

CITY OF MONTEREY PARK

SEWER SYSTEM FINANCIAL EVALUATION AND SEWER RATE RECOMMENDATIONS



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September 17, 2012

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1. INTRODUCTION

Background

The City of Monterey Park's (City) sewer system serves the most of the areas within its corporate boundaries. The City provides sewer service to a population of approximately 61,000. The existing sewer collection system consists of about 665,000 feet (126 miles) of gravity sewers ranging in size from 6-inches to 15-inches in diameter, and 2,498 manholes. Some of the City areas drain directly into Los Angeles County Sanitation District trunk sewers that cross the City. A City area along the south side of the I-10 Freeway drains north across the Freeway to the City of Alhambra's Pump Station No.3.

The State Water Resources Control Board adopted the Statewide General Waste Discharge Requirements (WDR) on May 2, 2006. Provision 9 of the WDR states:

*The Enrollee shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, **by establishing a proper rate structure**, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures must be in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.*

Provision 11 of WDR sets the requirement for the preparation of a Sewer System Management Plan:

11. The enrollee shall develop and implement a written Sewer System Management Plan (SSMP) and make it available to the State and/or Regional Water Board upon request. A copy of this document must be publicly available at the Enrollee's office and/or available on the internet. This SSMP must be approved by the Enrollee's governing board at a public meeting.

The essential elements of the SSMP are detailed in Provision 13 of the Order, and listed below:

- Goal (WDR Section D.13i)
- Organization (WDR Section D.13ii)
- Legal Authority (WDR Section D.13iii)
- Operation and Maintenance Program (WDR Section D.13iv)
- Design and Performance Provisions (WDR Section D.13v)
- Overflow Emergency Response Plan (WDR Section D.13vi)
- Fats, Oil and Grease Control Program (WDR Section D.13vii)
- System Evaluation and Capacity Assurance Plan (WDR Section D.13viii)
- Monitoring and Program Modifications (WDR Section D.13ix)
- Program Audits (WDR Section D.13x)
- Communications Program (WDR Section D.13xi)

Requirements for the Operation and Maintenance Program include:

- (a) *Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities.*
- (b) *Describe **routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas.** The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.*
- (c) *Develop a **rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency.** The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. **Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects.** Finally, **the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.***
- (d) *Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained.*
- (e) *Provide equipment and replacement part inventories, including identification of critical replacement parts.*

Requirements for SECAP include:

*Capacity Enhancement Measures: The steps needed to establish a short- and long-term capital improvement plan (CIP) to address identified hydraulic deficiencies including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. **The CIP shall include an implementation schedule and shall identify sources of funding.***

The City of Monterey Park prepared a SSMP in 2009. The capital improvement program for the City's system was formulated based on the 1996 Sewer Master Plan. The SSMP document included recommendations for pipe replacements due to capacity problems; preparing a complete map of the system; updating of the sewer master plan (SECAP); preparing a Fats, Oils, and Grease Program; CCTV inspection of the system; updating the Emergency Overflow Response Plan; staff training; and implementing an asset management plan and a computerized maintenance management system, with a total cost of \$4.8 million (2009 value). It does not comprehensively cover a rehabilitation and replacement plan for addressing the problems with an aging system, as well as existing structural deficiencies. Given the system's age and number of spills, it is estimated that the rehabilitation and replacement plan for the City's system would be approximately \$1 million per year. The actual program will need to be refined based on CCTV inspection and condition evaluation of the system.

The sewer system experienced 10 spills in 2011, which corresponds to 7.93 spills per 100 miles of pipe. This is 2.65 times as high as the maximum number of spills (3) per 100 miles of pipe for a proper system. Not addressing this problem promptly may subject the City to significant fines by the California Regional Water Quality Control Board.

2. FINANCIAL EVALUATION AND RECOMMENDED SEWER CHARGES

The City currently has a sewer service charge, which is \$0.0810 per 100 cubic feet of water used. The average water bill for a single family residential customer is \$0.97 per month. It generates approximately \$300,000 annually. The budgeted expenditures totaled \$239,000 for Fiscal Year 2011-2012, with an estimated fund balance of \$661,000 at the end of June 2012.

The existing rate structure does not generate adequate revenues to comply with the WDRs. This study develops proper level of expenditures based on existing information, provides recommendations for proper operation and maintenance of the wastewater collection system meeting the requirements of the regulations, and implementing the needed capital improvement program.

