
Electrical Transformer, Main		Electrical	NK	1976	47	30	0	\$0	\$4,000	\$5,100
Automatic Transfer Switch		Generator	NK	2009	15	30	15	\$3,240	\$5,000	\$6,300
Plant Generator	600 KW	Generator	NK	2009	15	30	15	\$135,967	\$208,750	\$264,400
Tank, Diesel Fuel Storage		Fueling Tank	NK	1998	25	30	5	\$580	\$3,000	\$3,800
Building, Maintenance	40' x 56'	Building	NK	2009	15	100	85	\$242,443	\$224,000	\$283,800
Building, Administration & Laboratory	107' x 27'	Building	NK	2009	15	100	85	\$781,575	\$722,250	\$914,900
Air Conditioning Unit (Administration)		HVAC	Bryant	2009	15	25	10	\$2,628	\$5,000	\$6,300
Air Conditioning Unit (Administration)		HVAC	Lennox	1994	29	25	0	\$0	\$5,000	\$6,300
Air Conditioning Unit (Laboratory)		HVAC	Trane	1994	29	25	0	\$0	\$5,000	\$6,300
Heater, Building Heat (Administration)		HVAC	Lennox	1994	29	25	0	\$0	\$1,100	\$1,400
Heater, Building Heat (Laboratory)		HVAC	York	1994	29	25	0	\$0	\$1,100	\$1,400
Heater, Building Heat (Administration)		HVAC	Bryant	2009	15	25	10	\$584	\$1,100	\$1,400
Heater, Building Heat		HVAC	Reznor	2009	15	25	10	\$459	\$900	\$1,100
Heater, Building Heat		HVAC	Reznor	2009	15	25	10	\$459	\$900	\$1,100
Heater, Building Heat		HVAC	Reverberray	2009	15	25	10	\$459	\$900	\$1,100
Compressor, Pneumatic Air (Laboratory)		Equipment	DAYTON ELEC	1994	29	30	1	\$788	\$16,000	\$20,300

Appendix C3: WWTP Asset Inventory										
Equipment Description	Capacity / Size	Asset Class	Manufacturer	Year Installed	Equipment Age (years)	Expected useful life (years)	Remaining Useful Life (years)	Depreciated Value	2015 Replacement Cost	Replacement Cost
Yard Piping, Concrete	2738'	Pipe - Concrete	NA	1976	47	100	53	\$336,674	\$500,000	\$633,400
Yard Piping, Metal	3590'	Pipe - Metal	NA	2009	15	80	65	\$1,036,043	\$1,000,000	\$1,266,800
WWTP Entrance Gate Operator		Control	HAMBERG	2014	10	20	10	\$5,215	\$7,857	\$10,000
Bypass Pump Storage Building		Building		2015	9	100	91	\$17,372	\$15,000	\$19,000
Site Electrical		Electrical	NA	2009	15	30	15	\$260,569	\$400,000	\$506,700
Non-Potable Well		Casing (Encasement)		1976	48	75	27	\$27,768	\$60,000	\$76,000
Non-Potable Well Pump		Pump (<25HP)		2011	13	15	2	\$1,634	\$8,000	\$10,100
Non-Potable Well Piping	1000'	Pipe - PVC		1976	48	100	52	\$132,789	\$200,000	\$253,400
Non-Potable Well Pump VFD		Variable Frequency Drive (VFD)		2022	2	10	8	\$8,520	\$8,000	\$10,100
Non-Potable Well Bladder Tank		Tank		1976	48	50	2	\$485	\$8,000	\$10,100
Non-Potable Well Bladder Tank		Tank		2020	4	50	46	\$9,379	\$8,000	\$10,100
Portable Equipment And Vehicles:										
Pump, 3" Portable Trash #1		Pump (<25HP)	NK	1976	47	15	0	\$0	\$3,600	\$4,600
Pump, 3" Portable Trash #2		Pump (<25HP)	NK	1976	47	15	0	\$0	\$3,600	\$4,600
Pump, 4" Portable Trash	662 GPM	Pump (<25HP)	HOMELITE	1976	47	15	0	\$0	\$4,000	\$5,100
Pump, 3" Portable Diaphragm		Pump (<25HP)	NK	1976	47	15	0	\$0	\$2,000	\$2,500
Pump, Secondary Influent Auxiliary		Pump (<25HP)	NK	1976	47	15	0	\$0	\$24,000	\$30,400
Drive, Screw Lift Pump Spare		Equipment	DODGE	1976	47	30	0	\$0	\$4,000	\$5,100
Motor, Secondary Influent Auxiliary Pump		Motor (<25HP)	NK	1976	47	10	0	\$0	\$2,000	\$2,500
Motor, Screw Lift Pump Spare	40HP	Motor (<25HP)	SIEMANS	1976	47	10	0	\$0	\$2,000	\$2,500
Generator, Portable		Generator	NK	1976	47	30	0	\$0	\$40,000	\$50,700
Tractor, Utility		Vehicle	DEERE	1988	35	25	0	\$0	\$32,000	\$40,500
Van, 2003 Dodge		Vehicle	DODGE	1992	31	25	0	\$0	\$28,000	\$35,500
Truck, 2004 Dodge Pickup		Vehicle	DODGE	2003	20	25	5	\$7,341	\$28,000	\$35,500
Loader, Forklift		Vehicle	YALE	1996	27	25	0	\$0	\$16,000	\$20,300

Appendix D

OM&R Budget / Rate Schedule

WASTEWATER USER CHARGE SYSTEM

2023

Cost of Operation, Maintenance, and Replacement (OM&R) of the Big Rapids
Wastewater System and Inter-Governmental Cost Sharing

Big Rapids UCS
2023

TABLE OF CONTENTS

FOREWORD	3
A. INTRODUCTION	3-4
B. GENERAL INFORMATION	5
C. USER INFORMATION.....	6-7
D. SYSTEM USE	8-10
E. WASTEWATER TREATMENT PLANT OM&R.....	11-15
F. CITY COLLECTION SYSTEM OM&R	16-17
G. BIG RAPIDS TOWNSHIP COLLECTION SYSTEM OM&R	18-20
H. GREEN TOWNSHIP COLLECTION SYSTEM OM&R.....	21-22
I. CITY PUMPING STATIONS OM&R.....	22-23
J. CITY CUSTOMER SERVICES O&M.....	24
K. INDUSTRIAL PRETREATMENT PROGRAM O&M	25
L. BONDING COSTS	26
M. ADMINISTRATION	27
N. COST SUMMARY	28
O. RATE STRUCTURE	29-36
P. BILL IMPACTS.....	37
Q. SURCHARGES	38
AFTERWORD.....	38
APPENDIX A.....	39

FOREWORD

Beginning in late 2010, the municipalities of Big Rapids, Big Rapids Township and Green Township formed a committee to reorganize and simplify the paperwork involved with the user charge report. The committees' intention was to identify city accounts utilized for the shared expenses in the operation of the Wastewater Treatment Plant and to ensure conformance with the terms of the 1995 contract amendment between the parties. In 2017 the contract between the three parties was rewritten due to the expiration of the previous contract. The committee has developed spreadsheets to identify costs shared between the parties and to address the common shared expense portion. This report incorporates the spreadsheets and provides narration to clarify the accounting of these charges.

A. INTRODUCTION

The United States Environmental Protection Agency (USEPA) mandates that all wastewater systems funded through the federal Clean Water Act (33 USC 1251 et seq) develop a user charge system. Specific requirements of the user charge system are specified in the Congressional Federal Regulations (40 CFR, Part 35, Subsection E, §35.929-2 'General requirements for all user charge systems' as follows:

- *Biennial review of operation and maintenance charges:* The grantee shall review not less often than every 2 years the wastewater contribution of users and user classes, the total cost of operation and maintenance of the treatment works, and its approved user charge system. The grantee shall revise the charges for users or user classes to accomplish the following:

Maintain the proportionate distribution of operation and maintenance costs among users and user classes as required herein;

Generate sufficient revenue to pay the total operation and maintenance costs necessary to the proper operation and maintenance (including replacement) of the treatment works, and;

Apply excess revenues collected from a class of users to the costs of operation and maintenance attributable to that class for the next year and adjust the rate accordingly.

- *Toxic Pollutants:* The user charge system shall provide that each user which discharges any toxic pollutants which cause an increase in the cost of managing the effluent or the sludge of the grantee's treatment works shall pay for such increased costs.
- *Charges for operation and maintenance for extraneous flows:* The user charge system shall provide that the costs of operation and maintenance for all flow not directly attributable to users (i.e., Infiltration/inflow) be distributed among all users of the grantee's treatment works system based upon either of the following:

In the same manner that it distributes the costs of operation and maintenance among users (or user classes) for their actual use, or

Under a system which uses one or any combination of the following factors on a reasonable basis:

Flow volume of the users;

Land area of the users;

Number of hookups or discharges to the users;

- *Adoption of system:* One or more municipal legislative enactments or other appropriate authority must incorporate the user charge system. If the project is a regional treatment system accepting wastewaters from other municipalities, the subscribers receiving waste services from the grantee shall adopt user charge systems in accordance with section 204(b)(1)(A) of the Act and §§35.929 through 35.929-3. These user charge systems shall also be incorporated in appropriate municipal legislative enactments or other appropriate authority of all municipalities contributing wastes to the treatment works. The public shall be informed of the financial

impact of the user charge system on them and shall be consulted prior to adoption of the system, in accordance with 40 CFR part 25.

- *Notification:* Each user charge system must provide that each user be notified, at least annually, in conjunction with a regular bill, of the rate and that portion of the user charges which are attributable to wastewater treatment services.
- *Inconsistent agreements:* The grantee may have preexisting agreements which address: (1) The reservation of capacity in the grantee's treatment works, or (2) the charges to be collected by the grantee in providing wastewater treatment services or reserving capacity. The user charge system shall take precedence over any terms or conditions of agreements or contracts of the grantee between the grantee and users (including industrial users, special districts, other municipalities, or Federal agencies or installations) which are inconsistent with the requirements of section 204(b)(1)(A) of the Act and these regulations.
- *Costs of pretreatment program:* A user charge system submitted by a municipality with an approved pretreatment program shall provide that the costs necessary to carry out the program and to comply with any applicable requirements of section 405 of the Act and related regulations are included within the costs of operation and maintenance of the system and paid through user charges, or are paid in whole or in part by other identified sources of funds.

This report meets the requirements by presenting information about the collection system and treatment plant serving the city and surrounding townships.

The fiscal year for the City of Big Rapids is July 1 to June 30. The user charge system will be prepared annually using the city's year end general ledger. Debt service is based on the city's current year amortization schedule (See attached appendix A). Annual user charge reports will begin to be drafted by September 1st and made effective by the three affected communities by the October 1st billing cycle or one month after the User Charge Report is accepted by the City, Big Rapids Township, and Green Charter Township, whichever is later.

B. GENERAL INFORMATION

The Big Rapids Wastewater System serves an approximately eleven square mile area encompassing three political jurisdictions. The entities served by the system include the City of Big Rapids, Big Rapids Charter Township, and Green Charter Township. Each of the three communities own and operate their individual wastewater collection systems including gravity sewers, pumping stations, and force mains. The City of Big Rapids operates the Wastewater Treatment Plant.

Agreements between the city and the townships allocate a specified portion of the trunk sewer and treatment plant capacity for use by the townships. The original agreement between the City and Green Township was entered into in 1977. Big Rapids Township entered into a similar agreement with the City in 1978. A new Wastewater Treatment agreement was entered into by the City with both the Charter Township of Big Rapids and the Charter Township of Green in November 2017. The agreement expires November 6, 2042 with periodic reviews to take place in five-year increments.

Green Township

10/1977 Original Agreement - Resolution 7169 & 7170

02/1978 Amendment - Resolution 7264

04/1978 Amendment - Resolution 7322

05/1995 Amendment - Resolution 95-79

09/2005 Amendment - Resolution 05-121

10/2005 Amendment - Resolution 05-140

11/2017 Agreement- Resolution 17-159

Big Rapids Township

12/1978 Original Agreement - Resolution C7615

05/1995 Amendment - Resolution 95-78

04/1996 Amendment - Resolution 96-59

08/1996 Amendment - Resolution 96-123

11/2017 Agreement- Resolution 17-158

The restated agreements required the townships to pay:

- A proportionate share of the WWTP, Collection System, Debt Service, Administration, and Replacement Costs.
- Service charges based on metered readings.
- A proportionate share of any improvements to the treatment plant (excluding improvements needed to accommodate flow from the city).

C. USER INFORMATION

The wastewater collection and treatment system serves customers in the City of Big Rapids and those sewer portions of Big Rapids and Green Charter Townships. The service area is primarily residential and commercial with some light industry. The service area includes Ferris State University and one (1) categorical industrial user located within the city.

Residential users are typical domestic households discharging primarily residential household type wastewater from sanitary conveniences such as sinks, lavatories, showers, and dishwashers. Residential wastewater is considered to be relatively free of hazardous materials and easily treatable by the wastewater treatment facility. Residential use of the wastewater collection and treatment system is regulated by Title 52 of the City Ordinance. Residential users are encouraged to dispose of toxic and hazardous materials, medical waste products, and household cooking grease by means other than the sanitary wastewater system.

Non-domestic users include all other types of establishments discharging wastewater of other than domestic origin. These users include commercial establishments, institutions, and industries. These types of uses are regulated under Title 53 of the City Ordinance. Commercial users such as food service establishments, automobile service facilities, medical facilities, etc. may store, use, or generate materials which could be adverse to the treatment works. Institutional users include schools, government buildings, churches, and entities exempt from property taxes. Industrial users are a special class of users which, by nature of their volume use or special character of wastewater discharged, have a greater potential to have an impact on the wastewater treatment system. Categorical industries are a special class of industry defined by federal regulations based on the nature of their manufacturing processes. These industries require additional regulation because of their greater potential to impact the treatment facility. Table C shows the user classifications of each of the municipalities using the system. Figure C depicts this information graphically. As can be seen, approximately three quarters (75%) of the users are residential.

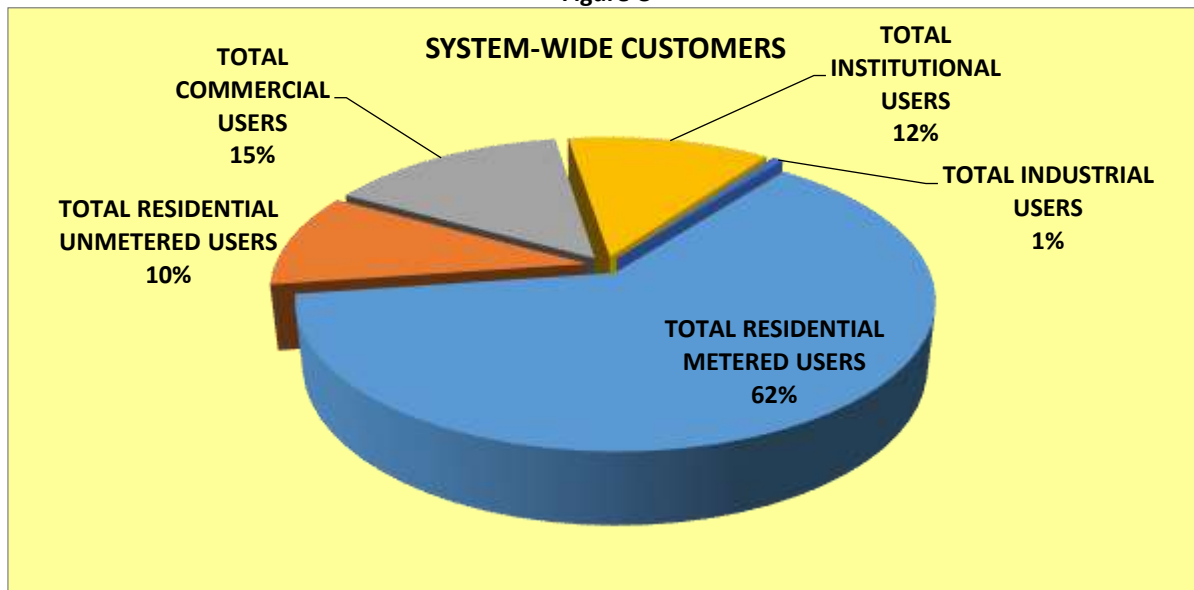
Table C

DESCRIPTION		2020	2021	2022	2023
CITY USERS	City Residential Metered Users	1634	1633	1633	1633
	City Residential Unmetered Users	32	31	30	26
	CITY TOTAL RESIDENTIAL USERS	1666	1664	1663	1659
	City Residential REU's	1666	1664	1663	1659
	City Commercial Users	324	331	331	334
	City Commercial REU's	1670	1678	1688	1748
	City Institutional Users	213	215	216	215
	City Institutional REU's	2290	1824	1659	1815
	City Industrial Users	17	17	18	17
	City Industrial REU's	674	646	509	527
	CITY TOTAL REU's	6300	5812	5519	5748
	CITY TOTAL METERED USERS	2188	2196	2198	2199
	CITY TOTAL USERS	2220	2227	2228	2225

* Note - Two (2) institutional users and two (2) commercial user are included under residential unmetered and treated in the same manner as residential unmetered. Unmetered flow is determined by dividing the metered flow by the metered users and multiplying the result by the unmetered users.

