

## SECTION 9

### OPERATION AND MAINTENANCE

#### 9-1 CCTV INSPECTION DATA

The operation and maintenance conditions of the gravity collection system pipes were considered separately. Figures 9-1 thru 9-5 illustrate the locations of ball roots, grease, deposits, infiltration, and obstacles. These conditions, along with siphons, are the cause of many of the frequent maintenance areas (hot spots).

Table 9-1 provides listings of all the inspected reaches with a summary of the operation and maintenance issues, as well as recommendations for corrective measures. It is also noted whether or not these reaches are existing hot spots, or have had spills in the area within the past few years. The recommendations provided should be used in updating the operation and maintenance of the system, the Hot Spot maintenance program, the cleaning program, as well as the Preventative Maintenance Program.

Any loss in cross sectional pipe area is a potential cause of backups and sewer overflows. Therefore those maintenance issues that cause a reduction in cross sectional area are given higher priority over others. Accordingly, the highest priority is given to those reaches identified with ball roots. Ball roots are defined as roots that have formed a mass and in doing so are greatly to severely restricting the flow. The cross sectional area lost is greater than 50 percent.

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
01025-01026	Nelson Ave	01-025	01-026	14										✓				
01025-01026	Nelson Ave	01-025	01-026	14										✓				
01026-01027	Nelson Ave	01-026	01-027	6														
01026-01027	Nelson Ave	01-026	01-027	6														
01027-01028	Nelson Ave	01-027	01-028	28										✓				
01027-01028	Nelson Ave	01-027	01-028	28										✓				
01028-01029	Nelson Ave	01-028	01-029	3														
01028-01029	Nelson Ave	01-028	01-029	3														
01029-01030	Nelson Ave	01-029	01-030	1														
01029-01030	Nelson Ave	01-029	01-030	1														
01030-01031	Nelson Ave	01-030	01-031	2														
01030-01031	Nelson Ave	01-030	01-031	2														
01031-01032	Nelson Ave	01-031	01-032	16		1	4	15					2/28/08 Grease & Roots	✓	✓			
01031-01032	Nelson Ave	01-031	01-032	16		1	4	15						✓	✓			
01058-01059	1st St	01-058	01-059	24										✓	✓			
01058-01059	1st St	01-058	01-059	24										✓	✓			
01059-01060	1st St	01-059	01-060															
01059-01060	1st St	01-059	01-060															
01060-01061	1st St	01-060	01-061	4														
01060-01061	1st St	01-060	01-061	4														
01061-01062	1st St	01-061	01-062	16		2								✓	✓			
01061-01062	1st St	01-061	01-062	16		2								✓	✓			
01068-01069	2nd St	01-068	01-069	17		1								✓	✓			
01068-01069	2nd St	01-068	01-069	17		1								✓	✓			
01069-01070	2nd St	01-069	01-070	51			5							✓	✓			
01069-01070	2nd St	01-069	01-070	51			5							✓	✓			
01070-01071	2nd St	01-070	01-071	18		2								✓	✓			
01070-01071	2nd St	01-070	01-071	18		2								✓	✓			
01071-01082	2nd St	01-071	01-082	7														
01071-01082	2nd St	01-071	01-082	7														
01072-01073	Gates Ave	01-072	01-073	2														
01072-01073	Gates Ave	01-072	01-073	2														
01073-01076	Gates Ave	01-073	01-076	2														
01073-01076	Gates Ave	01-073	01-076	2														
01074-01076	Gates Ave	01-074	01-076	2														
01074-01076	Gates Ave	01-074	01-076	2														
01075-01076	Herrin St	01-075	01-076	3														
01075-01076	Herrin St	01-075	01-076	3														
01076-01080	Herrin St	01-076	01-080	1				92									✓	
01076-01080	Herrin St	01-076	01-080	1				92									✓	
01077-01078	1st St	01-077	01-078	31										✓				
01077-01078	1st St	01-077	01-078	31										✓				
01078-01080	1st St	01-078	01-080	6														
01078-01080	1st St	01-078	01-080	6														
01079-01080	1st St	01-079	01-080															
01079-01080	1st St	01-079	01-080	0														
01080-01082	Herrin St	01-080	01-082															
01080-01082	Herrin St	01-080	01-082	0														
01081-01082	Herrin St	01-081	01-082	1														
01081-01082	Herrin St	01-081	01-082	1														
01082-01083	2nd St	01-082	01-083	2				100									✓	
01082-01083	2nd St	01-082	01-083	2				100									✓	
01083-01085	2nd St	01-083	01-085					115	30								✓	
01083-01085	2nd St	01-083	01-085	0				115	30								✓	
01084-01085	Redondo Ave	01-084	01-085															
01084-01085	Redondo Ave	01-084	01-085															
01085-01086	2nd St	01-085	01-086	1														
01085-01086	2nd St	01-085	01-086	1														
01086-01087	2nd St	01-086	01-087	4														
01086-01087	2nd St	01-086	01-087	4														
01161-01162	9th St	01-161	01-162	14		1								✓	✓			
01161-01162	9th St	01-161	01-162	14		1								✓	✓			
01162-01163	9th St	01-162	01-163	23										✓				
01162-01163	9th St	01-162	01-163	23										✓				
01163-01164	9th St	01-163	01-164	3														
01163-01164	9th St	01-163	01-164	3														
01164-01165	9th St	01-164	01-165	1														
01164-01165	9th St	01-164	01-165	1														
01165-01166	9th St	01-165	01-166	2		1											✓	
01165-01166	9th St	01-165	01-166	2		1											✓	
01186-01187	10th St	01-186	01-187	4														
01186-01187	10th St	01-186	01-187	4														
01187-01089	Aviation Blvd	01-187	01-189															
01187-01189	Aviation Blvd	01-187	01-189															
01088-01189	11th St	01-188	01-189	3														
01188-01189	11th St	01-188	01-189	3														
01189-01190	Aviation Blvd	01-189	01-190	1														
01189-01190	Aviation Blvd	01-189	01-190	1														
01221-01222	18th St	01-221	01-222	6				4	4									
01221-01222	18th St	01-221	01-222	6				4	4									
01222-01223	18th St	01-222	01-223	1				25	52	51						✓		✓
01222-01223	18th St	01-222	01-223	1				25	52	51						✓		✓
01223-01226	Herrin Ave	01-223	01-226						24	1								
01223-01226	Herrin Ave	01-223	01-226						24	1								
01224-01225	19th St	01-224	01-225	6		1											✓	
01224-01225	19th St	01-224	01-225	6		1											✓	
01225-01226	19th St	01-225	01-226	1														

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
01225-01226	19th St	01-225	01-226	1														
01230-01231	23rd St	01-230	01-231															
01230-01231	23rd St	01-230	01-231															
010231-01234	Herrin Ave	01-231	01-234	24										✓				
01231-01234	Herrin Ave	01-231	01-234	24				1						✓				
02001-02002	Faymont Ave	02-001	02-002	48										✓				
02001-02002	Faymont Ave	02-001	02-002	48										✓				
02002-02005	Faymont Ave	02-002	02-003	36										✓				
02002-02005	Faymont Ave	02-002	02-005	36										✓				
02003-02004	Faymont Ave	02-003	02-004	45										✓				
02003-02004	Faymont Ave	02-003	02-004	45										✓				
02004-02005	Faymont Ave	02-004	02-005	32										✓				
02004-02005	Faymont Ave	02-004	02-005	32										✓				
02005-02012	15th St	02-005	02-012	4														
02005-02012	15th St	02-005	02-012	4														
02006-02007	Harkness St	02-006	02-007	15			1							✓	✓			
02006-02007	Harkness St	02-006	02-007	15			1							✓	✓			
02007-02012	Harkness St	02-007	02-012	30										✓				
02007-02012	Harkness St	02-007	02-012	30										✓				
02008-02009	Easement	02-008	02-009	2														
02008-02009	Easement	02-008	02-009	2														
02009-02010	Easement	02-009	02-010	11		1								✓				
02009-02010	Easement	02-009	02-010	11		1								✓				
02010-02011	Harkness St	02-010	02-011	9														
02010-02011	Harkness St	02-010	02-011	9														
02011-02012	Harkness St	02-011	02-012	13										✓				
02011-02012	Harkness St	02-011	02-012	13										✓				
02012-02018	15th St	02-012	02-018	1														
02012-02018	15th St	02-012	02-018	1														
02013-02014	Manzanita Ln	02-013	02-014	37										✓				
02013-02014	Manzanita Ln	02-013	02-014	37										✓				
02014-02015	Manzanita Ln	02-014	02-015	24				1						✓				
02014-02015	Manzanita Ln	02-014	02-015	24				1						✓				
02015-02018	Manzanita Ln	02-015	02-018	19										✓				
02015-02018	Manzanita Ln	02-015	02-018	19										✓				
02016-02017	Manzanita Ln	02-016	02-017	19										✓				
02016-02017	Manzanita Ln	02-016	02-017	19										✓				
02017-02018	Manzanita Ln	02-017	02-018	2														
02017-02018	Manzanita Ln	02-017	02-018	2														
02018-02021	15th St	02-018	02-021															
02018-02021	15th St	02-018	02-021															
02019-02020	Lynngrove Dr	02-019	02-020	33										✓				
02019-02020	Lynngrove Dr	02-019	02-020	33										✓				
02020-02021	Lynngrove Dr	02-020	02-021	45										✓				
02020-02021	Lynngrove Dr	02-020	02-021	45										✓				
02021-02022	Lynngrove Dr	02-021	02-022	50										✓				
02021-02022	Lynngrove Dr	02-021	02-022	50										✓				
02022-02023	Lynngrove Dr	02-022	02-023	14										✓				
02022-02023	Lynngrove Dr	02-022	02-023	14										✓				
02023-02030	Lynngrove Dr	02-023	02-030															
02023-02030	Lynngrove Dr	02-023	02-030															
02024-02025	Manzanita Ln	02-024	02-025	58										✓				
02024-02025	Manzanita Ln	02-024	02-025	58										✓				
02025-02027	23rd St	02-025	02-027	4														
02025-02027	23rd St	02-025	02-027	4														
02026-02027	23rd St	02-026	02-027	5														
02026-02027	23rd St	02-026	02-027	5														
02027-02028	Lynngrove Dr	02-027	02-028	4														
02027-02028	Lynngrove Dr	02-027	02-028	4														
02028-02029	Lynngrove Dr	02-028	02-029	37										✓				
02028-02029	Lynngrove Dr	02-028	02-029	37										✓				
02029-02030	Lynngrove Dr	02-029	02-030	36										✓				
02029-02030	Lynngrove Dr	02-029	02-030	36										✓				
02051-02052	Easement	02-051	02-052	18										✓				
02051-02052	Easement	02-051	02-052	18				1						✓				
03026-03027	17th St	03-026	03-027	45										✓				
03026-03027	17th St	03-026	03-027	45										✓				
03027-03029	Begg School	03-027	03-029	47										✓				
03027-03029	Begg School	03-027	03-029	47										✓				
03028-03029	15th St	03-028	03-029	2														
03028-03029	15th St	03-028	03-029	2														
03029-03030	Begg School	03-029	03-030	2														
03029-03030	Begg School	03-029	03-030	2														
03030-03031	Begg School	03-030	03-031	15										✓				
03030-03031	Begg School	03-030	03-031	15										✓				
03031-03032	Begg School	03-031	03-032	12			2							✓	✓			
03031-03032	Begg School	03-031	03-032	12			2							✓	✓			
03050-03051	23rd St	03-050	03-051	24										✓				
03050-03051	23rd St	03-050	03-051	24										✓				
03051-03053	23rd St	03-051	03-053	44										✓				
03051-03053	23rd St	03-051	03-053	44										✓				
03052-03053	Magnolia Ave	03-052	03-053	23										✓				
03052-03053	Magnolia Ave	03-052	03-053	23										✓				
03053-03056	23rd St	03-053	03-056	24										✓				
03053-03056	23rd St	03-053	03-056	24										✓				
03054-03055	Chestnut Ave	03-054	03-055	9														
03054-03055	Chestnut Ave	03-054	03-055	9														
03055-03056	Chestnut Ave	03-055	03-056	21										✓				
03055-03056	Chestnut Ave	03-055	03-056	21										✓				

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Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
03056-03057	23rd St	03-056	03-057	37										✓				
03056-03057	23rd St	03-056	03-057	37										✓				
03057-03058	Meadows Ave	03-057	03-058	41			1							✓				
03057-03058	Meadows Ave	03-057	03-058	41			1							✓				
03058-03060	Meadows Ave	03-058	03-060	14										✓				
03058-03060	Meadows Ave	03-058	03-060	14										✓				
03059-03060	21st St	03-059	03-060	12										✓				
03059-03060	21st St	03-059	03-060	12										✓				
03060-03061	Meadows Ave	03-060	03-061															
03060-03061	Meadows Ave	03-060	03-061															
03061-03062	21st St	03-061	03-062	16										✓				
03061-03062	21st St	03-061	03-062	16										✓				
03062-03063	21st St	03-062	03-063	22		2								✓	✓			
03062-03063	21st St	03-062	03-063	22		2								✓	✓			
03063-03064	21st St	03-063	03-064	13		2								✓	✓			
03063-03064	21st St	03-063	03-064	13		2								✓	✓			
03064-03065	21st St	03-064	03-065	28										✓				
03064-03065	21st St	03-064	03-065	28										✓				
03066-03067	23rd St	03-066	03-067	27										✓				
03066-03067	23rd St	03-066	03-067	27										✓				
03067-03068	23rd St	03-067	03-068	25										✓				
03067-03068	23rd St	03-067	03-068	25										✓				
03068-03069	23rd St	03-068	03-069	46										✓				
03068-03069	23rd St	03-068	03-069	46										✓				
03069-03072	23rd St	03-069	03-072	9														
03069-03072	23rd St	03-069	03-072	9														
04001-04002	Gates Ave	04-001	04-002	38										✓				
04001-04002	Gates Ave	04-001	04-002	38										✓				
04002-04004	Gates Ave	04-002	04-004	16										✓				
04002-04004	Gates Ave	04-002	04-004	16										✓				
04003-04004	Meadows Ave	04-003	04-004	1														
04003-04004	Meadows Ave	04-003	04-004	1														
04004-04007	Meadows Ave	04-004	04-007	24										✓				
04004-04007	Meadows Ave	04-004	04-007	24										✓				
04005-04006	1st St	04-005	04-006	23										✓				
04005-04006	1st St	04-005	04-006	23										✓				
04006-04007	1st St	04-006	04-007	15										✓				
04006-04007	1st St	04-006	04-007	15										✓				
04007-04018	Meadows Ave	04-007	04-018	32										✓				
04007-04018	Meadows Ave	04-007	04-018	32										✓				
04008-04011	3rd St	04-008	04-011	48		4								✓	✓			
04008-04011	3rd St	04-008	04-011	48		4								✓	✓			
04010-04011	Meadows Ave	04-010	04-011	52										✓				
04010-04011	Meadows Ave	04-010	04-011	52										✓				
04011-04018	Meadows Ave	04-011	04-018	21										✓				
04011-04018	Meadows Ave	04-011	04-018	21										✓				
04020-04021	Kuhn Dr	04-020	04-021	57				3						✓				
04020-04021	Kuhn Dr	04-020	04-021	57										✓				
04021-04022	Ronda Dr	04-021	04-022	34								✓		✓				
04021-04022	Ronda Dr	04-021	04-022	34								✓		✓				
04022-04023	Ronda Dr	04-022	04-023	37										✓				
04022-04023	Ronda Dr	04-022	04-023	37										✓				
04023-04028	Ronda Dr	04-023	04-024	44										✓				
04023-04028	Ronda Dr	04-023	04-028	44										✓				
04024-04025	Longfellow Dr	04-024	04-025	11										✓				
04024-04025	Longfellow Dr	04-024	04-025	11										✓				
04025-04026	Longfellow Dr	04-025	04-026	25										✓				
04025-04026	Longfellow Dr	04-025	04-026	25										✓				
04026-04027	Longfellow Dr	04-026	04-027	36										✓				
04026-04027	Longfellow Dr	04-026	04-027	36										✓				
04027-04028	Longfellow Dr	04-027	04-028	33										✓				
04027-04028	Longfellow Dr	04-027	04-028	33										✓				
04053-04054	8th St	04-053	04-054	23										✓				
04053-04054	8th St	04-053	04-054	23										✓				
04054-04056	8th St	04-054	04-056	1														
04054-04056	8th St	04-054	04-056	1														
04055-04056	Johnson St	04-055	04-056	14										✓				
04055-04056	Johnson St	04-055	04-056	14										✓				
04056-04059	8th St	04-056	04-059															
04056-04059	8th St	04-056	04-059															
04057-04058	8th St	04-057	04-058	1														
04057-04058	8th St	04-057	04-058	1														
04058-04059	8th St	04-058	04-059															
04058-04059	8th St	04-058	04-059															
04059-04060	8th St	04-059	04-060															
04059-04060	8th St	04-059	04-060															
04060-04064	8th St	04-060	04-064	1														
04060-04064	8th St	04-060	04-064	1														
04061-04062	8th St	04-061	04-062															
04061-04062	8th St	04-061	04-062															
04062-04063	8th St	04-062	04-063	10										✓				
04062-04063	8th St	04-062	04-063	10										✓				
04063-04064	8th St	04-063	04-064	1														
04063-04064	8th St	04-063	04-064	1														
04069-04070	9th St	04-069	04-070	14										✓				
04069-04070	9th St	04-069	04-070	14										✓				
04070-04071	9th St	04-070	04-071	1														
04070-04071	9th St	04-070	04-071	1														
04071-04075	9th St	04-071	04-075	4		1									✓			