Expenditures

The operating and maintenance expenditures of the sewer system should include personnel costs (salaries and benefits), administrative support, use of City facilities, regular cleaning of the system, supplies and materials, insurance, CCTV inspection and condition assessment of the system, root treatment, staff training, regulatory compliance, SSMP audit, SSMP update, and establishing an operating reserve. The SSMP update should cover all elements, including the SECAP and Operation and Maintenance Program. The needed capital improvement expenditures and rates can be updated when these two elements are updated.

The total expenditure for fiscal year 2012-2013 is estimated to be \$2,405,000, including \$1,205,000 for operation and maintenance, and 1,200,000 for capital improvements. These expenditures, detailed in Table 1, will increase due to increases in material and labor costs in the future.

Revenues

The revenues of the Sewer Fund are proposed to fully support the operation and maintenance of the system, comply with regulatory requirements, construct the anticipated capital improvements, and build reserves to respond to emergencies. It is recommended that the revenues be generated through a Sewer Charge based upon sewage generation utilizing the minimum billing period water use by water meter size. The sewage generation by the customers with 5/8-inch and 3/4-inch meters (excluding irrigation meters) is calculated to be 6.57 hundred cubic feet (227 gallons per day), and is considered be the equivalent residential unit (ERU). ERU's for other water meter sizes are then based upon the ratio of their wastewater flows to that of the equivalent residential unit. The sewer system customers within the City's service area and the development of the ERUs are shown in Table 2.

Table 1	
FY 2012-2013 Expected Expenditures	
OPERATION AND MAINTENANCE	
Salaries and Benefits	\$250,000
CCTV Inspection	\$183,000
Condition Assessment	\$90,000
Root Treatment	\$150,000
Staff Training	\$24,000
Regulatory Compliance	\$50,000
SSMP Audit	
SSMP Update	\$300,000
Supples & Materials	\$24,000
Insurance	\$24,000
Facilities	\$50,000
Operating Reserve	\$80,000
Subtotal- Operation and Maintenance	\$1,225,000
CAPITAL IMPROVEMENTS	
Rehabilitation & Replacement	\$1,000,000
CIP Reserve	\$200,000
Subtotal-Capital Improvements	\$1,200,000
TOTAL EXPENDITURES	\$2,425,000

The sewer charges needed to support a total 2012-2013 fiscal year expenditure of \$2,425,000 are shown in Table 3. The sewer charges should be increased annually by the increase in the Engineering News Record Construction Cost Index for the Los Angeles Area (ENRLA) for the next 5 years. The charges should remain the same when there is no increase or there is a decrease in ENRLA. The charges should be updated at the end of 5 years or earlier based on better information that may be available, such as completion of updated SECAP and Operation and Maintenance Program. Table 4 shows the detailed expenditures, fund balances, and sewer charges for 5/8-inch and 3/4-inch meters for the next five years based on 3 percent per year increase in ENRLA. This program builds a total fund balance of \$2.27 million in five years, which can be used to respond to emergencies.

Table 2 Equivalent Dwelling Units				
Customer Type and Meter Size	Flow (GPD)	EDU	No. of Meters	Total EDU's
Commercial				
3/4	605	2.66	231	615
1	920	4.00	193	772
1 1/4	422	4.00	5	20
1 1/2	1,750	7.71	162	1,249
2	4,440	19.56	143	2,797
3	6,039	26.61	13	346
4	8,628	38.01	11	418
6	23,477	103.44	4	414
Institutional				
3/4	1,033	4.55	1	5
2	1,528	6.73	4	27
3	1,635	7.21	1	7
4	3,755	16.54	3	50
Lifeline				
	207	0.91	388	354
Multi Family				
3/4	648	2.85	389	1,110
1	776	3.42	524	1,791
1 1/4	1,277	5.63	9	51
1 1/2	1,877	8.27	378	3,127
2	3,597	15.85	151	2,393
3	9,215	40.60	8	325
4	11,922	52.53	10	525
Single Family				
5/8 & 3/4	227	1.00	8119	8,119
1	277	1.22	1415	1,727
1 1/2 & 2	350	1.26	26	33
Total				26,273

