



Scenic Pacifica

Incorporated Nov. 22, 1957

CITY OF PACIFICA

170 Santa Maria Avenue • Pacifica, California 94044-2506
www.cityofpacifica.org

MAYOR
Sue Digre

MAYOR PRO TEM
Mike O’Neill

COUNCIL
Karen Ervin
Mary Ann Nihart
John Keener

3/12/16

Bruce H. Wolfe, Executive Officer
California Regional Water Quality Control Board, San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
ATTN: Mary Boyd

Dear Mr. Wolfe,

Subject: SSMP Audit and Annual Report of Sanitary Sewer System Overflows for Calendar Year 2015

The purpose of this letter is to report on the calendar year 2015 Sanitary Sewer System Overflows (SSOs) that occurred in the City of Pacifica sanitary sewer system during the period January 1, 2015 through December 31, 2015 and provide an audit of the Sewer System Management Plan (SSMP) for the same period. This report is submitted pursuant to the requirements included in the San Francisco Bay Regional Water Quality Control Board Letter, New Requirements for Reporting Sanitary Sewer Overflows, dated November 15, 2004 and the Statewide General WDR dated May 2, 2006.

Number and Size of SSOs

The total number of SSOs for the reporting period was one. There were zero SSOs related to wet-weather during this period. The sizes of SSOs are summarized as shown on Table 1.

Table 1. Number of SSOs

Size of SSO (gallons)	Number	Percent of Total by Number
Greater than or equal to 1,000	0	0%
From 100 to 999	0	0%
From 10 to 99	0	0%
Less than 10 [can include in line above]	1	100%
[Public portion of lateral (<i>also included in above lines</i>)]		
Total	1	100%

The volume of spills contained and returned to the sanitary sewer system, as well as the volume reaching waters of the State is shown in Table 2.

Table 2. Volume of SSOs

	Volume (gallons)	Percent of Total by Volume
Total volume contained and returned to sewer system for treatment	1	100%
Total volume reaching waters of the State	0	0%
Total volume not contained but not reaching waters of the State (everything else)		
Total	1	100%

2015 seen a decrease in total SSOs to the lowest ever recorded, zero release of raw wastewater into waters of the State, and the lowest volume of raw wastewater overflow ever recorded.

This report does not include SSOs that occurred from private sewer service laterals within the City of Pacifica jurisdiction that were caused by conditions in privately-owned laterals or on private property. On January 1, 2012 the City Council passed a new ordinance that, among other provisions, removed any responsibility for the maintenance or repairs of any part of a sewer service lateral regardless of the location of a cleanout. The property owners are responsible for the condition and the operation of the sewer service lateral from the structure to the sewer main line in the public right-of-way.

Cause of SSOs

The following table presents the causes of the SSOs during the period of this report and of the previous five years. The distribution of SSOs by cause is shown on Table 3.

Table 3. Causes of SSOs

Year	Total SSOs	Roots	F.O.G.	Debris	Vandalism	Pipe Failure	Capacity	Pump Station Failure	Other
2010	20	12		5	1		1		
2011	14	9		4	1				
2012	5	5							
2013	7	2		4		1			
2014	9	3	1	1			4		
2015	1	1							

Location of SSOs

The SSO that occurred in the City of Pacifica was located within an easement and escaped through a cleanout located in a private backyard.

SSO Trends

The number of SSOs from a mainline in the City of Pacifica during 2015 was a decrease from 2014. This is the lowest number of SSOs ever recorded in Pacifica.

Table 4. Mainline SSOs

Mainline SSOs	Year	2010	2011	2012	2013	2014	2015
	Annual Number	15	5	5	7	9	1

Under Part VI of the City's Consent Decree the SSO Reduction Performance Goal for 2015 was 11 and we were ten SSOs under our goal. The goal of the Wastewater Division is to have less than 8 SSOs during a calendar year and we were seven SSOs under that goal.

Sewer System Management Plan (SSMP)

No changes were made to the SSMP in 2015. To view the current version of the SSMP go to:

http://www.cityofpacific.org/depts/wwt/waste_water_collection/sanitarymp.asp

SSMP Audit

Goals

The goals for the Collections Division of the Wastewater Department are outlined below along with a sub-bullet describing whether it was accomplished:

1. Operate the collection system in accordance with state and federal law to minimize maintenance-related backups/overflows and to reduce wet weather inflow/infiltration
 - a. Accomplished
2. Locate points of inflow and infiltration through flow measurement/television inspection and develop improvement programs for problem areas
 - a. Accomplished
 - i. Performed CCTV activities throughout the year
 - ii. During wet-weather events we performed visual inspection of areas with known infiltration
3. Continue implementation and refinement of the CMMS and GIS map
 - a. Accomplished
4. Maintain sewer evaluation television system to comply with state regulations
 - a. Accomplished

5. Continue implementing the Long Range Sanitary Sewer Capital Plan (LRSS-CIP)
 - a. Accomplished
6. Reduce sanitary sewer overflows (SSO) to under 8
 - a. Accomplished – one SSO in calendar 2015
7. Continue to implement and evaluate chemical root control program
 - a. Accomplished – 13,549 linear feet of sewer mains were chemically treated in calendar 2015.
8. Perform at least 90 miles of line cleaning activities
 - a. Accomplished – Over 110 miles were cleaned
9. Perform at least 15 miles of CCTV inspection and assessment activities
 - a. Did not accomplish – 10.5 miles of sewer mains were CCTV'd in calendar year 2015
10. Continue to perform sewer main and manhole repairs identified through line cleaning and CCTV activities
 - a. Accomplished – Over 45 in-house repairs made in 2015
 - b. Accomplished – By contract, replaced approximately 12,000 feet of main sewer pipe in 2015.

Organization

No changes were made to the organizational structure of the Collections Division and no changes were requested.

Legal Authority

No changes were made to our legal authority and no changes were requested. On January 1, 2012 the Pacifica City Council passed an ordinance that, among many things, placed the responsibility for maintaining and upgrading individual building sewer laterals with the property owners and required a condition assessment and potential replacement of the sewer lateral at a transfer of property event, significant structure remodel, addition of drain or fixture, and a change in water services. This was our formal private sewer lateral ordinance. Staff enforced this ordinance through the year and performed over 465 construction inspections of private sewer lateral replacements in 2015 many of which were replaced because of the private sewer lateral ordinance.

Overflow Emergency Response Plans (OERP)

The OERP was updated in 2014 to reflect new changes to State regulations of sanitary sewer overflows and based on some feedback from the Collections staff. DKF Solutions, the consultant that collaborated with us to produce previous OERPs, was hired to work with us in updating our current OERP. This was accomplished in March of 2014 and the crews were retrained based on the updated procedures. The crews received a one week refresher course from Tilson & Associates in September 2015. We successfully used the OERP for the one SSO during the year as well as successfully used it for some private sewer overflows.

The OERPs for the pump stations did not require any changes and none were made. These plans continue to work well for us.

Operations and Maintenance

We have an ongoing sewer system maintenance program in which we use a power rodding truck and a hydro-jet rod truck to clean the system based on a SSO Reduction Plan schedule. A computerized asset

management/maintenance system (CMMS) program was implemented in September of 2011 (ICOM3 by Redzone Robotics) and we are now scheduling our maintenance and repair activities through the program. The SSO Reduction Plan was developed for the Division by RMC Engineering and the information from this plan was incorporated in the CMMS. The data that is aggregated in the CMMS from line cleaning activities and CCTV activities are used to update the scheduled cleaning of the system and schedule any needed repairs. In 2015 Division staff cleaned approximately 110 miles of main lines using a mechanical power rodder (55 miles) and a hydro-jetter (55 miles). The Training Program identifies as performance metrics an average of six set-ups for a workday of power rodding and 10 set-ups with the hydro-jetter. A review of our performance data shows that we averaged in 2015 a little over five set-ups with the power rodder and 9 set-ups with our hydro-jetting units.

The Division has a CCTV in-house inspection program to identify sources of potential SSOs and infiltration and inflow and in 2015 approximately 10.5 miles of sewer mains were televised and inspected. This was 4.5 miles under our goal and the primary reason for failing to meet this goal was due to multiple electrical and mechanical problems with our CCTV vehicle and system. The vehicle and system are aging and we will begin the planning process to replace or upgrade it in 2016-17. An inspection and assessment of our wastewater force mains was completed in 2014 under the project management of Brown and Caldwell. The inspection and assessment showed the various pipe types of the force mains to be in satisfactory condition and the report is available upon request.

The Division has a regular sewer repair crew that performs spot repairs of main lines identified as category four or five defects through CCTV and maintenance activities, and in some cases replaces whole pipe segments of the system. In 2015 the Division performed over 45 repairs and main line replacements with this in-house crew. In addition, contract related repair and installation work of approximately 12,000 linear feet of sewer mains were performed. Altogether, this represents about 2.25 miles of sewer mains replaced in calendar year 2015 in Pacifica which is about 2.34% of our total system.

We continued with our root foaming program using Duke's Root Control, Inc. Approximately 13,549 feet of main lines were identified from our CMMS data and CCTV inspections as having major root intrusion issues and Duke's was contracted to root foam those pipe segments. We performed quality control CCTV activities of most of the pipe segments that were root foamed over the last few years. We observed inhibited root growth in many of the pipe segments and the ones that did not appear to have been inhibited we had Duke's Root Control come back and perform a re-treatment. Approximately 90% of the pipe segments did not require re-treatment and appeared to have the root growth inhibited in a satisfactory manner.

The Division's training program continues to be a success and along with the regular bi-weekly safety training and bi-monthly crew meetings, we had a week long training session with Tilson & Associates (T&A). The significant accomplishment of the training session with T&A was the completion of our customized standard operating procedures (SOPs) for the rod truck, sewer combination cleaner trucks, CCTV vehicle, and emergency response truck.

Design and Construction Standards

No changes were made to our design and construction standards and no changes were requested.

Fats, Oils, and Grease (FOG) Program

Staff continues to administer a FOG and Source Control Program in which we inspect the food establishments and FOG producers in Pacifica approximately once or twice a year. Two full-time source control inspectors

SSMP Audits

This report is the SSMP audit for calendar year 2015.

Communication

No changes were made to our Communication program. In 2015 we had public outreach meetings regarding the equalization basin project.