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Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots In Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
04071-04075	9th St	04-071	04-075	4		1								✓				
05001-05002	Ruhland Ave	05-001	05-002	14										✓				
05001-05002	Ruhland Ave	05-001	05-002	14										✓				
05002-05003	Ruhland Ave	05-002	05-003	1														
05002-05003	Ruhland Ave	05-002	05-003	1														
05003-05006	Peck Ave	05-003	05-006	65										✓				
05003-05006	Peck Ave	05-003	05-006	65			1							✓				
05004-05005	Voorhees Ave	05-004	05-005	29										✓				
05004-05005	Voorhees Ave	05-004	05-005	29										✓				
05005-05006	Voorhees Ave	05-005	05-005	1														
05005-05006	Voorhees Ave	05-005	05-006	1														
05006-05009	Peck Ave	05-006	05-009	12										✓				
05006-05009	Peck Ave	05-006	05-009	12										✓				
05007-05008	Curtis Ave	05-007	05-008	33										✓				
05007-05008	Curtis Ave	05-007	05-008	33			1							✓	✓			
05008-05009	Peck Ave	05-008	05-009	7														
05008-05009	Peck Ave	05-008	05-009	7														
05009-05010	Shores Parking Lot	05-009	05-010	57										✓				
05009-05010	Shores Parking Lot	05-009	05-010	57										✓				
05010-05011	Shores School	05-010	05-011	1														
05010-05011	Shores School	05-010	05-011	1														
05017-05019	Chabela Dr	05-017	05-019	1														
05017-05019	Chabela Dr	05-017	05-019	1														
05018-05019	Tennyson St	05-018	05-019	0														
05018-05019	Tennyson St	05-018	05-019															
05019-05020	Tennyson St	05-019	05-020															
05019-05020	Tennyson St	05-019	05-020															
05020-05021	Tennyson St	05-020	05-021					47								✓		
05020-05021	Tennyson St	05-020	05-021					47								✓		
05021-05022	Tennyson St	05-021	05-022	1														
05021-05022	Tennyson St	05-021	05-022	1														
05022-05023	Tennyson St	05-022	05-023															
05022-05023	Tennyson St	05-022	05-023															
05052-05053	Curtis Ave	05-052	05-053	16										✓				
05052-05053	Curtis Ave	05-052	05-053	16										✓				
05053-05055	Curtis Ave	05-053	05-055	7														
05053-05055	Curtis Ave	05-053	05-055	7														
05054-05055	Rowell Ave	05-054	05-055															
05054-05055	Rowell Ave	05-054	05-055															
05055-05056	Rowell Ave	05-055	05-056	4														
05055-05056	Rowell Ave	05-055	05-056	4														
06001-06002	22nd St	06-001	06-002	35										✓				
06001-06002	22nd St	06-001	06-002	35										✓				
06002-06003	22nd St	06-002	06-003	30										✓				
06002-06003	22nd St	06-002	06-003	30										✓				
06003-06005	Cedar Ave	06-003	06-005	1														
06003-06005	Cedar Ave	06-003	06-005	1														
06004-06005	21st St	06-004	06-005	29										✓				
06004-06005	21st St	06-004	06-005	29										✓				
06005-06008	Cedar Ave	06-005	06-008	15										✓				
06005-06008	Cedar Ave	06-005	06-008	15										✓				
06006-06007	20th St	06-006	06-007	26										✓				
06006-06007	20th St	06-006	06-007	26										✓				
06007-06008	20th St	06-007	06-008	54										✓				
06007-06008	20th St	06-007	06-008	54										✓				
06008-06010	Cedar Ave	06-008	06-010	34										✓				
06008-06010	Cedar Ave	06-008	06-010	34										✓				
06009-06010	18th St	06-009	06-010	17										✓				
06009-06010	18th St	06-009	06-010	17										✓				
06009-06034	18th St	06-009	06-034	6														
06009-06034	18th St	06-009	06-034	6														
06024-06025	Oak Ave	06-024	06-025	29										✓				
06024-06025	Oak Ave	06-024	06-025	29										✓				
06025-06026	Oak Ave	06-025	06-026	9														
06025-06026	Oak Ave	06-025	06-026	9														
06026-06030	Oak Ave	06-026	06-030	14										✓				
06026-06030	Oak Ave	06-026	06-030	14										✓				
06027-06028	Oak Ave	06-027	06-028	37										✓				
06027-06028	Oak Ave	06-027	06-028	37										✓				
06028-06029	Oak Ave	06-028	06-029															
06028-06029	Oak Ave	06-028	06-029															
06029-06030	Oak Ave	06-029	06-030	38										✓				
06029-06030	Oak Ave	06-029	06-030	38										✓				
06030-06233	19th St	06-030	06-233															
06030-06233	19th St	06-030	06-233															
06031-06032	Magnolia Ave	06-031	06-032	46										✓				
06031-06032	Magnolia Ave	06-031	06-032	46										✓				
06032-06033	Magnolia Ave	06-032	06-033	22										✓				
06032-06033	Magnolia Ave	06-032	06-033	22										✓				
06033-06035	Magnolia Ave	06-033	06-035	30										✓				
06033-06035	Magnolia Ave	06-033	06-035	30										✓				
06034-06035	18th St	06-034	06-035	50										✓				
06034-06035	18th St	06-034	06-035	50										✓				
06035-06036	Magnolia Ave	06-035	06-036	3														
06035-06036	Magnolia Ave	06-035	06-036	3														
06036-06037	Magnolia Ave	06-036	06-037															
06036-06037	Magnolia Ave	06-036	06-037															
06037-06050	Magnolia Ave	06-037	06-050	1														
06037-06050	Magnolia Ave	06-037	06-050	1														

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Re-line
	Street Name	U/S MH	D/S MH															
06139-06140	Larsson St	06-039	06-040	52		1								✓	✓			
06048-06049	17th St	06-048	06-049	10										✓				
06048-06049	17th St	06-048	06-049	10										✓				
06049-06050	17th St	06-049	06-050															
06049-06050	17th St	06-049	06-050															
06067-06068	Sepulveda Blvd	06-067	06-068															
06067-06068	Sepulveda Blvd	06-067	06-068															
06068-06069	Sepulveda Blvd	06-068	06-069															
06068-06069	Sepulveda Blvd	06-068	06-069															
06069-06072	Sepulveda Blvd	06-069	06-072															
06069-06072	Sepulveda Blvd	06-069	06-072															
06070-06071	Sepulveda Blvd	06-070	06-071	7														
06070-06071	Sepulveda Blvd	06-070	06-071	7														
06071-06072	Sepulveda Blvd	06-071	06-072	1														
06071-06072	Sepulveda Blvd	06-071	06-072	1														
06072-06077	14th St	06-072	06-077															
06072-06077	14th St	06-072	06-077															
06073-06074	Oak Ave	06-073	06-074	25										✓				
06073-06074	Oak Ave	06-073	06-074	25										✓				
06074-06077	Oak Ave	06-074	06-077															
06074-06077	Oak Ave	06-074	06-077															
06075-06076	Oak Ave	06-075	06-076															
06075-06076	Oak Ave	06-075	06-076															
06076-06077	Oak Ave	06-076	06-077	10										✓				
06076-06077	Oak Ave	06-076	06-077	10										✓				
06077-06191	14th St	06-077	06-191	24										✓				
06077-06191	14th St	06-077	06-191	24										✓				
06136-06137	Larsson St	06-136	06-137	7														
06136-06137	Larsson St	06-136	06-137	7														
06137-06138	Larsson St	06-137	06-138	32										✓				
06137-06138	Larsson St	06-137	06-138	32										✓				
06138-06139	Larsson St	06-138	06-139	14										✓				
06138-06139	Larsson St	06-138	06-139	14										✓				
06139-06140	Larsson St	06-139	06-140	52		1								✓	✓			
06140-06141	Larsson St	06-140	06-141	41										✓				
06140-06141	Larsson St	06-140	06-141	41										✓				
06141-06142	Larsson St	06-141	06-142	34										✓				
06141-06142	Larsson St	06-141	06-142	34										✓				
06206-06207	12th Ct	06-206	06-207															
06206-06207	12th Ct	06-206	06-207															
06207-06208	12th Ct	06-207	06-208	41										✓				
06207-06208	12th Ct	06-207	06-208	41										✓				
06208-06210	12th Ct	06-208	06-210	1														
06208-06210	12th Ct	06-208	06-210	1														
06209-06210	Poinsettia Ave	06-209	06-210	40										✓				
06209-06210	Poinsettia Ave	06-209	06-210	40										✓				
06210-06213	Poinsettia Ave	06-210	06-213	36										✓				
06210-06213	Poinsettia Ave	06-210	06-213	36										✓				
06211-06212	14th St	06-211	06-212	28										✓				
06211-06212	14th St	06-211	06-212	28										✓				
06212-06213	14th St	06-212	06-213	7														
06212-06213	14th St	06-212	06-213	7														
06213-06220	14th St	06-213	06-220	33		1	6							✓	✓			
06213-06220	14th St	06-213	06-220	33		1	6							✓	✓			
06218-06219	Walnut Ave	06-218	06-219	1														
06218-06219	Walnut Ave	06-218	06-219	1														
06219-06220	Walnut Ave	06-219	06-220	15										✓				
06219-06220	Walnut Ave	06-219	06-220	15										✓				
06220-06223	14th St	06-220	06-223	50		1								✓	✓			
06220-06223	14th St	06-220	06-223	50		1								✓	✓			
06221-06222	Pine Ave	06-221	06-222	14										✓				
06221-06222	Pine Ave	06-221	06-222	14										✓				
06222-06223	Pine Ave	06-222	06-223	33				1						✓				
06222-06223	Pine Ave	06-222	06-223	33				1						✓				
06222-06223	Pine Ave	06-222	06-223	33				1						✓				
06230-06231	Elm Ave	06-230	06-231	1														
06230-06231	Elm Ave	06-230	06-231	1														
06231-06232	Elm Ave	06-231	06-232	4														
06231-06232	Elm Ave	06-231	06-232	4														
06232-06233	Elm Ave	06-232	06-233	5														
06232-06233	Elm Ave	06-232	06-233	5														
06241-06242	18th St	06-241	06-242	8														
06241-06242	18th St	06-241	06-242	8														
06242-06243	18th St	06-242	06-243	16										✓				
06242-06243	18th St	06-242	06-243	16										✓				
06243-06244	18th St	06-243	06-244	38										✓				
06243-06244	18th St	06-243	06-244	38										✓				
06244-06250	Palm Ave	06-244	06-250	65										✓				
06244-06250	Palm Ave	06-244	06-250	65										✓				
06245-06246	Palm Ave	06-245	06-246	1														
06245-06246	Palm Ave	06-245	06-246	1														
06246-06247	Palm Ave	06-246	06-247	1														
06246-06247	Palm Ave	06-246	06-247	1														
06247-06250	Palm Ave	06-247	06-250	4														
06247-06250	Palm Ave	06-247	06-250	4														
06248-06249	Easement	06-248	06-249	39		1								✓				
06248-06249	Easement	06-248	06-249	39		1								✓				
06249-06250	19th St	06-249	06-250	11										✓				
06249-06250	19th St	06-249	06-250	11										✓				

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
06282-06283	Oak Ave	06-282	06-283	54		1								✓	✓			
06282-06283	Oak Ave	06-282	06-283	54		1								✓	✓			
06283-06284	Oak Ave	06-283	06-284	61		1								✓	✓			
06283-06284	Oak Ave	06-283	06-284	61		1								✓	✓			
06284-06285	Oak Ave	06-284	06-285	61										✓				
06284-06285	Oak Ave	06-284	06-285	61										✓				
06285-06286	33rd St	06-285	06-286	1														
06285-06286	33rd St	06-285	06-286	1														
06286-06290	Ardmore Ave	06-286	06-290	8														
06286-06290	Ardmore Ave	06-286	06-290	8														
07001-07002	Rosecrans Ave	07-001	07-002	2														
07001-07002	Rosecrans Ave	07-001	07-002	2														
07002-07003	Rosecrans Ave	07-002	07-003					1										
07002-07003	Rosecrans Ave	07-002	07-003					1										
07003-07005	Rosecrans Ave	07-003	07-005	42										✓				
07003-07005	Rosecrans Ave	07-003	07-005	42										✓				
07004-07005	Pine Ave	07-004	07-005	12										✓				
07004-07005	Pine Ave	07-004	07-005	12										✓				
07005-07007	Rosecrans Ave	07-005	07-007	56										✓				
07005-07007	Rosecrans Ave	07-005	07-007	56										✓				
07006-07007	Walnut Ave	07-006	07-007	19		1								✓	✓			
07006-07007	Walnut Ave	07-006	07-007	19		1								✓	✓			
07007-07011	Rosecrans Ave	07-007	07-011	40										✓				
07007-07011	Rosecrans Ave	07-007	07-011	40										✓				
07008-07009	Poinsettia Ave	07-008	07-009	23										✓				
07008-07009	Poinsettia Ave	07-008	07-009	23										✓				
07009-07010	Poinsettia Ave	07-009	07-010	14										✓				
07009-07010	Poinsettia Ave	07-009	07-010	14										✓				
07010-07011	Poinsettia Ave	07-010	07-011	3														
07010-07011	Poinsettia Ave	07-010	07-011	3														
07011-07038	Rosecrans Ave	07-011	07-038	7														
07011-07038	Rosecrans Ave	07-011	07-038	7														
07012-07013	35th St	07-012	07-013	23										✓				
07012-07013	35th St	07-012	07-013	23										✓				
07013-07015	35th St	07-013	07-015	4														
07013-07015	35th St	07-013	07-015	4														
07014-07015	35th St	07-014	07-015	15										✓				
07014-07015	35th St	07-014	07-015	15										✓				
07015-07019	Easement	07-015	07-019	35										✓				
07015-07019	Easement	07-015	07-019	35										✓				
07016-07017	35th Pl	07-016	07-017	40										✓				
07016-07017	35th Pl	07-016	07-017	56										✓				
07017-07019	35th Pl	07-017	07-019	28										✓				
07017-07019	35th Pl	07-017	07-019	16		1								✓	✓			
07018-07019	35th Pl	07-018	07-019	20										✓				
07018-07019	35th Pl	07-018	07-019	25		1								✓	✓			
07019-07022	Easement	07-019	07-022	19										✓				
07019-07022	Easement	07-019	07-022	19										✓				
07020-07021	36th St	07-020	07-021	12										✓				
07020-07021	36th St	07-020	07-021	12										✓				
07021-07022	36th St	07-021	07-022	6														
07021-07022	36th St	07-021	07-022	6														
07022-07025	36th St	07-022	07-025	2														
07022-07025	36th St	07-022	07-025	2														
07023-07024	Laurel Ave	07-023	07-024	5														
07023-07024	Laurel Ave	07-023	07-024	5														
07024-07025	Laurel Ave	07-024	07-025	58		2								✓	✓			
07024-07025	Laurel Ave	07-024	07-025	58		2								✓	✓			
07025-07029	Laurel Ave	07-025	07-029	17		1								✓	✓			
07025-07029	Laurel Ave	07-025	07-029	17		1								✓	✓			
07026-07027	Rosecrans Ave	07-026	07-027	31		2								✓	✓			
07026-07027	Rosecrans Ave	07-026	07-027	31		2								✓	✓			
07027-07028	Rosecrans Ave	07-027	07-028	24									12/8/06 Debris & Roots	✓				
07027-07028	Rosecrans Ave	07-027	07-028	24										✓				
07028-07029	Rosecrans Ave	07-028	07-029	59										✓				
07028-07029	Rosecrans Ave	07-028	07-029	59										✓				
07029-07033	Rosecrans Ave	07-029	07-033	21		1								✓	✓			
07029-07033	Rosecrans Ave	07-029	07-033	21		1								✓	✓			
07033-07037	Rosecrans Ave	07-033	07-037	23										✓				
07033-07037	Rosecrans Ave	07-033	07-037	23										✓				
07037-07038	Rosecrans Ave	07-037	07-038	19										✓				
07037-07038	Rosecrans Ave	07-037	07-038	19										✓				
07038-07042	Palm Ave	07-038	07-042	10										✓				
07038-07042	Palm Ave	07-038	07-042	10										✓				
07039-07040	Palm Ave	07-039	07-040	31										✓				
07039-07040	Palm Ave	07-039	07-040	31										✓				
07040-07041	Palm Ave	07-040	07-041	50										✓				
07040-07041	Palm Ave	07-040	07-041	50										✓				
07041-07042	Palm Ave	07-041	07-042	22										✓				
07041-07042	Palm Ave	07-041	07-042	22										✓				
08001-08001A	Sepulveda Blvd	08-001	08-001A	2				8										
08001-08002	Sepulveda Blvd	08-001	08-002	2				8										
08001A-08002	Sepulveda Blvd	08-001A	08-002															
08001A-08002	Sepulveda Blvd	08-001A	08-002															
08002-08003	Sepulveda Blvd	08-002	08-003	13		1								✓	✓			
08002-08003	Sepulveda Blvd	08-002	08-003	13		1								✓	✓			
08003-08004	Valley Dr	08-003	08-004															

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Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
08003-08004	Valley Dr	08-003	08-004															
08004-08007	Valley Dr	08-004	08-007															
08004-08007	Valley Dr	08-004	08-007															
08005-08006	Oak Ave	08-005	08-006	24										✓				
08005-08006	Oak Ave	08-005	08-006	24										✓				
08006-08007	Oak Ave	08-006	08-007	11		2								✓	✓			
08006-08007	Oak Ave	08-006	08-007	11		2								✓	✓			
08007-08011	Valley Dr	08-007	08-011															
08007-08011	Valley Dr	08-007	08-011															
08008-08009	Elm Ave	08-008	08-009	9						15							✓	
08008-08009	Elm Ave	08-008	08-009	3														
08008-08009	Elm Ave	08-008	08-009	12						15				✓			✓	
08009-08010	Elm Ave	08-009	08-010	5														
08009-08010	Elm Ave	08-009	08-010	5														
08010-08011	Elm Ave	08-010	08-011															
08010-08011	Elm Ave	08-010	08-011															
08024-08025	Valley Dr	08-024	08-025	50								✓		✓				
08024-08025	Valley Dr	08-024	08-025	50								✓		✓				
08025-08026	Walnut Ave	08-025	08-026	13		1								✓	✓			
08025-08026	Walnut Ave	08-025	08-026	13		1								✓	✓			
08026-08027	Walnut Ave	08-026	08-027	27										✓				
08026-08027	Walnut Ave	08-026	08-027	27										✓				
08027-08023	31st St	08-027	08-033	4		1									✓			
08027-08033	31st St	08-027	08-033	4		1									✓			
08028-08029	Poinsettia Ave	08-028	08-029	1														
08028-08029	Poinsettia Ave	08-028	08-029	1						5							✓	
08029-08030	Poinsettia Ave	08-029	08-030	10		1								✓	✓			
08029-08030	Poinsettia Ave	08-029	08-030	10		1								✓	✓			
08030-08033	Poinsettia Ave	08-030	08-033	6														
08030-08033	Poinsettia Ave	08-030	08-033	6														
08031-08032	Poinsettia Ave	08-031	08-032	30										✓				
08031-08032	Poinsettia Ave	08-031	08-032	30										✓				
08032-08033	Poinsettia Ave	08-032	08-033	40		1								✓	✓			
08032-08033	Poinsettia Ave	08-032	08-033	40		1								✓	✓			
08048-08049	Maple Ave	08-048	08-049	16										✓				
08048-08049	Maple Ave	08-048	08-049	16										✓				
08049-08050	Maple Ave	08-049	08-050	24										✓				
08049-08050	Maple Ave	08-049	08-050	24										✓				
08050-08052	Maple Ave	08-050	08-052	8		1								✓				
08050-08052	Maple Ave	08-050	08-052	8		1								✓				
08056-08058	26th St	08-056	08-058	34			1							✓	✓			
08056-08058	26th St	08-056	08-058	34			1							✓	✓			
08057-08058	Laurel Ave	08-057	08-058	2			1								✓			
08057-08058	Laurel Ave	08-057	08-058	2			1								✓			
08058-08060	Laurel Ave	08-058	08-060	28										✓				
08058-08060	Laurel Ave	08-058	08-060	28										✓				
08059-08060	27th St	08-059	08-060	1														
08059-08060	27th St	08-059	08-060	1														
08060-08062	Laurel Ave	08-060	08-062	7														
08060-08062	Laurel Ave	08-060	08-062	7														
08061-08062	29th St	08-061	08-062	5			1								✓			
08061-08062	29th St	08-061	08-062	5			1								✓			
08062-08073	Laurel Ave	08-062	08-073	9														
08063-08064	30th St	08-063	08-064	25										✓				
08063-08064	30th St	08-063	08-064	25										✓				
08064-08065	30th St	08-064	08-065	12										✓				
08064-08065	30th St	08-064	08-065	12										✓				
08065-08066	30th St	08-065	08-066	41		1								✓	✓			
08065-08066	30th St	08-065	08-066	41		1								✓	✓			
08066-08072	30th St	08-066	08-072	18										✓				
08066-08072	30th St	08-066	08-072	18										✓				
08067-08068	31st St	08-067	08-068	59			3							✓	✓			
08068-08071	31st St	08-068	08-071	38			1							✓	✓			
08069-08070	Laurel Ave	08-069	08-070	32			2							✓	✓			
08070-08071	Laurel Ave	08-070	08-071	26										✓				
08071-08072	Laurel Ave	08-071	08-072	4								✓						
08072-08073	Laurel Ave	08-072	08-073	11										✓				
09001-09002	9th St	09-001	09-002	12										✓				
09001-09002	9th St	09-001	09-002	12										✓				
09002-09004	9th St	09-002	09-004															
09002-09004	9th St	09-002	09-004															
09003-09004	Poinsettia Ave	09-003	09-004	3														
09003-09004	Poinsettia Ave	09-003	09-004	3														
09004-09005	9th St	09-004	09-005	1														
09004-09005	9th St	09-004	09-005	1														
09005-09010	9th St	09-005	09-010															
09005-09010	9th St	09-005	09-010															
09008-09010	No Street Name	09-008	09-010	17										✓				
09008-09010	No Street Name	09-008	09-010	17										✓				
09009-09010	9th St	09-009	09-010	18										✓				
09009-09010	9th St	09-009	09-010	18										✓				
09010-09011	No Street Name	09-010	09-011	25				4						✓				
09010-09011	No Street Name	09-010	09-011	25				4						✓				
09011-09013	No Street Name	09-011	09-013	38	2	1	5							✓	✓			
09011-09013	No Street Name	09-011	09-013	38	2	1	5							✓	✓			
09012-09013	No Street Name	09-012	09-013	13			1							✓	✓			
09012-09013	No Street Name	09-012	09-013	13			1							✓	✓			
09013-09015	No Street Name	09-013	09-015	18										✓				
09013-09015	No Street Name	09-013	09-015	18										✓				



Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots In Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
09016-09017	John St	09-016	09-017	2							10						✓	
09016-09017	John St	09-016	09-017	2							10						✓	
09017-09019	John St	09-017	09-019	4														
09017-09019	John St	09-017	09-019	4														
09018-09019	10th St	09-018	09-019	45							10			✓			✓	
09018-09019	10th St	09-018	09-019	45							10			✓			✓	
09019-09020	10th St	09-019	09-020															
09019-09020	10th St	09-019	09-020															
09020-09021	10th St	09-020	09-021	25										✓				
09020-09021	10th St	09-020	09-021	25										✓				
09021-09023	10th St	09-021	09-023															
09021-09023	10th St	09-021	09-023															
09022-09023	Poinsettia Ave	09-022	09-023	16										✓				
09022-09023	Poinsettia Ave	09-022	09-023	16										✓				
09023-09036	Poinsettia Ave	09-023	09-036															
09023-09036	Poinsettia Ave	09-023	09-036															
09024-09025	11th St	09-024	09-025															
09024-09025	11th St	09-024	09-025															
09025-09028	11th St	09-025	09-028	20										✓				
09025-09028	11th St	09-025	09-028	20										✓				
09026-09028	Pacific Pl	09-026	09-028	1														
09026-09028	Pacific Pl	09-026	09-028	1														
09027-09028	Pacific Pl	09-027	09-028	36										✓				
09027-09028	Pacific Pl	09-027	09-028	36										✓				
09028-09031	11th St	09-028	09-031	10										✓				
09028-09031	11th St	09-028	09-031	10										✓				
09029-09031	John St	09-029	09-031															
09029-09031	John St	09-029	09-031															
09030-09031	John St	09-030	09-031	12										✓				
09030-09031	John St	09-030	09-031	12										✓				
09031-09032	11th St	09-031	09-032															
09031-09032	11th St	09-031	09-032															
09032-09033	11th St	09-032	09-033	23										✓				
09032-09033	11th St	09-032	09-033	23										✓				
09033-09036	11th St	09-033	09-036															
09033-09036	11th St	09-033	09-036															
10011-10012	Boundary Pl	10-011	10-012	18										✓				
10011-10012	Boundary Pl	10-011	10-012	18										✓				
10012-10013	Boundary Pl	10-012	10-013	17										✓				
10012-10013	Boundary Pl	10-012	10-013	17										✓				
10013-10014	Boundary Pl	10-013	10-014	7			2											
10013-10014	Boundary Pl	10-013	10-014	7			2											
10014-10017	Dianthus St	10-014	10-017															
10014-10017	Dianthus St	10-014	10-017															
10015-10016	Duncan Ave	10-015	10-016	34										✓				
10015-10016	Duncan Ave	10-015	10-016	34										✓				
10016-10017	Duncan Ave	10-016	10-017	2														
10016-10017	Duncan Ave	10-016	10-017	2														
10017-10019	Duncan Ave	10-017	10-019															
10017-10019	Duncan Ave	10-017	10-019															
10018-10019	No Street Name	10-018	10-019	28										✓				
10018-10019	No Street Name	10-018	10-019	28										✓				
10019-10020	Duncan Ave	10-019	10-020	8														
10019-10020	Duncan Ave	10-019	10-020	8														
10020-10029	Duncan Ave	10-020	10-029	15			1							✓		✓		
10020-10029	Duncan Ave	10-020	10-029	15			1							✓		✓		
10029-10039	Duncan Ave	10-029	10-039	6														
10029-10039	Duncan Ave	10-029	10-039	6														
10030-10031	Boundary Pl	10-030	10-031	5	1									✓				
10030-10031	Boundary Pl	10-030	10-031	5	1									✓				
10031-10033	Boundary Pl	10-031	10-033	4														
10031-10033	Boundary Pl	10-031	10-033	4														
10032-10033	Poinsettia Ave	10-032	10-033	1														
10032-10033	Poinsettia Ave	10-032	10-033	1														
10033-10034	Boundary Pl	10-033	10-034	16										✓				
10033-10034	Boundary Pl	10-033	10-034	16										✓				
10034-10035	Boundary Pl	10-034	10-035	94										✓				
10034-10035	Boundary Pl	10-034	10-035	94										✓				
10035-10041	Ardmore Ave	10-035	10-041	2														
10035-10041	Ardmore Ave	10-035	10-041	2														
10036-10038	Duncan Pl	10-036	10-038	10			1							✓		✓		
10036-10038	Duncan Pl	10-036	10-038	10			1							✓		✓		
10037-10038	Ardmore Ave	10-037	10-038	1														
10037-10038	Ardmore Ave	10-037	10-038	1														
10038-10040	Ardmore Ave	10-038	10-040	6														
10038-10040	Ardmore Ave	10-038	10-040	6														
10039-10040	Duncan Ave	10-039	10-040	11										✓				
10039-10040	Duncan Ave	10-039	10-040	11										✓				
10040-10041	Ardmore Ave	10-040	10-041	1														
10040-10041	Ardmore Ave	10-040	10-041	1														
10041-10042	Longfellow Dr	10-041	10-042	5														
10041-10042	Longfellow Dr	10-041	10-042	5														
10042-10043	Longfellow Dr	10-042	10-043	1														
10043-10046	Ingleside Dr	10-043	10-046															
10044-10045	Francisco St	10-044	10-045	5														
10045-10046	Francisco St	10-045	10-046	17		2								✓		✓		
10046-10049	Easement	10-046	10-049															
10047-10048	Homer St	10-047	10-048	8														
10048-10049	Homer St	10-048	10-049	11										✓				

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Refine
	Street Name	U/S MH	D/S MH															
10049-10053	Easement	10-049	10-053	1														
10050-10052	Vista Dr	10-050	10-052	1														
10051-10052	Easement	10-051	10-052	1														
10052-10053	Easement	10-052	10-053	2														
10053-14100	Easement	10-053	14-100															
10054-10055	1st St	10-054	10-055	28										✓				
10055-10056	1st St	10-055	10-056	31										✓				
10056-14100	1st St	10-056	14-100	2														
10057-10148	1st St	10-057	10-148	15		2								✓	✓			
10058-140L5	1st St	10-058	14-0L5															
10072-10073	6th St	10-072	10-073															
10072-10073	6th St	10-072	10-073															
10073-10075	6th St	10-073	10-075	2														
10073-10075	6th St	10-073	10-075	2														
10074-10075	John St	10-074	10-075	3														
10074-10075	John St	10-074	10-075	3														
10075-10078	John St	10-075	10-078	2														
10075-10078	John St	10-075	10-078	2														
10076-10077	5th St	10-076	10-077	3														
10076-10077	5th St	10-076	10-077	3														
10077-10078	5th St	10-077	10-078															
10077-10078	5th St	10-077	10-078															
10112-85075	2nd St	10-112	85-075															
10113-10114	2nd St	10-113	10-114															
10114-10147	2nd St	10-114	10-147	2														
10115-10116	Valley Dr	10-115	10-116	32				8						✓				
10116-10117	Valley Dr	10-116	10-117	36										✓				
10117-10118	Valley Dr	10-117	10-118	37										✓				
10118-10119	Valley Dr	10-118	10-119	33										✓				
10119-10120	5th St	10-119	10-120	23	1									✓				
10120-10132	5th St	10-120	10-132	27		1								✓	✓			
10121-10122	7th St	10-121	10-122	50		7								✓	✓			
10121-10122	7th St	10-121	10-122	50		7								✓	✓			
10122-10124	7th St	10-122	10-124	44										✓				
10122-10124	7th St	10-122	10-124	44										✓				
10123-10124	7th St	10-123	10-124															
10123-10124	7th St	10-123	10-124															
10124-10129	Ingleside Dr	10-124	10-129	35		1								✓	✓			
10124-10129	Ingleside Dr	10-124	10-129	35		1								✓	✓			
10125-10126	6th St	10-125	10-126	15	1									✓				
10125-10126	6th St	10-125	10-126	15	1									✓				
10126-10129	6th St	10-126	10-129	33		4								✓	✓			
10126-10129	6th St	10-126	10-129	33		4								✓	✓			
10127-10128	6th St	10-127	10-128	16				1						✓				
10127-10128	6th St	10-127	10-128	16				1						✓				
10128-10129	6th St	10-128	10-129	28										✓				
10128-10129	6th St	10-128	10-129	28										✓				
10129-10132	Ingleside Dr	10-129	10-132	40		1								✓	✓			
10129-10132	Ingleside Dr	10-129	10-132	40		1								✓	✓			
10130-10131	5th St	10-130	10-131	34		3								✓	✓			
10131-10132	5th St	10-131	10-132	1										✓	✓			
10131-10132	5th St	10-131	10-132	22		3								✓	✓			
10132-10137	Ingleside Dr	10-132	10-137															
10133-10134	4th St	10-133	10-134	1														
10134-10137A	4th St	10-134	10-137A	1														
10135-10136	4th St	10-135	10-136	2														
10136-10137	4th St	10-136	10-137	34		2		8						✓	✓			
10137-10142	Ingleside Dr	10-137	10-142	3														
10137A-10137	4th St	10-137A	10-137															
10138-10139	3rd St	10-138	10-139	61		2								✓	✓			
10139-10142	3rd St	10-139	10-142	23										✓				
10140-10141	3rd St	10-140	10-141	16										✓				
10141-10142	3rd St	10-141	10-142	15										✓				
10142-10147	Ingleside Dr	10-142	10-147	2														
10143-10146	Vista Dr	10-143	10-146	10										✓				
10143-10146	Vista Dr	10-143	10-146	10										✓				
10144-10146	Vista Dr	10-144	10-146	1														
10144-10146	Vista Dr	10-144	10-146	1														
10145-10146	2nd St	10-145	10-146	15		2								✓	✓			
10145-10146	2nd St	10-145	10-146	15		2								✓	✓			
10147-10146	2nd St	10-146	10-147	18										✓				
10146-10147	2nd St	10-146	10-147	18										✓				
10147-14100	Ingleside Dr	10-147	14-100															
10148-14100	1st St	10-148	14-100															
11001-11002	19th St	11-001	11-002	31		4								✓	✓			
15037-11001	19th St	11-001	15-037	1														
15037-11001	19th St	11-001	15-037	1														
11002-11003	19th St	11-002	11-003	4		1									✓			
11003-11004	Ardmore Ave	11-003	11-004	5														
11004-11005	Ardmore Ave	11-004	11-005	3														
11005-11011	Ardmore Ave	11-005	11-011	2														
11006-11007	18th St	11-006	11-007															
11007-11008	18th St	11-007	11-008	1														
11008-11009	18th St	11-008	11-009	1														
11009-11010	18th St	11-009	11-010	4														
11010-11011	18th St	11-010	11-011															
11011-85009	Ardmore Ave	11-011	85-009	3														
11012-11018	Ardmore Ave	11-012	11-018															

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Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
11013-11014	17th St	11-013	11-014	1														
11014-11015	17th St	11-014	11-015	3														
11015-11016	17th St	11-015	11-016	11		1								✓	✓			
11016-11017	17th St	11-016	11-017	9														
11017-11018	17th St	11-017	11-018															
11018-11021	Ardmore Ave	11-018	11-021	26		2		5						✓	✓			
11019-11020	15th St	11-019	11-020	11		2								✓	✓			
11020-11021	15th St	11-020	11-021	27							10	✓		✓	✓		✓	
11021-11025	Ardmore Ave	11-021	11-025	6		1									✓			
11022-11023	14th St	11-022	11-023	13										✓				
11023-11024	14th St	11-023	11-024	21		1								✓	✓			
11024-11025	14th St	11-024	11-025	14		1		6						✓	✓			
11025-11030	Ardmore Ave	11-025	11-030	21				22						✓		✓		
11026-11027	13th St	11-026	11-027	3														
11027-11028	13th St	11-027	11-028	16										✓				
11028-11029	13th St	11-028	11-029	25										✓				
11029-11030	13th St	11-029	11-030	0														
11030-11032	Ardmore Ave	11-030	11-032	1														
11031-11032	13th St	11-031	11-032	1														
11032-11034	Ardmore Ave	11-032	11-034	8		1									✓			
11033-11034	12th St	11-033	11-034	12				3						✓				
11034-11034A	12th St	11-034	11-034A															
11034A-11047A	Ardmore Ave	11-034A	11-047A															
11035-11037	Pacific Ave	11-035	11-037	30										✓				
11036-11037	Manhattan Beach Blvd	11-036	11-037															
11037-11038	Manhattan Beach Blvd	11-037	11-038	3														
11038-11041	Manhattan Beach Blvd	11-038	11-041	7					64		20						✓	
11038-11041	Manhattan Beach Blvd	11-038	11-041	7														
11039-11040	Highview Ave	11-039	11-040	24										✓				
11039-11040	Highview Ave	11-039	11-040	24										✓				
11040-11041	Highview Ave	11-040	11-041	13		1								✓				
11040-11041	Highview Ave	11-040	11-041	13		1								✓	✓			
11041-11042	Manhattan Beach Blvd	11-041	11-042	22										✓				
11041-11042	Manhattan Beach Blvd	11-041	11-042	22										✓				
11042-11046	Manhattan Beach Blvd	11-042	11-046	19										✓				
11042-11046	Manhattan Beach Blvd	11-042	11-046	19										✓				
11043-11045	12th St	11-043	11-045	11		1						✓		✓	✓			
11044-11045	Fisher Ave	11-044	11-045	8		1									✓			
11045-11046	Fisher Ave	11-045	11-046	4														
11046-11047	Manhattan Beach Blvd	11-046	11-047	23		1							4/20/06 Debris	✓	✓			
11046-11047	Manhattan Beach Blvd	11-046	11-047	23		1								✓	✓			
11047-11051	Ardmore Ave	11-047	11-051															
11048-11049	11th Pl	11-048	11-049	5														
11049-11050	11th Pl	11-049	11-050	8		1									✓			
11050-11051	11th Pl	11-050	11-051	28		2	2							✓	✓			
11051-11069	Ardmore Ave	11-051	11-069															
11064-11065	11th St	11-064	11-065	14		1								✓	✓			
11065-11067	11th St	11-065	11-067	5														
11066-11067	Railroad Pl	11-066	11-067	13		3								✓	✓			
11067-11068	11th St	11-067	11-068	1														
11068-11069	11th St	11-068	11-069	1														
11069-11071	10th Pl	11-069	11-071								15							✓
11070-11071	10th Pl	11-070	11-071															
11071-11073	10th Pl	11-071	11-073															
11072-11071	Easement	11-072	11-071															
11073-11075	Morningside Dr	11-073	11-075															
11075-11078	11th St	11-075	11-078	2														
11076-11079	Highland Ave	11-076	11-079															
11077-11079	Highland Ave	11-077	11-079	1														
11078-11079	11th St	11-078	11-079															
11079-85071	11th St	11-079	85-071	1														
11080-11080A	11th St	11-080	11-080A															
11082-11083	10th St	11-082	11-083	9				2										
11083-11084	10th St	11-083	11-084	15										✓				
11084-11085	10th St	11-084	11-085															
11085-11081	Manhattan Ave	11-085	11-081															
11085-11095	Manhattan Ave	11-085	11-095															
11086-11087	10th St	11-086	11-087	28		1								✓	✓			
11086-11087	10th St	11-086	11-087	28		1								✓	✓			
11087-11088	10th St	11-087	11-088	39										✓				
11087-11088	10th St	11-087	11-088	39										✓				
11088-11092	Crest Dr	11-088	11-092	23										✓				
11088-11092	Crest Dr	11-088	11-092	23										✓				
11089-11090	9th St	11-089	11-090															
11089-11090	9th St	11-089	11-090															
11090-11092	9th St	11-090	11-092															
11090-11092	9th St	11-090	11-092															
11091-11091A	Crest Dr	11-091	11-091A	3		1	1	1							✓			
11091-11091A	Crest Dr	11-091	11-091A	3		1	1	1							✓			
11091A-11092	Crest Dr	11-091A	11-092															
11091A-11092	Crest Dr	11-091A	11-092															
11092-11092A	9th St	11-092	11-092A															
11092-11092A	9th St	11-092	11-092A															
11092A-11093	9th St	11-092A	11-093															
11092A-11093	9th St	11-092A	11-093															
11093-11094	9th St	11-093	11-094	14							15							✓
11093-11094	9th St	11-093	11-094	14							15			✓				✓
11094-11095	9th St	11-094	11-095															