Table 3 Monthly Sewer Rates			
Customer Type and Meter Size	No. of Meters	EDU	Monthly Sewer Rate
Commercial			
3/4	231	2.66	\$20.49
1	193	4.00	\$30.76
1 1/4	5	4.00	\$30.76
1 1/2	162	7.71	\$59.29
2	143	19.56	\$150.45
3	13	26.61	\$204.67
4	11	38.01	\$292.39
6	4	103.44	\$795.62
Institutional			
3/4	1	4.55	\$35.00
2	4	6.73	\$51.78
3	1	7.21	\$55.42
4	3	16.54	\$127.24
Lifeline			
	388	0.91	\$7.01
Multi Family			
3/4	389	2.85	\$21.94
1	524	3.42	\$26.29
1 1/4	9	5.63	\$43.29
1 1/2	378	8.27	\$63.63
2	151	15.85	\$121.90
3	8	40.60	\$312.30
4	10	52.53	\$404.01
Single Family			
5/8 & 3/4	8,119	1.00	\$7.69
1	1,415	1.22	\$9.39
1 1/2 & 2	26	1.26	\$9.72

Table 4
Estimated Expenditures, Fund Balances and 5/8" & 3/4" SFR Monthly Sewer Charges
Based on 3% Annual Increase in ENRLA

EXPENDITURES	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
OPERATION AND MAINTENANCE					
Salaries and Benefits	\$250,000	\$257,500	\$265,225	\$273,182	\$281,377
CCTV Inspection	\$183,000	\$188,490	\$194,145	\$199,969	\$205,968
Condition Assessment	\$90,000	\$92,700	\$95,481	\$98,345	\$101,296
Root Treatment	\$150,000	\$154,500	\$159,135	\$163,909	\$168,826
Staff Training	\$24,000	\$24,720	\$25,462	\$26,225	\$27,012
Regulatory Compliance	\$50,000	\$51,500	\$53,045	\$54,636	\$56,275
SSMP Audit				\$218	\$0
SSMP Update	\$300,000	\$300,000	\$0	\$0	\$0
Supples & Materials	\$24,000	\$24,720	\$25,462	\$26,225	\$27,012
Insurance	\$24,000	\$24,720	\$25,462	\$26,225	\$27,012
Facilities	\$50,000	\$51,500	\$53,045	\$54,636	\$56,275
Operating Reserve	\$80,000	\$82,400	\$84,872	\$87,418	\$90,041
Subtotal- Operation and Maintenance	\$1,225,000	\$1,252,750	\$981,333	\$1,010,990	\$1,041,096
CAPITAL IMPROVEMENTS					
Repair, Replacement, Rehab	\$1,000,000	\$1,030,000	\$1,260,000	\$1,297,800	\$1,336,734
CIP Reserve	\$200,000	\$206,000	\$252,000	\$259,560	\$267,347
Subtotal-Capital Improvements	\$1,200,000	\$1,236,000	\$1,512,000	\$1,557,360	\$1,604,081
TOTAL EXPENDITURES	\$2,425,000	\$2,488,750	\$2,493,333	\$2,568,350	\$2,645,176
FUND BALANCE	\$941,000	\$1,229,400	\$1,566,272	\$1,913,250	\$2,270,638
5/8 & 3/4-INCH SFR MONTHLY SEWER CHARGE	\$7.69	\$7.89	\$7.91	\$8.15	\$8.39

Comparison with Other Agency Average Monthly Bills and Recommendations

Table 5 and Figure 1 show the proposed monthly sewer bills for single family residential customers with 5/8" and 3/4" meters in comparison to the current monthly bills of five other agencies. While no two systems are exactly alike due to facility age, material, construction practices, soil conditions, and maintenance practices, this table indicates the funding needed for nine agencies to properly operate and maintain their systems. The recommended sewer charges will allow the implementation of the estimated CIP and maintain the system in good condition. It is near the low end of the five agencies surveyed, and should be adopted.

Table 5 Average Monthly Sewer Bill Comparison for SFR Customers with 5/8" and 3/4" Meters	
Agency	Average Monthly Sewer Bill
Alhambra	\$11.93
South Pasadena	\$10.38
Azusa	\$11.18
Downey	\$7.08
Whittier	\$7.06
Monterey Park (Existing)	\$1.86
Monterey Park (Proposed)	\$7.69