Certification

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Brian Martinez

Collection System Manager, City of Pacifica

CITY OF PACIFICA
LONG RANGE SANITARY SEWER CAPITAL IMPROVEMENT PLANS - FY 2011-2032
(Updated May 2016)

PROJECTS	BEGIN DATE	DATE COMPLETED/E STIMATED COMPLETION	DURATION	EST. COST
LINDA MAR FLOW EQUALIZATION	Sep-12	Jul-18	4 -5 years	\$ 15,000,000.00
			TOTAL	\$ 15,000,000.00
CAPACITY IMPROVEMENT PROJECTS:				
PALMETTO MAINLINE (MasterPlan Project ID. 9)	Jun-12	Sep-12	3 months	\$ 376,700.00
DESOLO MAINLINE (MasterPlan Project ID. 8)*	Jul-13	Dec-13	6 months	\$ 76,000.00
ARGUELLO MAINLINE (MasterPlan Project ID.7)*	Jul-13	Dec-13	6 months	\$ 240,000.00
MILAGRA MAINLINE (MasterPlan Project ID.10)	Feb-16	Apr-16	1 month	\$ 48,000.00
AVALON MAINLINE (Master Plan Project ID.11)	Feb-16	Apr-16	1 month	\$ 10,000.00
MANOR MAINLINE (Master Plan Project ID. 12)	Not Needed/already at correct size			\$ -
SAN PEDRO MAINLINE (Master Plan Project ID.6)*	Jul-16	Jun-17	12 months	\$ 282,000.00
LINDA MAR MAINLINE (Master Plan Project ID.5)*	To be re-evaluated & modeled			\$ -
PERALTA RD MAINLINE (Master Plan Project ID.4)*	Feb-15	Jul-15	4 months	\$ 45,000.00
ODDSTAD MAINLINE (Master Plan Project ID. 1)*	Jul-17	Jun-18	12 months	\$ 281,000.00
TERRA NOVA MAINLINE (Master Plan Project IDs. 2 &3)*	Jul-17	Jun-18	12 months	\$ 299,000.00
LINDA MAR PUMP STATION 4th PUMP (Master Plan Project ID.13B)	Jul-17	Jun-18	12 months	\$ 200,000.00
			TOTAL	\$ 1,857,700.00
REHAB AND REPLACEMENT PROJECTS:				
FY 2012 - 14 (North side of Lower Linda Mar)	Jul-13	Jun-14	12 months	\$ 1,736,556.00
FY 2014 - 15 (South side of Lower Linda Mar)	Feb-15	Jul-15	4 months	\$ 1,200,000.00
FY 2016 - 17 (Pedro Point)	Jul-16	Jun-17	12 months	\$ 1,400,000.00
FY 2017 - 18 (Southeast side of Lower Linda Mar)	Jul-17	Jun-18	12 months	\$ 1,500,000.00
FY 2019 - 22 (@ \$1,200,000/FY) (Locations to be determined)	Feb-18		12 months/FY	\$ 3,600,000.00
FY 2022 - 32 (@ \$1,200,000/FY) (Locations to be determined)	Feb-23		12 months/FY	\$ 11,800,000.00
			TOTAL	\$ 21,236,556.00
OTHER COLLECTION SYSTEM PROJECTS NOT INCLUDED IN THE MASTERPLAN:				
MAINLINE REPLACEMENT AT AVALON AND EDGEMAR	Jan-11	Mar-11	2 months	\$ 104,980.00
SANITARY SEWER IMPROVEMENTS AT BOWER ROAD	Nov-11	Mar-12	3 months	\$ 175,370.00
LINDA MAR GENERATOR REHABILITATION (CONSTRUCTION PHASE)	Jun-14	Jun-15	4 months	\$ 583,974.00
PALMETTO AVE FORCEMAIN IMPROVEMENT	Feb-14	Jun-16	18 months	\$ 500,000.00
COLLECTION SYSTEM PROJECT FY 2016-17	Jul-16	Jun-17	12 months	\$ 280,000.00
RELOCATION OF MAINLINE AT SHARP PARK PUMP STATION#	TBD			\$ 400,000.00
RELOCATION OF SHARP PARK FORCEMAIN#	TBD			\$ 400,000.00
			TOTAL	\$ 2,444,324.00
NOTES:				\$ 2,444,324.00
* Capacity Improvement Projects will be included with the Rehab and Replacement Project for that Fiscal Year				GRAND TOTAL \$ 40,538,580.00
# Schedule of Project will be dependent on the Redevelopment of the Beach Boulevard Property				

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Equalization Basin Project

PROJECT NO.: C030

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Pacifica Skate Park Parking Lot and streets of Linda Mar Blvd, Arguello, Anza and Balboa

PROJECT DESCRIPTION: The Collection System Master Plan completed in October 2011 concluded that a flow equalization basin constructed in the vicinity of the Linda Mar Station would eliminate the need for a major capacity increase for Linda Mar Pump Station and parallel force main, and to limit the flow pumped to the CCWRP during peak wet weather flow conditions. The equalization basin will be an underground storage basin with gravity inflow and pumped discharge. The underground basin would allow existing above-ground uses to remain, minimizing aesthetic impacts and disruption to community activities.

PURPOSE BENEFIT: To increase collection system capacity.

PROJECT STATUS: Active

STARTING DATES: 2013 **DURATION:** June 2018

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design	577	595	30				1,202
Project Management	70	170					240
Construction		2,500	10,000				12,500
Construction Management		100	670				770
Miscellaneous	60	85	105				250
TOTAL	707	3,450	10,805				14,962

NOTES:

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Collection System Capacity Improvement Projects

PROJECT NO.: C029

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Pacifica Citywide

PROJECT DESCRIPTION: The Collection System Master Plan completed in October 2011 assessed the existing collection sewer system and identified mainlines in twelve areas around the City that have capacity deficiencies. This CIP will upgrade existing pipes to the appropriate size recommended by the Master Plan. Under this CIP, capacity improvements will include and it will also upgrade the Linda Mar Pump Station by installing another pump. Please refer to the Master Plan for more details

PURPOSE BENEFIT: Increases the capacity and integrity of the mainlines and the Linda Mar Pump Station

PROJECT STATUS: Active

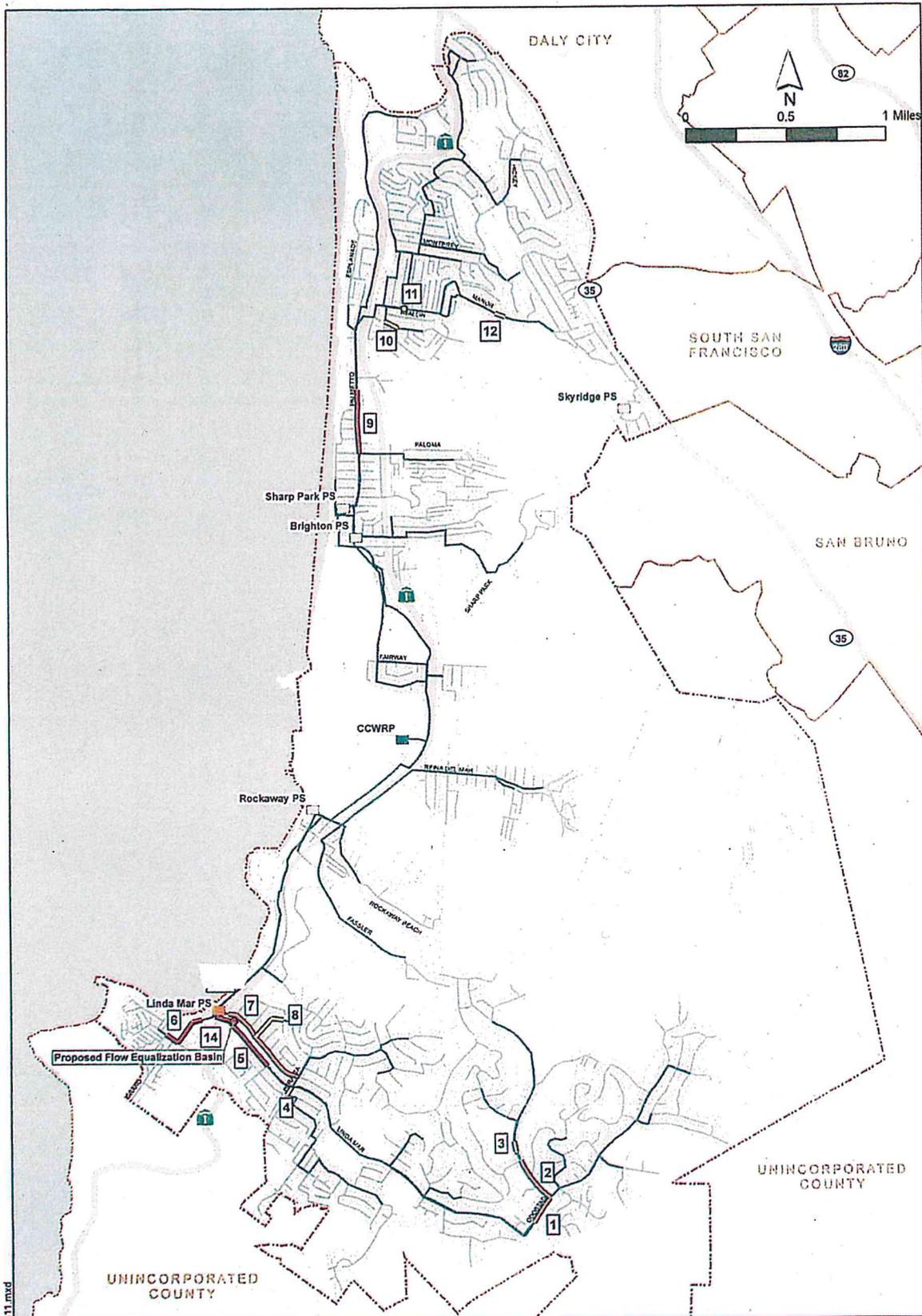
STARTING DATES: 2011 **DURATION:** June 2018

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design	0	31	90				121
Construction Management	0						
Construction	377	251	628				1,256
Equipment Purchase							
Miscellaneous							
TOTAL	377	282	718				1,377

NOTES:

CAPACITY IMPROVEMENT PROJECTS



G:\GIS\SystemMap_11x17_040111.mxd

- | | |
|--------------------------|-----------------------------|
| Relative Priority | — Modeled Sewers |
| — High | — Unmodeled Sewers |
| — Medium | - - - Pacifica City Limits |
| — Low | - - - Other City Boundaries |
| 1 Project ID | |


City of Pacifica
 Collection System Master Plan
 Recommended Capacity Improvement CIP
 **Figure 5-1**

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Collection System Rehabilitation and Replacement Projects

PROJECT NO.: C031

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Pacifica Citywide

PROJECT DESCRIPTION: The Collection System Master Plan completed in October 2011 concluded that substantial reductions in I/I can only be achieved by a comprehensive rehabilitation or replacement of the sewer pipes. This CIP will rehabilitate, replace or repair existing pipes as recommended by the Master Plan. Please refer to the Master Plan for more details.

PURPOSE BENEFIT: Reduce I/I and improve structural integrity of the pipelines.