DESCRIPTION		2020	2021	2022	2023
BR TWP USERS	BR Twp Residential Metered Users	35	36	39	41
	BR Twp Residential Unmetered Users	16	16	16	16
	BR TWP TOTAL RESIDENTIAL USERS	51	52	55	57
	BR Twp Residential REU's	53	54	57	59
	BR Twp Commercial Users	45	45	45	45
	BR Twp Commercial REU's	552	552	552	552
	BR Twp Institutional Users	116	116	116	118
	BR Twp Institutional REU's	633	633	633	640
	BR TWP TOTAL REU's	1238	1239	1242	1251
	BR TWP TOTAL METERED USERS	196	197	200	204
	BR TWP TOTAL USERS	212	213	216	220
GN TWP USERS	GN Twp Residential Unmetered Users	228	229	230	230
	GN Twp Residential REU's	239	240	241	241
	GN Twp Commercial Users	13	13	13	14
	GN Twp Commercial REU's	19	19	19	21
	GN Twp Institutional Users	1	1	1	1
	GN Twp Institutional REU's	1	1	1	1
	GN TWP TOTAL REU's	259	260	261	263
	GN TWP TOTAL USERS	242	243	244	245
TOTAL USERS	TOTAL RESIDENTIAL METERED USERS	1669	1669	1672	1674
	TOTAL RESIDENTIAL UNMETERED USERS	276	276	276	272
	TOTAL COMMERCIAL USERS	382	389	389	393
	TOTAL INSTITUTIONAL USERS	330	332	333	334
	TOTAL INDUSTRIAL USERS	17	17	18	17
	GRAND TOTAL USERS	2674	2683	2688	2690
	CITY TOTAL USERS	2220	2227	2228	2225
	BR TWP TOTAL USERS	212	213	216	220
	GN TWP TOTAL USERS	242	243	244	245
	GRAND TOTAL USERS	2674	2683	2688	2690
	CITY PERCENT OF USERS (%)	83.0%	83.0%	82.9%	82.7%
	BR TWP PERCENT OF USERS (%)	7.9%	7.9%	8.0%	8.2%
	GN TWP PERCENT OF USERS (%)	9.1%	9.1%	9.1%	9.1%

Figure C



D. SYSTEM USE

Each of the jurisdictional partners sharing use of the wastewater system pays their proportionate share of Operation, Maintenance, and Replacement (OM&R) costs based upon their share of flow contributed to the system. Flow is determined by the sum of metered water use for metered users and estimated water use for unmetered users. Metered water flow is used on a 1:1 ratio to determine sewer flow contribution. One metered unit is equal to 1,000 gallons. Unmetered users within City limits are billed based on a City ordinance which requires unmetered users to be billed at 8.0 units per month. Big Rapids Township and Green Township both bill based on the average use of unmetered users. The average City residential customer use is 3.3 units per month. The average Big Rapids Township residential customer use is 3.1 units per month. Charges to users in Green Township are based on Residential Equivalent Units (REU's). The average Green Township use is 3.6 units per month. The City and Big Rapids Township bill customers monthly. Green Township bills its customers quarterly. City volume is determined by the sum of all water meter readings as well as the total of unmetered use. Big Rapids Township uses a combination of water meter readings and where provided, actual sewer meters. Green Township flow is based on metered wastewater flow at the point of discharge from the Township collection system.

Flow metered at the Wastewater Treatment Plant includes infiltration and inflow (I&I) into the collection system. I&I is calculated by difference between the flow metered at the plant and water sold or billed. Each municipality is responsible for the I&I entering the Collection System of the opposite municipality. The amount of I&I will be determined by the User Charge Report. Payment for I&I can be offset by mutual agreement or can be paid pursuant to the User Charge Report. Plant flow is determined by discharge from a Cipolletti weir located downstream of the secondary clarifiers. The average daily effluent flow for fiscal year 2021-2022 was 1.169 MGD (Million Gallons per Day) or 1,169,000 gallons per day. Table D1 shows the allocation of I&I, Table D2 shows the total use by each category of user in each of the three jurisdictions and Figure D1 shows the information graphically. As can be seen, the largest volume consumption is by commercial and institutional users.

Table D1

I&I ALLOCATION	DESCRIPTION	2020	2021	2022	2023
	TOTAL CITY USE (K gal/Yr.)	238,001	233,461	226,005	207,739
	CITY I&I (K gal/Yr.)	132,006	130,699	101,582	127,577
	TOTAL CITY FLOW CONTRIBUTION (K gal/Yr.)	370,007	364,160	327,587	335,316
	TOTAL BR TWP USE (K gal/Yr.)	56,465	53,024	54,196	59,188
	CALCULATED BR TWP I&I (K gal/Yr.)	1,950	4,662	2,096	3,313
	TOTAL BR TWP CONTRIBUTION (K gal/Yr.)	58,415	57,686	56,292	62,501
	GN TWP METERED USE (K gal/Yr.)	12,198	11,804	10,811	10,663
	CALCULATED GN TWP I&I (K gal/Yr.)	0	0	0	0
	TOTAL GN TWP CONTRIBUTION (K gal/Yr.)	12,198	11,804	10,811	10,663
	TOTAL ENTITY CONTRIBUTIONS (K gal/Yr.)	306,664	298,289	291,012	277,590
	TOTAL I&I (K gal/Yr.)	133,956	135,361	103,678	130,890
	GRAND TOTAL FLOW (K gal/Yr.)	440,620	433,650	394,690	408,400

Table D2

DESCRIPTION		2020	2021	2022	2023
CITY OF BIG RAPIDS USE	CITY RESIDENTIAL METERED USE (K gal/Yr.)	61,244	65,105	66,380	63,739
	CITY RESIDENTIAL METERED USE / USER (K gal/Mo)	3.1	3.3	3.4	3.3
	CITY RESIDENTIAL UNMETERED USE (K gal/Yr.)	3,072	2,976	2,880	2,496
	CITY TOTAL RESIDENTIAL USE (K gal/Yr.)	64,316	68,081	69,260	66,235
	CITY COMMERCIAL USE (K gal/Yr.)	62,591	66,902	68,631	68,228
	CITY COMMERCIAL USE / USER (K gal/Mo)	16.1	16.8	17.3	17.0
	CITY INSTITUTIONAL USE (K gal/Yr.)	85,822	72,712	67,423	70,839
	CITY INSTITUTIONAL USE / USER (K gal/Mo)	33.6	28.2	26.0	27.5
	CITY INDUSTRIAL USE (K gal/Yr.)	25,272	25,766	20,691	20,553
	CITY INDUSTRIAL USE / USER (gal/Mo)	123.9	126.3	95.8	100.8
	TOTAL CITY USE (K gal/Yr.)	238,001	233,461	226,005	225,855
	DAILY AVG CITY USE (MG)	0.652	0.640	0.619	0.619

DESCRIPTION		2020	2021	2022	2023
BR TWP USE	BR TWP RESIDENTIAL METERED USE (K gal/Yr.)	1,070	1,259	1,279	1,508
	BR TWP RESIDENTIAL METERED USE / USER (K gal/Mo)	2.5	2.9	2.7	3.1
	BR TWP RESIDENTIAL UNMETERED USE (K gal/Yr.)	648	648	648	648
	BR TWP TOTAL RESIDENTIAL USE (K gal/Yr.)	1,718	1,907	1,927	2,156
	BR TWP COMMERCIAL USE (K gal/Yr.)	27,119	26,353	27,411	24,755
	BR TWP COMMERCIAL USE / USER (K gal/Mo)	50.2	48.8	50.8	45.8
	BR TWP INSTITUTIONAL USE (K gal/Yr.)	27,628	24,764	24,858	32,277
	BR TWP INSTITUTIONAL USE / USER (K gal/Mo)	19.8	17.8	17.9	22.8
	TOTAL BR TWP USE (K gal/Yr.)	56,465	53,024	54,196	59,188
	BR TWP DAILY AVG USE (MG)	0.155	0.145	0.148	0.162
GREEN TWP USE	GREEN TWP RESIDENTIAL USE (K gal/Yr.) (Est)	11,256	10,896	9,983	9,771
	GREEN TWP RESIDENTIAL USE / USER (K gal/Mo)	4.1	4.0	3.6	3.5
	GREEN TWP COMMERCIAL USE (K gal/Yr.) (Est)	895	863	787	851
	GREEN TWP COMMERCIAL USE / USER (K gal/Mo)	5.7	5.5	5.0	5.1
	GREEN TWP INSTITUTIONAL USE (K gal/Yr.) (Est)	47	45	41	41
	GREEN TWP INSTITUTIONAL USE / USER (K gal/Mo)	3.9	3.8	3.5	3.4
	GREEN TWP METERED USE (K gpd)	33.4	32.3	29.6	29.2
	GN TWP METERED USE (K gal/yr.)	12,198	11,804	10,811	10,663
	GREEN TWP DAILY AVG USE (MG)	0.033	0.032	0.030	0.029
TOTAL BILLED USE	TOTAL RESIDENTIAL USE (K gal/Yr.)	77,290	80,884	81,170	78,162
	TOTAL COMMERCIAL USE (K gal/Yr.)	90,605	94,118	96,829	93,834
	TOTAL INSTITUTIONAL USE (K gal/Yr.)	113,497	97,521	92,322	103,157
	TOTAL INDUSTRIAL USE (K gal/Yr.)	25,272	25,766	20,691	20,553
	GRAND TOTAL BILLED USE (K gal/Yr.)	306,664	298,289	291,012	295,706
	DAILY AVG BILLED USE (MG)	0.840	0.817	0.797	0.810
	TOTAL CITY USE (K gal/Yr.)	238,001	233,461	226,005	225,855
	TOTAL BR TWP USE (K gal/Yr.)	56,465	53,024	54,196	59,188
	GN TWP METERED USE (K gal/Yr.)	12,198	11,804	10,811	10,663
	TOTAL OF ALL BILLED USE	306,664	298,289	291,012	295,706
	City Percent of Total Use	84.0%	84.0%	83.0%	82.3%
	BR Twp Percent of Total Use	13.3%	13.3%	14.3%	15.1%
	Green Twp Percent of Total Use	2.8%	2.7%	2.7%	2.6%
	TOTAL OF BILLED PERCENT USE	100.0%	100.0%	100.0%	100.0%

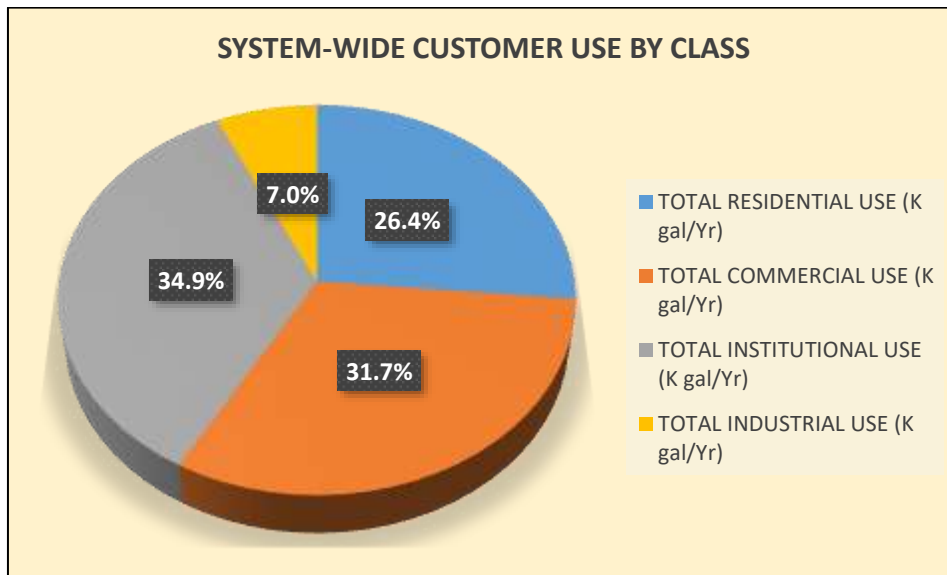


Table D3 shows the total flow contribution from each municipality and the calculation of I&I. The percentage of total flow is the basis of cost sharing between the municipalities. Table D3 also shows the historic relationship between these flow totals.

Table D3

FLOW & COST SPLIT	DESCRIPTION	2021	2022	2023
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)	433,650	394,690	408,480
	ANNUAL EFF AVG DAY FROM PLANT RECORDS (MG)	1.188	1.081	1.119
	TOTAL CITY USE (K gal/Yr)	233,461	226,005	225,855
	TOTAL BR TWP USE (K gal/Yr)	53,024	54,196	59,188
	GN TWP METERED USE (K gal/yr)	11,804	10,811	10,663
	GRAND TOTAL BILLED USE (K gal/Yr)	298,289	291,012	295,706
	CALCULATED I&I (K gal/Yr)	135,361	103,678	112,774
	TOTAL FLOW CONTRIBUTION (K gal/Yr)	433,650	394,690	408,480
	AVERAGE I&I (MGD)	0.371	0.284	0.309
	I&I Percent of Total Flow (%)	31.2%	26.3%	27.6%
	CITY I&I (K gal/Yr)	130,699	101,582	110,355
	CALCULATED BR TWP I&I (K gal/Yr)	4,993	2,254	2,577
		331	159	159
		4,662	2,096	2,419
	CALCULATED GN TWP I&I (K gal/Yr)	0	0	0
	TOTAL I&I (K gal/Yr)	135,361	103,678	112,774
	TOTAL PRECIP (in)			
	CITY COST SHARING PERCENTAGE	84.0%	83.0%	82.3%
	BR TWP COST SHARING PERCENTAGE	13.3%	14.3%	15.1%
	GREEN TWP COST SHARING PERCENTAGE	2.7%	2.7%	2.6%
	SUM OF SHARED PERCENT USE	100.0%	100.0%	100.0%

E. WASTEWATER TREATMENT PLANT OM&R

The Wastewater Treatment Plant operates under strict limitations of a National Pollutant Discharge Elimination System (NPDES) permit issued by the Michigan Department of Environmental Quality (MDEQ) under authority from the United States Environmental Protection Agency (USEPA). The NPDES permit regulates the efficiency of operation of the treatment plant and provides fines and penalties for failure to comply with provisions of the permit. Operation of the treatment system requires state certified operators to perform a variety of skilled tasks necessary to ensure proper and efficient operation of the various system components. Major expenses involved in the daily operations necessary to comply with the permit include:

- Labor to operate and maintain equipment, collect, and analyze samples, and keep accurate and detailed records for reporting to MDEQ.
- Supplies and chemicals including everything from pencils and lubricants to polymer used for sludge conditioning.
- Contractual services from sophisticated analytical services to biosolids land application management.
- Utilities including electricity and natural gas to operate pumps, blowers, heat exchangers, building heat and light.
- Repair expenses necessary to perform equipment service beyond the capability of the staff.