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
11095-11102	Manhattan Ave	11-095	11-102															
11096-11097	8th St	11-096	11-097	13										✓	✓			
11097-11098	8th St	11-097	11-098	50			2	1						✓	✓			
11098-11099	8th St	11-098	11-099	3										✓	✓			
11099-11100	8th St	11-099	11-100	13			2		1					✓	✓			
11100-11101	8th St	11-100	11-101	12										✓				
11101-11102	8th St	11-101	11-102	1														
11102-11110	Manhattan Ave	11-102	11-110	4	1													
11103-11105	Highland Ave	11-103	11-105	44	2									✓				
11104-11105	Highland Ave	11-104	11-105	19			1							✓	✓			
11105-11106	7th St	11-105	11-106	35	3	1	2							✓	✓			
11106-11106A	7th St	11-106	11-106A	1	1													
11106A-11107	7th St	11-106A	11-107	0														
11107-11108	7th St	11-107	11-108															
11108-11109	7th St	11-108	11-109															
11110-11123	Manhattan Ave	11-110	11-123	2														
11111-11112	7th St	11-111	11-112															
11111-11112	7th St	11-111	11-112															
11112-11113A	7th St	11-112	11-113A															
11112-11113A	7th St	11-112	11-113A															
11113-11136	7th St	11-113	11-136	2				2										
11113-11136	7th St	11-113	11-136	2				2										
11113A-11113	7th St	11-113A	11-113															
11113A-11113	7th St	11-113A	11-113															
11114-11114A	4th St	11-114	11-114A															
11114-85062	4th St	11-114	85-062															
11114A-11117	4th St	11-114A	11-117															
11116-11117	Manhattan Ave	11-116	11-117	12		1								✓	✓			
11116-1117A	Manhattan Ave	11-116	11-117A	12		1								✓	✓			
11117-11119	Manhattan Ave	11-117	11-119	17										✓				
11117-11119	Manhattan Ave	11-117	11-119	17										✓				
11117A-11117	Manhattan Ave	11-117A	11-117															
11117A-11117	Manhattan Ave	11-117A	11-117															
11118-11119	5th St	11-118	11-119	13				4						✓				
11118-11119	5th St	11-118	11-119	13				4						✓				
11119-11121	Manhattan Ave	11-119	11-121	15			2	3						✓	✓			
11119-11121	Manhattan Ave	11-119	11-121	15			2	3						✓	✓			
11120-1120A	6th St	11-120	11-120A	9														
11120A-11122	6th St	11-120A	11-122	24			1							✓	✓			
11121-11123	6th St	11-121	11-123															
11122-11121	Manhattan Ave	11-122	11-121															
11123-11124	6th St	11-123	11-124															
11124-11125	6th St	11-124	11-125	6														
11125-11139	6th St	11-125	11-139															
11126-11127	8th St	11-126	11-127	8														
11126-11127	8th St	11-126	11-127	8														
11127-11135	8th St	11-127	11-135	1				3										
11127-11135	8th St	11-127	11-135	1				3										
11128-11129	9th St	11-128	11-129	28										✓				
11128-11129	9th St	11-128	11-129	28										✓				
11129-11134	9th St	11-129	11-134	11										✓				
11129-11134	9th St	11-129	11-134	11										✓				
11130-11131	10th St	11-130	11-131	4														
11130-11131	10th St	11-130	11-131	4														
11131-11133	10th St	11-131	11-133															
11131-11133	10th St	11-131	11-133															
11132-11133	The Strand	11-132	11-133	1				4	1									
11132-11133	The Strand	11-132	11-133	1				4	1									
11133-11133A	The Strand	11-133	11-133A															
11133-11133A	The Strand	11-133	11-133A															
11133A-11134B	The Strand	11-133A	11-134B								10&15						✓	
11133A-11134B	The Strand	11-133A	11-134B								10&15						✓	
11134-11134A	The Strand	11-134	11-134A															
11134-11134A	The Strand	11-134	11-134A															
11134-11135	The Strand	11-134	11-135															
11134-11135	The Strand	11-134	11-135															
11134A-11135B	The Strand	11-134A	11-135B															
11134A-11135B	The Strand	11-134A	11-135B															
11134B-11134A	The Strand	11-134B	11-134A															
11134B-11134A	The Strand	11-134B	11-134A															
11135-11136	The Strand	11-135	11-136	15				3						✓				
11135-11136	The Strand	11-135	11-136	15				3						✓				
11135B-11135A	The Strand	11-135B	11-135A															
11135B-11135A	The Strand	11-135B	11-135A															
11136-11139	The Strand	11-136	11-139															
11137-11139	The Strand	11-137	11-139	1														
11138-11139	The Strand	11-138	11-139															
11139-11139A	The Strand	11-139	11-139A															
1135A-11035	Pacific Ave	11-35A	11-035	10	1	1								✓	✓			
12001-12002	Highland Ave	12-001	12-002	7														
12001-12002	Highland Ave	12-001	12-002	7														
12002-12003	Highland Ave	12-002	12-003	44			1							✓	✓			
12002-12003	Highland Ave	12-002	12-003	44			1							✓	✓			
12003-12004	Highland Ave	12-003	12-004	48				42						✓			✓	
12003-12004	Highland Ave	12-003	12-004	48				42						✓			✓	
12004-12009	Highland Ave	12-004	12-009	38			1							✓	✓			
12004-12009	Highland Ave	12-004	12-009	38			1							✓	✓			
12005-12009	1st St	12-005	12-009	19			1							✓	✓			
12005-12009	1st St	12-005	12-009	19			1							✓	✓			

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
12006-12007	Homer St	12-006	12-007															
12006-12007	Homer St	12-006	12-007															
12007-12008	Highland Ave	12-007	12-008	43	1	2	10							✓	✓	✓		
12007-12008	Highland Ave	12-007	12-008	43	1	2	10							✓	✓	✓		
12009-12010	1st St	12-009	12-010	1														
12009-12010	1st St	12-009	12-010	1														
12010-12023	1st St	12-010	12-023	19		1	2							✓	✓			
12010-12023	1st St	12-010	12-023	19		1	2							✓	✓			
12011-12012	3rd St	12-011	12-012	10										✓				
12011-12012	3rd St	12-011	12-012	10										✓				
12012-12013	3rd St	12-012	12-013	4			3											
12012-12013	3rd St	12-012	12-013	4			3											
12013-12018	Manhattan Ave	12-013	12-018	25		2								✓	✓			
12013-12018	Manhattan Ave	12-013	12-018	25		2								✓	✓			
12014-12015	2nd St	12-014	12-015	2														
12014-12015	2nd St	12-014	12-015	2														
12015-12016	2nd St	12-015	12-016	1														
12015-12016	2nd St	12-015	12-016	1														
12016-12017	2nd St	12-016	12-017															
12017-12018	2nd St	12-017	12-018	1														
12017-12018	2nd St	12-017	12-018	1														
12018-12023	Manhattan Ave	12-018	12-023	8			3											
12018-12023	Manhattan Ave	12-018	12-023	8			3											
12019-12020	Homer St	12-019	12-020	1														
12019-12020	Homer St	12-019	12-020	1														
12020-12022	Manhattan Ave	12-020	12-022	2		1	7								✓			
12020-12022	Manhattan Ave	12-020	12-022	2		1	7								✓			
12021-12022	1st St	12-021	12-022	5	1			1						✓				
12021-12022	1st St	12-021	12-022	5	1			1										
12022-12024	Manhattan Ave	12-022	12-024															
12022-12024	Manhattan Ave	12-022	12-024															
12023-12024	Manhattan Ave	12-023	12-024															
12023-12024	Manhattan Ave	12-023	12-024															
12025-12026	1st St	12-025	12-026	13										✓				
12025A-12025	1st St	12-025A	12-025	8	1													
12026-12027	1st St	12-026	12-027															
12027-12027A	1st St	12-027	12-027A															
12027A-140L5	1st St	12-027A	14-0L5															
12028-12029	2nd St	12-028	12-029	8	2	1									✓			
12030-140L4	2nd St	12-030	14-0L4															
12031-12032	3rd St	12-031	12-032	2														
12031-12032	3rd St	12-031	12-032	2														
12032-12039	3rd St	12-032	12-039															
12032-12039	3rd St	12-032	12-039															
12033-12034	4th St	12-033	12-034	2														
12033-12034	4th St	12-033	12-034	2														
12034-12038	4th St	12-034	12-038															
12034-12038	4th St	12-034	12-038															
12035-12036	5th St	12-035	12-036	19		2								✓	✓			
12036-12037	5th St	12-036	12-037	4		1									✓			
12037-12038	The Strand	12-037	12-038															
12038-12039	The Strand	12-038	12-039	2				2										
12038-12039	The Strand	12-038	12-039	2														
14000A-14000B	Easement	14-000A	14-000B															
14000B-14000C	Easement	14-000B	14-000C	1														
14000C-14001	Easement	14-000C	14-001	10										✓				
14001-14002	19th St	14-001	14-002															
14002-14007	Valley Dr	14-002	14-007															
14002-14007	Valley Dr	14-002	14-007	0														
14003-14004	16th Pl	14-003	14-004	8														
14003-14004	16th Pl	14-003	14-004	8														
14004-14005	16th Pl	14-004	14-005	1														
14004-14005	16th Pl	14-004	14-005	1														
14005-14006	No Street Name	14-005	14-006	24										✓				
14005-14006	No Street Name	14-005	14-006	24										✓				
14006-14007	No Street Name	14-006	14-007	4														
14006-14007	No Street Name	14-006	14-007	4														
14007-14009	Valley Dr	14-007	14-009															
14007-14009	Valley Dr	14-007	14-009	0														
14008-14009	15TH PL	14-008	14-009	3		1									✓			
14009-14010	Valley Dr	14-009	14-010								10							✓
14009-14010	Valley Dr	14-009	14-010	0							10							✓
14010-14011	Valley Dr	14-010	14-011															
14010-14011	Valley Dr	14-010	14-011	0														
14011-14012	13th St	14-011	14-012															
14012-14013	13th St	14-012	14-013	3			1											
14013-14016	13th St	14-013	14-016	49	1	1								✓	✓			
14016-14017	13th St	14-016	14-017	15								✓		✓				
14017-14018	13th St	14-017	14-018				1					✓						
14018-14020	13th St	14-018	14-020															
14019-14020	Manhattan Ave	14-019	14-020	17										✓				
14020-14022	13th St	14-020	14-022															
14021-14022	Manhattan Ave	14-021	14-022															
14022-14023	13th St	14-022	14-023															
14023-14024	13th St	14-023	14-024															
14024-14027	13th St	14-024	14-027															
14025-14026	13th Pl	14-025	14-026	3		1									✓			
14026-14027	Ocean Dr	14-026	14-027	1														

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
14027-14066	13th St	14-027	14-066															
14028-14029	15th St	14-028	14-029					1										
14029-14031	15th St	14-029	14-031	2														
14031-14032	15th St	14-031	14-032	2														
14032-14033	15th St	14-032	14-033	2														
14033-14034	15th St	14-033	14-034															
14034-14062	15th St	14-034	14-062	6														
14035-14037	Manhattan Ave	14-035	14-037	14										✓				
14035-14037	Manhattan Ave	14-035	14-037	14										✓				
14036-14037	14th St	14-036	14-037	5									6/12/06 Roots					
14036-14037	14th St	14-036	14-037	5														
14037-14038	14th St	14-037	14-038									✓						
14037-14038	14th St	14-037	14-038									✓						
14038-14041	14th St	14-038	14-041	2								✓						
14038-14041	14th St	14-038	14-041	2								✓						
14039-14040	14th Pl	14-039	14-040	2														
14039-14040	14th Pl	14-039	14-040	2														
14040-14041	Westport	14-040	14-041															
14040-14041	Ocean Dr	14-040	14-041															
14041-14064	14th St	14-041	14-064	9														
14041-14064	14th St	14-041	14-064	9														
14042-14043	12th St	14-042	14-043	8														
14042-14043	12th St	14-042	14-043	8														
14043-14044	12th St	14-043	14-044	17										✓				
14043-14044	12th St	14-043	14-044	17										✓				
14044-14045	12th St	14-044	14-045	6														
14044-14045	12th St	14-044	14-045	6														
14045-14068	12th St	14-045	14-068	2														
14045-14068	12th St	14-045	14-068	2														
14046-14048	12th St	14-046	14-048															
14047-14048	Highland Ave	14-047	14-048															
14048-14050	Highland Ave	14-048	14-050					2										
14049-14050	Manhattan Beach Blvd	14-049	14-050															
14050-14053	Manhattan Beach Blvd	14-050	14-053					2										
14051-14053	Manhattan Ave	14-051	14-053															
14052-14053	Manhattan Ave	14-052	14-053					19										
14053-14054	Manhattan Beach Blvd	14-053	14-054															
14054-14072	Manhattan Beach Blvd	14-054	14-072															
14055-14056	11th St	14-055	14-056															
14056-14058	Ocean Dr	14-056	14-058	1														
14057-14058	11th Pl	14-057	14-058															
14058-14060	Ocean Dr	14-058	14-060					22										
14059-14060	Manhattan Beach Blvd	14-059	14-060	2				1		30							✓	
14060-14071	Manhattan Beach Blvd	14-060	14-071	3				1										
14062-14063	The Strand	14-062	14-063															
14063-14064	The Strand	14-063	14-064															
14064-14065	The Strand	14-064	14-065															
14064-14065	The Strand	14-064	14-065															
14065-14066	The Strand	14-065	14-066	3														
14065-14066	The Strand	14-065	14-066	3														
14066-14067	The Strand	14-066	14-067															
14066-14067	The Strand	14-066	14-067															
14067-14068	The Strand	14-067	14-068	21										✓				
14067-14068	The Strand	14-067	14-068	21										✓				
14068-14069	The Strand	14-068	14-069	32										✓				
14069-14072	The Strand	14-069	14-072	2														
14070-14071	The Strand	14-070	14-071															
14071-130L2	The Strand	14-071	13-0L2	1							30						✓	
14072-130L1	Manhattan Beach Blvd	14-072	13-0L1															
14100-10058	1st St	14-100	10-058					2										
15023-15024	No Street Name	15-023	15-024	2														
15023-15024	No Street Name	15-023	15-024	2														
15024-15027	No Street Name	15-024	15-027															
15024-15027	No Street Name	15-024	15-027															
15025-15026	17th St	15-025	15-026	31		1								✓	✓			
15025-15026	17th St	15-025	15-026	31		1								✓	✓			
15026-15027	17th St	15-026	15-027	16	2									✓				
15026-15027	17th St	15-026	15-027	16	2									✓				
15027-15034	No Street Name	15-027	15-034									✓						
15027-15034	No Street Name	15-027	15-034									✓						
15034-15036	18th St	15-034	15-036	2										✓				
15034-15036	18th St	15-034	15-036	2										✓				
15035-15036	18th St	15-035	15-036	17		1								✓	✓			
15035-15036	18th St	15-035	15-036	17		1								✓	✓			
15036-15039	Flournoy Rd	15-036	15-039	3				5										
15036-15039	Flournoy Rd	15-036	15-039	3				5										
15038-15037	19th St	15-037	15-038	24										✓				
15037-15038	19th St	15-037	15-038	24										✓				
15039-15038	19th St	15-038	15-039	6		1										✓		
15039-15038	19th St	15-038	15-039	6		1										✓		
15039-15041	Flournoy Rd	15-039	15-041															
15039-15041	Flournoy Rd	15-039	15-041															
15040-15041	19th St	15-040	15-041	21										✓				
15040-15041	19th St	15-040	15-041	21										✓				
15041-15046	Flournoy Rd	15-041	15-046	4							10						✓	
15041-15046	Flournoy Rd	15-041	15-046	4							10						✓	
15042-15043	Ardmore Ave	15-042	15-043	1		1										✓		
15043-15044	Ardmore Ave	15-043	15-044	3														

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Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
15044-15046	Ardmore Ave	15-044	15-046	1														
15045-15046	Ardmore Ave	15-045	15-046	38		2								✓	✓			
15046-15051	Flourmoy Rd	15-046	15-051	5														
15046-15051	Flourmoy Rd	15-046	15-051	5														
15047-15048	Valley Dr	15-047	15-048	28										✓				
15047-15048	Valley Dr	15-047	15-048	28										✓				
15048-15051	Valley Dr	15-048	15-051	18										✓				
15048-15051	Valley Dr	15-048	15-051	18										✓				
15049-15050	Valley Dr	15-049	15-050	42										✓				
15049-15050	Valley Dr	15-049	15-050	42										✓				
15050-15051	Valley Dr	15-050	15-051	51										✓				
15050-15051	Valley Dr	15-050	15-051	51										✓				
15051-15053	Flourmoy Rd	15-051	15-053	40		2	1							✓	✓			
15051-15053	Flourmoy Rd	15-051	15-053	40		2	1							✓	✓			
15052-15053	Marine Ave	15-052	15-053	10										✓				
15053-15054	Marine Ave	15-053	15-054	4														
15053-15054	Marine Ave	15-053	15-054	4														
15054-15055	Marine Ave	15-054	15-055	3														
15054-15055	Marine Ave	15-054	15-055	3														
15055-15070	Marine Ave	15-055	15-070															
15055-15070	Marine Ave	15-055	15-070															
15056-15058	Manor Dr	15-056	15-058	11										✓				
15056-15058	Manor Dr	15-056	15-058	11										✓				
15057-15058	21st St	15-057	15-058	21										✓				
15057-15058	21st St	15-057	15-058	21										✓				
15058-1059	21st St	15-058	15-059	14		2								✓	✓			
15058-15059	21st St	15-058	15-059	14		2								✓	✓			
15059-15060	21st St	15-059	15-060	11										✓				
15059-15060	21st St	15-059	15-060	11										✓				
15060-15060A	21st St	15-060	15-060A	24			8							✓				
15060-15060A	21st St	15-060	15-060A	24			8							✓				
15060A-15061	Valley Dr	15-060A	15-061															
15060A-15061	Valley Dr	15-060A	15-061															
15061-15065	Blanche Rd	15-061	15-065															
15061-15065	Blanche Rd	15-061	15-065															
15062-15063	21st Pl	15-062	15-063	2														
15062-15063	21st Pl	15-062	15-063	2														
15063-15064	21st Pl	15-063	15-064	18		3								✓	✓			
15063-15064	21st Pl	15-063	15-064	18		3								✓	✓			
15064-15065	21st Pl	15-064	15-065	11										✓				
15064-15065	21st Pl	15-064	15-065	11										✓				
15065-15066	Blanche Rd	15-065	15-066	5														
15065-15066	Blanche Rd	15-065	15-066	5														
15066-15070	Blanche Rd	15-066	15-070															
15066-15070	Blanche Rd	15-066	15-070															
15067-15068	Marine Ave	15-067	15-068	8		3									✓			
15068-15069	Marine Ave	15-068	15-069	11		2								✓	✓			
15069-15070	Marine Ave	15-069	15-070	13		3								✓	✓			
15070-15078	Blanche Rd	15-070	15-078	18		1								✓	✓			
15071-15072	23rd St	15-071	15-072	56		5								✓	✓			
15072-15073	23rd St	15-072	15-073	21		3								✓	✓			
15073-15078	23rd St	15-073	15-078	1														
15074-15076	Manor Dr	15-074	15-076	9		1									✓			
15075-15076	Manor Dr	15-075	15-076	26		1								✓	✓			
15076-15077	23rd St	15-076	15-077	45		3								✓	✓			
15077-15078	23rd St	15-077	15-078	29		3								✓	✓			
15078-15083	Blanche Rd	15-078	15-083	6														
15079-15081	Manor Dr	15-079	15-081	3														
15080-15081	24th St	15-080	15-081	6		2									✓			
15081-15082	24th St	15-081	15-082	22		9							✓	✓	✓			
15082-15082A	24th St	15-082	15-082A	13		3							✓	✓	✓			
15082A-15082B	24th St	15-082A	15-082B										✓	✓	✓			
15082B-15082C	24th St	15-082B	15-082C										✓	✓	✓			
15082C-15083	24th St	15-082C	15-083										✓	✓	✓			
15083-15084	Blanche Rd	15-083	15-084	1														
16001-16002	Marine Ave	16-001	16-002	38		1								✓	✓			
16001-16002	Marine Ave	16-001	16-002	38		1								✓	✓			
16002-16003	Marine Ave	16-002	16-003	29		1								✓	✓			
16002-16003	Marine Ave	16-002	16-003	29		1								✓	✓			
16003-16004	25th St	16-003	16-004	17										✓				
16003-16004	25th St	16-003	16-004	17										✓				
16004-16005	25th St	16-004	16-005	58							10			✓			✓	
16004-16005	25th St	16-004	16-005	58							10			✓			✓	
16005-16006	25th St	16-005	16-006	30							55			✓			✓	
16005-16006	25th St	16-005	16-006	30							55			✓			✓	
16013-16014	27th St	16-013	16-014	17		1		1						✓				
16013-16014	27th St	16-013	16-014	17		1		1						✓				
16014-16015	27th St	16-014	16-015	62							10			✓			✓	
16014-16015	27th St	16-014	16-015	62							10			✓			✓	
16015-16016	27th St	16-015	16-016	48										✓				
16015-16016	27th St	16-015	16-016	48										✓				
16016-16017	27th St	16-016	16-017	22										✓				
16016-16017	27th St	16-016	16-017	22										✓				
16017-16018	27th St	16-017	16-018	53										✓				
16017-16018	27th St	16-017	16-018	53										✓				
16018-16019	27th St	16-018	16-019	44										✓				
16018-16019	27th St	16-018	16-019	44										✓				
17006-17013	Bell Ave	17-006	17-013	32		1						✓		✓				
17007-17008	29th St	17-007	17-008	59		1	6							✓	✓			