PROJECT STATUS: Active

STARTING DATES:	2012	DURATION:	2032
------------------------	------	------------------	------

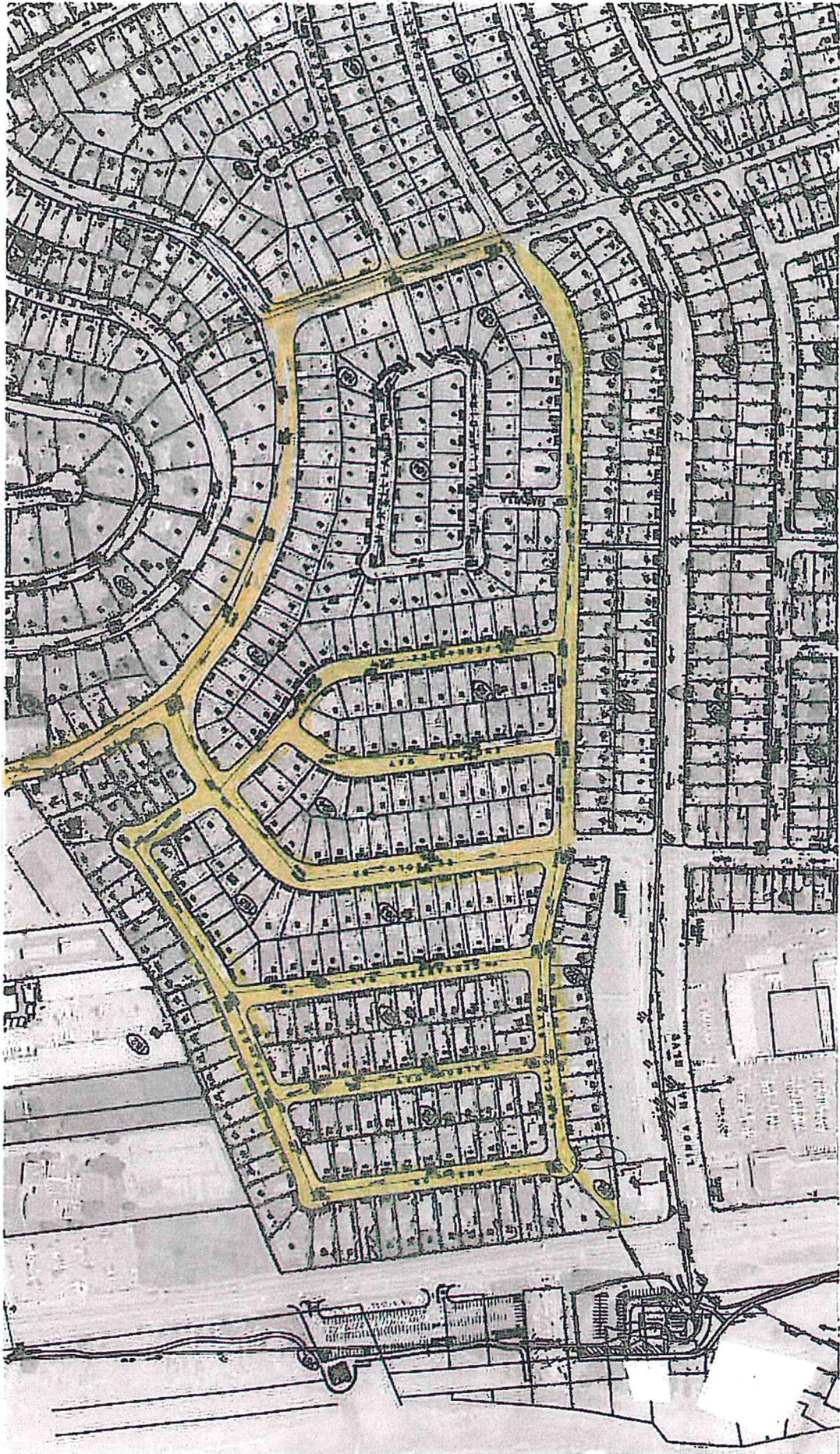
CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design	100	100	100	150	150	150	750
Construction Management		90	40	40	40	40	250
Construction	1,949	1,200	1,350	1,000	1,000	1,000	7,499
Equipment Purchase							
Miscellaneous	20	10	10	10	10	10	70
TOTAL	2,069	1,400	1,500	1,200	1,200	1,200	8,569

NOTES:

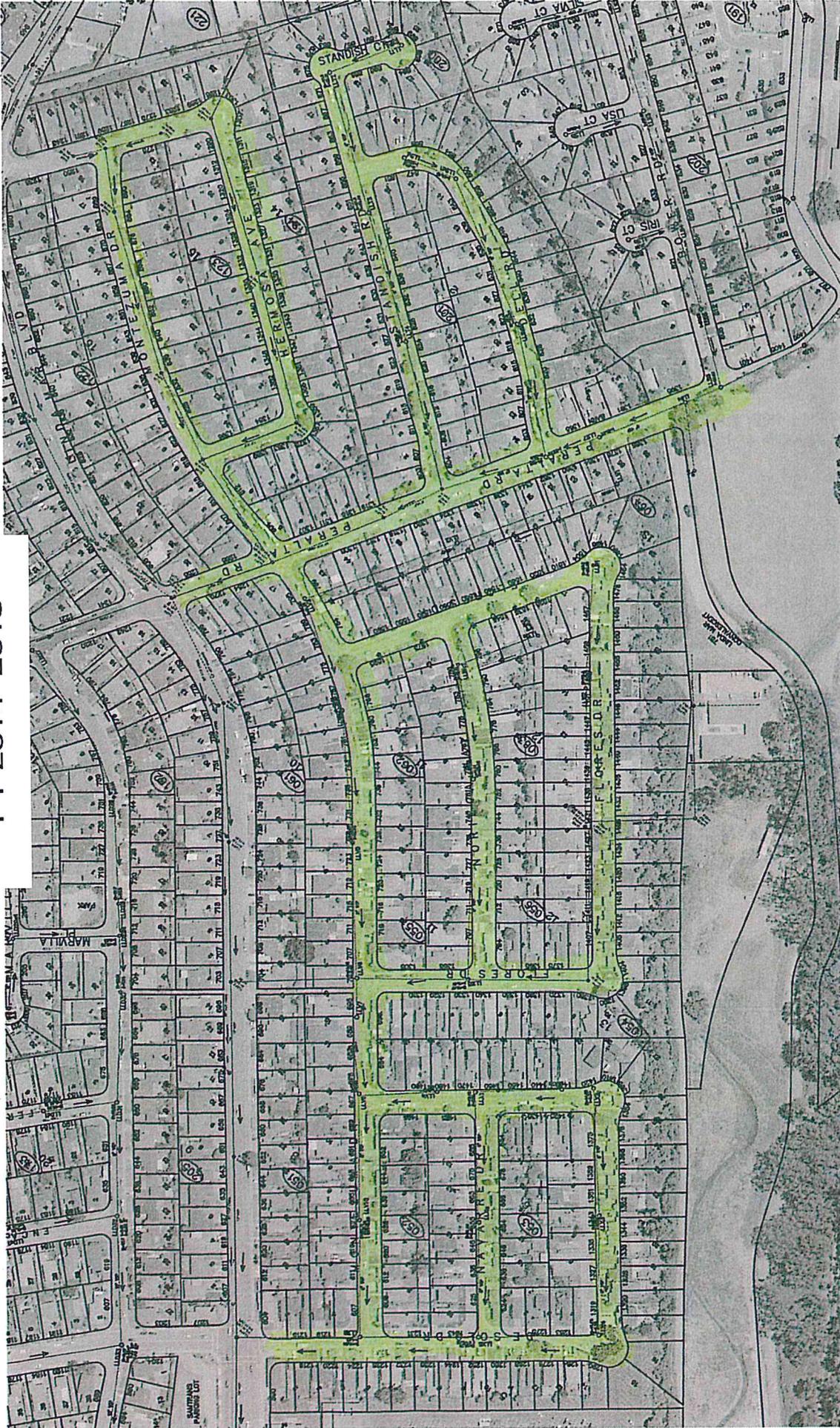
REHAB & REPLACEMENT PROJECTS

FY 2012-2014



REHAB & REPLACEMENT PROJECTS

FY 2014-2015



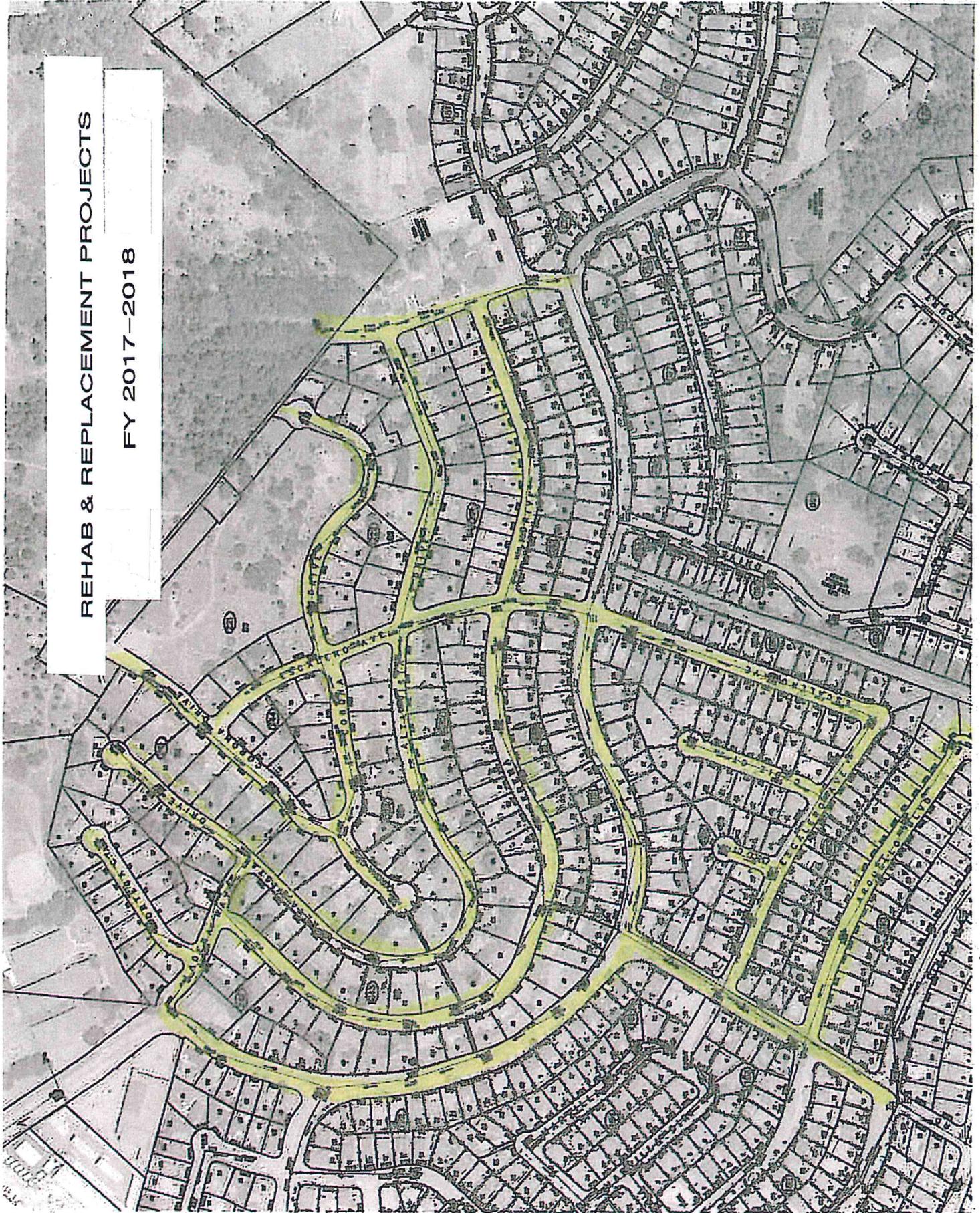
REHAB & REPLACEMENT PROJECTS

FY 2016-2017



REHAB & REPLACEMENT PROJECTS

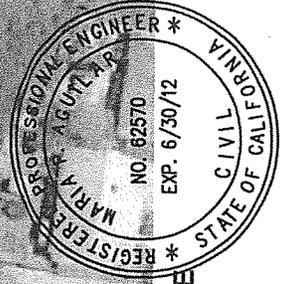
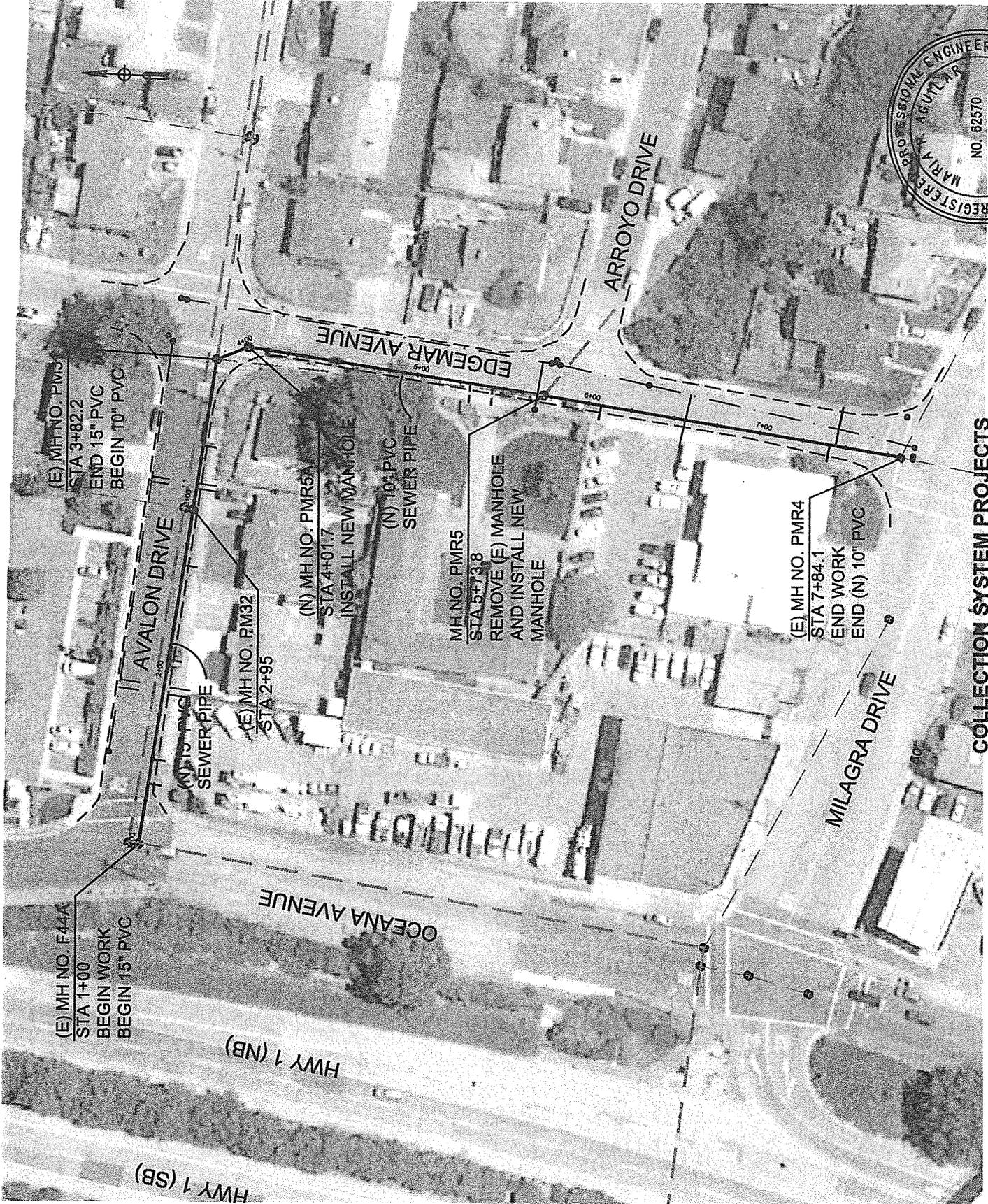
FY 2017-2018



REHAB & REPLACEMENT PROJECTS

FY 2018-2019





COLLECTION SYSTEM PROJECTS
SS MAINLINE REPLACEMENT AT AVALON DRIVE AND EDMGAR AVENUE

(E) MH NO. PM5
 STA 3+82.2
 END 15" PVC
 BEGIN 10" PVC

(N) MH NO. PMR5A
 STA 4+01.7
 INSTALL NEW MANHOLE

MH NO. PMR5
 STA 5+73.8
 REMOVE (E) MANHOLE
 AND INSTALL NEW
 MANHOLE

(E) MH NO. PMR4
 STA 7+84.1
 END WORK
 END (N) 10" PVC

(E) MH NO. F44A
 STA 1+00
 BEGIN WORK
 BEGIN 15" PVC

HWY 1 (SB)

HWY 1 (NB)

AVALON DRIVE

OCEANA AVENUE

EDGMAR AVENUE

ARROYO DRIVE

MILAGRA DRIVE

SEWER PIPE

(N) 10" PVC
 SEWER PIPE

CITY OF PACIFICA CAPITAL IMPROVEMENT PROGRAM

Project Name: Linda Mar Generator Rehabilitation **Project No.:** C017

Fund: Enterprise Wastewater Construction Fund **Dept. /Mgr.:** Wastewater/Martinez

PROJECT DESCRIPTION	GENERAL LOCATION
<p>Purchase and install new 1000kW Standby Generator and upgrade electrical system at the Linda Mar pump station. In Addition, upgrade the existing electrical system and mechanical system at Linda Mar Pump Station.</p>	
PURPOSE/BENEFIT	
<p>To increase emergency power for upgrading sewer pumping capacity.</p>	

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Palmetto Avenue Forcemain Improvement

PROJECT NO.: C005A

FUND: Enterprise Wastewater Construction Fund 34

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Palmetto Avenue

PROJECT DESCRIPTION: One of the projects under the Collection System Projects, which include installation of new 8 or 10 inch forcemain from Sharp Park Pump Station to Brighton Pump Station along Palmetto Avenue. New forcemain will run parallel with the existing 8-inch forcemain. Existing 8-inch forcemain will become a back-up forcemain.

PURPOSE BENEFIT: Increases the capacity of the forcemain and will add redundancy by having two parallel force mains.

PROJECT STATUS: Will be completed

STARTING DATES:	2014	DURATION:	June 2016
------------------------	------	------------------	-----------

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design							
Construction Management							
Construction	210						210.0
Equipment Purchase	30						30
Miscellaneous							
TOTAL	240						240.0

NOTES:

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Collection System Project FY2016-17

PROJECT NO.: C005D

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Linda Mar Pump Station, Lockhaven and Genevieve Easements

PROJECT DESCRIPTION: One of the projects under the Collection System Projects, which include the repair of the 30-inch mainline at Linda Mar Pump Station, replacement of sewer mainlines along the Lockhaven and Genevieve easements. This project will be coordinated with the Capacity Improvement Project FY2016-17

PURPOSE BENEFIT: Replace aging sewer mainlines

PROJECT STATUS: NEW

STARTING DATES:	2016	DURATION:	1 Year
------------------------	------	------------------	--------

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design		30					30
Construction Management							
Construction		250					250
Equipment Purchase							
Miscellaneous							
TOTAL		280					280

NOTES:

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Relocation of Sharp Park Forcemain

PROJECT NO.: C005C

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Sharp Park Pump Station

PROJECT DESCRIPTION: One of the projects under the Collection System Projects, which include the relocation of approximately 730 LF of the 20-Inch forcemain at Sharp Park Pump Station to be out of the Council Chamber parking lot and placed along the road. This project will be coordinated with the Redevelopment of the Beach Blvd Property.

PURPOSE BENEFIT: Forcemain will be out of the Beach Blvd Redevelopment property and will be relocated along the road.

PROJECT STATUS: On-Hold

STARTING DATES:	On-Hold	DURATION:	1 Year
------------------------	---------	------------------	--------

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design							
Construction Management							
Construction							
Equipment Purchase							
Miscellaneous							
TOTAL							

NOTES:

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Relocation of Mainline at Sharp Park PS

PROJECT NO.: C005B

FUND: Enterprise Wastewater Construction Fund 34

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Sharp Park Pump Station

PROJECT DESCRIPTION: One of the projects under the Collection System Projects, which include the relocation and replacement of approximately 1,700 LF of the 8-Inch mainline at Sharp Park Pump Station along Beach Blvd from Montecito to Brighton Pump Station. This project will be coordinated with the Redevelopment of the Beach Blvd Property.

PURPOSE BENEFIT: Mainline will be out of the way of the Beach Blvd Redevelopment property.

PROJECT STATUS: On-Hold

STARTING DATES:	On-Hold	DURATION:	1 Year
------------------------	---------	------------------	--------

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design							
Construction Management							
Construction							
Equipment Purchase							
Miscellaneous							
TOTAL							

NOTES:

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Equalization Basin Project

PROJECT NO.: C030

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Pacifica Skate Park Parking Lot and streets of Linda Mar Blvd, Arguello, Anza and Balboa

PROJECT DESCRIPTION: The Collection System Master Plan completed in October 2011 concluded that a flow equalization basin constructed in the vicinity of the Linda Mar Station would eliminate the need for a major capacity increase for Linda Mar Pump Station and parallel force main, and to limit the flow pumped to the CCWRP during peak wet weather flow conditions. The equalization basin will be an underground storage basin with gravity inflow and pumped discharge. The underground basin would allow existing above-ground uses to remain, minimizing aesthetic impacts and disruption to community activities.

PURPOSE BENEFIT: To increase collection system capacity.

PROJECT STATUS: Active

STARTING DATES: 2013 **DURATION:** June 2018

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design	577	595	30				1,202
Project Management	70	170					240
Construction		2,500	10,000				12,500
Construction Management		100	670				770
Miscellaneous	60	85	105				250
TOTAL	707	3,450	10,805				14,962

NOTES:

Capacity Improvement Project 14

PROJECT DESCRIPTION	
Project ID	14
Project Location	Linda Mar Ave across from Linda Mar Shopping Center
Description	2.1 MG Storage Tank
Priority	High
Flow Confirmation Level	Level 1
Estimated Capital Improvement Cost	\$ 20,049,000
Assumptions:	
(i) Basin structure costs based on average estimated costs for several sites in Sausalito. Actual costs and method of construction could vary significantly depending on geotechnical conditions at the site.	
(ii) Basin structure is anticipated to be approximately 70 ft diameter with 100 ft depth.	
(iii) Basin would be filled through a new gravity pipeline from Linda Mar wet well to basin structure.	
(iv) Overflow elevation at Linda Mar Wet Well would be set at -0.5 ft into new manhole to convey excess flow by gravity to storage tank. Elevation of influent gravity trunk entering basin storage would be -2 ft.	
(v) As ground elevation at basin site is at 9 ft, usable basin storage volume would begin 12 feet below grade.	
(vi) Basin would be emptied through a 12-inch force main connection to existing manhole on Linda Mar trunk.	
(vi) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.	