Table E1

WWTP O&M	590-560 LABOR	DESCRIPTION	2020	2021	2022	2023
		702.000 Full Time	279,624.34	272,053.67	286,578.45	323,750.08
		703.000 Part Time	14,969.72	13,770.68	14,493.99	15,254.66
		706.100 Comp Buy Out	828.16	1,264.37	4,325.50	3,006.43
		709.000 Overtime	8,316.21	6,549.69	7,151.31	5,886.83
		710.000 DPW Services	800.04	800.04	900.00	800.04
		TOTAL LABOR	\$304,538.47	\$294,438.45	\$313,449.25	\$348,698.04
	590-560 FRINGE BENEFIT S	715.000 FICA	23,507.92	22,416.08	23,559.59	24,403.79
		716.300 Health Ins Reimbursement	6,840.00	7,125.00	6,840.00	6,840.00
		717.000 Employer Health Ins Premiums	56,891.44	70,656.91	69,599.64	75,530.92
		718.000 Unemployment	39.27	283.97	823.94	944.43
		719.000 Workers Comp	4,905.15	4,524.79	3,854.38	6,044.48
		720.000 DB MERS	43,228.79	60,963.08	63,687.12	77,709.12
		720.600 DC AFSCME	17,614.62	18,987.75	21,993.85	22,767.13
		TOTAL FRINGE BENEFITS	\$153,027.19	\$184,957.58	\$190,358.52	\$214,239.87
	590-560 SUPPLIE S	732.000 Operational Supplies	19,707.94	21,395.71	27,492.34	21,418.90
		732.005 Lab Operational Supplies	20,951.76	26,939.57	24,184.54	27,239.66
		736.000 Uniforms	1,241.99	1,086.00	516.50	472.00
		743.000 Chemicals	27,832.30	21,632.16	26,187.48	27,762.56
		TOTAL SUPPLIES	\$69,733.99	\$71,053.44	\$78,380.86	\$76,893.12
	590-560 CONTR SRV	801.000 Contracted Services	110,460.24	151,608.66	119,111.01	164,750.87
		801.100 MDEQ Permit Fees	5,500.00	5,760.00	5,760.00	7,866.00
		802.000 Engineering (Minor)	4,745.83	13,434.18	6,558.15	38,104.66
		808.000 Audit Fees	3,010.50	2,812.00	2,741.20	2,953.56
		TOTAL CONTRACTED SERVICES	\$123,716.57	\$173,614.84	\$134,170.36	\$213,675.09

590-560 INS	814.000 Insurance Coverage	15,783.32	16,091.83	16,801.08	19,413.97
	814.100 Insurance Deductible	15,426.00			0.00
	822.200 LTD/Life/ADD	1,243.74	1,192.17	1,566.00	1,567.74
	824.600 Operator License Fees		95.00	791.20	165.00
	TOTAL INSURANCE	\$32,453.06	\$17,379.00	\$19,158.28	\$21,146.71
590-560 TRAVEL	860.000 Travel	465.63	6.86	516.63	275.02
	870.100 Training	1,059.50	1,240.00	6,614.60	2,445.16
	TOTAL TRAVEL	\$1,525.13	\$1,246.86	\$7,131.23	\$2,720.18
590-560 UTILITIES	960.000 Utilities	192,049.58	179,040.89	195,450.29	201,552.08
	TOTAL UTILITIES	\$192,049.58	\$179,040.89	\$195,450.29	\$201,552.08
590-560 R&M	930.000 Operational Repairs & Maintenance	57,698.13	40,227.72	102,463.26	45,452.93
	930.001 Software Maintenance	17,065.00	16,643.00	17,234.92	4,651.40
	930.007 Ultraviolet Lamps	12,314.14	7,596.00	13,849.52	8,594.27
	958.000 Membership Fees	1,373.44	565.40	1,044.17	622.00
	961.000 Lunch/Dinner Meetings	112.70		242.76	0.00
	967.048 Asset Management Program				0.00
	967.999 Project Costs Contra	(5,070.50)			0.00
	968.000 Depreciation	600,587.71	580,044.38	575,595.71	611,182.65
	977.018 Dissolved Oxygen Probes				0.00
	977.901 Security Cameras	8,888.23			0.00
	977.999 Equipment/Contra	(8,888.23)			0.00
	TOTAL REPAIRS & MAINTENANCE	\$83,492.91	\$65,032.12	\$59,320.60	59,230.60
TOTAL WWTP O&M COST		\$960,536.90	\$986,763.18	\$1,072,933.42	\$1,138,245.69

Table E2

WWTP O&M SUMMARY	DESCRIPTION		2020	2021	2022	2023
	SUMMARY TOTALS	TOTAL LABOR	304,538.47	294,438.45	313,449.25	348,698.04
		TOTAL FRINGE BENEFITS	153,027.19	184,957.58	190,358.52	214,239.87
		TOTAL SUPPLIES	69,733.99	71,053.44	78,380.86	76,893.12
		TOTAL CONTRACTED SERVICES	123,716.57	173,614.84	134,170.36	213,675.09
		TOTAL INSURANCE	32,453.06	17,379.00	19,158.28	21,146.71
		TOTAL TRAVEL	1,525.13	1,246.86	7,131.23	2,720.18
		TOTAL UTILITIES	192,049.58	179,040.89	195,450.29	201,552.08
		TOTAL REPAIRS & MAINTENANCE	83,492.91	65,032.12	134,834.63	59,320.60
		TOTAL WWTP O&M COST	960,536.90	986,763.18	1,072,933.42	1,138,245.69
	TOTAL WWTP O&M COST		\$960,536.90	\$986,763.18	\$1,072,933.42	\$1,138,245.69
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)		440,620	433,650	394,690	408,480
	WWTP O&M Unit Cost		\$2.18	\$2.28	\$2.72	\$2.79
	CITY COST SHARING PERCENTAGE		84.0%	84.0%	83.0%	82.3%
	CITY WWTP O&M COST SHARE		\$806,602.83	\$828,639.78	\$890,519.97	\$936,863.58
	TOTAL CITY USE (K gal/Yr.)		238,001	233,461	226,005	225,855
	City WWTP O&M Unit Cost		\$3.39	\$3.55	\$3.94	\$4.15
	BR TWP COST SHARING PERCENTAGE		13.3%	13.3%	14.3%	15.1%
	BR TWP WWTP O&M COST SHARE		\$127,342.84	\$131,263.60	\$153,024.61	\$171,669.23
	TOTAL BR TWP USE (K gal/Yr.)		56,465	53,024	54,196	59,188
	BR Twp WWTP O&M Unit Cost		\$2.26	\$2.48	\$2.82	\$2.90
	GREEN TWP COST SHARING PERCENTAGE		2.8%	2.7%	2.7%	2.6%
	GN TWP WWTP O&M COST SHARE		\$26,591.23	\$26,859.80	\$29,388.84	\$29,712.87
	GN TWP METERED USE (K gal/yr.)		12,198	11,804	10,811	10,663
	GN Twp WWTP O&M Unit Cost		\$2.18	\$2.28	\$2.72	\$2.79
	SUM OF SHARED WWTP O&M COST		\$960,536.90	\$986,763.18	\$1,072,933.42	\$1,138,245.69

In addition to the daily operation and maintenance expenses, a replacement fund is required to ensure that an equipment failure does not cause a violation of provisions in the NPDES permit. Replacement funds are set aside to ensure timely replacement of worn out equipment. For purposes of the replacement fund equipment generally refers to any item that has a useful life of twenty years or less. This section presents the costs for replacement of equipment at the treatment plant. Costs are based on the existing treatment plant including improvements completed in 2010. A CPI inflationary adjustment of 1.4% has been incorporated to account for changes in the cost of assets over time.

Table E3

2023	ASSET	ACQ'D	LIFE	REM	VALUE	ANN VALUE
WWTP REPLACEMENT	Secondary Influent	1996	15	(11)	6,140.00	0.00
	Sigma All Weather Sampler	2007	7	(8)	5,208.00	0.00
	Sensus AR5502 Reader	2009	5	(8)	7,450.00	0.00
	Phone System Upgrade Allowance	2010	7	(5)	1,500.00	0.00
	Computer Allowance	2010	7	(5)	5,000.00	0.00
	Ethernet Switches & Patch Panels	2010	7	(5)	16,600.00	0.00
	UPS Systems	2010	7	(5)	8,000.00	0.00
	Med Voltage Switch	2008	10	(4)	9,392.00	0.00
	Moyno 2000 Pump	2008	10	(4)	11,188.00	0.00
	Clarifier Upgrade	1999	20	(3)	117,747.00	0.00
	Polyblend Pump	2004	15	(3)	6,828.00	0.00
	Pumping Equipment	2004	15	(3)	89,522.00	0.00
	Polyblend Polymer	2010	10	(2)	6,398.00	0.00
	Sludge Transfer Pump	2010	10	(2)	45,600.00	0.00
	HVAC System	2010	10	(2)	193,150.00	0.00
	Dehumidifier	2010	10	(2)	6,200.00	0.00
	Temperature Controls	2010	10	(2)	19,950.00	0.00
	Moyno Pumps	2010	10	(2)	82,000.00	0.00
	RAS Pumps	2010	10	(2)	38,800.00	0.00
	Tanks – EDI Aeration	2010	10	(2)	126,000.00	0.00
	Switchboards (Dist. Equip)	2010	10	(2)	25,000.00	0.00
	Panelboards (Dist. Equip)	2010	10	(2)	4,600.00	0.00
	VFDs (Dist. Equip)	2010	10	(2)	22,800.00	0.00
	Motor Control Ctrs (Dist. Equip)	2010	10	(2)	184,800.00	0.00
	Transformers (Dist. Equip)	2010	10	(2)	16,000.00	0.00
	Enclosed Controller (Dist. Equip)	2010	10	(2)	600.00	0.00
	Safety Switches (Dist. Equip)	2010	10	(2)	2,700.00	0.00
	Field Instruments/Magmeters	2010	10	(2)	27,600.00	0.00
	D.O. & ORP Analyzers	2010	10	(2)	42,500.00	0.00
	Ultrasonic Level/Radar	2010	10	(2)	7,500.00	0.00
	Gas Detection System	2010	10	(2)	30,100.00	0.00
	Float Switches/ISR Relays	2010	10	(2)	2,700.00	0.00
	Air Flow Transmitters	2010	10	(2)	32,550.00	0.00
	Equipment	2003	20	1	14,404.00	720.20
	Screw Lift Pump #1	2003	20	1	177,064.00	8,853.20
	Influent/Effluent Piping	2004	20	2	133,228.00	6,661.40
	Trolley Hoist	2010	15	3	4,700.00	313.33
	Gravity Thickener	2010	15	3	12,100.00	806.67
	Spencer Blowers	2010	15	3	328,800.00	21,920.00
	Kaeser Blowers	2010	15	3	220,650.00	14,710.00
	Air Compressor	2010	15	3	12,500.00	833.33
	Grit Classifier	2010	15	3	255,000.00	17,000.00
	Generator/ATS	2010	15	3	167,300.00	11,153.33
	Aeration Blower	2006	20	4	73,751.00	3,687.55
	Aeration Walkway Grating	2008	20	6	40,394.00	2,019.70
	KVA 3 Ph Transformer	2008	20	6	23,300.00	1,165.00
	Screw Pump Upgrade	1999	20	(3)	229,789.00	0.00
	Ultraviolet Disinfection	2011	20	9	16,884.00	844.20
	Equipment Ultraviolet Disinfection	2006	30	14	296,983.43	9,899.45
	Garage Building	2015	20	13	11,361.65	568.08
	Shortel Telephone System	2014	10	2	13,861.01	1,386.10
	Dell PowerEdge R510 Server	2012	5	(5)	6,140.56	0.00
	WWTP Wireless	2015	5	(2)	9,258.65	0.00
	Heating/Ventilation System	2014	10	2	7,445.00	744.50
	Chemical Building Gate	2015	10	3	10,470.76	1,047.08
	Aerobic Digester Equipment	2013	20	11	21,084.29	1,054.21

Digester Blower	2013	15	6	7,490.00	499.33
Grit Classifier	2013	15	6	11,234.35	748.96
Screw Pump Motor	2013	10	1	5,948.21	594.82
Gorman Rupp Pump	2013	5	(4)	21,199.97	0.00
Electric Actuator	2014	5	(3)	11,036.00	0.00
Standby Pump	2013	5	(4)	13,526.01	0.00
Influent Micro screen	2014	5	(3)	194,987.72	0.00
Refrigerated Sampler	2014	5	(3)	18,115.02	0.00
Kaesar Blower	2015	5	(2)	15,056.78	0.00
Screw Pump Stub Shaft	2015	5	(2)	19,011.00	0.00
Screw Pump Replacement	2015	5	(2)	36,384.27	0.00
Motor Digester Blower	2016	10	4	7,400.00	740.00
Piping/Pump/Weir Gate	2016	10	4	196,454.95	19,645.50
Kaiser Blower	2019	5	2	8,716.00	1,743.20
BOD Incubators	2019	5	2	7,764.70	1,552.94
Lab Water Machine	2019	5	2	7,985.24	1,597.05
Dissolved Oxygen Probes	2019	5	2	27,993.42	5,598.68
WWTP Wireless	2020	5	3	8,888.23	1,777.65
Wet Well Modifications (2019)	2020	10	8	17,874.60	1,787.46
Water Well Rehabilitation	2020	10	8	77,856.25	7,785.63
Lab Glassware Washer	2020	5	3	10,325.05	2,065.01
Lab Contrast Microscope	2021	5	4	6,708.54	1,341.71
Wet Well Modifications (2020)	2021	10	9	72,565.94	7,256.59
Screw Pump Replacement (2020)	2021	5	4	13,525.63	2,705.13
Backflow Preventer (2020)	2021	5	4	6,401.00	1,280.20
Wet Well Modifications (2021)	2022	10	10	26,412.96	2,641.30
Screw Pump Replacement (2021)	2022	5	5	33,155.85	6,631.17
Backflow Preventer (2021)	2022	5	5	18,500.00	3,700.00
Screw Pump Replacement	2022	5	5	289,900.00	57,980.00
Screw Pump Replacement	2022	5	5	24,228.93	4,845.79
TOTAL WWTP REPLACEMENT COST				\$4,505,238.97	\$239,905.44
AGREED WWTP REPLACEMENT COST CONTRIBUTION (100%)					\$239,905.44
CPI INFLATION ADJUSTMENT CALENDAR YEAR 2020 (6.8%)					\$256,219.01
ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)					408,480
WWTP Replacement Unit Cost					\$0.63

8

WWTP REPLACEMENT SHARING	CITY COST SHARING PERCENTAGE	82.1%
	CITY WWTP REPLACEMENT COST SHARE	\$210,326.83
	TOTAL CITY USE (K gal/Yr.)	207,739
	City WWTP Replacement Unit Cost	\$1.01
	BR TWP COST SHARING PERCENTAGE	15.3%
	BR TWP WWTP REPLACEMENT COST SHARE	\$39,203.81
	TOTAL BR TWP USE (K gal/Yr.)	59,188
	BR Twp WWTP Replacement Unit Cost	\$0.66
	GREEN TWP COST SHARING PERCENTAGE	2.6%
	GN TWP WWTP REPLACEMENT COST SHARE	\$6,688.36
	GN TWP METERED USE (K gal/Yr.)	10,663
	GN Twp WWTP Replacement Unit Cost	\$0.63

Table E4 shows the calculated distribution of fund balance within the replacement account.

Table E4

BALANCE 598 REPL FUND	DESCRIPTION	ASSET VALUE	SPLIT	2020 BAL	2021 BAL
				6/30/20	6/30/21
	WWTP	4,505,238.97	76.7%	653,066.55	664,901.68
	Collection System	748,846.48	12.7%	116,686.65	110,239.39
	Pumping	625,799.44	10.6%	97,513.23	92,125.36
	TOTAL	5,879,884.89	100.0%	867,266.43	867,266.43

Table E5 shows the projected cash flow for wastewater treatment plant replacement.

Table E5

WWTP REPLACEMENT CASH FLOW				
YR	CONT	EXP	2020 BAL	2021 BAL
			653,067	664,510
2022	167,320		820,387	831,830
2023	179,559	197,416	802,530	813,973
2024	179,559	206,993	775,096	786,539
2025	179,559	1,030,734	(76,079)	(64,636)
2026	179,559	304,241	(200,761)	(189,318)
2027	179,559	51,656	(72,858)	(61,415)
2028	179,559	82,418	24,283	35,726
2029	179,559		203,842	215,285
2030	179,559	95,731	287,670	299,113
2031	179,559	89,450	377,779	389,222
2032	179,559	26,413	530,925	542,368
2033	179,559	21,084	689,400	700,843
2034	179,559		868,959	880,402
2035	179,559	11,362	1,037,156	1,048,599
2036	179,559	296,983	919,732	931,175
2037	179,559		1,099,291	1,110,734
2038	179,559		1,278,850	1,290,293
2039	179,559		1,458,409	1,469,852
2040	179,559		1,637,968	1,649,411
2041	179,559		1,817,527	1,828,970
2042	179,559		1,997,086	2,008,529
2043	179,559		2,176,645	2,188,088
2044	179,559		2,356,204	2,367,647

F. CITY COLLECTION SYSTEM OM&R

The collection system is the network of pipes that convey wastewater to the treatment plant for treatment and discharge. The townships each own and maintain that portion of the collection system within their boundaries and to their connecting points within the city. The city portion of the wastewater collection system consists of approximately thirty-three (33) miles of sanitary sewer pipe varying in diameter from 4" to 30". Most of the collection system is designed to flow by gravity to the treatment plant. Inspection and maintenance of the system is essential to preventing backups and overflow which might otherwise cause a nuisance or environmental problem. Major cleaning and inspection involving specialized equipment is done under contract. The costs associated with the collection system are labor to inspect and clean the system, make repairs as needed, expand the system to meet customer needs, and replace equipment at the end of its' useful life.

Since the Townships utilize a portion of the City's collection system, a proportionate share of the cost of the City's collection system O&M will be allocated to the Townships. This Cost sharing is governed by inter-jurisdictional agreements.