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Retire
	Street Name	U/S MH	D/S MH															
17008-17009	29th St	17-008	17-009	50	1	2								✓	✓			
17009-17010	29th St	17-009	17-010	74		2								✓	✓			
17010-17011	29th St	17-010	17-011	76	3	3								✓	✓			
17011-17012	29th St	17-011	17-012	18		2								✓	✓			
17012-17013	29th St	17-012	17-013	15			1					✓		✓				
17013-17018	Bell Ave	17-013	17-018	35										✓				
17014-17015	30th St	17-014	17-015	1														
17014-17015	30th St	17-014	17-015	1														
17015-17016	30th St	17-015	17-016	2														
17015-17016	30th St	17-015	17-016	2														
17016-17017	30th St	17-016	17-017	7														
17016-17017	30th St	17-016	17-017	7														
17017-17018	30th St	17-017	17-018	2														
17017-17018	30th St	17-017	17-018	2														
17018-17018A	Bell Ave	17-018	17-018A															
17018A-17021	Easement	17-018A	17-021	1														
17019-17020	31st St	17-019	17-020	52										✓				
17019-17020	31st St	17-019	17-020	52										✓				
17020-17021	31st St	17-020	17-021	31							15			✓			✓	
17020-17021	31st St	17-020	17-021	31										✓				
17021-17021	Bell Ave	17-021	17-021	14										✓				
17022-17023	Rosecrans Ave	17-022	17-023	46	1									✓				
17023-17024	Easement	17-023	17-024	3														
17024-17025	36th Pl	17-024	17-025	47										✓				
17025-17026	36th Pl	17-025	17-026	46										✓				
17026-17029	Bell Ave	17-026	17-029	1														
17027-17028	36th Pl	17-027	17-028	3														
17027-17037	36th Pl	17-027	17-037	36										✓				
17028-17029	36th Pl	17-028	17-029	10		2								✓	✓			
17029-17032	Bell Ave	17-029	17-032	16										✓				
17030-17031	36th St	17-030	17-031	28		2								✓	✓			
17031-17032	36th St	17-031	17-032	13										✓				
17032-80133	Bell Ave	17-032	17-033	3														
80133-17050	Bell Ave	17-033	17-050	13										✓				
17034-17035	36th Pl	17-034	17-035	26		5								✓	✓			
17034-17035	36th Pl	17-034	17-035	26		5								✓	✓			
17035-17036	36th Pl	17-035	17-036	8		1								✓	✓			
17035-17036	36th Pl	17-035	17-036	8		1								✓	✓			
17036-17037	36th Pl	17-036	17-037	34		9								✓	✓			
17036-17037	36th Pl	17-036	17-037	34		9								✓	✓			
17037-17040	Blanche Rd	17-037	17-040	17										✓				
17037-17040	Blanche Rd	17-037	17-040	17										✓				
17038-17040	36th St	17-038	17-040	15										✓				
17038-17040	36th St	17-038	17-040	15										✓				
17039-17040	36th St	17-039	17-040	10		1								✓	✓			
17039-17040	36th St	17-039	17-040	10		1								✓	✓			
17040-17048	Blanche Rd	17-040	17-048	12								✓		✓				
17040-17048	Blanche Rd	17-040	17-048	12								✓		✓				
17041-17042	35th St	17-041	17-041A															
17041-17042	35th St	17-041	17-042	13	1	1								✓	✓			
17041A-17041	35th St	17-041A	17-041															
17041A-17042	35th St	17-041A	17-042	13	1	1								✓	✓			
17042-17043	35th St	17-042	17-043	6														
17042-17043	35th St	17-042	17-043	6														
17043-17048	Blanche Rd	17-043	17-048	7	1									✓				
17043-17048	Blanche Rd	17-043	17-048	7	1									✓				
17044-17045	35th Pl	17-044	17-045	8	3									✓				
17044-17045	35th Pl	17-044	17-045	8	3									✓				
17045-17046	35th Pl	17-045	17-046	23								✓		✓				
17045-17046	35th Pl	17-045	17-046	23								✓		✓				
17046-17047	35th Pl	17-046	17-047	13	1	1								✓	✓			
17046-17047	35th Pl	17-046	17-047	13	1	1								✓	✓			
17047-17048	35th Pl	17-047	17-048	9	1							✓		✓				
17047-17048	35th Pl	17-047	17-048	9	1							✓		✓				
17048-17049	35th Pl	17-048	17-049	3														
17049-17050	35th Pl	17-049	17-050	5		2		10										
17050-17069	Bell Ave	17-050	17-069	67										✓				
17050-17069	Bell Ave	17-050	17-069	67										✓				
17051-17052	31st Pl	17-051	17-052	59		1								✓	✓			
17051-17052	31st Pl	17-051	17-052	59		1								✓	✓			
17052-17053	Agnes Rd	17-052	17-053	31										✓				
17052-17053	Agnes Rd	17-052	17-053	31										✓				
17053-17054	31st St	17-053	17-054	1														
17053-17054	31st St	17-053	17-054	1														
17054-17055	31st St	17-054	17-055	6														
17054-17055	31st St	17-054	17-055	6														
17055-17057	Flournoy Rd	17-055	17-057	3														
17055-17057	Flournoy Rd	17-055	17-057	3														
17056-17057	31st Pl	17-056	17-057	28										✓				
17056-17057	31st Pl	17-056	17-057	28										✓				
17057-17059	Flournoy Rd	17-057	17-059	2														
17057-17059	Flournoy Rd	17-057	17-059	2														
17058-17059	33rd St	17-058	17-059	15										✓				
17058-17059	33rd St	17-058	17-059	15										✓				
17059-17063	Flournoy Rd	17-059	17-063	4														
17059-17063	Flournoy Rd	17-059	17-063	4														
17060-17061	33rd Pl	17-060	17-061	39										✓				
17060-17061	33rd Pl	17-060	17-061	39										✓				
17061-17062	33rd Pl	17-061	17-062	18										✓				



Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
17061-17062	33rd Pl	17-061	17-062	18										✓				
17062-17063	33rd Pl	17-062	17-063	20										✓				
17062-17063	33rd Pl	17-062	17-063	20										✓				
17063-17064	33rd Pl	17-063	17-064	21		1						✓		✓				
17063-17064	33rd Pl	17-063	17-064	21		1						✓		✓				
17064-17065	33rd Pl	17-064	17-065	42										✓				
17064-17065	33rd Pl	17-064	17-065	42										✓				
17065-17066	33rd Pl	17-065	17-066	8		1									✓			
17065-17066	33rd Pl	17-065	17-066	8		1									✓			
17066-17067	33rd Pl	17-066	17-067	21										✓				
17066-17067	33rd Pl	17-066	17-067	21										✓				
17067-17068	33rd Pl	17-067	17-068	64	1									✓				
17067-17068	33rd Pl	17-067	17-068	64	1									✓				
17068-17069	33rd Pl	17-068	17-069	21										✓				
17068-17069	33rd Pl	17-068	17-069	21										✓				
17069-17070	Bell Ave	17-069	17-070	19										✓				
17069-17070	Bell Ave	17-069	17-070	19										✓				
17070-17075	Bell Ave	17-070	17-075	33				8						✓				
17071-17072	31st Pl	17-071	17-072	82	1	6						✓		✓				
17072-17073	31st Pl	17-072	17-073	50		1						✓		✓				
17073-17074	31st Pl	17-073	17-074	13		2								✓				
17074-17075	31st Pl	17-074	17-075	39	1	1								✓				
17075-17076	Bell Ave	17-075	17-076	21	1									✓				
18001-18002	33rd St	18-001	18-002	35		2	3							✓				
18001-18002	33rd St	18-001	18-002	35		2	3							✓				
18002-18004	33rd St	18-002	18-004	12		1						✓		✓				
18002-18004	33rd St	18-002	18-004	12		1						✓		✓				
18003-18004	Alma Ave	18-003	18-004	8		4								✓				
18003-18004	Alma Ave	18-003	18-004	8		4								✓				
18004-18008	Alma Ave	18-004	18-008	14		2						✓		✓				
18004-18008	Alma Ave	18-004	18-008	14		2						✓		✓				
18005-18006	34th St	18-005	18-006	18		2								✓				
18005-18006	34th St	18-005	18-006	18		2								✓				
18006-18007	34th St	18-006	18-007	20		2								✓				
18006-18007	34th St	18-006	18-007	20		2								✓				
18007-18008	34th St	18-007	18-008	13		1								✓				
18007-18008	34th St	18-007	18-008	13		1								✓				
18008-18012	Alma Ave	18-008	18-012	1														
18008-18012	Alma Ave	18-008	18-012	1														
18009-18010	35th St	18-009	18-010	73	1									✓				
18009-18010	35th St	18-009	18-010	73	1									✓				
18010-18012	35th St	18-010	18-012	18										✓				
18010-18012	35th St	18-010	18-012	18										✓				
18011-18012	Alma Ave	18-011	18-012	13		2								✓		✓		
18011-18012	Alma Ave	18-011	18-012	13		2								✓		✓		
18012-18013	35th St	18-012	18-013	10		3								✓		✓		
18013-18015	35th St	18-013	18-015	6														
18014-18015	Highland Ave	18-014	18-015	4														
18015-18016	35th St	18-015	18-016															
18016-18020	Highland Ave	18-016	18-020															
18017-18018	36th St	18-017	18-018	4														
18018-18018A	36th St	18-018	18-018A															
18018A-18019	36th St	18-018A	18-019	1														
18019-18019A	36th St	18-019	18-019A															
18019A-18019B	36th St	18-019A	18-019B															
18019B-18020	36th St	18-019B	18-020															
18020-18029	Highland Ave	18-020	18-029															
18021-18022	36th Pl	18-021	18-022	8	1									✓				
18021-18022	36th Pl	18-021	18-022	8	1									✓				
18022-18025	Vista Dr	18-022	18-025															
18022-18025	Vista Dr	18-022	18-025															
18023-18024	Rosecrans Ave	18-023	18-024	1														
18023-18024	Rosecrans Ave	18-023	18-024	1														
18024-18025	Rosecrans Ave	18-024	18-025	9														
18024-18025	Rosecrans Ave	18-024	18-025	9														
18025-18027	Rosecrans Ave	18-025	18-027	2														
18026-18027	Alma Ave	18-026	18-027															
18027-18028	Rosecrans Ave	18-027	18-028	1								✓						
18028-18029	Rosecrans Ave	18-028	18-029									✓						
18029-18029A	Rosecrans Ave	18-029	18-029A									✓						
18029A-18040	Rosecrans Ave	18-029A	18-040	5														
18030-18030A	33rd St	18-030	18-030A															
18030-18030A	33rd St	18-030	18-030A															
18030A-18031	33rd St	18-030A	18-031	5														
18030A-18031	33rd St	18-030A	18-031	5														
18031-18032	Manhattan Ave	18-031	18-032															
18031-18032	Manhattan Ave	18-031	18-032															
18032-18034	Manhattan Ave	18-032	18-034	5		1									✓			
18032-18034	Manhattan Ave	18-032	18-034	5		1									✓			
18033-18034	34th St	18-033	18-034	3		1						✓		✓				
18033-18034	34th St	18-033	18-034	3		1						✓		✓				
18034-18037	Manhattan Ave	18-034	18-037	5														
18034-18037	Manhattan Ave	18-034	18-037	5														
18035-18036	35th St	18-035	18-036	1														
18035-18036	35th St	18-035	18-036	1														
18036-18037	35th St	18-036	18-037	6														
18036-18037	35th St	18-036	18-037	6														
18037-18039	Manhattan Ave	18-037	18-039	38		1								✓		✓		
18037-18039	Manhattan Ave	18-037	18-039	38		1								✓		✓		

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Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
18038-18039	36th St	18-038	18-039	1								✓						
18038-18039	36th St	18-038	18-039	1								✓						
18039-18040	Manhattan Ave	18-039	18-040	29			1	14				✓	✓	✓				
18039-18040	Manhattan Ave	18-039	18-040	29			1	14				✓	✓	✓				
18040-18041	Rosecrans Ave	18-040	18-041															
18041-18049	Ocean Dr	18-041	18-049															
18043-18046	Rosecrans Pl	18-043	18-046															
18044-18046	Highland Ave	18-044	18-046	10									✓					
18045-18046	Highland Ave	18-045	18-046															
18046-18047	Rosecrans Pl	18-046	18-047	6														
18047-18048	Rosecrans Pl	18-047	18-048															
18048-18049	Rosecrans Pl	18-048	18-049	1														
18049-18053	Ocean Dr	18-049	18-053															
18050-18051	38th Pl	18-050	18-051															
18050-18051	38th Pl	18-050	18-051															
18051-18052	38th Pl	18-051	18-052	1														
18051-18052	38th Pl	18-051	18-052	1														
18052-18053	Westport	18-052	18-053															
18052-18053	Ocean Dr	18-052	18-053															
18053-18055	38th St	18-053	18-055															
18054-18055	The Strand	18-054	18-055	36		3							✓	✓				
18055-18056	The Strand	18-055	18-056	1														
18056-100L1	The Strand	18-056	10-L1	1														
19001-19002	31th St	19-001	19-002	55		6							✓	✓				
19001-19002	31st St	19-001	19-002	55		6							✓	✓				
19002-19005	31th St	19-002	19-005	55	8	3							✓	✓				
19002-19005	31st St	19-002	19-005	55	8	3							✓	✓				
19003-19005	Alma Ave	19-003	19-005															
19003-19005	Alma Ave	19-003	19-005															
19004-19005	Alma Ave	19-004	19-005															
19004-19005	Alma Ave	19-004	19-005									✓						
19005-19007	31st St	19-005	19-007	11									✓					
19005-19007	31st St	19-005	19-007	11									✓					
19006-19007	Highland Ave	19-006	19-007	29									✓					
19006-19007	Highland Ave	19-006	19-007	29									✓					
19007-19008	31st St	19-007	19-008															
19007-19008	31st St	19-007	19-008															
19008-19019	Highland Ave	19-008	19-019	2														
19008-19019	Highland Ave	19-008	19-019	2														
19009-19010	32nd St	19-009	19-010	23		3						✓		✓				
19010-19012	32nd St	19-010	19-012	10								✓						
19011-19012	Alma Ave	19-011	19-012	1						5							✓	
19012-19013	32nd St	19-012	19-013	3														
19013-19018	32nd St	19-013	19-018	1														
19014-19015	34th St	19-014	19-015															
19014-19015	34th St	19-014	19-015															
19015-19017	Highland Ave	19-015	19-017	8		1									✓			
19015-19017	Highland Ave	19-015	19-017	8		1									✓			
19016-19017	33rd St	19-016	19-017															
19016-19017	33rd St	19-016	19-017															
19017-19018	Highland Ave	19-017	19-018	36	1			1				✓		✓				
19017-19018	Highland Ave	19-017	19-018	36	1			1				✓		✓				
19018-19019	32nd St	19-018	19-019															
19018-19019	32nd St	19-018	19-019															
19019-19020	32nd St	19-019	19-020															
19019-19020	32nd St	19-019	19-020															
19020-19021	32nd St	19-020	19-021	4														
19020-19021	32nd St	19-020	19-021	4														
19021-19024	32nd St	19-021	19-024	3														
19021-19024	32nd St	19-021	19-024	3														
19022-19023	Manhattan Ave	19-022	19-023	1														
19022-19023	Manhattan Ave	19-022	19-023	1														
19023-19024	Manhattan Ave	19-023	19-024															
19023-19024	Manhattan Ave	19-023	19-024															
19024-19027	Manhattan Ave	19-024	19-027	12					17					✓				
19024-19027	Manhattan Ave	19-024	19-027	12					17					✓				
19025-19027	Manhattan Ave	19-025	19-027	16										✓				
19025-19027	Manhattan Ave	19-025	19-027	16										✓				
19026-19027	31st St	19-026	19-027	1														
19027-19028	31st St	19-027	19-028															
19028-19028A	31st St	19-028	19-028A	2														
19028A-19054	31st St	19-028A	19-054															
19030-19031	32nd St	19-030	19-031	21		1							✓	✓				
19030-19031	32nd St	19-030	19-031	21		1							✓	✓				
19031-19053	32nd St	19-031	19-053	1					1									
19031-19053	32nd St	19-031	19-053	1					1									
19032-19033	33rd St	19-032	19-033															
19033-19052	33rd St	19-033	19-052															
19034-19035	34th St	19-034	19-035															
19035-19051	34th St	19-035	19-051	14										✓				
19036-19037	27th St	19-036	19-037	3														
19037-19037A	27th St	19-037	19-037A	9														
19037-19044	28th St	19-037	19-044															
19037A-19044	27th St	19-037A	19-044	1														
19038-19039	28th St	19-038	19-039															
19039-19045	28th St	19-039	19-045	12										✓				
19040-19041	29th St	19-040	19-041	6														
19040-19041	29th St	19-040	19-041	6														
19041-19057	29th St	19-041	19-057	6														

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location	Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH														
19041-19057	29th St	19-041	19-057	6													
19042-19043	30th St	19-042	19-043	16		1							✓	✓			
19042-19043	30th St	19-042	19-043	16		1							✓	✓			
19043-19056	30th St	19-043	19-056	1													
19043-19056	30th St	19-043	19-056	1													
19044-19045	The Strand	19-044	19-045	16									✓				
19046-19048	36th St	19-046	19-048				7										
19047-19048	The Strand	19-047	19-048	18		1							✓	✓			
19048-19050	The Strand	19-048	19-050	16		1							✓	✓			
19049-19049A	35th St	19-049	19-049A														
19049A-19049B	35th St	19-049A	19-049B														
19049B-19050	35th St	19-049B	19-050														
19050-19051	The Strand	19-050	19-051	13		1							✓	✓			
19051-19052	The Strand	19-051	19-052	23									✓				
19052-19053	The Strand	19-052	19-053	5													
19053-19055	The Strand	19-053	19-055	19									✓				
19053-19055	The Strand	19-053	19-055	19									✓				
19054-19055	31st St	19-054	19-055														
19055-19056	The Strand	19-055	19-056														
19055-19056	The Strand	19-055	19-056														
19056-19057	The Strand	19-056	19-057														
19056-19057	The Strand	19-056	19-057														
19057-19058	The Strand	19-057	19-058														
19057-19058	The Strand	19-057	19-058														
19058-090L1	Easement	19-058	09-0L1														
20001-20002	30th St	20-001	20-002	21		4					✓		✓	✓			
20002-20003	30th St	20-002	20-003	39		2							✓	✓			
20003-20006	Alma Ave	20-003	20-006	18		2							✓	✓			
20004-20005	29th St	20-004	20-005	39									✓				
20004-20005	29th St	20-004	20-005	39									✓				
20005-20006	29th St	20-005	20-006	50									✓				
20005-20006	29th St	20-005	20-006	50									✓				
20006-20016	Alma Ave	20-006	20-016	23	1	1					✓		✓	✓			
20006-20016	Alma Ave	20-006	20-016	23	1	1					✓		✓	✓			
20007-20008	26th Pl	20-007	20-008	1													
20007-20008	26th Pl	20-007	20-008	1													
20008-20009	26th Pl	20-008	20-009	26									✓				
20008-20009	26th Pl	20-008	20-009	26									✓				
20009-20012	Vista Dr	20-009	20-012	7			3										
20009-20012	Vista Dr	20-009	20-012	7			3										
20010-20011	27th St	20-010	20-011	25		4							✓	✓			
20011-20012	27th St	20-011	20-012	18		2							✓	✓			
20012-20013	27th St	20-012	20-013	3			5										
20012-20013	27th St	20-012	20-013	3			5										
20013-20016	Alma Ave	20-013	20-016	5							✓						
20013-20016	Alma Ave	20-013	20-016	5							✓						
20014-20014A	28th St	20-014	20-014A	2													
20014A-20015	28th St	20-014A	20-015	2													
20015-20016	28th St	20-015	20-016	1													
20016-20017	28th St	20-016	20-017	0													
20017-20017A	28th St	20-017	20-017A	0													
20017A-2029	28th St	20-017A	20-029	6		1											
20018-20021	Alma Ave	20-018	20-021	73		2	1						✓	✓			
20018-20021	Alma Ave	20-018	20-021	73		2	1						✓	✓			
20019-20021	Alma Ave	20-019	20-021	10			10						✓		✓		
20019-20021	Alma Ave	20-019	20-021	10			10						✓		✓		
20020-20021	25th St	20-020	20-021	1													
20020-20021	25th St	20-020	20-021	1													
20021-20022	25th St	20-021	20-022	9													
20021-20022	25th St	20-021	20-022	9													
20022-20036	25th St	20-022	20-036	14									✓				
20022-20036	25th St	20-022	20-036	14									✓				
20023-20024	30th St	20-023	20-024	15	2								✓				
20023-20024	30th St	20-023	20-024	15	2								✓				
20024-20025	30th St	20-024	20-025	14									✓				
20024-20025	30th St	20-024	20-025	14									✓				
20025-20028	Highland Ave	20-025	20-028	16							✓		✓				
20025-20028	Highland Ave	20-025	20-028	16							✓		✓				
20026-20027	29th St	20-026	20-027	5													
20026-20027	29th St	20-026	20-027	5													
20027-20028	29th St	20-027	20-028	33			2						✓				
20027-20028	29th St	20-027	20-028	33			2						✓				
20028-20029B	Highland Ave	20-028	20-029B	9			2				✓						
20029-20029A	28th St	20-029	20-029A	3													
20029B-20029	Highland Ave	20-029B	20-029	1							✓						
20030-20031	27th St	20-030	20-031	2							✓						
20031-20031A	27th St	20-031	20-031A														
20032-20033	26th St	20-032	20-033														
20033-20034	26th St	20-033	20-034	3													
20035-20036	Highland Ave	20-035	20-036														
20035-20036	Highland Ave	20-035	20-036	0													
20038-20039	25th St	20-038	20-039	32									✓				
20039-20058	25th St	20-039	20-058														
20040-20051	Manhattan Ave	20-040	20-051														
20041-20042	30th St	20-041	20-042	13		2							✓	✓			
20041-20042	30th St	20-041	20-042	13		2							✓	✓			
20042-20044	Manhattan Ave	20-042	20-044	28		1							✓	✓			
20042-20044	Manhattan Ave	20-042	20-044	28		1							✓	✓			
20043-20044	29th St	20-043	20-044														

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
20043-20044	29th St	20-043	20-044															
20044-20046	Manhattan Ave	20-044	20-046	4								✓						
20044-20046	Manhattan Ave	20-044	20-046	4								✓						
20045-20046	28th St	20-045	20-046									✓						
20046-20049	Manhattan Ave	20-046	20-049	9	1	1									✓			
20047-20048	27th St	20-047	20-048															
20048-20049	27th St	20-048	20-049															
20049-20051	Manhattan Ave	20-049	20-051															
20050-20051	26th St	20-050	20-051															
20051-20052	26th St	20-051	20-052	3														
20052-20064	26th St	20-052	20-064															
20053-20054	25th St	20-053	20-054	19				2						✓				
20053-20054	25th St	20-053	20-054	19				2						✓				
20054-20063	25th St	20-054	20-063	16										✓				
20054-20063	25th St	20-054	20-063	16										✓				
20055-20056	24th St	20-055	20-056															
20056-20059	24th St	20-056	20-059	6														
20057-20059	Manhattan Ave	20-057	20-059	12								✓		✓		✓		
20058-20040	Manhattan Ave	20-058	20-040															
20059-20058	Manhattan Ave	20-059	20-058	8			2											
20059-20061	24th St	20-059	20-061	17										✓				
20059-20061	24th St	20-059	20-061	17										✓				
20060-20061	The Strand	20-060	20-061	17										✓				
20060-20061	The Strand	20-060	20-061	17										✓				
20061-20062	The Strand	20-061	20-062	0														
20062-20063	The Strand	20-062	20-063	15										✓				
20062-20063	The Strand	20-062	20-063	15										✓				
20063-20064	The Strand	20-063	20-064	10										✓				
20063-20064	The Strand	20-063	20-064	10										✓				
20064-20065	The Strand	20-064	20-065															
20065-080P1	The Strand	20-065	08-0P1															
21001-21002	24th St	21-001	21-002	31										✓				
21001-21002	24th St	21-001	21-002	31										✓				
21002-21005	Vista Dr	21-002	21-005	23			5							✓		✓		
21002-21005	Vista Dr	21-002	21-005	23			5							✓		✓		
21003-21004	23rd St	21-003	21-004	31			2	13						✓		✓		✓
21003-21004	23rd St	21-003	21-004	31			2	13						✓		✓		✓
21004-21005	23rd St	21-004	21-005	18			1	3	1					✓		✓		
21004-21005	23rd St	21-004	21-005	18			1	3	1					✓		✓		
21005-21007	23rd St	21-005	21-007															
21005-21007	23rd St	21-005	21-007															
21006-21007	Alma Ave	21-006	21-007	23										✓				
21006-21007	Alma Ave	21-006	21-007	23										✓				
21007-21008	23rd St	21-007	21-008															
21007-21008	23rd St	21-007	21-008	0														
21008-21018	23rd St	21-008	21-018	17			1							✓		✓		
21008-21018	23rd St	21-008	21-018	17			1							✓		✓		
21009-21010	24th St	21-009	21-010									✓						
21010-21018	Highland Ave	21-010	21-018	20			2					✓		✓		✓		
21011-21012	Marine Ave	21-011	21-012	22			2					✓		✓		✓		
21011-21012	Marine Ave	21-011	21-012	22			2					✓		✓		✓		
21012-21016	Marine Ave	21-012	21-016	50			2							✓		✓		
21012-21016	Marine Ave	21-012	21-016	50			2							✓		✓		
21013-21014	Marine Ave	21-013	21-014						1									
21013-21014	Marine Ave	21-013	21-014						1									
21014-21015	Marine Ave	21-014	21-015	20										✓				
21014-21015	Marine Ave	21-014	21-015	20										✓				
21015-21016	Marine Ave	21-015	21-016	12										✓				
21015-21016	Marine Ave	21-015	21-016	12										✓				
21016-21017	Marine Ave	21-016	21-017	19										✓				
21016-21017	Marine Ave	21-016	21-017	19										✓				
21017-21018	Highland Ave	21-017	21-018	8														
21017-21018	Highland Ave	21-017	21-018	8														
21018-21019	23rd St	21-018	21-019															
21018-21019	23rd St	21-018	21-019	0														
21019-21022	23rd St	21-019	21-022	9														
21019-21022	23rd St	21-019	21-022	9														
21020-21021	Marine Ave	21-020	21-021	5														
21021-21022	Manhattan Ave	21-021	21-022	1														
21022-21023	23rd St	21-022	21-023	34			5							✓		✓		
21022-21023	23rd St	21-022	21-023	34			5							✓		✓		
21023-21026	The Strand	21-023	21-026															
21023-21026	The Strand	21-023	21-026															
21024-21025	Marine Ave	21-024	21-025															
21025-21026	The Strand	21-025	21-026															
21026-21026A	No Street Name	21-026	21-026A					2	2			✓	12/21/06 Debris					
21026-21026A	No Street Name	21-026	21-026A					2	2			✓						
22001-22002	16th St	22-001	22-002															
22001-22002	16th St	22-001	22-002															
22002-22003	16th St	22-002	22-003															
22002-22003	16th St	22-002	22-003															
22003-22004	16th St	22-003	22-004	1								✓						
22003-22004	16th St	22-003	22-004	1								✓						
22004-22005	16th St	22-004	22-005															
22004-22005	16th St	22-004	22-005															
22005-22007	16th St	22-005	22-007	1								✓						
22005-22007	16th St	22-005	22-007	1								✓						

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Refine
	Street Name	U/S MH	D/S MH															
22006-22007	Westport	22-006	22-007															
22006-22007	Ocean Dr	22-006	22-007															
22007-22048	16th St	22-007	22-048															
22007-22048	16th St	22-007	22-048															
22008-22009	17th St	22-008	22-009	14		3						✓		✓	✓			
22008-22009	17th St	22-008	22-009	14		3						✓		✓	✓			
22009-22010	17th St	22-009	22-010	6									12/23/07 Debris					
22009-22010	17th St	22-009	22-010	6														
22010-22011	17th St	22-010	22-011	5		1									✓			
22011-22012	17th St	22-011	22-012	1														
22012-22013	17th St	22-012	22-013	11		1						✓		✓	✓			
22013-22050	17th St	22-013	22-050	9														
22014-22015	18th St	22-014	22-015	6														
22014-22015	18th St	22-014	22-015	6														
22015-22016	18th St	22-015	22-016	20		1								✓	✓			
22015-22016	18th St	22-015	22-016	20		1								✓	✓			
22016-22016A	18th St	22-016	22-016A															
22016A-22018	18th St	22-016A	22-018	3														
22018-22020	18th St	22-018	22-020															
22019-22020	18th St	22-019	22-020															
22020-22021	18th St	22-020	22-021															
22021-22022	18th St	22-021	22-022															
22022-22053	18th St	22-022	22-053	18	1									✓				
22023-22024	19th St	22-023	22-024	1							15						✓	
22023-22024	19th St	22-023	22-024	1							15						✓	
22024-22025	19th St	22-024	22-025	14										✓				
22024-22025	19th St	22-024	22-025	14										✓				
22025-22026	19th St	22-025	22-026	44		1								✓	✓			
22026-22027	19th St	22-026	22-027	4														
22027-22028	19th St	22-027	22-028	15		1								✓	✓			
22028-22055	19th St	22-028	22-055															
22029-22030	20th St	22-029	22-030															
22029-22030	20th St	22-029	22-030															
22030-22031	20th St	22-030	22-031	44		6		1					12/7/06 Debris & Roots	✓	✓			
22030-22031	20th St	22-030	22-031	44		6		1						✓	✓			
22031-22032	20th St	22-031	22-032	1														
22031-22032	20th St	22-031	22-032	1														
22032-22033	20th St	22-032	22-033	2														
22032-22033	20th St	22-032	22-033	2														
22033-22034	20th St	22-033	22-034	5														
22033-22034	20th St	22-033	22-034	5														
22034-22035	20th St	22-034	22-035	15										✓				
22034-22035	20th St	22-034	22-035	15										✓				
22035-22057	20th St	22-035	22-057	8														
22035-22057	20th St	22-035	22-057	8														
22036-22037	21st St	22-036	22-037	7														
22037-22037A	21st St	22-037	22-037A															
22037A-22037B	21st St	22-037A	22-037B															
22037B-22038	21st St	22-037B	22-038															
22038-22039	21st St	22-038	22-039															
22039-22045	21st St	22-039	22-045															
22040-22041	21st Pl	22-040	22-041	8		1	1								✓			
22040-22041	21st Pl	22-040	22-041	8		1	1								✓			
22041-22042	21st Pl	22-041	22-042	4														
22041-22042	21st Pl	22-041	22-042	4														
22042-22043	21st Pl	22-042	22-043	8				2										
22042-22043	21st Pl	22-042	22-043	8				2										
22043-22044	21st Pl	22-043	22-044					4										
22043-22044	21st Pl	22-043	22-044					4										
22044-22045	Westport	22-044	22-045	2														
22044-22045	Ocean Dr	22-044	22-045	2														
22045-22060	21st St	22-045	22-060										1/10/06 Construct ion Debris					
22045-22060	21st St	22-045	22-060															
22046-14062	The Strand	22-046	14-062	3														
22048-22049	The Strand	22-048	22-049															
22048-22049	The Strand	22-048	22-049															
22049-22050	The Strand	22-049	22-050	14										✓				
22049-22050	The Strand	22-049	22-050	14										✓				
22050-22051	The Strand	22-050	22-051	1														
22050-22051	The Strand	22-050	22-051	1														
22051-22052	The Strand	22-051	22-052	15										✓				
22051-22052	The Strand	22-051	22-052	15										✓				
22052-22053	The Strand	22-052	22-053	2														
22052-22053	The Strand	22-052	22-053	2														
22053-22054	The Strand	22-053	22-054															
22054-22055	The Strand	22-054	22-055	1														
22055-22056	The Strand	22-055	22-056															
22056-22057	The Strand	22-056	22-057	3		1									✓			
22057-22058	The Strand	22-057	22-058															
22058-22059	The Strand	22-058	22-059	2														
22059-22060	The Strand	22-059	22-060															
22060-22061	No Street Name	22-060	22-061															
22060-22061	No Street Name	22-060	22-061															

Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Retire
	Street Name	U/S MH	D/S MH															
22061-22061A	No Street Name	22-061	22-061A	1									3/15/06 Unknown					
22061-22061A	No Street Name	22-061	22-061A	1														
22061A-22063	No Street Name	22-061A	22-063															
22061A-22063	No Street Name	22-061A	22-063															
22063-120L1	No Street Name	22-063	12-0L1															
22063-22063A	No Street Name	22-063	22-063A															
23001-23002	38th Pl	23-001	23-002	10										✓				
23001-23002	38th Pl	23-001	23-002	10										✓				
23002-23003	38th Pl	23-002	23-003	3														
23002-23003	38th Pl	23-002	23-003	3														
23003-23005	Easement	23-003	23-005	1														
23003-23005	Easement	23-003	23-005	1														
23004-23005	39th St	23-004	23-005	25		1								✓	✓			
23004-23005	39th St	23-004	23-005	6														
23004-23005	39th St	23-004	23-005	25			1							✓	✓			
23005-23006	39th St	23-005	23-006	15										✓				
23005-23006	39th St	23-005	23-006	15										✓				
23006-23007	39th St	23-006	23-007															
23006-23007	39th St	23-006	23-007															
23007-23010	The Strand	23-007	23-010	1														
23008-23009	El Porto St	23-008	23-009	9			1								✓			
23009-23010	El Porto St	23-009	23-010	20										✓				
23010-23013	The Strand	23-010	23-013															
23011-23012	40th St	23-011	23-012	18			1							✓	✓			
23012-23013	40th St	23-012	23-013	9														
23013-23016	The Strand	23-013	23-016	5														
23014-23015	Kelp St	23-014	23-015	4			2								✓			
23015-23016	Kelp St	23-015	23-016	3														
23016-23019	The Strand	23-016	23-019	1														
23017-23018	41st St	23-017	23-018	15			3							✓	✓			
23017-23018	41st St	23-017	23-018	15			3							✓	✓			
23018-23019	41st St	23-018	23-019	3			1		1						✓			
23018-23019	41st St	23-018	23-019	3			1		1						✓			
23019-23022	The Strand	23-019	23-022															
23019-23022	The Strand	23-019	23-022															
23020-23021	Moonstone St	23-020	23-021	8	2		1								✓			
23021-23022	Moonstone St	23-021	23-022	16	1		2							✓	✓			
23022-23025	The Strand	23-022	23-025															
23022-23025	The Strand	23-022	23-025															
23023-23024	42nd St	23-023	23-024	15			1							✓	✓			
23024-23025	42nd St	23-024	23-025	26			1							✓	✓			
23025-23049	The Strand	23-025	23-049															
23025-23049	The Strand	23-025	23-049															
23026-23027	Homer St	23-026	23-027	4			1								✓			
23027-23028	Homer St	23-027	23-028	5														
23028-23029	Homer St	23-028	23-029	1														
23029-23033	The Strand	23-029	23-033	4														
23030-23031	Gull St	23-030	23-031	2														
23030-23031	Gull St	23-030	23-031	2														
23031-23032	Gull St	23-031	23-032	5														
23031-23032	Gull St	23-031	23-032	5														
23032-23033	Gull St	23-032	23-033	15										✓				
23032-23033	Gull St	23-032	23-033	15										✓				
23033-23037	The Strand	23-033	23-037	3							20						✓	
23034-23035	44th St	23-034	23-035															
23035-23036	44th St	23-035	23-036	9														
23036-23037	44th St	23-036	23-037	33			4							✓	✓			
23037-23041	The Strand	23-037	23-041															
23038-23039	Shell St	23-038	23-039	6														
23039-23040	Shell St	23-039	23-040	6														
23040-23045	Ocean Dr	23-040	23-045															
23041-23046	The Strand	23-041	23-046	2														
23042-23043	43rd St	23-042	23-043															
23042-23043	43rd St	23-042	23-043															
23043-23044	43rd St	23-043	23-044	2														
23043-23044	43rd St	23-043	23-044	2														
23044-23045	43rd St	23-044	23-045															
23044-23045	43rd St	23-044	23-045															
23045-23046	43rd St	23-045	23-046	1														
23045-23046	43rd St	23-045	23-046	1														
23046-23049	The Strand	23-046	23-049	16										✓				
23046-23049	The Strand	23-046	23-049	16										✓				
23047-23048	Seaview	23-047	23-048	8			1								✓			
23048-23049	Seaview	23-048	23-049	17			3							✓	✓			
23049-23050	No Street Name	23-049	23-050									✓	3/9/07 Debris & Grease					
23049-85056	No Street Name	23-049	85-056															
23050-23050A	No Street Name	23-050	23-050A									✓						
23050-23050A	No Street Name	23-050	23-050A															
24010-24011	Village Cir	24-010	24-011															
24010-24011	Village Cir	24-010	24-011															
24011-24012	Village Cir	24-011	24-012															
24011-24012	Village Cir	24-011	24-012															
24012-24013	Village Cir	24-012	24-013	1														
24012-24013	Village Cir	24-012	24-013	1														
24013-24017	Village Cir	24-013	24-017															
24013-24017	Village Cir	24-013	24-017															