PROJECT COST DETAIL

Description	Quant	Unit	Unit Cost	Total
Basin Structure				
2.1 MG Basin Structure (inc excavation)	2,100,000	gal	\$ 5.0	\$ 10,500,000
<i>Subtotal</i>				<i>\$ 10,500,000</i>
Basin Appurtenances				
Pumps	2	EA	\$ 65,000	\$ 130,000
Controls	1	Allowance	\$ 100,000	\$ 100,000
Foundation and Fencing	1	Allowance	\$ 80,000	\$ 80,000
Washdown/20' of Header	1	Allowance	\$ 25,000	\$ 25,000
Odor Control	1	Allowance	\$ 65,000	\$ 65,000
Miscellaneous Piping	1	Allowance	\$ 100,000	\$ 100,000
<i>Subtotal</i>				<i>\$ 500,000</i>
Other Facilities				
12-inch force main connection from storage tank to Linda Mar Trunk	40	lf	\$ 190	\$ 7,600
Influent Piping & Facilities				
Modifications to Linda Mar PS wet well	1	Allowance	\$ 30,000	\$ 30,000
New manhole adjacent to Linda Mar PS (Receiving Shaft)	1	EA	\$ 100,000	\$ 100,000
New manhole on Linda Mar Ave near storage tank (Jacking Shaft)	1	EA	\$ 150,000	\$ 150,000
36" Gravity pipeline from Linda Mar Wet Well to jacking shaft (tunneled)	200	lf	\$ 1,500	\$ 300,000
36" Gravity pipeline from jacking shaft to new basin (tunneled)	500	lf	\$ 1,500	\$ 750,000
<i>Subtotal</i>				<i>\$ 1,337,600</i>

Estimated Construction Cost Subtotal \$ 12,338,000

Contingencies (30% of construction subtotal) \$ 3,701,000

Total Estimated Construction Cost: \$ 16,039,000

Engineering, Administration, Legal (25% of construction cost) \$ 4,010,000

Estimated Capital Improvement Cost: \$ 20,049,000

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Collection System Capacity Improvement Projects

PROJECT NO.: C029

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Pacifica Citywide

PROJECT DESCRIPTION: The Collection System Master Plan completed in October 2011 assessed the existing collection sewer system and identified mainlines in twelve areas around the City that have capacity deficiencies. This CIP will upgrade existing pipes to the appropriate size recommended by the Master Plan. Under this CIP, capacity improvements will include and it will also upgrade the Linda Mar Pump Station by installing another pump. Please refer to the Master Plan for more details

PURPOSE BENEFIT: Increases the capacity and integrity of the mainlines and the Linda Mar Pump Station

PROJECT STATUS: Active

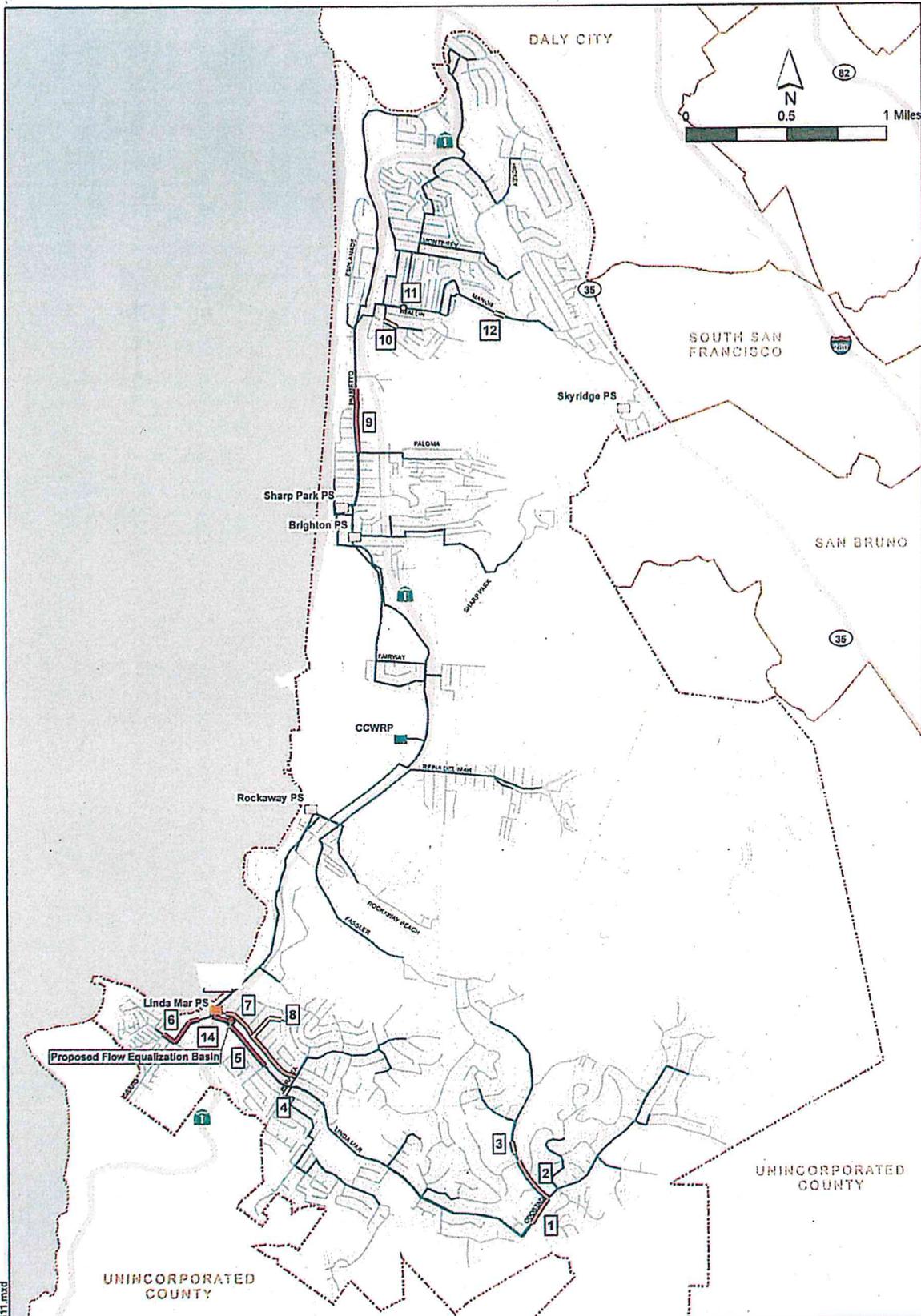
STARTING DATES: 2011 **DURATION:** June 2018

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design	0	31	90				121
Construction Management	0						
Construction	377	251	628				1,256
Equipment Purchase							
Miscellaneous							
TOTAL	377	282	718				1,377

NOTES:

CAPACITY IMPROVEMENT PROJECTS



G:\GIS\SystemMap_11x17_040111.mxd

- | | |
|--------------------------|-----------------------|
| Relative Priority | Modeled Sewers |
| High | Unmodeled Sewers |
| Medium | Pacifica City Limits |
| Low | Other City Boundaries |
| Project ID | |

City of Pacifica
Collection System Master Plan

Recommended Capacity Improvement CIP

RMC Figure 5-1

Capacity Improvement Project: 1

PROJECT DESCRIPTION	
Project ID	1
Project Location	Oddstad Blvd. From Terra Nova Blvd. to Toledo Ct.
Description	800 feet of 18-inch pipe
Priority	Medium
Flow Confirmation Level	Level 2
Estimated Capital Improvement Cos	\$281,000
Comments	(i) Pipes are listed in order from upstream to downstream. (ii) Priority is high because model-predicted surcharging from this reach creates significant flow backup and potential overflows upstream (see Projects 2 and 3) (iii) There is a PG&E gas line located at the intersection of Oddstad Blvd and Terra Nova Blvd. Care should be taken to provide adequate separation from this gas line during design
Assumptions	(i) Costs assume pipe is upsized using open cut construction. (ii) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.
Alternatives	Parallel pipe.

PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut UnitCost (\$/LF)	Pipeburst Unit Cost (\$/LF)	Total Cost (\$)
PP27	PP28	15	18	304	0.30	9.2	\$175		\$ 53,218
PP28	ULX1	15	18	275	0.31	7.7	\$175		\$ 48,038
ULX1	ULX2	15	18	192	0.39	6.1	\$175		\$ 33,600

Total Baseline Pipe Construction Cost \$ 134,855
Baseline Construction Cost: \$ 134,855

Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost) \$ 13,486
 Remove & Replace Factor (2% of R&R baseline pipe construction cost) \$ 2,697
 Traffic Control (10% of baseline construction cost in roadways) \$ 13,486
Subtotal: \$ 164,523

Mobilization/Demobilization (5% of subtotal) \$ 8,226
Estimated Construction Cost Subtotal: \$ 172,749

Contingencies (30% of construction subtotal) \$ 51,825
Total Estimated Construction Cost: \$ 224,574

Engineering , Administration, Legal (25% of construction cost) \$ 56,144
Estimated Capital Improvement Cost: \$ 281,000

Capacity Improvement Project: 3

PROJECT DESCRIPTION	
Project ID	3
Project Location	Terra Nova Blvd. between Lerida Way and Alicante Dr.
Description	300 feet of 10-inch pipe
Priority	Low
Flow Confirmation Level	Level 2
Estimated Capital Improvement	(\$51,000)
Comments	(i) Pipes are listed in order from upstream to downstream.
Assumptions	(i) Costs assume pipe is upsized by pipe bursting. (ii) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.
Alternatives	Open-cut remove & replace.

PROJECT COST DETAIL									
U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut UnitCost (\$/LF)	Pipe Burst UnitCost (\$/LF)	Total Cost (\$)
ULA25	ULA26	8	10	283	1.62	6.7		\$65	\$ 18,363
ULA26	PPU5a	8	10	41	1.41	6.5		\$65	\$ 2,659

Total Baseline Pipe Construction Cost	\$	21,021
Insertion Trenches	\$	4,000
Baseline Construction Cost:	\$	25,021
Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost)	\$	2,102
Remove & Replace Factor (2% of R&R baseline pipe construction cost)	\$	-
Traffic Control (10% of baseline construction cost in roadways)	\$	2,502
Subtotal:	\$	29,625
Mobilization/Demobilization, (5% of subtotal)	\$	1,481
Estimated Construction Cost Subtotal:	\$	31,106
Contingencies (30% of construction subtotal)	\$	9,332
Total Estimated Construction Cost:	\$	40,438
Engineering, Administration, Legal (25% of construction cost)	\$	10,110
Estimated Capital Improvement Cost:	\$	51,000

Capacity Improvement Project: 6

PROJECT DESCRIPTION	
Project ID	6
Project Location	San Pedro Ave. from Livingston Ave. to Halling Way, Halling Way to Shoreside Dr.
Description	1,300 feet of -inch pipe
Priority	High
Flow Confirmation Level	Level 1
Estimated Capital Improvement Cost	\$251,000
Comments	(i) Pipes are listed in order from upstream to downstream.
Assumptions	(i) Costs assume pipe is upsized using open cut construction and pipe bursting. (ii) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.
Alternatives	(i) A portion of this project goes through an undeveloped strip of land (Halling Way). Access may be difficult and construction in this area may be unfavorable. As an alternative, could consider installing a new line through the parking lot of the adjacent shopping center.

PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut Unit Cost (\$/LF)	Pipeburst Unit Cost (\$/LF)	Total Cost (\$)
PT6	PT7	6	8	252	1.54	7.2		\$55	\$ 13,849
PT7	PT8	6	8	121	1.68	7.2		\$55	\$ 6,650
PT8	PT9	6	10	244	1.36	7.7		\$65	\$ 15,847
PT9	PT10	6	12	133	0.36	8.0	\$135		\$ 18,009
PT10	PT11	6	12	274	0.36	8.9	\$135		\$ 37,044
PT11	PT12	8	12	254	0.02	10.3	\$135		\$ 34,331

Total Baseline Pipe Construction Cost \$ 125,729

Insertion Trenches \$ 4,000

Baseline Construction Cost: \$ 129,729

Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost) \$ 12,573

Remove & Replace Factor (2% of R&R baseline pipe construction cost) \$ 2,105

Traffic Control (10% of baseline construction cost in roadways) \$ 2,450

Subtotal: \$ 146,856

Mobilization/Demobilization (5% of subtotal) \$ 7,343

Estimated Construction Cost Subtotal: \$ 154,199

Contingencies (30% of construction subtotal) \$ 46,260

Total Estimated Construction Cost: \$ 200,459

Engineering, Administration, Legal (25% of construction cost) \$ 50,115

Estimated Capital Improvement Cost: \$ 251,000

Capacity Improvement Project: 7

PROJECT DESCRIPTION	
Project ID	7
Project Location	Arguello Blvd. from Peralta Rd. to Coast Hwy.
Description	2,500 feet of -inch pipe
Priority	Medium
Flow Confirmation Level	Level 1
Estimated Capital Improvement (\$418,000
Comments	(i) Pipes are listed in order from upstream to downstream.
Assumptions	(i) Costs assume pipe is upsized by pipe bursting. (ii) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.
Alternatives	Open-cut remove & replace.

PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut UnitCost (\$/LF)	Pipeburst Unit Cost (\$/LF)	Total Cost (\$)
LLD27	LLD28	6	8	366	0.80	7.1		\$55	\$ 20,141
LLD28	LLD29	6	8	229	1.45	5.1		\$55	\$ 12,601
LLD29	LLA29a	6	8	69	3.03	5.1		\$55	\$ 3,773
LLA29a	LLD30	6	8	121	1.15	5.4		\$55	\$ 6,628
LLD30	LLD31	6	8	236	1.22	6.5		\$55	\$ 12,997
LLD31	LLD32	8	10	244	0.59	7.3		\$65	\$ 15,867
LLD32	LLD33	10	12	275	0.19	7.0		\$75	\$ 20,603
LLD33	LLD34	12	15	268	0.15	6.5		\$90	\$ 24,129
LLD34	LLD35	12	15	243	0.15	6.1		\$90	\$ 21,825
LLD35	LLD36	12	15	254	0.15	5.3		\$90	\$ 22,842
LLD36	LLD37	12	15	194	0.16	5.3		\$90	\$ 17,415

Total Baseline Pipe Construction Cost	\$	178,819
Insertion Trenches	\$	20,000
New MH LLD37 in backyard	\$	10,000
Baseline Construction Cost:	\$	208,819

Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost)	\$	17,882
Remove & Replace Factor (2% of R&R baseline pipe construction cost)	\$	-
Traffic Control (10% of baseline construction cost in roadways)	\$	18,140
Subtotal:	\$	244,841

Mobilization/Demobilization (5% of subtotal)	\$	12,242
Estimated Construction Cost Subtotal:	\$	257,083

Contingencies (30% of construction subtotal)	\$	77,125
Total Estimated Construction Cost:	\$	334,208

Engineering, Administration, Legal (25% of construction cost)	\$	83,552
Estimated Capital Improvement Cost:	\$	418,000

Capacity Improvement Project: 8

PROJECT DESCRIPTION	
Project ID	8
Project Location	De Solo Dr. from Fernandez Way to Arguello Blvd.
Description	900 feet of -inch pipe
Priority	Low
Flow Confirmation Level	Level 2
Estimated Capital Improvement C	\$137,000
Comments	(i) Pipes are listed in order from upstream to downstream.
Assumptions	(i) Costs assume pipe is upsized by pipe bursting. (ii) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.
Alternatives	Open-cut remove & replace.

PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut UnitCost (\$/LF)	Pipeburst Unit Cost (\$/LF)	Total Cost (\$)
LLG11	LLG12	8	10	296	0.31	5.3		\$65	\$ 19,221
LLG12	LLG13	8	10	316	0.30	5.8		\$65	\$ 20,527
LLG13	LLD33	8	10	331	0.34	6.3		\$65	\$ 21,522

Total Baseline Pipe Construction Cost	\$	61,269
Insertion Trenches	\$	6,000
Baseline Construction Cost:	\$	67,269
Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost)	\$	6,127
Remove & Replace Factor (2% of R&R baseline pipe construction cost)	\$	-
Traffic Control (10% of baseline construction cost in roadways)	\$	6,727
Subtotal:	\$	80,123
Mobilization/Demobilization (5% of subtotal)	\$	4,006
Estimated Construction Cost Subtotal:	\$	84,129
Contingencies (30% of construction subtotal)	\$	25,239
Total Estimated Construction Cost:	\$	109,368
Engineering, Administration, Legal (25% of construction cost)	\$	27,342
Estimated Capital Improvement Cost:	\$	137,000

Capacity Improvement Project: 9

PROJECT DESCRIPTION	
Project ID	9
Project Location	Palmetto Ave. from north of Shoreview Ave. to Paloma Ave.
Description	1400 feet of 18-inch pipe, two new 18-inch connections, 6-inch weir board, one new manhole
Priority	High
Flow Confirmation Level	Level 1
Estimated Capital Improvement (\$)	571,000
Comments	(i) Pipes are listed in order from upstream to downstream.
Assumptions	(i) Costs assume open cut construction.
Alternatives	Remove & replace parallel 18" sewer with 21" pipe.

PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut UnitCost (\$/LF)	Pipeburst Unit Cost (\$/LF)	Total Cost (\$)
F51	FW41A		18	14	6.97	7.4	\$175		\$ 2,503
F41A	FW42	12	18	83	0.24	6.0	\$175		\$ 14,543
FW42	F42A	12	18	218	0.32	6.1	\$175		\$ 38,150
F42A	FW43	12	18	291	0.31	9.0	\$175		\$ 50,978
FW43	FW44	12	18	383	0.29	11.2	\$175		\$ 66,973
FW44	FW45	12	18	187	0.32	11.2	\$175		\$ 32,743
FW45	FW46	12	18	250	0.28	10.9	\$175		\$ 43,680
FW46	F54		18	15	0.65	10.8	\$175		\$ 2,695

Total Baseline Pipe Construction Cost	\$	252,263
Sewer Junction Structures (<24" outlet pipe)	\$	15,000
Install weir board in existing MH	\$	10,000
Baseline Construction Cost:	\$	277,263

Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost)	\$	24,707
Remove & Replace Factor (2% of R&R baseline pipe construction cost)	\$	4,941
Traffic Control (10% of baseline construction cost in roadways)	\$	27,726
Subtotal:	\$	334,637

Mobilization/Demobilization (5% of subtotal)	\$	16,732
Estimated Construction Cost Subtotal:	\$	351,368

Contingencies (30% of construction subtotal)	\$	105,411
Total Estimated Construction Cost:	\$	456,779

Engineering, Administration, Legal (25% of construction cost)	\$	114,195
Estimated Capital Improvement Cost:	\$	571,000

Capacity Improvement Project: 10

PROJECT DESCRIPTION	
Project ID	10
Project Location	Milagra D. from Bruce St. to Edgemar Ave.
Description	400 feet of -inch pipe
Priority	Low
Flow Confirmation Level	Level 2
Estimated Capital Improvement Cost	\$48,000
Comments	(i) Pipes are listed in order from upstream to downstream.
Assumptions	(i) Costs assume pipe is upsized by pipe bursting. (ii) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.
Alternatives	Open-cut remove & replace.

PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut UnitCost (\$/LF)	Pipeburst Unit Cost (\$/LF)	Total Cost (\$)
PMT9	PMR4	6	8	394	0.60	3.82		\$55	\$ 21,670

Total Baseline Pipe Construction Cost \$ 21,670
 Insertion Trenches \$ 2,000
Baseline Construction Cost: \$ 23,670

Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost) \$ 2,167
 Remove & Replace Factor (2% of R&R baseline pipe construction cost) \$ -
 Traffic Control (10% of baseline construction cost in roadways) \$ 2,367
Subtotal: \$ 28,204

Mobilization/Demobilization (5% of subtotal) \$ 1,410
Estimated Construction Cost Subtotal: \$ 29,614

Contingencies (30% of construction subtotal) \$ 8,884
Total Estimated Construction Cost: \$ 38,498

Engineering, Administration, Legal (25% of construction cost) \$ 9,625
Estimated Capital Improvement Cost: \$ 48,000

Capacity Improvement Project: 11

PROJECT DESCRIPTION	
Project ID	11
Project Location	Avalon Rd. at Del Mar Ave.
Description	New 8-inch Connection
Priority	Low
Flow Confirmation Level	Level 2
Estimated Capital Improvement C	\$30,000
Comments	(i) Pipes are listed in order from upstream to downstream. (ii) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR. (iii)
Assumptions	(i) Costs assume open cut construction.
Alternatives	None identified.

PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut UnitCost (\$/LF)	Pipeburst Unit Cost (\$/LF)	Total Cost (\$)
PM29D	F41		8	9	5.73	5.6	\$115		\$ 1,001

Total Baseline Pipe Construction Cost	\$	1,001
Sewer Junction Structures (<24" outlet pipe)	\$	15,000
Baseline Construction Cost:	\$	16,001
Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost)	\$	-
Remove & Replace Factor (2% of R&R baseline pipe construction cost)	\$	-
Traffic Control (10% of baseline construction cost in roadways)	\$	1,600
Subtotal:	\$	17,601
Mobilization/Demobilization (5% of subtotal)	\$	880
Estimated Construction Cost Subtotal:	\$	18,481
Contingencies (30% of construction subtotal)	\$	5,544
Total Estimated Construction Cost:	\$	24,025
Engineering, Administration, Legal (25% of construction cost)	\$	6,006
Estimated Capital Improvement Cost:	\$	30,000

Capacity Improvement Project: 12

PROJECT DESCRIPTION	
Project ID	12
Project Location	Manor Dr. west of Monterey Rd.
Description	300 feet of 8-inch pipe
Priority	Low
Flow Confirmation Level	Level 3
Estimated Capital Improvement (\$	34,000
Comments	(i) Pipes are listed in order from upstream to downstream. (ii) Flat segment with 6" pipes upstream and downstream
Assumptions	(i) Costs assume pipe is upsized by pipe bursting. (ii) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.
Alternatives	Parallel pipe or open-cut remove & replace

PROJECT COST DETAIL

U/S MH ID	D/S MH ID	Existing Diameter (inches)	New Diameter (inches)	Length (feet)	Slope (%)	Pipe Depth (feet BGL)	Open Cut UnitCost (\$/LF)	Pipeburst Unit Cost (\$/LF)	Total Cost (\$)
PM10	PM11	6	8	269	4	6		\$55	\$ 14,817

Total Baseline Pipe Construction Cost	\$	14,817
Insertion Trenches	\$	2,000
Baseline Construction Cost:	\$	16,817
Bypass Pumping (10% of R&R or pipeburst baseline pipe construction cost)	\$	1,482
Remove & Replace Factor (2% of R&R baseline pipe construction cost)	\$	-
Traffic Control (10% of baseline construction cost in roadways)	\$	1,682
Subtotal:	\$	19,980
Mobilization/Demobilization (5% of subtotal)	\$	999
Estimated Construction Cost Subtotal:	\$	20,979
Contingencies (30% of construction subtotal)	\$	6,294
Total Estimated Construction Cost:	\$	27,273
Engineering, Administration, Legal (25% of construction cost)	\$	6,818
Estimated Capital Improvement Cost:	\$	34,000

Capacity Improvement Project 13B

PROJECT DESCRIPTION	
Project ID	13B1
Project Location	Linda Mar Pump Station
Description	Addition of fourth pump
Priority	Medium
Flow Confirmation Level	Level 1
Estimated Capital Improvement Cost	\$ 935,000
Assumptions	(i) New pump assumed to be electrically driven. (ii) Cost estimate assumes no major electrical upgrades or structural work required. (iii) Assumes that parallel 18-inch force main will be constructed (Project 13A) (iv) Cost estimates are based on CCI of 10116 from the Jan 2011 ENR.