Table F1

CITY COLLECTION SYSTEM O&M	DESCRIPTION		2020*	2021*	2022*	2023*
	590-561 COL SYS	702.000 Salaries	10,055.84	7,637.45	7,979.23	8,420.87
		702.999 Close Out Pay	4,865.38			
		710.000 DPW Overhead	163,200.00	158,499.96	170,400.00	147,699.96
		715.000 Employer FICA	1,104.82	560.40	585.76	619.79
		717.000 Employer Health Insurance Premiums	1,965.01	2,205.11	2,322.75	2,381.29
		720.000 DB MERS Retirement	4,670.82	4,204.11	2,063.88	2,753.52
		732.000 Supplies	3,075.12	2,477.42	1,632.77	2,360.11
		782.000 Maintenance Materials	2,480.88	1,963.08	2,252.25	2,825.49
		801.000 Contracted Services	5,289.52	2,998.23	8,692.31	6,030.70
		801.600 Vactor & TV Video	16,818.27	1,633.25	9,082.00	4,411.10
		802.000 Engineering		4,767.77		2,063.11
		943.000 Equipment Rental	36,297.06	38,891.74	42,250.37	39,446.93
		967.062 Ives Drain Project	5,070.50			
		967.068 Sewer Televising & Lining		17,591.00		
		967.128 Bellevue Storm Sewer		3,199.00		
		967.205 DNR Grant Match	77,090.98			
		967.999 Project Costs Contra	(77,090.98)			
		977.107 Wireless Meter Reading	72,219.68	44,323.17	17,609.37	42,097.81
		977.999 Equipment/Contra	(72,219.68)	(44,323.17)	(17,585.33)	(42,097.81)
	TOTAL CITY COLLECTION SYSTEM O&M COST		\$254,893.22	\$246,628.52	\$247,285.72	\$219,012.87
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)		440,620	433,650	394,690	408,480
	City Collection System O&M Unit Cost		\$0.58	\$0.57	\$0.63	\$0.54
	CITY COST SHARING PERCENTAGE		84.0%	84.0%	83.0%	82.1%
	CITY COL SYS O&M COST SHARE		\$214,044.45	\$207,107.65	\$205,243.74	\$179,784.80
	ADDITION OF CITY SHARE IN BR TWP COLLECTION		\$4,212.33	\$3,412.48	\$3,484.52	\$4,383.77
	CITY COL SYS O&M COST SHARE		\$218,256.78	\$210,520.13	\$208,728.26	\$184,168.57
	TOTAL CITY USE (K gal/Yr.)		238,001	233,461	226,005	207,739
City Collection System O&M Unit Cost		\$0.92	\$0.90	\$0.92	\$0.89	
BR TWP COST SHARING PERCENTAGE		13.3%	13.3%	14.3%	15.3%	
BR TWP CITY COL SYS O&M COST SHARE		\$33,792.38	\$32,807.62	\$35,268.55	\$33,510.94	
LESS: CITY PORTION OF TWP SYSTEM		(\$4,212.33)	(\$3,412.48)	(\$3,484.52)	(\$4,383.77)	
BR TWP CITY COL SYS O&M COST SHARE		\$29,580.05	\$29,395.14	\$31,784.03	\$29,127.17	
TOTAL BR TWP USE (K gal/Yr.)		56,465	53,024	54,196	59,188	
BR Twp City Collection System O&M Unit Cost		\$0.52	\$0.55	\$0.59	\$0.49	
GREEN TWP COST SHARING PERCENTAGE		2.8%	2.7%	2.7%	2.6%	
GN TWP CITY COL SYS O&M COST SHARE		\$7,056.39	\$6,713.26	\$6,773.43	\$5,717.13	
LESS: TWP PORTION OF WIRELESS COSTS		\$0.00	\$0.00	\$0.00	\$0.00	
GN TWP CITY COL SYS O&M COST SHARE		\$7,056.39	\$6,713.26	\$6,773.43	\$5,717.13	
GN TWP METERED USE (K gal/yr.)		12,198	11,804	10,811	10,663	
GN Twp City Collection System O&M Unit Cost		\$0.58	\$0.57	\$0.63	\$0.54	
SUM OF SHARED CITY COLLECTION SYSTEM O&M COST		\$254,893.22	\$246,628.52	\$247,285.72	\$219,012.87	

The collection system equipment consists of all sanitary sewers, manholes, and service equipment. City collection system replacement cost will be borne exclusively by city customers. No part of the city's collection system replacement cost will be allocated to the townships and no part of any township costs will be allocated to the city.

*The numbers depicted for salaries and benefits in the 2020-2023 columns on the previous page reflect the reclassification of a portion of an employee's salary and benefits from customer services.

Table F2

2023	ASSET	ACQ'D	LIFE	REM	VALUE	ANN VALUE
CITY COL SYS REPL	5 Years or Less	2012	5	(4)	5,375.25	0.00
	20 Years	2012	20	11	487,193.60	24,359.68
	Mitchell Creek Sanitary Repl	2020	20	19	256,277.63	12,813.88
	TOTAL CITY COL SYS REPLACEMENT COST				\$748,846.48	\$37,173.56
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)					408,480
	Collection System Replacement Unit Cost					\$0.09
	TOTAL CITY USE (K gal/Yr.)					207,739
	City Collection System Replacement Unit Cost					\$0.18

Table F3

598 REPL FUND	DESCRIPTION	ASSET VALUE	SPLIT	2020 BAL	2021 BAL
				6/30/20	6/30/21
	WWTP	4,505,238.97	76.6%	664,901.68	664,901.68
	Collection System	748,846.48	12.7%	110,239.39	110,239.39
	Pumping	625,799.44	10.6%	92,125.36	92,125.36
	TOTAL	5,879,884.89	100.0%	867,266.43	867,266.43

Table F4 depicts projected cash flow in the city's sewer collection system replacement reserve account.

Table F4

CITY COLL SYS REPLACEMENT CASH FLOW				
YR	CONT	EXP	2020 BAL	2021 BAL
			116,687	110,453
2022	45,256		161,943	155,709
2023	29,896		191,839	185,605
2024	37,174		229,013	222,779
2025	37,174		266,187	259,953
2026	37,174		303,361	297,127
2027	37,174		340,535	334,301
2028	37,174		377,709	371,475
2029	37,174		414,883	408,649
2030	37,174		452,057	445,823
2031	37,174		489,231	482,997
2032	37,174		526,405	520,171
2033	37,174	487,194	76,385	70,151
2034	37,174		113,559	107,325
2035	37,174		150,733	144,499
2036	37,174		187,907	181,673
2037	37,174		225,081	218,847
2038	37,174		262,255	256,021
2039	37,174		299,429	293,195
2040	37,174		336,603	330,369
2041	37,174	256,278	117,499	111,265
2042	37,174		154,673	148,439
2043	37,174		191,847	185,613
2044	37,174		229,021	222,787

G. BIG RAPIDS TOWNSHIP COLLECTION SYSTEM OM&R

The Big Rapids Charter Township wastewater collection system consists of approximately 4 miles of sanitary sewer and nine (9) pumping stations. The township maintains a replacement reserve account for funding equipment replacement. Big Rapids Charter Township operates on a fiscal year of January 1 to December 31. Costs were summarized on the City's fiscal year (July 1, 2021 to June 30, 2022). The annual cost for Big Rapids Township to operate and maintain its collection system is summarized in the following tables. Big Rapids Townships' rate structure includes a base rate and a volume rate. The base rate covers costs not tied to volume and the volume rate covers costs that vary with use. This methodology helps to stabilize rates and ensures a revenue base when use volume changes.

Table G1

BR TWP COLLECTION SYSTEM O&M	DESCRIPTION		2020	2021	2022	2023
	590-000 COL SYS	702.000 Salary & Wages	8,000.04	8,000.04	8,000.04	8,000.04
		702.200 Salary & Wages-Snowplowing	342.58		259.94	333.30
		710.000 Twp Share Medicare Withholding	121.13	116.04	119.81	120.88
		714.000 Health Insurance	1,207.97	1,306.40	1,838.11	2,334.38
		715.000 Twp Share Soc Sec Withholding	517.70	495.96	512.07	516.63
		715.015 Retirement	1,149.07	1,320.00	1,356.39	1,366.66
		720.000 Medical Reimbursement	200.00	305.00	149.43	312.40
		727.000 Office Supplies	733.01	1,234.65	509.08	400.00
		740.000 Operating Supplies	249.89	494.01	727.00	385.22
		775.000 Repair & Maintenance Supplies		516.89	534.40	
		801.000 Professional Services	17,754.61	14,322.03	20,189.40	13,513.91
		801.050 Professional Services Miss Dig	3,080.00	2,100.00	420.00	560.00
		805.000 Contract Services	30,626.21	28,970.28	20,525.70	23,214.37
		805.100 Extra Contract Services from City	12,131.85	19,929.32	1,538.83	7,034.15
		920.000 Public Utilities	26,765.74	21,876.94	24,592.42	24,998.38
		930.000 Repair & Maintenance	3,784.83	36,609.60	16,321.72	13,067.79
		933.000 Snowplowing	437.50	400.00		600.00
		935.000 Bldg. & Grounds Maintenance				
		958.000 Membership & Dues	330.00	340.00		
		965.000 Insurance & Bonds	2,394.00	2,786.34	2,513.00	2,687.00
		968.000 Depreciation	80,140.49	80,009.00	85,295.27	91,368.68
		975.000 Capital Outlay	40,438.00	41,834.57		9,076.00
	TOTAL BR TWP COLLECTION SYSTEM O&M COST		\$150,264.13	\$182,958.07	\$100,107.34	\$108,521.11
	TOTAL BR TWP USE (K gal/Yr.)		56,465	53,024	54,196	59,188
	BR Twp Collection System O&M Unit Cost		\$2.66	\$3.45	\$1.85	\$1.83

Replacement cost for the Big Rapids Township system includes pumps and controls for the township's pumping stations. Cost estimates for replacement value were furnished by the township's engineer.

Table G2

2023	ASSET	ACQ'D	LIFE	REM	VALUE	ANN VALUE
BR TWP COL SYS REPLACEMENT COST	Sheridan LS Pump 1	1993	20	(9)	5,000.00	0.00
	Sheridan LS Pump 2	1993	20	(9)	5,000.00	0.00
	Perry St LS Redo	2002	25	5	147,654.58	5,906.18
	Truck (shared 30%)	2006	15	(1)	7,000.00	0.00
	Plow (shared 30%)	2006	15	(1)	1,500.00	0.00
	Sewer Televising	2015	5	(2)	5,000.00	0.00
	Hills of Mitchell Creek 1	2006	20	4	5,000.00	250.00
	Hills of Mitchell Creek 2	2006	20	4	5,000.00	250.00
	Industrial Park LS Pump 1	2006	20	4	8,000.00	400.00
	Industrial Park LS Pump 2	2006	22	6	8,000.00	363.64
	University Parke Suites LS Pump 1	2006	20	4	12,296.50	614.83
	University Parke Suites LS Pump 2	2006	20	4	12,296.50	614.83
	University Parke Suites Lines	2006	20	4	106,275.83	5,313.79
	Menards LS Pump 1	2006	20	4	8,000.00	400.00
	Menards LS Pump 2	2006	20	4	8,000.00	400.00
	Portable Generator	2006	25	9	30,000.00	1,200.00
	Portable Pump	2006	25	9	30,000.00	1,200.00
	Venlo Place LS Pump 1	2007	22	7	5,000.00	227.27

Venlo Place LS Pump 2	2007	22	7	5,000.00	227.27
Industrial Park LS Pump 1	2009	22	9	9,887.06	449.41
Gilbert Lines	2010	40	28	72,055.00	1,801.38
Sewer Televising	2011	10	(1)	5,000.00	0.00
Gilbert LS Pump 1	2011	12	1	35,398.00	2,949.83
Gilbert LS Pump 2	2011	12	1	36,980.00	3,081.67
Perry Street GenSet	2012	25	15	32,000.00	1,280.00
Gilbert GenSet	2012	25	15	32,000.00	1,280.00
Perry Street LS Pump 1&2	2014	12	4	33,778.73	2,814.89
Perry Street LS Pump 1	2015	12	5	9,520.39	793.37
Meters and Endpoints	2016	20	14	45,370.85	2,268.54
Sewer Televising and Lining	2016	10	4	125,686.50	12,568.65
Generator 14 Mile LS	2016	25	19	25,430.00	1,017.20
Generator Menards	2016	25	19	25,430.00	1,017.20
Generator Venlo	2016	25	19	25,430.00	1,017.20
Menards LS Pump 1	2017	22	17	7,665.00	348.41
Sheridan LS Pump 1	2017	22	17	5,316.00	241.64
Venlo LS Controls	2018	15	11	10,766.00	717.73
Mission Controls on all LS	2019	15	12	34,082.83	2,272.19
Engineering- Sheridan LS	2021	15	14	36,711.00	2,447.40
TOTAL BR TWP COL SYS REPLACEMENT COST				\$1,022,530.77	\$55,734.51
TOTAL BR TWP USE (K gal/Yr.)					59,188
BR Twp Collection System Replacement Unit Cost					\$.94

Table G3

BR TWP COL SYS REPLACEMENT CASH FLOW				
YR	CONT	EXP	2020 BAL	2021 BAL
			200,000	200,000
2022	55,735		255,735	255,735
2023	55,735	72,378	239,092	239,092
2024	55,735		294,827	294,827
2025	55,735		350,562	350,562
2026	55,735	324,334	81,963	81,963
2027	55,735	157,175	(19,477)	(19,477)
2028	55,735	8,000	28,258	28,258
2029	55,735	10,000	73,993	73,993
2030	55,735		129,728	129,728
2031	55,735	69,887	115,576	115,576
2032	55,735		171,311	171,311
2033	55,735	10,766	216,280	216,280
2034	55,735	34,083	237,932	237,932
2035	55,735		293,667	293,667
2036	55,735	82,082	267,320	267,320
2037	55,735	64,000	259,055	259,055
2038	55,735		314,790	314,790
2039	55,735	12,981	357,544	357,544
2040	55,735		413,279	413,279
2041	55,735	76,290	392,724	392,724
2042	55,735		448,459	448,459
2043	55,735		504,194	504,194
2044	55,735		559,929	559,929
	1,281,905	921,976		

Big Rapids Township utilizes a Capital Reserve Fund to buffer the impact of large projects on the user rates. This is currently based on 27.5% of annual operating expenses. The following tables show funding and cash flow in the capital reserve fund.

Table G4

BR TWP COL SYS CAP RES	DESCRIPTION		2020	2021	2022	2023
	CAP	O&M COST	150,264	182,958	100,107	108,521
		% RESERVE	27.5%	27.5%	27.5%	27.5%
	TOTAL BR TWP CAPITAL RESERVE COST		\$41,323	\$50,313	\$27,530	\$29,843
	TOTAL BR TWP USE (K gal/Yr.)		56,465	53,024	54,196	59,188
	BR TWP Capital Reserve Unit Cost		\$0.73	\$0.95	\$0.51	\$0.50

Table G5

BR TWP CAPITAL RESERVE CASH FLOW				
YR	CONT	EXP	2020 BAL	2021 BAL
			66,516	66,516
2022	27,530		94,046	121,486
2023	27,530		121,576	176,456
2024	27,530		149,106	231,426
2025	27,530		176,636	286,396
2026	27,530		204,166	341,366
2027	27,530		231,696	396,336
2028	27,530		259,226	451,306
2029	27,530		286,756	506,276
2030	27,530		314,286	561,246
2031	27,530		341,816	616,216
2032	27,530		369,346	671,186
2033	27,530		396,876	726,156
2034	27,530		424,406	781,126
2035	27,530		451,936	836,096
2036	27,530		479,466	891,066
2037	27,530		506,996	946,036
2038	27,530		534,526	1,001,006
2039	27,530		562,056	1,055,976
2040	27,530		589,586	1,110,946
2041	27,530		617,116	1,165,916
2042	27,530		644,646	1,220,886
2043	27,530		672,176	1,275,856
2044	27,530		699,706	1,330,826

Big Rapids Township has also incurred bonded indebtedness for major infrastructure projects. Most recently, the oldest pumping station was replaced, and emergency power supply is being added to the major pumping stations. The current bond debt for Big Rapids Township is shown below.

Table G6

BR TWP COL SYS BOND DEBT	DESCRIPTION		2020	2021	2022	2023
	590-000	992.000 Principal	20,200.00	20,200.00		
		996.000 Interest				
	TOTAL BR TWP COLLECTION SYSTEM BOND COST		\$20,200.00	\$20,200.00	\$0.00	\$0.00
	TOTAL BR TWP USE (K gal/Yr.)		54,587	53,024	54,196	59,188
	BR TWP Col Sys Bond Debt Unit Cost		\$0.37	\$0.38	\$0.00	\$0.00

H. GREEN TOWNSHIP COLLECTION SYSTEM OM&R

The Green Charter Township wastewater collection system consists of approximately 4 miles of sanitary sewer, a single pumping station and a master meter at the point of entrance to the city collection system. The Township maintains a replacement reserve account for funding equipment replacement. Green Charter Township operates on a fiscal year of April 1 to March 31. The annual cost for Green Township to operate and maintain its collection system is summarized in the following tables.

Table H1

DESCRIPTION		2020	2021	2022	2023
COL SYS	702 Salaries – Adm	17,939.28	18,797.76	19,173.84	19,422.40
	703 Salaries – Non Adm	3,147.60	4,406.16	4,494.36	4,557.24
	704 Salary – Non Adm Hourly	490.93	325.00	153.25	501.81
	000 Comp FICA	1,338.11	1,458.96	1,476.99	1,519.38
	000 Comp Mcare	313.16	341.33	345.44	355.38
	726 Office Supplies	605.36	786.43	736.90	767.55
	727 Postage	10.00	44.00	66.00	11.60
	740 Operating Supplies	80.87	44.98		252.47
	800 Professional Fees	485.00	408.00	1,900.00	8,318.00
	808 Audit	1,550.00	1,600.00	1,650.00	1,700.00
	818 Contracted Services	29.90	5,980.00	547.00	
	818 IPP	603.39			
	820 Computer Support Software	485.00	494.00	501.00	518.00
	850 Telephone	479.88	479.88	519.88	489.88
	874 Pension	3,588.12	3,759.84	3,834.72	3,920.36
	910 Insurance & Bonds	1,918.00	2,067.00	2,134.00	2,001.00
	920 Electric	1,029.51	1,058.10	1,038.13	1,060.48
	921 Gas	427.91	454.89	460.13	468.83
	930 Repairs	21,384.85	1,567.00		1,164.00
	941 Miscellaneous	10.00			
TOTAL GN TWP COLLECTION SYSTEM O&M COST		\$55,916.87	\$44,073.33	\$39,031.64	\$47,028.38
GN TWP METERED USE (K gal/yr.)		12,198	11,804	10,811	10,663
GN Twp Collection System O&M Unit Cost		\$4.58	\$3.73	\$3.61	\$4.41

The equipment replacement cost for the Green Township collection system includes pumps, controls and related equipment for the township's sewage pumping station and master meter. Cost estimates for replacement value were furnished by Green Township.

Table H2

2023	ASSET	ACQ'D	LIFE	REM	VALUE	ANN VALUE
GN TWP COL SYS REPL COST	Dehumidifier	1992	20	(10)	0.00	0.00
	Exhaust Fan	1992	20	(10)	100.00	0.00
	Sump Pump	1992	20	(10)	0.00	0.00
	Air Compressor 1	1992	20	(10)	0.00	0.00
	Air Compressor 2	1992	20	(10)	400.00	0.00
	GenSet	1986				
	Auto Dialer	1999	20	(3)	400.00	0.00
	Magnetic Flowmeter	2002	20	0	11,000.00	550.00
	LS Pump 1	2004	20	2	4,600.00	230.00
	LS Pump 2	2004	20	2	4,600.00	230.00
	GenSet	2013	30	21	17,297.00	576.57
	TOTAL GN TWP COL SYS REPLACEMENT COST				\$37,997.00	\$1,586.57
	GN TWP METERED USE (K gal/yr.)					10,663
	GN Twp Collection System Replacement Unit Cost					\$0.15

Table H3

GN TWP COL SYS REPLACEMENT CASH FLOW				
YR	CONT	EXP	2020 BAL	2021 BAL
			481,668	480,672
2022	1,587	11,000	472,255	471,259
2023	1,587		473,842	472,846
2024	1,587	9,200	466,229	465,233
2025	1,587		467,816	466,820
2026	1,587		469,403	468,407
2027	1,587		470,990	469,994
2028	1,587		472,577	471,581
2029	1,587		474,164	473,168
2030	1,587		475,751	474,755
2031	1,587		477,338	476,342
2032	1,587		478,925	477,929
2033	1,587		480,512	479,516
2034	1,587		482,099	481,103
2035	1,587		483,686	482,690
2036	1,587		485,273	484,277
2037	1,587		486,860	485,864
2038	1,587		488,447	487,451
2039	1,587		490,034	489,038
2040	1,587		491,621	490,625
2041	1,587		493,208	492,212
2042	1,587		494,795	493,799
2043	1,587	17,297	479,085	478,089
2044	1,587		480,672	479,676

I. CITY PUMPING STATIONS OM&R

Where hydraulics, sewer depth, or terrain interference dictate; pumping stations are installed to elevate the wastewater and continue its' gravity flow to the treatment plant. The city owns, operates, and maintains five (5) wastewater pumping stations (N State St, Waterloo, Co Garage, Novak Ln, Tioga Park). Cost of operating, maintaining, and replacing equipment for the stations is borne solely by city users. The City and Big Rapids Township have agreed for the Township to assume responsibility for the N State St pumping station once it has been upgraded by the City.

Table I1

PUMP STATIONS O&M	DESCRIPTION		2020	2021	2022	2023
	590-563 PUMPIN G	710.000 DPW Services	800.04	800.04	800.04	800.04
		801.000 Contracted Services	0.00	0.00	5,000.00	5,000.00
		920.000 Utilities	8,435.69	8,762.46	2,863.80	2,863.80
		930.000 Operational Repairs & Maintenance	0.00	2,409.99	0.00	0.00
	TOTAL PUMPING STATIONS O&M COST		\$9,235.73	\$11,972.49	\$11,824.48	\$8,663.84
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)		440,620	433,650	394,690	408,480
	Pumping Stations O&M Unit Cost		\$0.02	\$0.03	\$0.03	\$0.02
	TOTAL CITY USE (K gal/Yr.)		238,001	233,461	226,005	226,239
	City Pumping Stations O&M Unit Cost		\$0.04	\$0.05	\$0.05	\$0.04

Table I2

2023	ASSET	ACQ'D	LIFE	REM	VALUE	ANN VALUE
CITY PUMP STA REPL	10 Years	2006	10	(6)	15,200.00	0.00
	20 Years	1997	20	(5)	66,870.00	0.00
	15 Years	2004	15	(3)	23,722.00	0.00
	Supervisor's Park Lift Station	2020	20	18	235,677.66	11,783.88
	Supervisor's Park Lift Station	2021	20	19	79,930.71	3,996.54
	Waterloo Lift Station	2021	20	19	26,589.79	1,329.49
	Waterloo Lift Station	2022	20	20	177,809.28	8,890.46
	TOTAL CITY PUMP STA REPLACEMENT COST				\$625,799.44	\$26,000.37
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)					408,480
	Pumping Stations Replacement Unit Cost					\$0.06
	TOTAL CITY USE (K gal/Yr.)					226,239
	City Pumping Stations Replacement Unit Cost					\$0.11

Table I3

598 REPL FUND	DESCRIPTION	ASSET VALUE	SPLIT	2020 BAL	2021 BAL
				6/30/20	6/30/21
	WWTP	4,516,618.47	76.7%	664,901.68	521,399.38
	Collection System	748,846.48	12.7%	110,239.39	86,665.34
	Pumping	625,799.44	10.6%	92,125.36	72,424.89
	TOTAL	5,891,264.39	100.0%	867,266.43	680,489.61

Table I4

CITY PUMP STA REPLACEMENT CASH FLOW				
YR	CONT	EXP	2020 BAL	2021 BAL
			92,304	72,425
2022	24,984		117,288	97,409
2023	26,000		143,288	123,409
2024	26,000		169,288	149,409
2025	26,000		195,288	175,409
2026	26,000		221,288	201,409
2027	26,000		247,288	227,409
2028	26,000		273,288	253,409
2029	26,000		299,288	279,409
2030	26,000		325,288	305,409
2031	26,000		351,288	331,409
2032	26,000		377,288	357,409
2033	26,000		403,288	383,409
2034	26,000		429,288	409,409
2035	26,000		455,288	435,409
2036	26,000		481,288	461,409
2037	26,000		507,288	487,409
2038	26,000		533,288	513,409

J. CITY CUSTOMER SERVICES O&M

Customer Services is a portion of water meter reading costs for city users only. The customer services portion of the city's budget includes only the cost to read meters within the city. It does not include any billing costs. None of the costs for customer services are allocated to the Townships.

Table J

CUSTOMER SERVICE O&M	DESCRIPTION		2020	2021	2022	2023
	590-562 CUST SERV	702,000 Labor	23,325.77	23,796.68	24,504.67	25,467.13
		715.000 Employer FICA	1,769.61	1,796.94	1,849.56	1,923.52
		717.000 Employer Health Ins Premiums	1,649.69	2,138.93	2,280.85	903.46
		720.000 DB MERS Retirement		4,764.54	3,636.48	4,691.16
		720.300 DC MERS Employer Contributions	2,311.66	2,358.71	2,423.61	2,521.63
		732.000 Supplies	5,389.51	5,117.57	4,030.66	3,981.91
	TOTAL CUSTOMER SERVICES O&M COST		\$34,446.24	\$39,973.37	\$38,725.83	\$39,488.81
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)		440,620	433,650	394,690	408,480
	Customer Services O&M Unit Cost		\$0.08	\$0.09	\$0.10	\$0.10
	TOTAL CITY USE (K gal/Yr.)		238,001	233,461	226,005	226,239
	City Customer Services O&M Unit Cost		\$0.14	\$0.17	\$0.17	\$0.17

K. INDUSTRIAL PRETREATMENT PROGRAM O&M

An Industrial Pretreatment Program (IPP) is required by the treatment plants' NPDES permit. The purpose of the program is to educate system users on proper use of the system, enforce local sewer use and pretreatment ordinances, and protect the treatment plant from pollutant interference, pass through, or impact on the biosolids land application program. The NPDES permit also requires implementation of a Mercury Pollutant Minimization Program (PMP). IPP program costs are entirely borne by city non-residential users as an added charge. The legal requirement to implement the program throughout the service area is met by separate agreements with the townships.

The goal of the IPP program is to provide judicious enforcement of the city's wastewater ordinances, assist the superintendent in protecting the WWTP's ability to successfully remove pollutants from the waste stream prior to return to the river and its solids by-products prior to land application.

Table K

	DESCRIPTION	2020	2021	2022	2023	2022-2023
		FY 18-19	FY 19-20	FY 20-21	FY 21-22	Budgeted*
INDUSTRIAL PRETREATMENT O&M	590-565 IND PRTRMNT					
	702.000 Labor	44,336.05	55,958.83	47,131.52	53,413.84	95,500.00
	706.100 Comp Buy Out	1,662.75	581.97			500.00
	709.000 Overtime Pay	2,169.01	3,493.27	4,218.72	2,475.46	3,000.00
	710.000 DPW Services	800.04	800.04	900.00	800.04	700.00
	715.000 Employer FICA	3,591.70	4,436.57	4,106.77	4,100.29	7,600.00
	716.300 Health Ins Reimbursement		1,425.00	3,420.00	3,420.00	3,400.00
	717.000 Employer Health Ins Premiums	6,654.08	2,145.84			
	718.000 Insurance-Unemployment Comp	5.40	51.30	112.24	142.50	
	720.000 DB MERS Retirement	43,228.79	17,443.78	21,720.48	27,126.84	26,300.00
	720.600 DC AFSCME Retirement	4,811.95	4,511.39	5,012.80	4,972.99	9,800.00
	732.000 Supplies	833.63	2,616.22	9,489.69	4,444.94	3,500.00
	801.000 Contracted Services	4,985.97	3,162.00	6,405.00	4,714.00	8,000.00
	822.200 Ltd/Life/Add	298.66	226.15	281.46	262.36	600.00
	860.000 Travel					400.00
TOTAL IND PRETREATMENT O&M COST		\$113,378.03	\$96,852.36	\$102,798.68	\$105,873.26	\$159,300.00
ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)		440,620	433,650	394,690	408,480	408,480
Industrial Pretreatment O&M Unit Cost		\$0.26	\$0.22	\$0.26	\$0.26	\$0.26
NDU FLOW		173,685	165,380	156,745	141,120	159,620
Pretreatment Cost / K gal/NDU		\$0.65	\$0.59	\$0.66	\$0.75	\$0.66

* The numbers depicted in the far-right column are budgeted figures for the 2022-2023 fiscal year. The City of Big Rapids plans to allocate additional resources to the IPP, and the committee agreed to use budgeted figures to prevent residential users from paying the resulting increased costs.

L. BONDING COSTS

The wastewater treatment plant was originally constructed in 1955. Throughout history various methods were used to fund major upgrades, modernization, and renovations. In the mid 1970's the United States Environmental Protection Agency (USEPA) funded a large portion of costs to upgrade all of the treatment plants in the nation. Subsequently, these facilities were expected to become self-funded utility enterprises. Today, the city uses bonds to finance major improvements to the wastewater infrastructure. Most recently, improvements were completed in 2010 using a MDEQ (Michigan Department of Environmental Quality) low interest SRF (State Revolving Fund) loan. The repayment of this debt becomes part of the cost of operation and must be recovered through the utilities' rate structure. Table L shows the current cost of bonded indebtedness. These costs are shared with the township partners on a flow proportioned basis like other costs of operation.

Table L

WWTP BOND DEBT	DESCRIPTION		2020	2021	2022	2023
	09 ACT	Principal (4/1/09-10/1/30)	380,000.00	390,000.00	400,000.00	410,000.00
	94	Interest (2.5%)	126,375.00	116,750.00	106,875.00	101,875.00
	TOTAL WWTP BOND DEBT COST		\$506,375.00	\$506,750.00	\$506,875.00	\$511,875.00
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)		440,620	433,650	394,690	408,480
	WWTP Bond Debt Unit Cost		\$1.15	\$1.17	\$1.28	\$1.25
	CITY COST SHARING PERCENTAGE		84.0%	84.0%	83.0%	82.3%
	CITY WWTP BOND COST SHARE		\$425,224.17	\$425,546.09	\$420,699.27	\$421,334.38
	TOTAL CITY USE (K gal/Yr.)		238,001	233,461	226,005	226,239
	City WWTP Bond Debt Unit Cost		\$1.79	\$1.82	\$1.86	\$1.86
	BR TWP COST SHARING PERCENTAGE		13.3%	13.3%	14.3%	15.1%
	BR TWP WWTP BOND COST SHARE		\$67,132.49	\$67,410.12	\$72,291.86	\$77,178.59
	TOTAL BR TWP USE (K gal/Yr.)		56,465	53,024	54,196	59,188
	BR Twp WWTP Bond Debt Unit Cost		\$1.19	\$1.27	\$1.33	\$1.30
	GREEN TWP COST SHARING PERCENTAGE		2.8%	2.7%	2.7%	2.6%
	GN TWP WWTP BOND COST SHARE		\$14,018.34	\$13,793.79	\$13,883.87	\$13,362.03
	GN TWP METERED USE (K gal/yr.)		12,198	11,804	10,811	10,663
	GN Twp WWTP Bond Debt Unit Cost		\$1.15	\$1.17	\$1.28	\$1.25
	SUM OF SHARED WWTP BOND DEBT COST		\$506,375.00	\$506,750.00	\$506,875.00	\$511,875.00

M. ADMINISTRATION

The wastewater systems' administrative cost is a portion of the base salaries (no fringes) of the offices of the city manager, treasurer, engineer, and public works director. The sewer system is charged an administrative cost for these individuals in direct proportion to the cost of the sewage system compared to the entire city's budget. That is, the wastewater system accounts for approximately 10% of the city's total budget. (The user charge committee recommends that this figure be updated to 12% and that amount has been used in this report as the basis of cost sharing). Therefore, 12% of the annual cost for the City Manager, Treasurer, Attorney and Public Works Director is charged to the wastewater system as administrative cost.

The administrative costs charged to the wastewater system include costs that are attributable to both the city alone and the city combined with the townships. Administrative costs for the treatment plant and city collection system are proportionately shared by the city and the townships. The administrative costs appear in the city budget as a general fund transfer.

Table M

CITY ADMINISTRATION	DESCRIPTION		2020	2021	2022	2023
	ADMIN	101.172 City Manager	110,636.00	111,773.00	114,567.00	117,431.00
		101.253 City Treasurer	77,260.00	79,987.00	81,987.00	84,037.00
		101.441 City Engineer	93,824.00	97,135.00	101,516.00	82,388.00
		101.441 City Public Works Director	74,259.00	76,880.00	80,379.00	104,054.00
	TOTAL CITY ADMINISTRATION COST		\$355,979.00	\$365,775.00	\$378,449.00	\$387,910.00
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)		440,620	433,650	394,690	408,480
	ADMIN PERCENTAGE AGREED BY PARTIES		12.0%	12.0%	12.0%	12.0%
	ADMIN COST AGREED BY PARTIES		\$42,717.48	\$43,893.00	\$45,413.88	\$46,549.20
	ANNUAL EFF TOTAL FROM PLANT RECORDS (MG)		440,620	433,650	394,690	408,480
	Administration Unit Cost		\$0.10	\$0.10	\$0.12	\$0.11
	CITY COST SHARING PERCENTAGE		84.0%	84.0%	83.0%	82.3%
	CITY ADMIN COST SHARE		\$35,871.65	\$36,859.39	\$37,692.89	\$38,315.56
	TOTAL CITY USE (K gal/Yr.)		238,001	233,461	226,005	226,239
	City Administration Unit Cost		\$0.15	\$0.16	\$0.17	\$0.17
	BR TWP COST SHARING PERCENTAGE		13.3%	13.3%	14.3%	15.1%
	BR TWP CITY ADMIN COST SHARE		\$5,663.25	\$5,838.84	\$6,477.05	\$7,018.51
	TOTAL BR TWP USE (K gal/Yr.)		56,465	53,024	54,196	59,188
	BR Twp City Administration Unit Cost		\$0.10	\$0.11	\$0.12	\$0.12
	GREEN TWP COST SHARING PERCENTAGE		2.8%	2.7%	2.7%	2.6%
	GN TWP CITY ADMIN COST SHARE		\$1,182.58	\$1,194.77	\$1,243.94	\$1,215.12
	GN TWP METERED USE (K gal/yr.)		12,198	11,804	10,811	10,663
	GN Twp City Administration Unit Cost		\$0.10	\$0.10	\$0.12	\$0.11
	SUM OF SHARED CITY ADMINISTRATION COST		\$42,717.48	\$43,893.00	\$45,413.88	\$46,549.20

N. COST SUMMARY

Certain costs are exclusive to each political entity sharing use of the wastewater system. Other costs are shared based upon the inter-jurisdictional agreements. Exclusive costs and shared costs are shown in the following table. These costs determine the revenue requirement to be recovered through rates. Each entity utilizes a somewhat different rate structure to raise the required revenue.

Table N1

COST SUMMARY	DESCRIPTION		2020	2021	2022	2023
	TOTAL SYSTEM-WIDE COSTS	TOTAL WWTP O&M COST	\$960,536.90	\$986,763.18	\$1,072,933.42	\$1,138,245.69
		TOTAL PUMPING STATIONS O&M COST	\$9,235.73	\$11,972.49	\$11,824.48	\$8,663.84
		TOTAL CUSTOMER SERVICES O&M COST	\$34,446.24	\$39,973.37	\$38,725.83	\$39,488.81
		TOTAL CITY COLLECTION SYSTEM O&M COST	\$254,893.22	\$246,628.52	\$247,285.72	\$219,012.87
		TOTAL BR TWP COLLECTION SYSTEM O&M COST	\$150,264.13	\$182,958.07	\$100,107.34	\$108,521.11
		TOTAL GN TWP COLLECTION SYSTEM O&M COST	\$55,916.87	\$44,073.33	\$39,031.64	\$47,028.38
		ADMIN COST AGREED BY PARTIES	\$42,717.48	\$43,893.00	\$45,413.88	\$46,549.20
		TOTAL WWTP BOND DEBT COST	\$506,375.00	\$506,750.00	\$506,875.00	\$511,875.00
		TOTAL BR TWP COLLECTION SYSTEM BOND COST	\$20,200.00	\$0.00	\$0.00	\$0.00
		TOTAL BR TWP CAPITAL RESERVE COST	\$41,322.64	\$50,313.47	\$27,529.52	\$29,843.31
		AGREED WWTP REPLACEMENT COST CONTRIBUTION	\$264,145.69	\$167,881.65	\$179,558.77	\$256,219.01
		TOTAL CITY COL SYS REPLACEMENT COST	\$37,173.56	\$37,173.56	\$37,173.56	\$37,173.56
		TOTAL CITY PUMP STA REPLACEMENT COST	\$11,783.88	\$17,109.91	\$26,000.37	\$26,000.37
		TOTAL BR TWP COL SYS REPLACEMENT COST	\$55,353.78	\$56,801.18	\$55,734.51	\$55,734.51
		TOTAL GN TWP COL SYS REPLACEMENT COST	\$1,586.57	\$1,586.57	\$1,586.57	\$1,586.57
	TOTAL SYSTEM-WIDE COSTS		\$2,445,951.68	\$2,393,878.30	\$2,389,780.61	\$2,525,942.23
	TOTAL BILLED FLOW		306,664	298,289	291,012	296,090
	System Wide Unit Cost		\$7.98	\$8.03	\$8.21	\$8.53

Table N2

DESCRIPTION	2020	2021	2022	2023
WWTP O&M Unit Cost	\$2.26	\$2.48	\$2.82	\$2.90
City Collection System Unit Cost	\$0.52	\$0.55	\$0.59	\$0.48
WWTP Replacement Unit Cost	\$0.62	\$0.42	\$0.47	\$0.65
WWTP Bond Debt Unit Cost	\$1.19	\$1.27	\$1.33	\$1.30
Administration Unit Cost	\$0.10	\$0.11	\$0.12	\$0.12
BR TWP UNIT COST	\$4.69	\$4.83	\$5.33	\$5.46

Table N3

DESCRIPTION	2020	2021	2022	2023
WWTP O&M Unit Cost	\$2.18	\$2.28	\$2.72	\$2.79
City Collection System O&M Unit Cost	\$0.58	\$0.57	\$0.63	\$0.54
WWTP Replacement Unit Cost	\$0.60	\$0.39	\$0.45	\$0.63
WWTP Bond Debt Unit Cost	\$1.15	\$1.17	\$1.28	\$1.25
Administration Unit Cost	\$0.10	\$0.10	\$0.12	\$0.11
GN TWP UNIT COST	\$4.61	\$4.51	\$5.20	\$5.32

O. RATE STRUCTURE

The City and Big Rapids Township each collect a portion of their rate revenue in a “base” or “customer per month” fixed charge. The city’s rate structure consists of a base rate which varies by meter size, and a volumetric rate which varies with usage. Big Rapids Township’s rate structure consists of a base rate which varies by the REU factor, and a volumetric rate which varies with usage. Green Township does not have a base charge and collects all its’ rate revenue through usage charges which vary by the REU factor.

Table O1

CITY REVENUE REQUIREMENT	DESCRIPTION		2020	2021	2022	2023
	CITY COST DETAILS	TOTAL PUMPING STATIONS O&M COST	9,235.73	11,972.49	11,824.48	8,663.84
		TOTAL CUSTOMER SERVICES O&M COST	34,446.24	39,973.37	38,725.83	39,488.81
		TOTAL CITY COL SYS REPLACEMENT COST	37,173.56	37,173.56	37,173.56	37,173.56
		TOTAL CITY PUMP STA REPLACEMENT COST	11,783.88	26,000.37	26,000.37	26,000.37
		CITY WWTP O&M COST SHARE	806,602.83	828,639.78	890,519.97	936,912.41
		CITY COL SYS O&M COST SHARE	218,256.78	210,520.13	208,728.26	184,657.57
		CITY ADMIN COST SHARE	35,871.65	36,859.39	37,692.90	38,315.56
		CITY WWTP BOND COST SHARE	425,224.17	425,546.09	420,699.27	421,334.38
		CITY WWTP REPLACEMENT COST SHARE	221,814.13	149,031.30	149,031.30	210,898.90
	TOTAL CITY EXCLUSIVE COSTS		92,639.41	106,229.33	115,119.79	111,326.58
	TOTAL CITY SHARED COSTS		1,707,769.56	1,642,542.59	1,650,596.68	1,792,118.82
	CITY TOTAL REVENUE REQUIREMENT (\$)		\$1,800,408.97	\$1,748,771.92	\$1,765,716.48	\$1,903,445.40
	TOTAL CITY USE (K gal/Yr.)		238,001	233,461	226,005	226,005
	City Unit Cost		\$7.56	\$7.49	\$8.05	\$8.42
	CITY REV REQ BY CLS (\$)	RESIDENTIAL REVENUE REQUIREMENT (\$)	\$486,532.00	\$509,970.15	\$557,866.52	\$560,494.12
		COMMERCIAL REVENUE REQUIREMENT (\$)	\$473,482.88	\$501,138.69	\$552,800.13	\$574,031.32
		INDUSTRIAL REVENUE REQUIREMENT (\$)	\$191,175.40	\$193,003.79	\$166,659.20	\$172,921.17
		INSTITUTIONAL REVENUE REQUIREMENT (\$)	\$649,218.70	\$544,659.30	\$543,070.09	\$595,998.78
	CITY TOTAL REVENUE REQUIREMENT (\$)		\$1,800,408.97	\$1,748,771.92	\$1,820,395.94	\$1,903,445.40
	TOTAL REV REQ BY METER SIZE	UNMETERED REVENUE REQUIREMENT	\$25,951.84	\$24,343.03	\$24,511.61	\$25,629.88
		5/8" METER REVENUE REQUIREMENT	\$1,520,615.69	\$1,473,145.99	\$1,532,792.99	\$1,602,721.53
		3/4" METER REVENUE REQUIREMENT	\$51,092.69	\$49,471.32	\$50,657.34	\$52,968.41
		1" METER REVENUE REQUIREMENT	\$103,807.36	\$100,513.16	\$104,582.89	\$109,354.13
		1 1/2" METER REVENUE REQUIREMENT	\$33,250.80	\$31,410.36	\$34,316.26	\$35,881.83
		2" METER REVENUE REQUIREMENT	\$45,415.72	\$50,256.58	\$53,108.50	\$55,531.40
		3" METER REVENUE REQUIREMENT	\$17,030.90	\$16,490.44	\$17,158.13	\$17,940.91
		4" METER REVENUE REQUIREMENT	\$2,432.99	\$2,355.78	\$2,451.16	\$2,562.99
		6" METER REVENUE REQUIREMENT	\$811.00	\$785.26	\$817.05	\$854.33
TOTAL REVENUE REQUIREMENT (\$)		\$1,800,408.97	\$1,748,771.92	\$1,820,395.94	\$1,903,445.40	

Fixed rates are designed to recover the portion of costs that are not related to volume. For example, bond principle and interest on debt must be paid irrespective of flow volume treated. Chemical costs, however, will vary depending on how much volume is treated.

Table O2

		DESCRIPTION	2020	2021	2022	2023
FIXED - VARIABLE REVENUE REQ (\$)	CITY FIXED COST (\$)	TOTAL PUMPING STATIONS O&M COST	\$0.00	\$0.00	\$0.00	\$0.00
		TOTAL CUSTOMER SERVICES O&M COST	\$0.00	\$0.00	\$0.00	\$0.00
		TOTAL CITY COL SYS REPLACEMENT COST	\$0.00	\$0.00	\$0.00	\$0.00
		TOTAL CITY PUMP STA REPLACEMENT COST	\$0.00	\$0.00	\$0.00	\$0.00
		CITY WWTP O&M COST SHARE	\$0.00	\$0.00	\$0.00	\$0.00
		CITY COL SYS O&M COST SHARE	\$0.00	\$0.00	\$0.00	\$0.00
		CITY ADMIN COST SHARE	35,871.65	36,859.39	37,692.90	\$38,315.56
		CITY WWTP BOND COST SHARE	425,224.17	425,546.09	420,699.27	\$421,334.38
		CITY WWTP REPLACEMENT COST SHARE	\$0.00	\$0.00	\$0.00	\$0.00
		TOTAL FIXED COST (\$)	\$461,095.82	\$462,405.47	\$458,392.17	\$459,649.94
		FIXED PORTION OF TOTAL COST (%)	25.6%	26.4%	25.2%	24.1%
	CITY VARIABLE COST (\$)	TOTAL PUMPING STATIONS O&M COST	\$9,235.73	\$11,972.49	\$11,824.48	\$8,663.84
		TOTAL CUSTOMER SERVICES O&M COST	\$34,446.24	\$39,973.37	\$38,725.83	\$39,488.81
		TOTAL CITY COL SYS REPLACEMENT COST	\$37,173.56	\$37,173.56	\$37,173.56	\$37,173.56
		TOTAL CITY PUMP STA REPLACEMENT COST	\$11,783.88	\$17,109.91	\$26,000.37	\$26,000.37
		CITY WWTP O&M COST SHARE	\$806,602.83	\$828,639.78	\$890,519.97	\$936,912.41
		CITY COL SYS O&M COST SHARE	\$218,256.78	\$210,520.13	\$208,728.26	\$184,657.57
		CITY ADMIN COST SHARE	\$0.00	\$0.00	\$0.00	\$0.00
		CITY WWTP BOND COST SHARE	\$0.00	\$0.00	\$0.00	\$0.00
		CITY WWTP REPLACEMENT COST SHARE	\$221,814.13	\$140,977.21	\$149,031.30	\$210,898.90
		TOTAL VARIABLE COST (\$)	\$1,339,313.15	\$1,286,366.45	\$1,362,003.77	\$1,443,795.46
		VARIABLE PORTION OF TOTAL COST (%)	74.4%	73.6%	74.8%	75.9%
	TOTAL COST (\$)		\$1,800,408.97	\$1,748,771.92	\$1,820,395.94	\$1,903,445.40
	TOTAL COST (%)		100.0%	100.0%	100.0%	100.0%

The equitable base revenue and appropriate rates by meter size are shown in the following table.

Table O3

		DESCRIPTION	2020	2021	2022	2023
FIXED REVENUE REQUIREMENT	FIXED REVENUE BY METER SIZE	FLAT RATE – BASE PORTION (\$)	\$5,951.60	\$5,894.43	\$5,841.33	\$5,857.36
		5/8" METERS (\$)	\$140,110.54	\$150,250.43	\$156,083.14	\$156,511.41
		3/4" METERS (\$)	\$7,276.76	\$6,064.76	\$5,821.05	\$5,837.02
		1" METERS (\$)	\$51,725.82	\$49,991.71	\$51,103.51	\$51,243.73
		1 1/2" METERS (\$)	\$26,466.40	\$26,596.22	\$30,261.33	\$30,344.36
		2" METERS (\$)	\$93,113.84	\$101,506.54	\$101,383.56	\$101,661.74
		3" METERS (\$)	\$100,501.03	\$91,872.64	\$84,865.58	\$85,098.44
		4" METERS (\$)	\$26,915.87	\$22,648.78	\$17,463.14	\$17,511.05
		6" METERS (\$)	\$9,033.95	\$7,579.96	\$5,569.54	\$5,584.83
		TOTAL FIXED REVENUE (\$)	\$461,095.82	\$462,405.47	\$458,392.17	\$459,649.94
	BASE RATE BY METER SIZE	FLAT RATE – BASE PORTION (\$/Mo)	\$15.50	\$15.85	\$16.23	\$16.27
		5/8" METERS (\$/Mo)	\$6.23	\$6.67	\$6.93	\$6.95
		3/4" METERS (\$/Mo)	\$9.63	\$8.02	\$7.82	\$7.85
		1" METERS (\$/Mo)	\$33.68	\$32.55	\$33.27	\$33.36
		1 1/2" METERS (\$/Mo)	\$53.79	\$55.41	\$60.04	\$60.21
		2" METERS (\$/Mo)	\$138.56	\$132.17	\$129.98	\$130.34
		3" METERS (\$/Mo)	\$398.81	\$364.57	\$336.77	\$337.69
		4" METERS (\$/Mo)	\$747.66	\$629.13	\$485.09	\$486.42
		6" METERS (\$/Mo)	\$752.83	\$631.66	\$464.13	\$465.40

The remaining portion of revenue is collected through volumetric rates.

Table O4

CITY VOLUME REVENUE REQUIREMENT	DESCRIPTION		2020	2021	2022	2023
	REVENUE REQUIREMENT	TOTAL REVENUE REQUIREMENT (\$)	\$1,800,408.97	\$1,748,771.92	\$1,820,395.94	\$1,903,445.40
		CITY TOTAL BASE REVENUE (\$)	\$662,138.88	\$697,534.68	\$764,012.52	\$781,028.40
		VOLUME REVENUE REQUIREMENT (\$)	\$1,138,270.09	\$1,051,237.24	\$1,056,383.42	\$1,122,417.00
		TOTAL CITY USE (K gal/Yr.)	238,001	233,461	226,005	226,005
		VOLUME RATE REQUIREMENT (\$/K gal)	\$4.78	\$4.50	\$4.67	\$4.97
	RESIDENTIAL VOL REVENUE	FLAT RATE – VOLUME PORTION (\$)	\$12,855.70	\$11,671.36	\$11,666.70	\$12,395.98
		5/8" METERS (\$)	\$283,016.76	\$284,646.95	\$301,174.79	\$320,000.96
		3/4" METERS (\$)	\$9,890.47	\$8,510.37	\$9,095.91	\$9,664.49
	COMMERCIAL VOL REVENUE	FLAT RATE – VOLUME PORTION (\$)	\$918.26	\$864.55	\$897.44	\$953.54
		5/8" METERS (\$)	\$48,309.32	\$42,560.83	\$43,254.67	\$45,958.48
		3/4" METERS (\$)	\$4,988.28	\$4,498.34	\$3,706.61	\$3,938.31
		1" METERS (\$)	\$54,000.65	\$50,737.99	\$53,243.35	\$56,571.55
		1 1/2" METERS (\$)	\$41,407.99	\$41,241.50	\$44,254.94	\$47,021.28
		2" METERS (\$)	\$120,665.69	\$138,516.33	\$157,967.89	\$167,842.33
		3" METERS (\$)	\$7,676.12	\$6,461.57	\$5,529.53	\$5,875.18
		6" METERS (\$)	\$22,301.39	\$17,232.36	\$12,835.24	\$13,637.56
	INDUSTRIAL VOL REVENUE	5/8" METERS (\$)	\$2,003.92	\$2,143.35	\$2,991.46	\$3,178.46
		1" METERS (\$)	\$7,566.12	\$7,420.68	\$7,581.49	\$8,055.40
		1 1/2" METERS (\$)	\$2,788.27	\$3,237.54	\$2,790.47	\$2,964.90
		2" METERS (\$)	\$961.31	\$0.00	\$0.00	\$0.00
		3" METERS (\$)	\$107,546.94	\$103,218.57	\$83,349.61	\$88,559.72
	INSTITUTIONAL VOL REVENUE	FLAT RATE – VOLUME PORTION (\$)	\$918.26	\$864.55	\$897.44	\$953.54
		5/8" METERS (\$)	\$12,549.61	\$12,229.71	\$12,279.02	\$13,046.57
		3/4" METERS (\$)	\$3,084.79	\$778.99	\$612.31	\$650.59
		1" METERS (\$)	\$66,124.61	\$55,492.98	\$56,945.29	\$60,504.88
		1 1/2" METERS (\$)	\$21,139.21	\$15,985.08	\$22,693.04	\$24,111.57
		2" METERS (\$)	\$108,235.64	\$92,249.66	\$75,674.64	\$80,405.00
		3" METERS (\$)	\$132,875.74	\$99,184.03	\$106,697.04	\$113,366.58
		4" METERS (\$)	\$66,445.04	\$51,489.96	\$40,244.51	\$42,760.16
		6" METERS (\$)	\$0.00	\$0.00	\$0.00	\$0.00
	CITY TOTAL VOLUME REVENUE REQUIREMENT (\$)		\$1,138,270.09	\$1,051,237.24	\$1,056,383.42	\$1,122,417.00

Table O5

CITY TOTAL RATE REVENUE REQUIREMENT	DESCRIPTION		2020	2021	2022	2023
	TOTAL RATE REVENUE BY CLASS (\$)	RESIDENTIAL TOTAL RATE REVENUE (\$)	\$456,739.01	\$465,583.08	\$506,086.41	\$541,141.43
		COMMERCIAL TOTAL RATE REVENUE (\$)	\$501,890.13	\$525,760.34	\$564,280.60	\$585,095.81
		INDUSTRIAL TOTAL RATE REVENUE (\$)	\$145,382.56	\$140,845.26	\$124,682.99	\$131,018.48
		INSTITUTIONAL TOTAL RATE REVENUE (\$)	\$696,397.27	\$616,583.24	\$625,345.93	\$646,189.68
	CITY TOTAL RATE REVENUE REQUIREMENT (\$)		\$1,800,408.97	\$1,748,771.92	\$1,820,395.94	\$1,903,445.40
	TOTAL RATE REVENUE BY CLASS (%)	RESIDENTIAL TOTAL RATE REVENUE (%)	25.4%	26.6%	27.8%	28.4%
		COMMERCIAL TOTAL RATE REVENUE (%)	27.9%	30.1%	31.0%	30.7%
		INDUSTRIAL TOTAL RATE REVENUE (%)	8.1%	8.1%	6.8%	6.9%
		INSTITUTIONAL TOTAL RATE REVENUE (%)	38.7%	35.3%	34.4%	33.9%
	CITY TOTAL RATE REVENUE REQUIREMENT (%)		100.0%	100.0%	100.0%	100.0%
	VOLUME REVENUE % OF TOTAL REVENUE		63.2%	60.1%	58.0%	59.8%
	TOTAL RATE REVENUE BY METER SIZE (\$)	FLAT RATE REVENUE (\$)	\$17,599.11	\$16,402.49	\$16,791.58	\$17,903.05
		5/8" METER REVENUE (\$)	\$516,084.61	\$523,252.69	\$567,935.94	\$607,304.47
		3/4" METER REVENUE (\$)	\$27,324.39	\$23,563.97	\$23,973.16	\$25,437.39
		1" METER REVENUE (\$)	\$202,924.65	\$188,147.65	\$196,628.36	\$203,314.23
		1 1/2" METER REVENUE (\$)	\$116,508.39	\$107,374.52	\$118,596.22	\$118,701.75
		2" METER REVENUE (\$)	\$417,881.52	\$447,749.02	\$472,174.34	\$490,905.32
		3" METER REVENUE (\$)	\$369,101.63	\$331,636.06	\$329,166.42	\$344,511.47
		4" METER CHARGE (\$)	\$110,683.28	\$93,413.16	\$82,294.67	\$81,730.16
		6" METER CHARGE (\$)	\$22,301.39	\$17,232.36	\$12,835.24	\$13,637.56
	CITY TOTAL RATE REVENUE (\$)		\$1,800,408.97	\$1,748,771.92	\$1,820,395.94	\$1,903,445.40
	TOTAL RATE REVENUE BY METER SIZE (%)	FLAT RATE REVENUE (%)	1.0%	0.9%	0.9%	0.9%
		5/8" METER REVENUE (%)	28.7%	29.9%	31.2%	31.9%
		3/4" METER REVENUE (%)	1.5%	1.3%	1.3%	1.3%
		1" METER REVENUE (%)	11.3%	10.8%	10.8%	10.7%
		1 1/2" METER REVENUE (%)	6.5%	6.1%	6.5%	6.2%
		2" METER REVENUE (%)	23.2%	25.6%	25.9%	25.8%
		3" METER REVENUE (%)	20.5%	19.0%	18.1%	18.1%
		4" METER CHARGE (%)	6.1%	5.3%	4.5%	4.3%
		6" METER CHARGE (%)	1.2%	1.0%	0.7%	0.7%
	CITY TOTAL RATE REVENUE (%)		100.0%	100.0%	100.0%	100.0%
	CITY BASE RATE % OF TOTAL RATE		36.8%	39.9%	42.0%	40.2%
	CITY VARIABLE RATE % OF TOTAL RATE		63.2%	60.1%	58.0%	59.8%
	BALANCE	CITY TOTAL REVENUE REQUIREMENT (\$)	\$1,800,408.97	\$1,748,771.92	\$1,820,395.94	\$1,903,445.40
		CITY RATE REVENUE – REVENUE REQUIREMENT	\$0.00	\$0.00	\$0.00	\$0.00
		CITY EXCESS REVENUE (%)	0.0%	0.0%	0.0%	0.0%

Table 07

BR TWP REVENUE REQUIREMENT (\$)	DESCRIPTION		2020	2021	2022	2023
	BR TWP COST DETAILS (\$)	TOTAL BR TWP COLLECTION SYSTEM O&M COST	150,264.13	182,958.07	100,107.34	108,521.11
		TOTAL BR TWP COLLECTION SYSTEM BOND COST	20,200.00	0.00	0.00	0.00
		TOTAL BR TWP CAPITAL RESERVE COST	41,322.64	50,313.47	27,529.52	29,843.31
		TOTAL BR TWP COL SYS REPLACEMENT COST	55,353.78	56,801.18	55,734.51	55,734.51
		BR TWP WWTP O&M COST SHARE	127,342.84	131,263.60	153,024.61	171,620.41
		BR TWP CITY COL SYS O&M COST SHARE	29,580.05	29,395.14	31,784.03	28,638.17
		BR TWP CITY ADMIN COST SHARE	5,663.25	5,838.84	6,477.05	7,018.51
		BR TWP WWTP BOND COST SHARE	67,132.49	67,410.12	72,291.86	77,178.59
		BR TWP WWTP REPLACEMENT COST SHARE	35,019.02	22,332.36	25,609.15	38,631.74
	BR TWP EXCLUSIVE COST (\$)		\$267,140.55	\$290,072.72	\$183,371.37	\$194,098.93
	BR TWP SHARED COSTS (\$)		\$264,737.65	\$256,240.06	\$289,186.69	\$323,087.43
	BR TWP REVENUE REQUIREMENT (\$)		\$531,878.19	\$546,312.78	\$472,558.06	\$517,186.35
	TOTAL BR TWP USE (K gal/Yr.)		56,465	53,024	54,196	59,188
	BR Twp Unit Cost		\$9.42	\$10.30	\$8.72	\$8.74
BR TWP FIXED COSTS	BR TWP FIXED COST (%)	TOTAL BR TWP COLLECTION SYSTEM O&M COST	20%	20%	20%	20%
		TOTAL BR TWP COLLECTION SYSTEM BOND COST	100%	100%	100%	100%
		TOTAL BR TWP CAPITAL RESERVE COST	20%	20%	20%	20%
		TOTAL BR TWP COL SYS REPLACEMENT COST	0%	0%	0%	0%
		BR TWP WWTP O&M COST SHARE	0%	0%	0%	0%
		BR TWP CITY COL SYS O&M COST SHARE	0%	0%	0%	0%
		BR TWP CITY ADMIN COST SHARE	0%	0%	0%	0%
		BR TWP WWTP BOND COST SHARE	0%	0%	0%	0%
		BR TWP WWTP REPLACEMENT COST SHARE	0%	0%	0%	0%
	BR TWP FIXED COST (\$)	TOTAL BR TWP COLLECTION SYSTEM O&M COST	30,052.83	36,591.61	20,021.47	21,704.22
		TOTAL BR TWP COLLECTION SYSTEM BOND COST	20,200.00	0.00	0.00	0.00
		TOTAL BR TWP CAPITAL RESERVE COST	8,264.53	10,062.69	5,505.90	5,968.66
		TOTAL BR TWP COL SYS REPLACEMENT COST	0.00	0.00	0.00	0.00
		BR TWP WWTP O&M COST SHARE	0.00	0.00	0.00	0.00
		BR TWP CITY COL SYS O&M COST SHARE	0.00	0.00	0.00	0.00
		BR TWP CITY ADMIN COST SHARE	0.00	0.00	0.00	0.00
		BR TWP WWTP BOND COST SHARE	0.00	0.00	0.00	0.00
		BR TWP WWTP REPLACEMENT COST SHARE	0.00	0.00	0.00	0.00
	BR TWP EXCLUSIVE FIXED COST (\$)		\$58,517.35	\$46,654.31	\$25,527.37	\$27,672.88
	BR TWP SHARED FIXED COST (\$)		\$0.00	\$0.00	\$0.00	\$0.00
	BR TWP FIXED COST (\$)		\$58,517.35	\$46,654.31	\$25,527.37	\$27,672.88
	BR TWP TOTAL REU's		1238	1239	1242	1251
	BR Twp Base Rate		\$3.94	\$3.14	\$1.71	\$1.84
	BR Twp Exclusive Base Rate (\$)		\$3.94	\$3.14	\$1.71	\$1.84
	BR Twp Shared Base Rate (\$)		\$0.00	\$0.00	\$0.00	\$0.00

Table O8

BR TWP VARIABLE COSTS	DESCRIPTION		2020	2021	2022	2023
	BR TWP VARIABLE COST (%)	TOTAL BR TWP COLLECTION SYSTEM O&M COST	80%	80%	80%	80%
		TOTAL BR TWP COLLECTION SYSTEM BOND COST	0%	0%	0%	0%
		TOTAL BR TWP CAPITAL RESERVE COST	80%	80%	80%	80%
		TOTAL BR TWP COL SYS REPLACEMENT COST	100%	100%	100%	100%
		BR TWP WWTP O&M COST SHARE	100%	100%	100%	100%
		BR TWP CITY COL SYS O&M COST SHARE	100%	100%	100%	100%
		BR TWP CITY ADMIN COST SHARE	100%	100%	100%	100%
		BR TWP WWTP BOND COST SHARE	100%	100%	100%	100%
		BR TWP WWTP REPLACEMENT COST SHARE	100%	100%	100%	100%
	BR TWP VARIABLE COST (\$)	TOTAL BR TWP COLLECTION SYSTEM O&M COST	120,211.30	146,366.46	80,085.87	86,816.89
		TOTAL BR TWP COLLECTION SYSTEM BOND COST	0.00	0.00	0.00	0.00
		TOTAL BR TWP CAPITAL RESERVE COST	33,058.11	40,250.78	22,023.61	23,874.64
		TOTAL BR TWP COL SYS REPLACEMENT COST	55,353.78	55,734.51	55,734.51	55,734.51
		BR TWP WWTP O&M COST SHARE	127,342.84	131,263.60	153,024.61	171,620.41
		BR TWP CITY COL SYS O&M COST SHARE	29,580.05	29,395.14	31,784.03	28,638.17
		BR TWP CITY ADMIN COST SHARE	5,663.25	5,838.84	6,477.05	7,018.51
		BR TWP WWTP BOND COST SHARE	67,132.49	67,410.12	72,291.86	77,178.59
		BR TWP WWTP REPLACEMENT COST SHARE	35,019.02	25,609.15	25,609.15	38,631.74
	BR TWP EXCLUSIVE VARIABLE COST (\$)		\$208,623.19	\$242,351.75	\$157,844.00	\$166,426.05
	BR TWP SHARED VARIABLE COST (\$)		\$264,737.65	\$259,516.85	\$289,186.69	\$323,087.43
	BR TWP VARIABLE COST (\$)		\$473,360.84	\$501,868.60	\$447,030.69	\$489,513.47
	TOTAL BR TWP USE (K gal/Yr.)		56,465	53,024	54,196	59,188
	BR Twp Variable Rate		\$8.38	\$9.46	\$8.25	\$8.27
	BR Twp Exclusive Variable Rate		\$3.69	\$4.57	\$2.91	\$2.81
	BR Twp Shared Variable Rate		\$4.69	\$4.89	\$5.34	\$5.46

Table O9

BR TWP RATE REVENUE	DESCRIPTION		2020	2021	2022	2023
	BR TWP FLAT RATE		31.69	\$35.08	\$29.55	\$29.76
	BR TWP BASE REVENUE (\$)	FLAT RATE – BASE PORTION (\$)	\$756.28	\$602.48	\$328.86	\$353.93
		RESIDENTIAL BASE REVENUE (\$)	\$1,654.37	\$1,355.57	\$801.58	\$906.95
		COMMERCIAL BASE REVENUE (\$)	\$26,091.74	\$20,785.45	\$11,345.50	\$12,210.58
		INSTITUTIONAL BASE REVENUE (\$)	\$29,920.42	\$23,835.49	\$13,010.33	\$14,157.19
		BR TWP BASE REVENUE (\$)	\$58,422.82	\$46,579.00	\$25,486.26	\$27,628.64
	BR TWP VOLUME REVENUE (\$)	FLAT RATE – VOLUME PORTION (\$)	\$5,328.73	\$6,133.28	\$5,344.97	\$5,359.27
		RESIDENTIAL VOLUME REVENUE (\$)	\$8,798.99	\$11,916.35	\$10,549.71	\$12,471.89
		COMMERCIAL VOLUME REVENUE (\$)	\$223,009.15	\$249,429.37	\$226,097.10	\$204,735.86
		INSTITUTIONAL VOLUME REVENUE (\$)	\$227,194.83	\$234,389.60	\$205,038.91	\$266,946.45
		BR TWP VOLUME REVENUE (\$/Mo)	\$464,331.70	\$501,868.60	\$447,030.69	\$489,513.47
	BR TWP TOTAL RATE REVENUE (\$)	FLAT RATE REVENUE (\$)	\$6,085.02	\$6,735.75	\$5,673.82	\$5,713.20
		RESIDENTIAL REVENUE (\$)	\$10,453.36	\$13,271.92	\$11,351.30	\$13,378.84
		COMMERCIAL REVENUE (\$)	\$249,100.89	\$270,214.83	\$237,442.59	\$216,946.43
		INSTITUTIONAL REVENUE (\$)	\$257,115.26	\$258,225.09	\$218,049.24	\$281,103.64
		BR TWP TOTAL RATE REVENUE (\$)	\$522,754.52	\$548,447.59	\$472,516.95	\$517,142.11
	BR TWP TOTAL RATE REVENUE (%)	FLAT RATE REVENUE (%)	1.2%	1.2%	1.2%	1.1%
		RESIDENTIAL REVENUE (%)	2.0%	2.4%	2.4%	2.6%
		COMMERCIAL REVENUE (%)	47.7%	49.3%	50.3%	42.0%
		INSTITUTIONAL REVENUE (%)	49.2%	47.1%	46.1%	54.3%
		BR TWP TOTAL RATE REVENUE (%)	100.0%	100.0%	100.0%	100.0%
	BR TWP BASE RATE % OF TOTAL RATE		11.2%	8.5%	5.4%	5.3%
	BR TWP VARIABLE RATE % OF TOTAL RATE		88.8%	91.5%	94.6%	94.7%
	BALANCE	BR TWP REVENUE REQUIREMENT (\$)	\$522,849.05	\$548,522.90	\$472,558.06	\$517,142.11
		BR TWP RATE REVENUE – REVENUE REQUIREMENT	(94.54)	(\$75.31)	(\$41.11)	(\$44.24)
		BR TWP EXCESS REVENUE (%)	0.0%	0.0%	0.0%	0.0%

Table O10

GN TWP USERS & USE	DESCRIPTION		2020	2021	2022	2023
	GN TWP USERS	GN Twp Residential Unmetered Users	228	229	230	230
		GN Twp Commercial Users	13	13	13	14
		GN Twp Institutional Users	1	1	1	1
		GN TWP TOTAL USERS	242	243	244	245
	GN TWP REU's	GN Twp Residential REU's	239	240	241	241
		GN Twp Commercial REU's	19	19	19	21
		GN Twp Institutional REU's	1	1	1	1
		GN TWP TOTAL REU's	259	260	261	263
	GN TWP USE	GREEN TWP RESIDENTIAL USE (K gal/Yr.) (Est)	11,256	10,896	9,983	9,771
		GREEN TWP COMMERCIAL USE (K gal/Yr.) (Est)	895	863	787	851
		GREEN TWP INSTITUTIONAL USE (K gal/Yr.) (Est)	47	45	41	41
		GN TWP METERED USE (K gal/yr.)	12,198	11,804	10,811	10,663
GN TWP REVENUE REQUIREMENT (\$)	DESCRIPTION		2020	2021	2022	2023
	GN TWP COST DETAILS (\$)	TOTAL GN TWP COLLECTION SYSTEM O&M COST	\$55,916.87	\$44,073.33	\$39,031.64	\$47,028.38
		TOTAL GN TWP COL SYS REPLACEMENT COST	\$1,586.57	\$1,586.57	\$1,586.57	\$1,586.57
		GN TWP WWTP O&M COST SHARE	\$26,591.23	\$26,859.80	\$29,388.84	\$29,712.87
		GN TWP CITY COL SYS O&M COST SHARE	\$7,056.39	\$6,713.26	\$6,773.43	\$5,717.13
		GN TWP CITY ADMIN COST SHARE	\$1,182.58	\$1,194.77	\$1,243.94	\$1,215.12
		GN TWP WWTP BOND COST SHARE	\$14,018.34	\$13,793.79	\$13,883.87	\$13,362.03
		GN TWP WWTP REPLACEMENT COST SHARE	\$4,918.32	\$4,569.76	\$4,918.32	\$6,688.36
	GN TWP EXCLUSIVE COST (\$)		\$57,503.44	\$45,659.90	\$40,618.21	\$48,614.95
	GN TWP SHARED COST (\$)		\$53,766.86	\$55,239.78	\$57,975.03	\$56,695.53
	GN TWP REVENUE REQUIREMENT (\$)		\$111,270.30	\$100,899.67	\$98,593.23	\$105,310.47
	GN TWP METERED USE (K gal/yr.)		12,198	11,804	10,811	10,663
	GN Twp Unit Cost		\$9.12	\$8.55	\$9.12	\$9.88
GN TWP FIXED COSTS	GN TWP FIXED COST (%)	TOTAL GN TWP COLLECTION SYSTEM O&M COST	0%	0%	0%	0%
		TOTAL GN TWP COL SYS REPLACEMENT COST	0%	0%	0%	0%
		GN TWP WWTP O&M COST SHARE	0%	0%	0%	0%
		GN TWP CITY COL SYS O&M COST SHARE	0%	0%	0%	0%
		GN TWP CITY ADMIN COST SHARE	0%	0%	0%	0%
		GN TWP WWTP BOND COST SHARE	0%	0%	0%	0%
		GN TWP WWTP REPLACEMENT COST SHARE	0%	0%	0%	0%
	GN TWP FIXED COST (\$)	TOTAL GN TWP COLLECTION SYSTEM O&M COST	0.00	0.00	0.00	0.00
		TOTAL GN TWP COL SYS REPLACEMENT COST	0.00	0.00	0.00	0.00
		GN TWP WWTP O&M COST SHARE	0.00	0.00	0.00	0.00
		GN TWP CITY COL SYS O&M COST SHARE	0.00	0.00	0.00	0.00
		GN TWP CITY ADMIN COST SHARE	0.00	0.00	0.00	0.00
		GN TWP WWTP BOND COST SHARE	0.00	0.00	0.00	0.00
		GN TWP WWTP REPLACEMENT COST SHARE	0.00	0.00	0.00	0.00
	GN TWP EXCLUSIVE FIXED COST (\$)		\$0.00	\$0.00	\$0.00	\$0.00
	GN TWP SHARED FIXED COST (\$)		\$0.00	\$0.00	\$0.00	\$0.00
	GN TWP FIXED COST (\$)		\$0.00	\$0.00	\$0.00	\$0.00
	GN TWP TOTAL REU's		259	260	261	263
	GN Twp Base Rate		\$0.00	\$0.00	\$0.00	\$0.00
	GN Twp Exclusive Base Rate (\$)		\$0.00	\$0.00	\$0.00	\$0.00
	GN Twp Shared Base Rate (\$)		\$0.00	\$0.00	\$0.00	\$0.00

Table O11

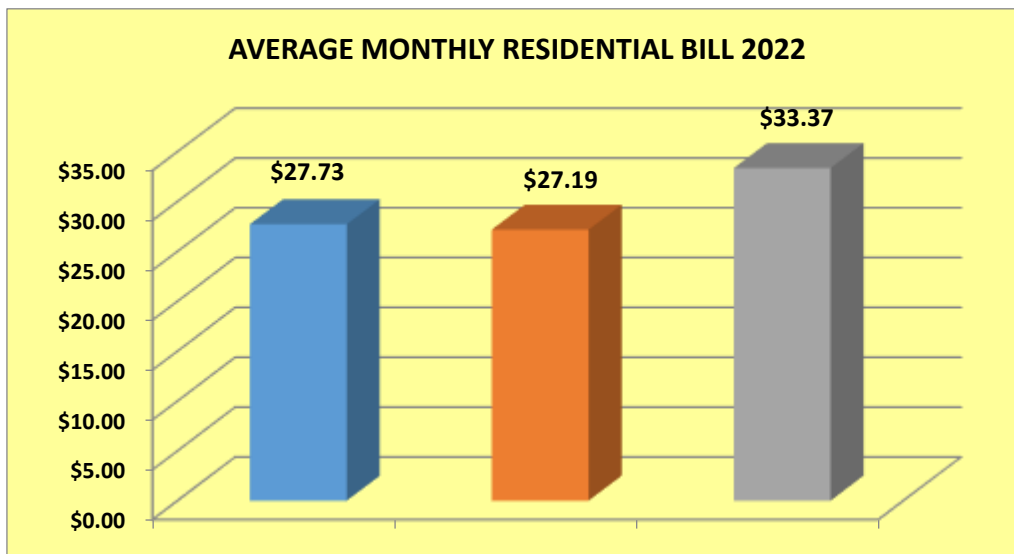
GN TWP RATE REVENUE	DESCRIPTION		2020	2021	2022	2023
	GN TWP FLAT RATE		\$36.57	\$32.34	\$31.48	\$33.37
	GN TWP QUARTERLY BILL		\$109.71	\$97.02	\$94.44	\$100.11
	GN TWP BASE REVENUE	FLAT RATE - BASE PORTION (\$)				
		RESIDENTIAL BASE REVENUE (\$)				
		COMMERCIAL BASE REVENUE (\$)				
		INSTITUTIONAL BASE REVENUE (\$)				
		GN TWP BASE REVENUE (\$)	\$0.00	\$0.00	\$0.00	\$0.00
	GN TWP VOLUME REVENUE	FLAT RATE - VOLUME PORTION (\$)				
		RESIDENTIAL VOLUME REVENUE (\$)	104,887.34	93,138.16	91,038.20	96,501.23
		COMMERCIAL VOLUME REVENUE (\$)	8,338.32	7,373.44	7,177.29	8,408.82
		INSTITUTIONAL VOLUME REVENUE (\$)	438.86	388.08	377.75	400.42
		GN TWP VOLUME REVENUE (\$/Mo)	\$113,664.52	\$100,899.67	\$98,593.23	\$105,310.47
	GN TWP TOTAL RATE REVENUE (\$)	FLAT RATE REVENUE (\$)				
		RESIDENTIAL REVENUE (\$)	104,887.34	93,138.16	91,038.20	96,501.23
		COMMERCIAL REVENUE (\$)	8,338.32	7,373.44	7,177.29	8,408.82
		INSTITUTIONAL REVENUE (\$)	381.02	388.08	377.75	400.42
		GN TWP RATE REVENUE (\$)	\$113,664.52	\$100,899.67	\$98,593.23	\$105,310.47
	GN TWP TOTAL RATE REVENUE (%)	RESIDENTIAL REVENUE (%)	92.3%	92.3%	92.3%	91.6%
		COMMERCIAL REVENUE (%)	7.3%	7.3%	7.3%	8.0%
		INSTITUTIONAL REVENUE (%)	0.4%	0.4%	0.4%	0.4%
		GN TWP TOTAL RATE REVENUE (%)	100.0%	100.0%	100.0%	100.0%
		GN TWP BASE RATE % OF TOTAL RATE	0.0%	0.0%	0.0%	0.0%
	GN TWP VARIABLE RATE % OF TOTAL RATE		100.0%	100.0%	100.0%	100.0%
	BALANCE	GN TWP EXCLUSIVE COST (\$)	\$40,610.70	\$45,659.90	\$40,618.21	\$48,614.95
		GN TWP RATE REVENUE - REVENUE REQUIREMENT	\$0.00	\$0.00	\$0.00	\$0.00
		GN TWP EXCESS REVENUE (%)	0.0%	0.0%	0.0%	0.0%

P. BILL IMPACTS

Table P shows the impact of the rates on various customer classes for various use quantities. Figure P shows the average monthly residential bill for each of the contributing jurisdictions.

Table P

RATES	CITY	Average Residential Use (K gal/Mo)	3.1	3.3	3.4	3.3
		Base Rate (\$/Mo)	\$7.57	\$8.07	\$9.25	\$10.00
		Variable Rate (\$/K gal)	\$7.00	\$7.00	\$7.25	\$7.67
	BR TWP	Average Residential Use (K gal/Mo)	2.5	2.9	2.7	3.1
		Base Rate (\$/Mo)	\$8.00	\$3.14	\$1.71	\$3.40
		Variable Rate (\$/K gal)	\$3.76	\$9.42	\$8.25	\$9.93
	GN TWP	Flat Rate	\$36.57	\$31.66	\$30.92	\$33.62
MONTHLY BILL IMPACTS	DESCRIPTION		2020	2021	2022	2023
	CITY RESIDENTIAL	2000 Gallons	\$17.48	\$17.69	\$18.99	\$19.73
		Average	\$23.80	\$24.98	\$27.35	\$27.73
		4000 Gallons	\$28.74	\$28.71	\$31.04	\$32.51
		6000 Gallons	\$39.99	\$39.73	\$43.09	\$45.28
		8000 Gallons	\$51.25	\$50.75	\$55.14	\$58.06
	BR TWP RESIDENTIAL	2000 Gallons	\$20.71	\$21.98	\$18.21	\$18.38
		Average	\$25.30	\$30.60	\$24.25	\$27.19
		4000 Gallons	\$37.47	\$40.83	\$34.71	\$34.93
		6000 Gallons	\$54.24	\$59.68	\$51.20	\$51.47
		8000 Gallons	\$71.01	\$78.52	\$67.70	\$68.01
	GN TWP RESIDENTIAL	2000 Gallons	\$36.57	\$31.66	\$30.92	\$33.37
		4000 Gallons	\$36.57	\$31.66	\$30.92	\$33.37
		Average	\$36.57	\$31.66	\$30.92	\$33.37
		6000 Gallons	\$36.57	\$31.66	\$30.92	\$33.37
		8000 Gallons	\$36.57	\$31.66	\$30.92	\$33.37



Q. SURCHARGES

The domestic background wastewater strength for the Big Rapids wastewater treatment plant is:

Table Q1

DOMESTIC BACKGROUND WASTEWATER STRENGTH	
POLLUTANT	CONCENTRATION (mg/l)
Ammonia	44
Biochemical Oxygen Demand (BOD)	272
Total Suspended Solids (TSS)	185
Phosphorus (P)	7
Fats, Oils, Grease (FOG)	90
Domestic Background values are based on domestic sampling from 2022, with the exception of the domestic FOG value, which is based on typical medium strength domestic wastewater (Metcalf & Eddy, 4 th edition).	

The proportionate cost of OM&R surcharges at the Big Rapids wastewater treatment plant is as follows:

Table Q2

OM&R SURCHARGE COST PORTIONING		
POLLUTANT	PORTION OF OM&R (%)	OM&R COST (K \$)
Flow	20%	\$227.65
Ammonia	18%	\$204.88
Biochemical Oxygen Demand (BOD)	27%	\$307.33
Total Suspended Solids (TSS)	21%	\$239.03
Phosphorus (P)	10%	\$113.82
Fats, Oils, Grease (FOG)	4%	\$45.52
TOTAL WWTP OM&R COST	100%	\$1,138.23

Table Q3

SURCHARGE CALCULATION				
POLLUTANT	Flow (MGD)	mg/l	lbs./day	COST/lb.
Ammonia	0.830	24	163	\$3.44
Biochemical Oxygen Demand (BOD)		227	1,571	\$0.54
Total Suspended Solids (TSS)		214	1,481	\$0.44
Phosphorus (P)		5.4	37	\$8.43
Fats, Oils, Grease (FOG)		43	298	\$0.42

AFTERWORD

As stated in our report, a spreadsheet method has been utilized in documenting the various cost components with the operation of the Wastewater Treatment Plant. The various costs have been identified to the city's accounting method and the shared cost between the parties determined. A narrative has been presented to inform the customers on how and where the monies collected for the service has been spent. Also, a comparative dialog has been established to show service cost between the three communities.

The recently restated contract serves as the basis of these efforts and we believe are better tracked through this process than before. The committee used two different styles of spreadsheet mathematics and found them in agreement and verifiable.

The User Charge Report is very close in achieving an accurate status of shared charges due to the cohesiveness of the Committee.

Committee members will oversee the next user charge review starting July 2023 with final report by January 1, 2024.

Accepted by:

Mayor Fred Guenther
City of Big Rapids

Supervisor Bill Stanek
Big Rapids Charter Township

Supervisor Jim Chapman
Green Charter Township

Appendix A

2009 ACT 94 WASTEWATER SRF BOND AMORTIZATION							
YR	DATE	Principle	Interest	Debt Service	Annual Debt Service	Disbursements	Balance
2009	05/07			\$0.00	\$16,057.77	\$590,859.00	\$590,859.00
	05/21			\$0.00		\$339,306.00	\$930,165.00
	06/18			\$0.00		\$714,066.00	\$1,644,231.00
	07/23			\$0.00		\$418,963.00	\$2,063,194.00
	08/20			\$0.00		\$387,952.00	\$2,451,146.00
	09/24			\$0.00		\$619,164.00	\$3,070,310.00
	10/01		\$16,057.77	\$16,057.77		\$0.00	\$3,070,310.00
	12/10			\$0.00		\$1,333,303.00	\$4,403,613.00
2010	01/07			\$0.00	\$132,235.71	\$341,580.00	\$4,745,193.00
	02/04			\$0.00		\$285,647.00	\$5,030,840.00
	03/04			\$0.00		\$206,162.00	\$5,237,002.00
	03/25			\$0.00		\$213,066.00	\$5,450,068.00
	04/01		\$53,185.23	\$53,185.23		\$0.00	\$5,450,068.00
	05/06			\$0.00		\$513,082.00	\$5,963,150.00
	06/24			\$0.00		\$657,369.00	\$6,620,519.00
	07/22			\$0.00		\$277,579.00	\$6,898,098.00
	08/26			\$0.00		\$248,199.00	\$7,146,297.00
	09/23			\$0.00		\$339,479.00	\$7,485,776.00
	10/01		\$79,050.48	\$79,050.48		\$0.00	\$7,485,776.00
	10/21			\$0.00		\$420,355.00	\$7,906,131.00
	12/02			\$0.00		\$58,869.00	\$7,965,000.00
2011	04/01		\$98,917.90	\$98,917.90	\$508,480.40	\$0.00	\$7,965,000.00
	10/01	\$310,000.00	\$99,562.50	\$409,562.50			\$7,655,000.00
2012	04/01		\$95,687.50	\$95,687.50	\$511,375.00		\$7,655,000.00
	10/01	\$320,000.00	\$95,687.50	\$415,687.50			\$7,335,000.00
2013	04/01		\$91,687.50	\$91,687.50	\$508,375.00		\$7,335,000.00
	10/01	\$325,000.00	\$91,687.50	\$416,687.50			\$7,010,000.00
2014	04/01		\$87,625.00	\$87,625.00	\$510,250.00		\$7,010,000.00
	10/01	\$335,000.00	\$87,625.00	\$422,625.00			\$6,675,000.00
2015	04/01		\$83,437.50	\$83,437.50	\$511,875.00		\$6,675,000.00
	10/01	\$345,000.00	\$83,437.50	\$428,437.50			\$6,330,000.00
2016	04/01		\$79,125.00	\$79,125.00	\$513,250.00		\$6,330,000.00
	10/01	\$355,000.00	\$79,125.00	\$434,125.00			\$5,975,000.00
2017	04/01		\$74,687.50	\$74,687.50	\$509,375.00		\$5,975,000.00
	10/01	\$360,000.00	\$74,687.50	\$434,687.50			\$5,615,000.00
2018	04/01		\$70,187.50	\$70,187.50	\$510,375.00		\$5,615,000.00
	10/01	\$370,000.00	\$70,187.50	\$440,187.50			\$5,245,000.00
2019	04/01		\$65,562.50	\$65,562.50	\$511,125.00		\$5,245,000.00
	10/01	\$380,000.00	\$65,562.50	\$445,562.50			\$4,865,000.00
2020	04/01		\$60,812.50	\$60,812.50	\$511,625.00		\$4,865,000.00
	10/01	\$390,000.00	\$60,812.50	\$450,812.50			\$4,475,000.00
2021	04/01		\$55,937.50	\$55,937.50	\$511,875.00		\$4,475,000.00
	10/01	\$400,000.00	\$55,937.50	\$455,937.50			\$4,075,000.00
2022	04/01		\$50,937.50	\$50,937.50	\$511,875.00		\$4,075,000.00
	10/01	\$410,000.00	\$50,937.50	\$460,937.50			\$3,665,000.00
2023	04/01		\$45,812.50	\$45,812.50	\$511,625.00		\$3,665,000.00
	10/01	\$420,000.00	\$45,812.50	\$465,812.50			\$3,245,000.00
2024	04/01		\$40,562.50	\$40,562.50	\$511,125.00		\$3,245,000.00
	10/01	\$430,000.00	\$40,562.50	\$470,562.50			\$2,815,000.00
2025	04/01		\$35,187.50	\$35,187.50	\$510,375.00		\$2,815,000.00
	10/01	\$440,000.00	\$35,187.50	\$475,187.50			\$2,375,000.00
2026	04/01		\$29,687.50	\$29,687.50	\$509,375.00		\$2,375,000.00
	10/01	\$450,000.00	\$29,687.50	\$479,687.50			\$1,925,000.00
2027	04/01		\$24,062.50	\$24,062.50	\$513,125.00		\$1,925,000.00
	10/01	\$465,000.00	\$24,062.50	\$489,062.50			\$1,460,000.00
2028	04/01		\$18,250.00	\$18,250.00	\$511,500.00		\$1,460,000.00
	10/01	\$475,000.00	\$18,250.00	\$493,250.00			\$985,000.00
2029	04/01		\$12,312.50	\$12,312.50	\$509,625.00		\$985,000.00
	10/01	\$485,000.00	\$12,312.50	\$497,312.50			\$500,000.00
2030	04/01		\$6,250.00	\$6,250.00	\$512,500.00		\$500,000.00
	10/01	\$500,000.00	\$6,250.00	\$506,250.00			\$0.00
TOTAL		\$7,965,000.00	\$2,402,398.88	\$10,367,398.88	\$10,367,398.88	\$7,965,000.00	