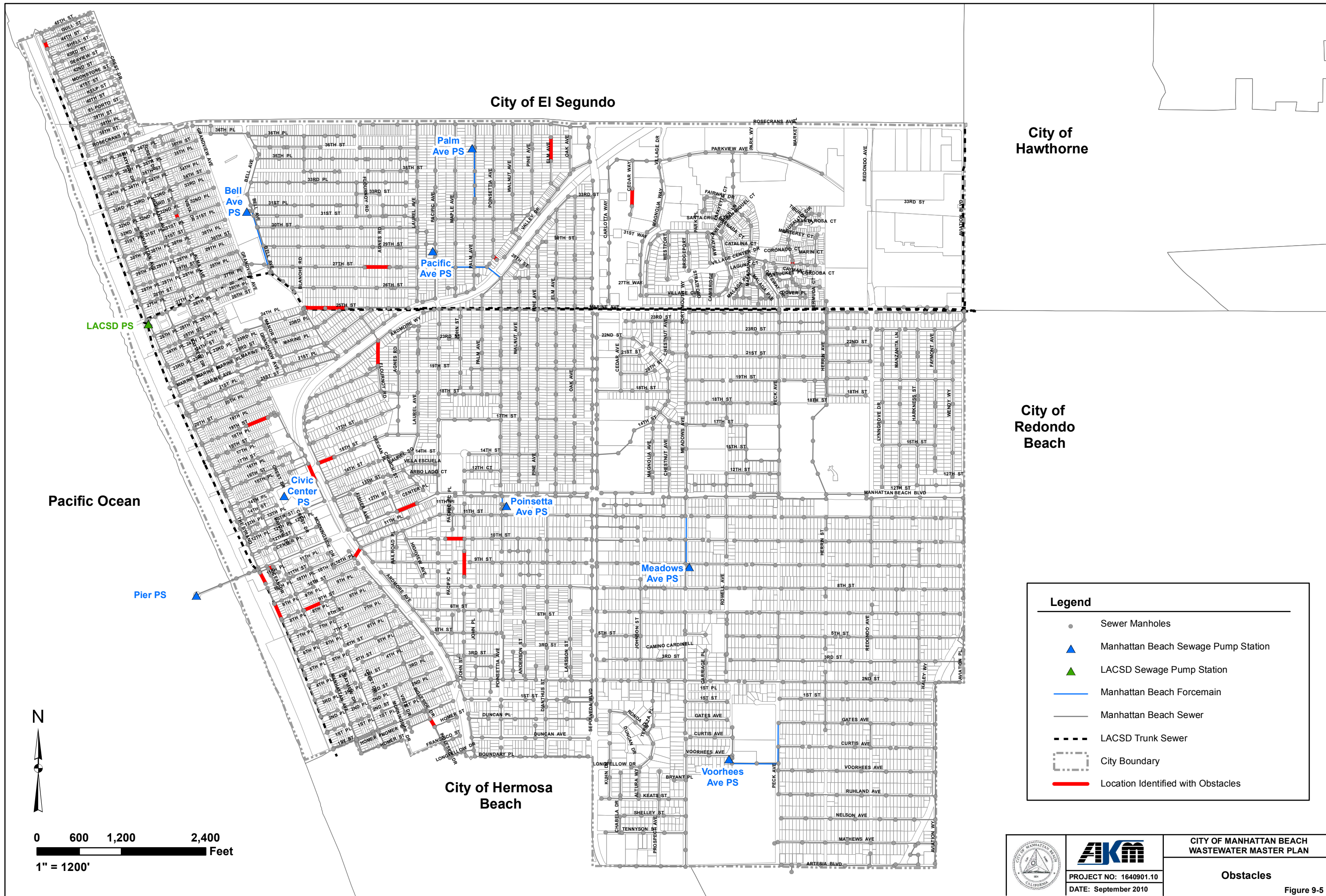
Table 9-1  
Operation and Maintenance Issues

Pipe ID	Location		Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH															
24014-24015	Westport	24-014	24-015	1														
24014-24015	Westport	24-014	24-015	1														
24015-24016	Westport	24-015	24-016															
24015-24016	Westport	24-015	24-016															
24016-24017	Westport	24-016	24-017	1														
24016-24017	Westport	24-016	24-017	1														
24017-24021	Village Cir	24-017	24-021															
24017-24021	Village Cir	24-017	24-021															
24018-24019	Bridgeport	24-018	24-019															
24018-24019	Bridgeport	24-018	24-019															
24019-24020	Bridgeport	24-019	24-020	1														
24019-24020	Bridgeport	24-019	24-020	1														
24020-24021	Bridgeport	24-020	24-021															
24020-24021	Bridgeport	24-020	24-021															
24021-24025	Village Cir	24-021	24-025															
24021-24025	Village Cir	24-021	24-025															
24022-24023	Chatham	24-022	24-023															
24022-24023	Chatham	24-022	24-023															
24023-24024	Chatham	24-023	24-024															
24023-24024	Chatham	24-023	24-024															
24024-24025	Chatham	24-024	24-025															
24024-24025	Chatham	24-024	24-025															
24025-24026	Village Cir	24-025	24-026															
24025-24026	Village Cir	24-025	24-026															
24026-24027	Village Cir	24-026	24-027															
24026-24027	Village Cir	24-026	24-027															
24027-24028	Village Cir	24-027	24-028															
24027-24028	Village Cir	24-027	24-028															
24028-24029	Village Cir	24-028	24-029															
24028-24029	Village Cir	24-028	24-029															
24080-24081	Sausalito Cir	24-080	24-081															
24080-24081	Sausalito Cir	24-080	24-081															
24081-24082	Sausalito Cir	24-081	24-082										6/5/06 Debris & Roots					
24081-24082	Sausalito Cir	24-081	24-082															
24082-24083	Sausalito Cir	24-082	24-083	1														
24082-24083	Sausalito Cir	24-082	24-083	1														
24083-24084	No Street Name	24-083	24-084	2														
24083-24084	No Street Name	24-083	24-084	2														
24084-24085	No Street Name	24-084	24-085					1	1									
24084-24085	No Street Name	24-084	24-085					1	1									
24085-24096	No Street Name	24-085	24-096					1	1									
24085-24096	No Street Name	24-085	24-096					1	1									
24086-24087	Sausalito Cir	24-086	24-087	11	2			3						✓				
24086-24087	Sausalito Cir	24-086	24-087	11	2			3						✓				
24087-24088	Sausalito Cir	24-087	24-088															
24087-24088	Sausalito Cir	24-087	24-088															
24088-24089	Sausalito Cir	24-088	24-089															
24088-24089	Sausalito Cir	24-088	24-089															
24089-24090	Sausalito Cir	24-089	24-090															
24089-24090	Sausalito Cir	24-089	24-090															
24090-24091	Sausalito Cir	24-090	24-091															
24090-24091	Sausalito Cir	24-090	24-091															
24091-24092	Sausalito Cir	24-091	24-092															
24091-24092	Sausalito Cir	24-091	24-092															
24092-24093	Sausalito Cir	24-092	24-093					1	1									
24092-24093	Sausalito Cir	24-092	24-093					1	1									
24093-24094	Sausalito Cir	24-093	24-094															
24093-24094	Sausalito Cir	24-093	24-094					8										
24094-24095	Sausalito Cir	24-094	24-095					1										
24094-24095	Sausalito Cir	24-094	24-095					1										
24095-24096	Sausalito Cir	24-095	24-096	2						10							✓	
24095-24096	Sausalito Cir	24-095	24-096	2						10							✓	
25001-25002	Carlotta Way	25-001	25-002															
25001-25002	Carlotta Way	25-001	25-002															
25002-25003	Carlotta Way	25-002	25-003															
25002-25003	Carlotta Way	25-002	25-003															
25003-25004	Carlotta Way	25-003	25-004															
25003-25004	Carlotta Way	25-003	25-004															
25004-25005	Carlotta Way	25-004	25-005															
25004-25005	Carlotta Way	25-004	25-005															
25005-25006	Carlotta Way	25-005	25-006															
25005-25006	Carlotta Way	25-005	25-006															
25006-25007	Carlotta Way	25-006	25-007															
25006-25007	Carlotta Way	25-006	25-007															
25007-25008	Carlotta Way	25-007	25-008															
25007-25008	Carlotta Way	25-007	25-008															
25008-25009	Carlotta Way	25-008	25-009															
25008-25009	Carlotta Way	25-008	25-009															
25009-25013	Carlotta Way	25-009	25-013															
25009-25013	Carlotta Way	25-009	25-013															
25010-25011	Cedar Way	25-010	25-011					19	2									
25010-25011	Cedar Way	25-010	25-011					19	2									
25011-25012	Cedar Way	25-011	25-012							10							✓	
25011-25012	Cedar Way	25-011	25-012							10							✓	
25012-25013	Cedar Way	25-012	25-013															
25012-25013	Cedar Way	25-012	25-013															
25013-25014	Carlotta Way	25-013	25-014															

**Table 9-1  
Operation and Maintenance Issues**

Pipe ID	Location	Manhole ID		Total Roots	Ball Roots in Barrel	Ball Roots in Lateral	Grease No. of Joints	Deposits No. of Joints	Infiltration No. of Joints	Obstacles Highest % of Pipe Blocked	Hot Spot	Past Spill Date and Cause	Root Treat and Cut	Inform Residents of Ball Roots in Lateral	Add to Hot Spot List	Clear Obstacle	Possibly Reline
	Street Name	U/S MH	D/S MH														
25013-25014	Carlotta Way	25-013	25-014														
25014-25025	Carlotta Way	25-014	25-025														
25014-25025	Carlotta Way	25-014	25-025														
25015-25016	Magnolia Way	25-015	25-016					26	1								
25016-25017	Magnolia Way	25-016	25-017														
25017-25018	Magnolia Way	25-017	25-018														
25018-25019	Magnolia Way	25-018	25-019	1				29									
25019-25020	Magnolia Way	25-019	25-020					23									
25020-25021	Magnolia Way	25-020	25-021														
25021-25022	Magnolia Way	25-021	25-022														
25022-25023	Magnolia Way	25-022	25-023														
25023-25024	Magnolia Way	25-023	25-024														
25024-25025	Magnolia Way	25-024	25-025					12									
25025-25026	Parkview Ave	25-025	25-026														
25026-25027	Parkview Ave	25-026	25-027														
25027-25028	Parkview Ave	25-027	25-028					17									
25029-25034	Parkview Ave	25-029	25-034														
85009-11012	Ardmore Ave	85-009	11-012	2													
85062-11117A	4th St	85-062	11-117A														
85071-11080	11th St	85-071	11-080	5		1								✓			
85074-14056	Ocean Dr	85-074	14-056														
85075-10113	2nd St	85-075	10-113	1													





City of El Segundo

City of Hawthorne

City of Redondo Beach

Pacific Ocean

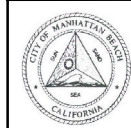
City of Hermosa Beach

**Legend**

- Sewer Manholes
- ▲ Manhattan Beach Sewage Pump Station
- ▲ LACSD Sewage Pump Station
- Manhattan Beach Forcemain
- Manhattan Beach Sewer
- - - LACSD Trunk Sewer
- City Boundary
- Location Identified with Obstacles



0 600 1,200 2,400 Feet  
1" = 1200'



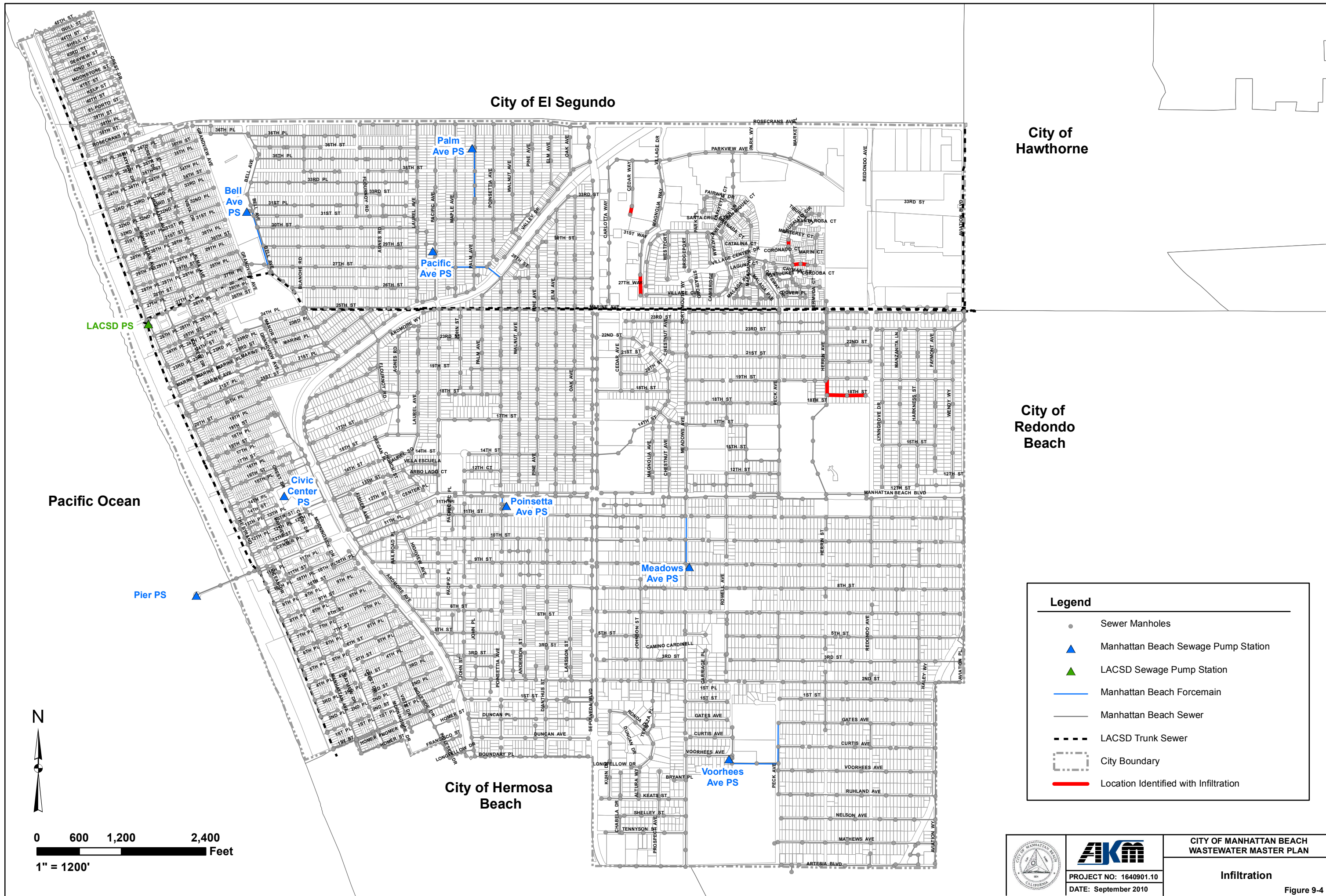
PROJECT NO: 1640901.10  
DATE: September 2010

CITY OF MANHATTAN BEACH  
WASTEWATER MASTER PLAN

Obstacles

Figure 9-5





City of Hawthorne

City of Redondo Beach

City of El Segundo

City of Hermosa Beach

Pacific Ocean

**Legend**

- Sewer Manholes
- ▲ Manhattan Beach Sewage Pump Station
- ▲ LACSD Sewage Pump Station
- Manhattan Beach Force main
- Manhattan Beach Sewer
- - - LACSD Trunk Sewer
- City Boundary
- Location Identified with Infiltration



0 600 1,200 2,400 Feet  
1" = 1200'



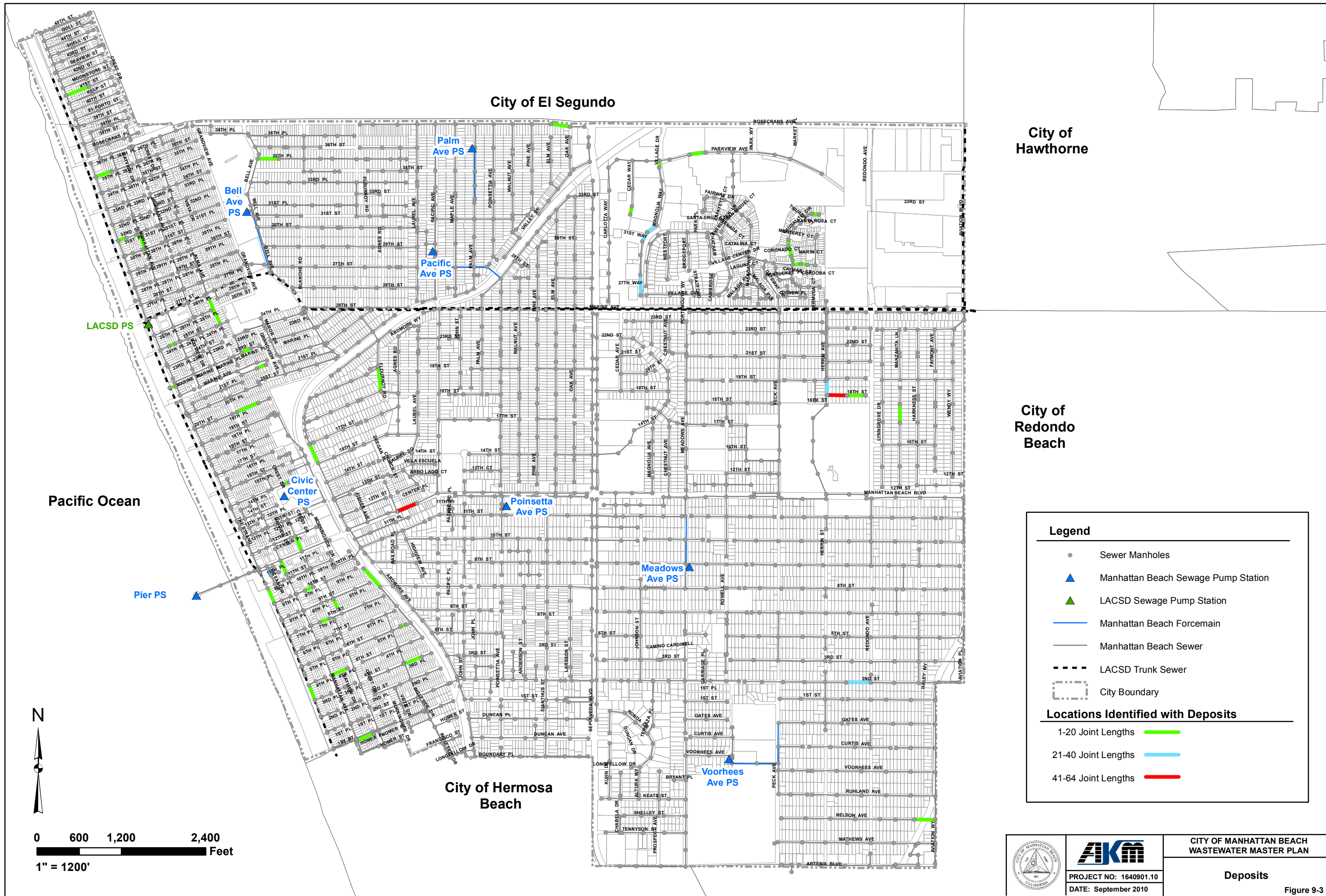
PROJECT NO: 1640901.10  
DATE: September 2010

CITY OF MANHATTAN BEACH  
WASTEWATER MASTER PLAN

Infiltration

Figure 9-4





City of El Segundo

City of Hawthorne

City of Redondo Beach

City of Hermosa Beach

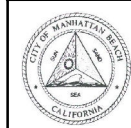
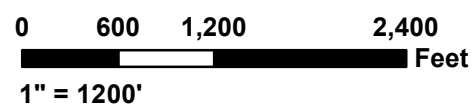
Pacific Ocean

**Legend**

- Sewer Manholes
- ▲ Manhattan Beach Sewage Pump Station
- ▲ LACSD Sewage Pump Station
- Manhattan Beach Forcemain
- Manhattan Beach Sewer
- - - LACSD Trunk Sewer
- City Boundary

**Locations Identified with Deposits**

- 1-20 Joint Lengths █
- 21-40 Joint Lengths █
- 41-64 Joint Lengths █



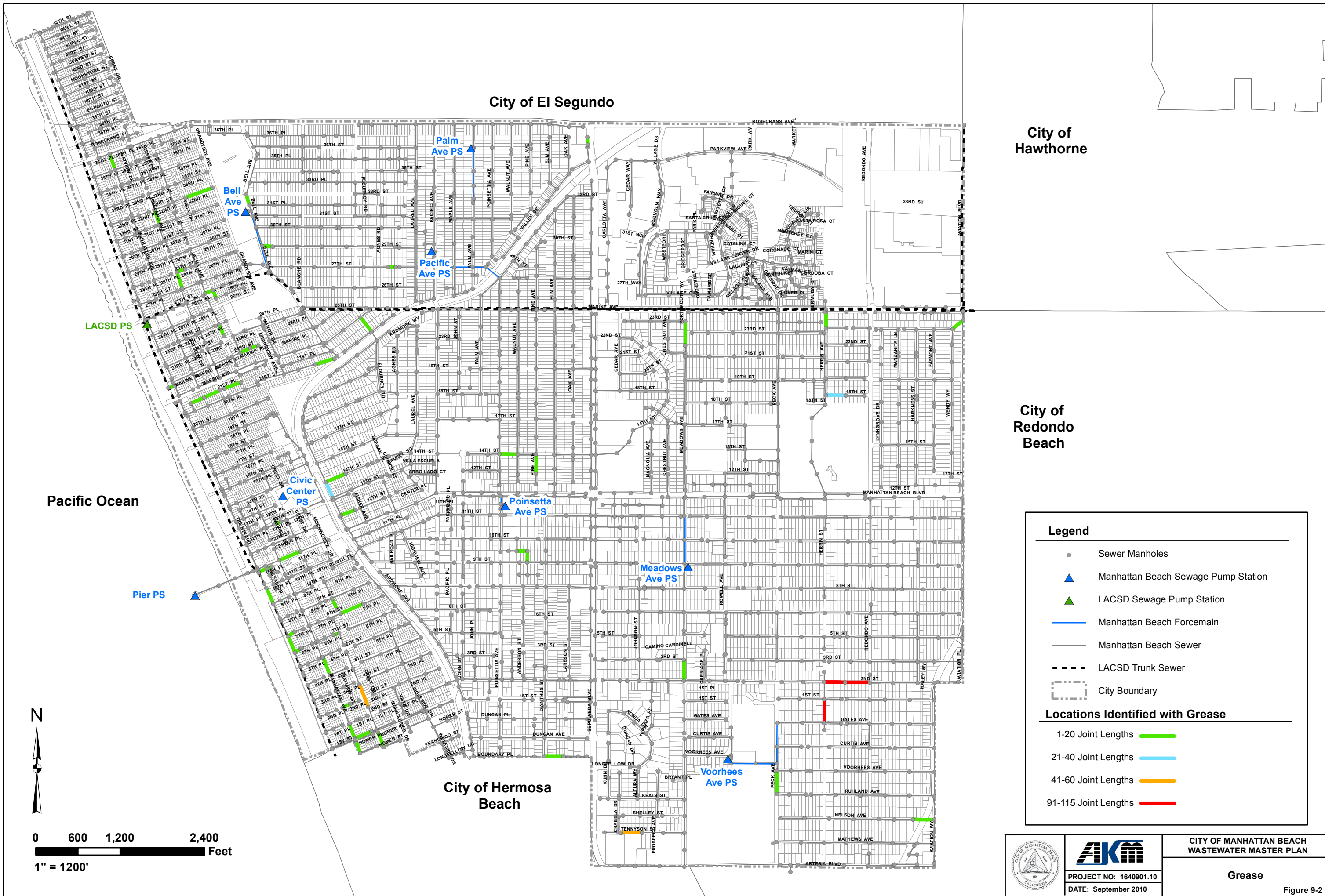
PROJECT NO: 1640901.10  
DATE: September 2010

CITY OF MANHATTAN BEACH  
WASTEWATER MASTER PLAN

Deposits

Figure 9-3





City of El Segundo

City of Hawthorne

City of Redondo Beach

City of Hermosa Beach

Pacific Ocean

**Legend**

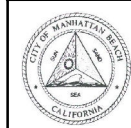
- Sewer Manholes
- ▲ Manhattan Beach Sewage Pump Station
- ▲ LACSD Sewage Pump Station
- Manhattan Beach Forcemain
- Manhattan Beach Sewer
- - - LACSD Trunk Sewer
- City Boundary

**Locations Identified with Grease**

- 1-20 Joint Lengths █
- 21-40 Joint Lengths █
- 41-60 Joint Lengths █
- 91-115 Joint Lengths █



0 600 1,200 2,400 Feet  
1" = 1200'



PROJECT NO: 1640901.10  
DATE: September 2010

CITY OF MANHATTAN BEACH  
WASTEWATER MASTER PLAN

Grease





City of El Segundo

City of Hawthorne

City of Redondo Beach

City of Hermosa Beach

Pacific Ocean

**Legend**

- Sewer Manholes
- ▲ Manhattan Beach Sewage Pump Station
- ▲ LACSD Sewage Pump Station
- Manhattan Beach Force main
- Manhattan Beach Sewer
- - - LACSD Trunk Sewer
- ⊃ City Boundary
- Location Identified with Ball Roots in Mainline
- Location Identified with Ball Roots in Laterals



0 600 1,200 2,400 Feet  
1" = 1200'



**AKM**  
PROJECT NO: 1640901.10  
DATE: September 2010

CITY OF MANHATTAN BEACH  
WASTEWATER MASTER PLAN

**Ball Roots**

Figure 9-1

## 9-2 'Hot Spots'

Hot Spots are areas of the system with reoccurring problems that require maintenance and cleaning on a quarterly basis minimum. Currently, there are 76 reaches with a total length of 10,796 feet that are considered to be Hot Spots in the City's system. Operations staff reports that the causes of the hot spots are grease and roots. The 'Hot Spot' locations as reported by City staff are listed in Table 9-2 and shown on Figure 9-6.

**Table 9-2**  
**Hot Spot Locations**

No.	U/S MH ID	D/S MH ID	Size (in)	Length (ft)	Location Description
1	02-040	02-041	8	340	1601 Wendy Wy to 1709 Wendy Wy
2	02-041	02-042	8	340	1709 Wendy Wy to 19th St & Wendy Wy
3	04-021	04-022	8	216	Ronda & Kuhn to 1137 Ronda
4	04-028	04-029	8	140	Terraza & Ronda to 208 Terraza
5	04-029	04-030	8	350	208 Terraza to Easement
6	04-030	04-031	8	300	Easement to 1217 2nd St
7	07-032	07-033	8	327	3529 Pacific to Pacific & Rosecrans
8	07-036	07-037	8	297	3601 Maple to Maple & Rosecrans
9	07-033	07-037	8	300	Rosecrans & Pacific to Rosecrans & Maple
10	07-037	07-038	8	265	Rosecrans & Maple to Rosecrans & Palm
11	08-024	08-025	8	349	3201 Valley to Walnut & Valley
12	08-070	08-071	8	252	3200 Laurel to 31st St & Laurel
13	08-071	08-072	8	121	31st St & Laurel to 30th St & Laurel
14	08-073	08-074	8	129	2916 Laurel to Easement
15	08-076	08-077	8	130	Easement to 2907 Pacific
16	08-081	08-082	8	75	2801 Pacific to Pacific Station
17	08-077	08-082	8	115	2907 Pacific to Pacific Station
18	10-063	10-065	8	320	620 8th St to 8th St & Ardmore
19	11-020	11-021	8	255	528 15th St to 15th St & Ardmore
20	11-043	11-045	6	384	652 12th St to 12th St & Fisher
21	14-015	14-016	8	102	13th St & Highland to 228 13th St
22	14-016	14-017	8	15	228 13th St to 224 13th St
23	14-017	14-018	6	97	224 13th St to 13th St & Bayview
24	14-037	14-038	6	80	14th St & Manhattan Ave to 132 14th St
25	14-038	14-041	6	155	132 14th St to 14th St & Ocean Dr
26	15-027	15-034	8	185	Private School Easement to 18th St & Agnes
27	15-034	15-036	8	249	18th St & Agnes to 18th St & Flournoy
28	15-081	15-082	6	315	24th St & Manor to 526 24th St
29	15-082	15-083	6	258	526 24th St to 24th St & Blanche
30	17-012	17-013	8	149	571 29th St to 29th St & Bell
31	17-006	17-013	10	343	27th St & Bell to 29th St & Bell
32	17-040	17-048	8	160	35th St & Blanche to 35th PI & Blanche
33	17-044	17-045	8	125	35th PI to 35th PI & Flournoy
34	17-045	17-046	8	349	35th PI & Flournoy to 640 35th PI
35	17-046	17-047	8	177	640 35th PI to 621 35th PI
36	17-063	17-064	8	260	33rd PI & Flournoy to 648 33rd PI
37	17-071	17-072	8	355	649 31st PI to 608 31st PI

**Table 9-2 (Continued)**  
**Hot Spot Locations**

No.	U/S MH ID	D/S MH ID	Size (in)	Length (ft)	Location Description
38	17-072	17-073	8	247	608 31st Pl to 592 31st Pl
39	18-002	18-004	6	236	429 33rd St to 33rd St & Alma
40	18-004	18-008	6	228	33rd St & Alma to 34th St & Alma
41	18-020	18-028	10	229	36th St & Highland to Rosecrans & Highland
42	18-027	18-028	6	292	Rosecrans & Alma to Rosecrans & Highland
43	18-028	18-029	8	19	Rosecrans & Highland to Rosecrans & Highland
44	18-033	18-034	6	256	226 34th St to 34th St & Manhattan Ave
45	18-038	18-039	8	236	200 36th St to 36th St & Manhattan Ave
46	18-039	18-040	6	240	36th St & Manhattan Ave to Rosecrans & Manhattan Ave
47	18-029	18-029A	10	35	Rosecrans & Highland to Rosecrans & Highland
48	19-004	19-005	6	155	Alma to 30th St to 31st St
49	19-009	19-010	6	355	32nd St & Grandview to 429 32nd St
50	19-010	19-012	6	267	429 32nd St to 32nd St & Alma
51	19-017	19-018	8	228	33rd St & Highland to 32nd St & Highland
52	20-001	20-002	8	293	473 30th St to 437 30th St
53	20-006	20-016	6	240	29th St & Alma to 28th St & Alma
54	20-013	20-016	6	177	27th St & Alma to 28th St & Alma
55	20-025	20-028	6	241	30th St & Highland to 29th St & Highland
56	20-028	20-029	8	254	29th St & Highland to 28th St & Highland
57	20-030	20-031	6	227	327 27th St to 27th St & Highland
58	20-045	20-046	6	260	232 28th St to 28th St & Manhattan Ave
59	20-044	20-046	6	251	29th St & Manhattan Ave to 28th St & Manhattan Ave
60	20-057	20-059	6	174	2300 Manhattan Ave to 24th St & Manhattan Ave
61	21-009	21-010	6	227	24th St & Alma to 24th St & Highland
62	21-010	21-018	6	240	24th St & Highland to 23rd St & Highland
63	21-011	21-012	6	110	Marine & Grandview to 433 Marine
64	21-026	08-0L4	8	150	2216 The Strand to LACSD
65	22-003	22-004	6	220	232 16th St to 132 16th St
66	22-004	22-005	6	44	132 16th St to 128 16th St
67	22-008	22-009	6	241	324 17th St to 17th St & Highland
68	22-012	22-013	6	155	128 17th St to 17th St & Ocean
69	25-030	25-031	8	480	Parkview dead end to 12" Main
70	25-031	25-032	8	200	
71	25-032	25-033	8	375	
72	25-033	25-034	8	200	
73	25-034	25-035	12	591	Parkview & 12" main south to Fairway Dr
74	25-035	25-036	12	175	
75	25-036	25-037	12	140	
76	25-037	24-036	12	190	
			<b>Total</b>	<b>10,796</b>	





City of Hawthorne

City of Redondo Beach

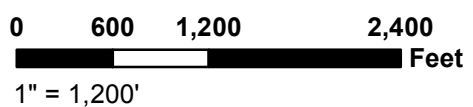
City of El Segundo

City of Hermosa Beach

Pacific Ocean

**Legend**

- Sewer Manholes
- Manhattan Beach Sewage Pump Station
- LACSD Sewage Pump Station
- Manhattan Beach Forcemain
- Manhattan Beach Sewer
- LACSD Trunk Sewer
- City Boundary
- Manhattan Beach Hot Spot Location



**AKM**  
 PROJECT NO: 1640901.10  
 DATE: September 2009

CITY OF MANHATTAN BEACH  
 WASTEWATER MASTER PLAN

Hot Spot Locations  
 Figure 9-6



### 9-3 SANITARY SEWER OVERFLOW (SSO) HISTORY

There were a total of 19 sanitary sewer overflows responded to by City crews between January 2007 and June 2009. The details of these spills are shown in Table 9-3. The total number of reported spills that occurred on City property over the past three years is as follows:

7 spills in 2007 (8.6 spills per 100 miles)

3 spills in 2008 (3.7 spills per 100)

1 spill in 2009 (1.2 spills per 100) – up to September 2009

A sewer collection system with less than three (3) spills from the publicly owned system (excludes private property spills that do not result from a blockage in the public system) per 100 miles per year is considered an adequate system. For the City's sewer system (81.6 miles), this is an average of about 2.4 (3 x 0.816) spills per year.

**Table 9-3  
Sanitary Sewer Overflow Summary  
Calendar Year 2007 thru 2009**

No.	Date	Location	Spill Cause	Location of Spill Cause	Estimated Spill Volume (gal)	SSO Type
1	01/31/07	219 33rd St.	Debris	Private lateral	25	Category 3
2	02/09/07	3009 Alma Ave.	Roots	Private lateral	20	Category 3
3	02/10/07	1550 Rosecrans Ave.	Grease	Private lateral	Unknown	Category 3
4	03/09/07	4210 The Strand	Debris & Grease	City sewer	1200	Category 1
5	03/13/07	1466 Manhattan Beach Blvd.	Debris	Private lateral	10	Category 3
6	04/05/07	700 block of 15th St.	Debris & Grease	City sewer	240	Category 2
7	05/02/07	4416 Highland Ave.	Debris	Private lateral	10	Category 3
8	05/06/07	306 17th St.	Debris	Private lateral	2	Category 3
9	05/26/07	555 35th St.	Roots	Private lateral	100	Category 2
10	06/25/07	201 Poinsettia Ave.	Debris	City sewer	150	Category 2
11	07/03/07	1600 Curtis Ave.	Grease & Roots	City sewer	50	Category 2
12	08/10/07	307 7th St.	Debris	Private lateral	15	Category 3
13	11/05/07	433 3rd St.	Debris & Roots	City sewer	150	Category 1
14	11/07/07	433 3rd St.	Debris & Roots	City sewer	125	Category 2
15	12/23/07	232 17th St.	Debris	City sewer	40	Category 2
1	01/31/08	28th St. & Manhattan Ave.	Debris & Roots	City sewer	60	Category 2
2	02/28/08	1769 Nelson Ave.	Grease & Roots	City sewer	200	Category 3
3	11/07/08	500 W. Ardmore Ave.	Unknown	City sewer	625	Category 1
1	06/09/09	433 3rd St.	Roots	City sewer	125	Category 2

Note: Spills related to City facilities and not private laterals are highlighted in yellow.

## 9-4 MAINTENANCE PROGRAM

A comprehensive maintenance program is an important tool in assuring reliable system operation. This not only includes regular inspections and preventative maintenance, but also good record keeping. Accurate records are the backbone of any maintenance operation. They can be used for many purposes including: scheduling regular maintenance activities; allocating manpower; budgeting; pinpointing persistent problems; tracking equipment performance and maintenance history; and the identification of equipment which may be showing signs of failure.

### Preventative Maintenance

Preventative maintenance is a crucial element of the maintenance program. The preventative maintenance program (PMP) consists of cleaning, inspection, condition assessment, and rehabilitation tasks.

Sewer inspection includes CCTV inspection and condition assessment of the collection system, visual inspection of manholes and their flow channels, ground surface inspection of rights of way and easements, and odor and corrosion monitoring. Condition assessment includes, review of the inspection data, and formulation of maintenance, rehabilitation, and replacement projects. Following the completion of the initial CCTV inspection program, the City should develop a continuing inspection plan based upon the knowledge gained from the initial program. Hot Spots will be CCTV inspected and evaluated before and after each maintenance activity and cleaning for one year to establish the appropriateness of the method, and then annually. Each spill site must be CCTV inspected to pinpoint the cause of the spill, and implementation of corrective measures for preventing repeat spills.

Preventative maintenance activities that the City does currently conduct include the following:

- Clean entire gravity system twice per year
- Clean hot spots twice per month
- Inspect and skim wet wells twice per week
- Vacuum out wet wells once per year
- Inspect pump stations once per week by Utilities Electrician and Sewer Maintenance Worker
- Diagnose pump station motor control centers annually for operational efficiency and safety by the Southern California Edison Company
- Catalogue and track tasks by work orders in a maintenance management system
- Perform routine mechanical root removal in areas of known root intrusion
- Start test the emergency power systems at the pump stations weekly
- Service generators bi-annually by Power Plus, Inc.

Maintenance activities that are currently planned include the following:

- The City is in the process of hiring a consultant to complete the CCTV inspection of the gravity sewers and manholes.

**Maintenance Staff and Training**

The City currently has about 81.6 miles of pipe. In order to comply with the WDR requirements and the City's regular preventative maintenance program, the City must quantify the number of employees and equipment necessary to perform these tasks.

The City's current staffing for the wastewater collections system maintenance includes 5 employees, one supervisor and four field staff members. Training of these staff members is as follows:

- Initial training in proper operation and maintenance of all major wastewater equipment and facilities by the Wastewater Supervisor
- Critical equipment training is facilitated by outside contractors in areas of fork lift operation, backhoe and bob-cat operation, and crane operation
- Periodic training in confined space entry, trench shoring, traffic control, heat illness, and hazardous materials management
- Task proficiency is required for all positions and training records are maintained to monitor completed classes
- Disaster training exercises are conducted twice per year
- Staff is also trained in Best Management Practices of the Fats, Oils, and Grease (FOG) Control Ordinance and is instructed to report violations