PROJECT COST DETAIL

Description	Quant	Unit	Unit Cost	Total
Pump Station Mechanical				
400 HP Vertical Non-Clog Pump (Match Pump No. 3), with Motor	1	EA	\$ 280,000	\$ 280,000
24" Suction Piping (WSP)	20	LF	\$ 200	\$ 4,000
18" Discharge Piping (WSP)	20	LF	\$ 180	\$ 3,600
18" Discharge Check Valve	1	EA	\$ 15,000	\$ 15,000
18" Discharge Knife Gate Valve	1	EA	\$ 15,000	\$ 15,000
Shaft Extension (pump room to motor room)	1	LS	\$ 15,000	\$ 15,000
Sump Pump Package (incl. local control panel)	1	LS	\$ 12,000	\$ 12,000
Misc. Allowance (supports, couplings, protective coating)	5%	%	--	\$ 17,000
Subtotal				\$ 361,600
Pump Station Electrical and Control				
400 HP Variable Frequency Drive	1	EA	\$ 60,000	\$ 60,000
4" Conduits	100	LF	\$ 16.00	\$ 1,600
Programming and Control Modifications	1	LS	\$ 20,000	\$ 20,000
Misc. Allowance (conductors, breakers, etc.)	20%	LS	--	\$ 16,000
Subtotal				\$ 97,600

Subtotal (rounded) \$ 459,000

Sales Tax (assume 50% of subtotal is taxable) \$ 20,000

Subtotal \$ 479,000

Contractor Overhead and Profit \$ 96,000

Estimated Construction Cost Subtotal \$ 575,000

Contingencies (30% of construction subtotal) \$ 173,000

Total Estimated Construction Cost: \$ 748,000

Engineering, Administration, Legal (25% of construction cost) \$ 187,000

Estimated Capital Improvement Cost: \$ 935,000

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Collection System Rehabilitation and Replacement Projects

PROJECT NO.: C031

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Pacifica Citywide

PROJECT DESCRIPTION: The Collection System Master Plan completed in October 2011 concluded that substantial reductions in I/I can only be achieved by a comprehensive rehabilitation or replacement of the sewer pipes. This CIP will rehabilitate, replace or repair existing pipes as recommended by the Master Plan. Please refer to the Master Plan for more details.

PURPOSE BENEFIT: Reduce I/I and improve structural integrity of the pipelines.

PROJECT STATUS: Active

STARTING DATES:	2012	DURATION:	2032
------------------------	------	------------------	------

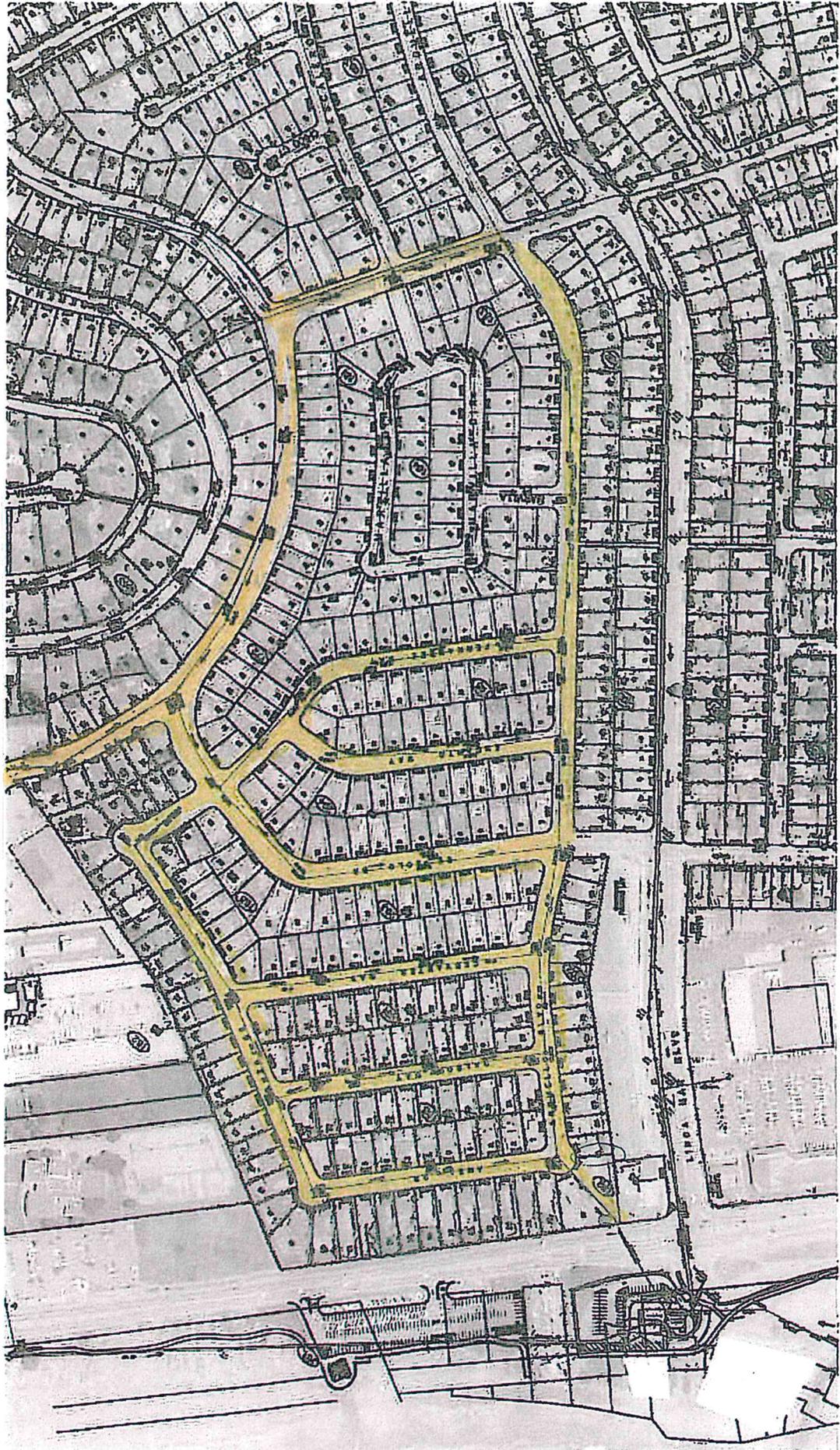
CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design	100	100	100	150	150	150	750
Construction Management		90	40	40	40	40	250
Construction	1,949	1,200	1,350	1,000	1,000	1,000	7,499
Equipment Purchase							
Miscellaneous	20	10	10	10	10	10	70
TOTAL	2,069	1,400	1,500	1,200	1,200	1,200	8,569

NOTES:

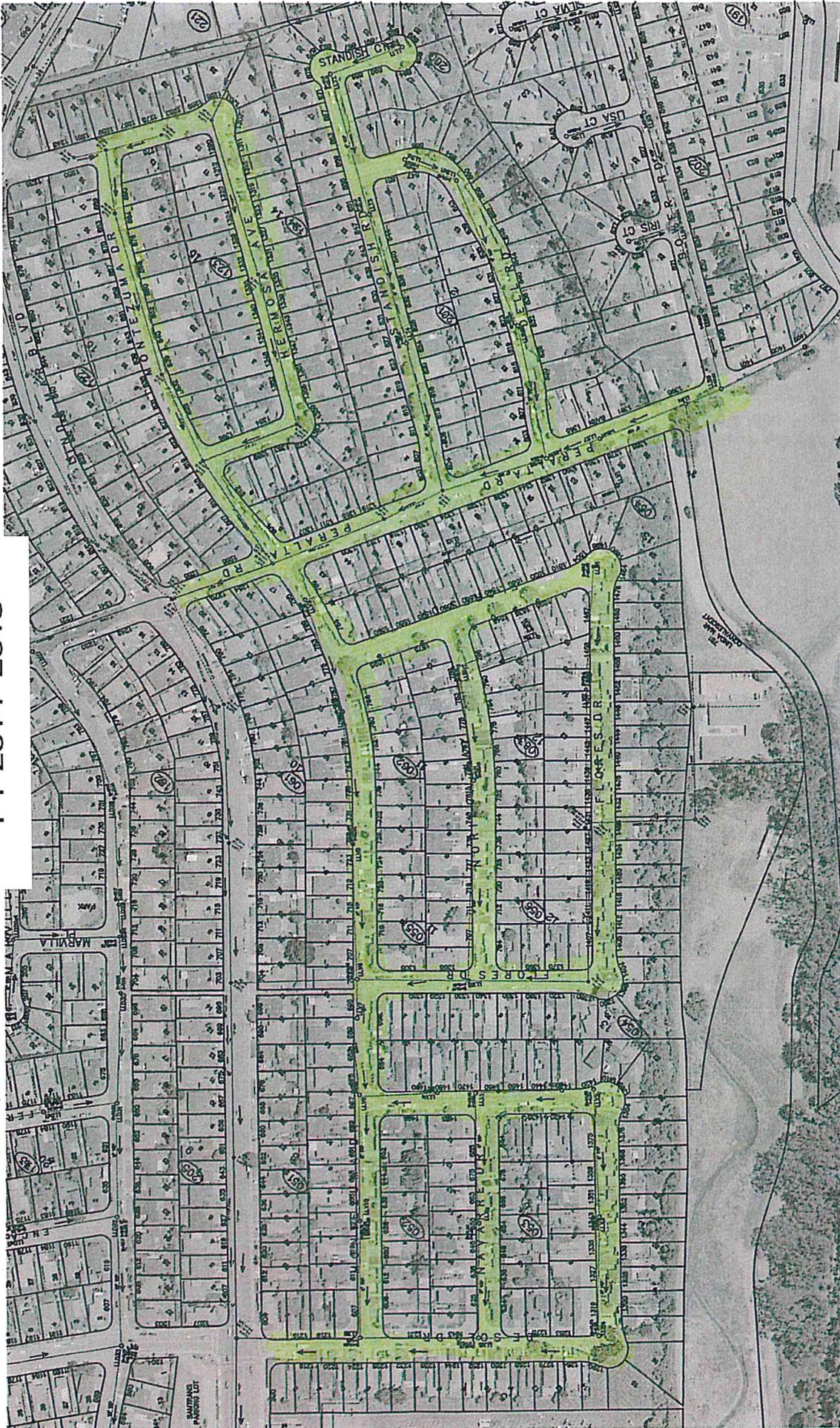
REHAB & REPLACEMENT PROJECTS

FY 2012-2014



REHAB & REPLACEMENT PROJECTS

FY 2014-2015



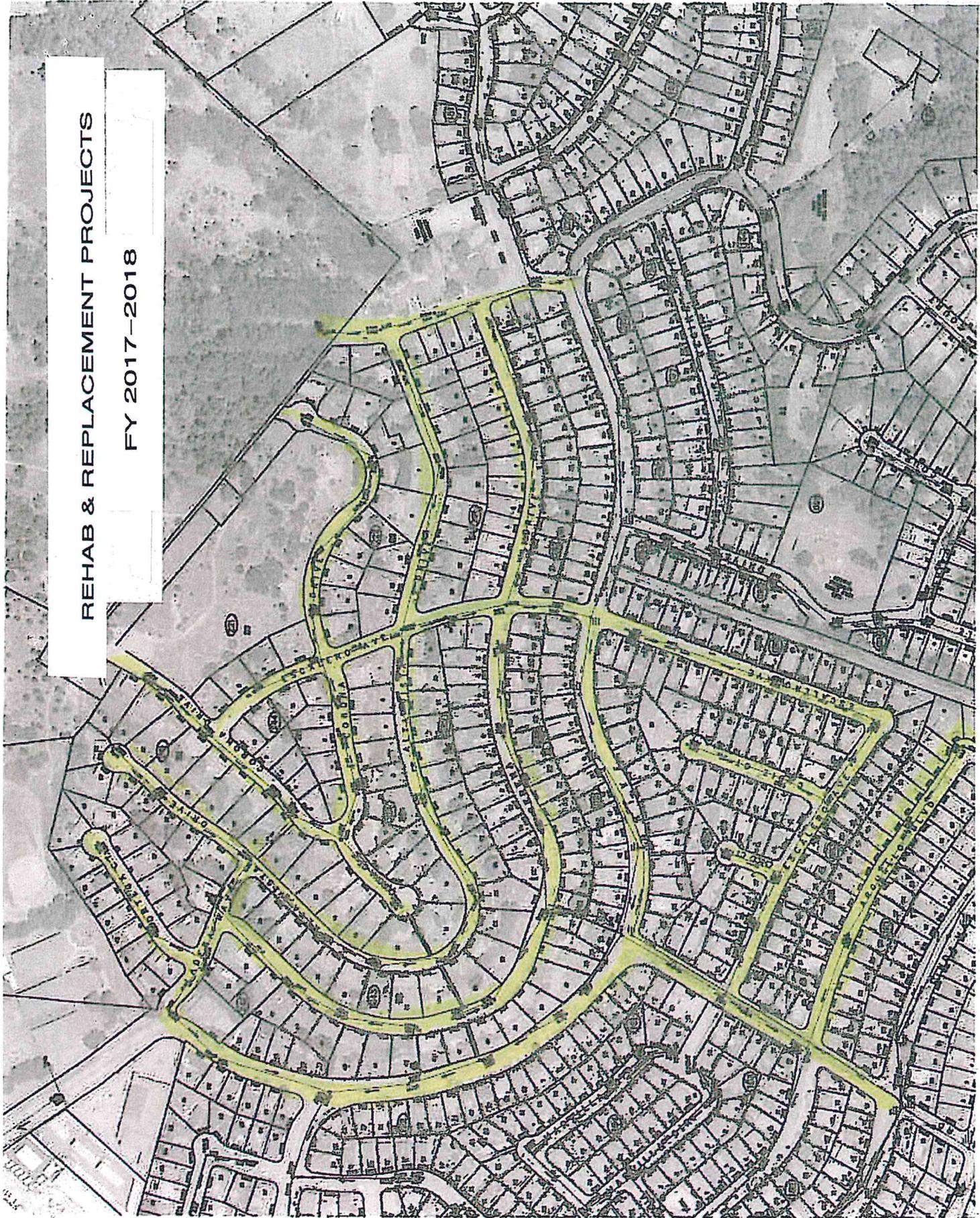
REHAB & REPLACEMENT PROJECTS

FY 2016-2017



REHAB & REPLACEMENT PROJECTS

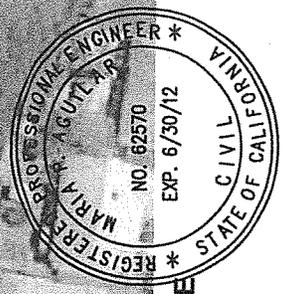
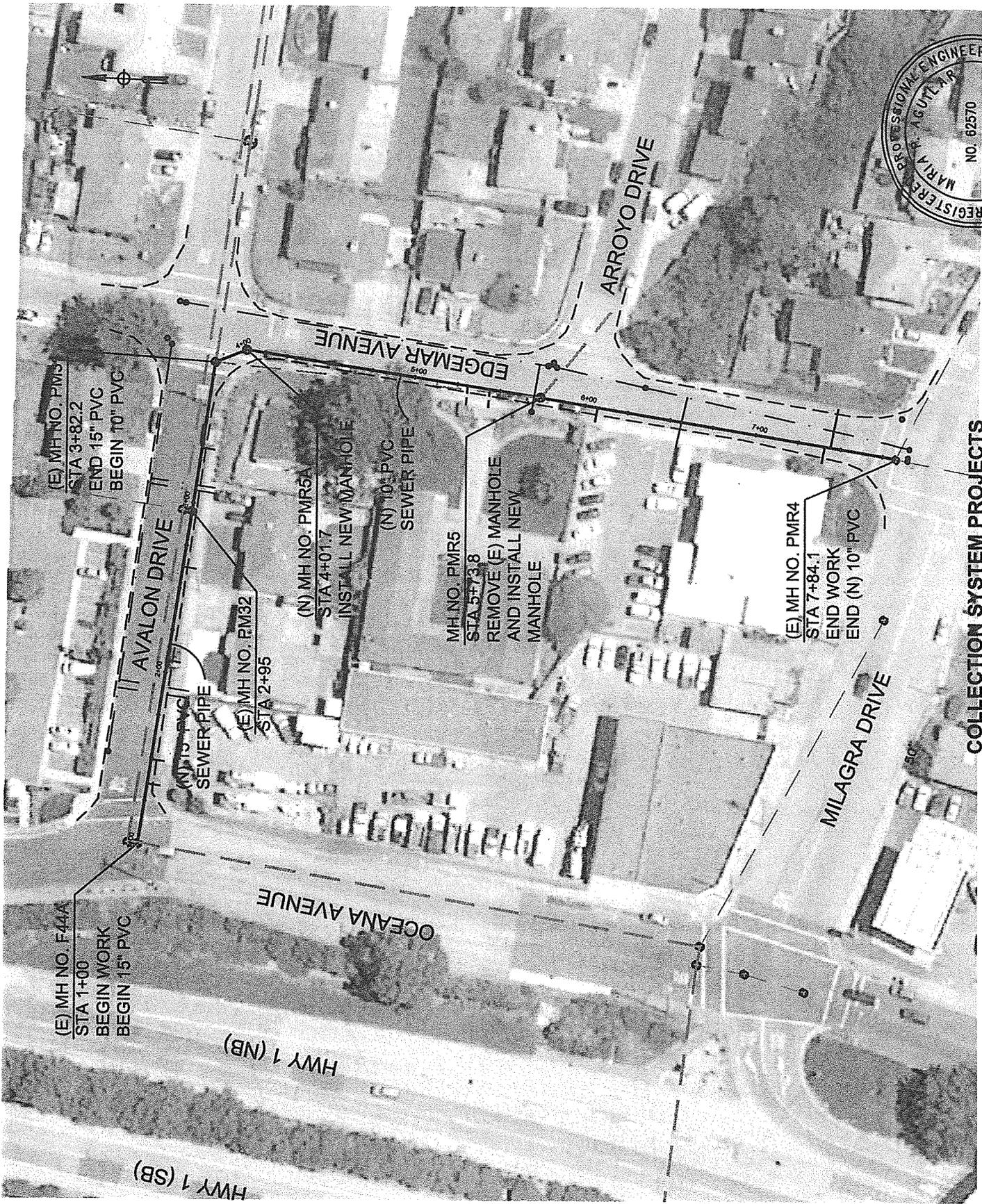
FY 2017-2018



REHAB & REPLACEMENT PROJECTS

FY 2018-2019





SS MAINLINE REPLACEMENT AT AVALON DRIVE AND EDMAR AVENUE
 COLLECTION SYSTEM PROJECTS

(E) MH NO. PMR3
 STA 3+82.2
 END 15" PVC
 BEGIN 10" PVC

(E) MH NO. PM32
 STA 2+95

(N) MH NO. PMR5A
 STA 4+01.7
 INSTALL NEW MANHOLE

(N) 10" PVC
 SEWER PIPE

MH NO. PMR5
 STA 5+73.8

REMOVE (E) MANHOLE
 AND INSTALL NEW
 MANHOLE

(E) MH NO. PMR4
 STA 7+84.1
 END WORK
 END (N) 10" PVC

HWY 1 (SB)

HWY 1 (NB)

OCEANA AVENUE

AVALON DRIVE

EDGMAR AVENUE

ARROYO DRIVE

MILAGRA DRIVE

CITY OF PACIFICA CAPITAL IMPROVEMENT PROGRAM

Project Name: Linda Mar Generator Rehabilitation **Project No.:** C017

Fund: Enterprise Wastewater Construction Fund **Dept. /Mgr.:** Wastewater/Martinez

PROJECT DESCRIPTION	GENERAL LOCATION
<p>Purchase and install new 1000kW Standby Generator and upgrade electrical system at the Linda Mar pump station. In Addition, upgrade the existing electrical system and mechanical system at Linda Mar Pump Station.</p>	
<p style="text-align: center;">PURPOSE/BENEFIT</p> <p>To increase emergency power for upgrading sewer pumping capacity.</p>	

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Palmetto Avenue Forcemain Improvement

PROJECT NO.: C005A

FUND: Enterprise Wastewater Construction Fund 34

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Palmetto Avenue

PROJECT DESCRIPTION: One of the projects under the Collection System Projects, which include installation of new 8 or 10 inch forcemain from Sharp Park Pump Station to Brighton Pump Station along Palmetto Avenue. New forcemain will run parallel with the existing 8-inch forcemain. Existing 8-inch forcemain will become a back-up forcemain.

PURPOSE BENEFIT: Increases the capacity of the forcemain and will add redundancy by having two parallel forcemains.

PROJECT STATUS: Will be completed

STARTING DATES:	2014	DURATION:	June 2016
------------------------	------	------------------	-----------

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design							
Construction Management							
Construction	210						210.0
Equipment Purchase	30						30
Miscellaneous							
TOTAL	240						240.0

NOTES:

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Collection System Project FY2016-17

PROJECT NO.: C005D

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Linda Mar Pump Station, Lockhaven and Genevieve Easements

PROJECT DESCRIPTION: One of the projects under the Collection System Projects, which include the repair of the 30-inch mainline at Linda Mar Pump Station, replacement of sewer mainlines along the Lockhaven and Genevieve easements. This project will be coordinated with the Capacity Improvement Project FY2016-17

PURPOSE BENEFIT: Replace aging sewer mainlines

PROJECT STATUS: NEW

STARTING DATES: 2016 **DURATION:** 1 Year

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design		30					30
Construction Management							
Construction		250					250
Equipment Purchase							
Miscellaneous							
TOTAL		280					280

NOTES:

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Relocation of Sharp Park Forcemain

PROJECT NO.: C005C

FUND: Enterprise Wastewater Construction Fund

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Sharp Park Pump Station

PROJECT DESCRIPTION: One of the projects under the Collection System Projects, which include the relocation of approximately 730 LF of the 20-Inch forcemain at Sharp Park Pump Station to be out of the Council Chamber parking lot and placed along the road. This project will be coordinated with the Redevelopment of the Beach Blvd Property.

PURPOSE BENEFIT: Forcemain will be out of the Beach Blvd Redevelopment property and will be relocated along the road.

PROJECT STATUS: On-Hold

STARTING DATES:	On-Hold	DURATION:	1 Year
------------------------	---------	------------------	--------

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design							
Construction Management							
Construction							
Equipment Purchase							
Miscellaneous							
TOTAL							

NOTES:

**CITY OF PACIFICA
2016-2021 CAPITAL IMPROVEMENT PROGRAM
PROJECT DESCRIPTION WORKSHEET**

PROJECT TITLE: Relocation of Mainline at Sharp Park PS

PROJECT NO.: C005B

FUND: Enterprise Wastewater Construction Fund 34

DEPARTMENT/MANAGER: Wastewater/Martinez

GENERAL LOCATION: Sharp Park Pump Station

PROJECT DESCRIPTION: One of the projects under the Collection System Projects, which include the relocation and replacement of approximately 1,700 LF of the 8-Inch mainline at Sharp Park Pump Station along Beach Blvd from Montecito to Brighton Pump Station. This project will be coordinated with the Redevelopment of the Beach Blvd Property.

PURPOSE BENEFIT: Mainline will be out of the way of the Beach Blvd Redevelopment property.

PROJECT STATUS: On-Hold

STARTING DATES:	On-Hold	DURATION:	1 Year
------------------------	---------	------------------	--------

CAPITAL COSTS (\$ IN THOUSANDS)

	To date	16-17	17-18	18-19	19-20	20-21	Total
Planning & Design							
Construction Management							
Construction							
Equipment Purchase							
Miscellaneous							
TOTAL							

NOTES: