

**SEWAGE COLLECTION SYSTEM INSPECTION FORM
(EPA Reg 9; form revised September 23, 2010)**

GENERAL INFORMATION

Inspection Date: **October 28, 2010**

Utility Name: City of Avalon Wastewater Treatment Plant		
Address: 123 Pebbly Beach Road Avalon, CA 90704		
Contact Person: Charlie Wagner, Chief Administrative Officer, City of Avalon		
Phone: 310-510-0220	Cell:	Fax:
Email:		

Inspectors Names	Agency/Contractor
JoAnn Cola	U.S. EPA, Region 9
Russ Colby	State of California RWQCB, Region 4
Raul Medina	State of California RWQCB, Region 4
Ivar K. Ridgeway	State of California RWQCB, Region 4
L.B. Nye	State of California RWQCB, Region 4
Hugh Marley	State of California RWQCB, Region 4
Brandi Outwin	State of California RWQCB, Region 4
Noah Golden-Krasner	State of California Attorney General's Office, Los Angeles

Utility personnel who accompanied inspectors

Name	Title
Charlie Wagner	Chief Administrative Officer, City of Avalon
Denise Radde	City Manager's Office, City of Avalon
Pastor Lopez	Director of Public Works, City of Avalon
Vic Savage	Area Manager, United Water
Brent Brady	Project Manager, United Water
Ralph Sogliuzzo	Assistant Project Manager, United Water
Mike Jones	Former Avalon Project Manager, United Water
Shawn Hagerty	BBK, representing City Attorney's Office

SYSTEM OVERVIEW

(This inspection form was filled out by the City of Avalon and e-mailed to EPA after the inspection. Inspector has added notes.)

Population: 3,800 Service Area (Sqr. Miles): 1.4

Service Area Description: **The City of Avalon is an island resort community.**

	Residential	Commercial	Industrial	Total
Number of service connections	1,500	200		

Combined Sewers (% of system): **<2%** (Inspector is unclear as to the meaning of this response.)

Name and NPDES permit number for WWTP(s) owned or operated by the collection system utility: **Waste Discharge Requirements for the City of Avalon Order No. R4-2008-0028 NPDES No. CA0054372**

Name and NPDES permit number for WWTP(s) that receive flow from the collection system utility: **None**

Names of upstream collection systems sending flow to the collection system utility:
None

Names of downstream collection systems receiving flow from the collection system utility:
N/A

Do any interagency agreements exist with upstream collection systems? (Y/N) **N/A**

Does the utility maintain the legal authority to limit flow from upstream satellite collection systems? (Y/N) **N/A**

SYSTEM INVENTORY (LIST ONLY ASSETS OWNED BY UTILITY)

Miles of gravity main	Miles of force main	Miles of Laterals	Number of maintenance access structures	Number of pump stations	Number of siphons
11	1.25	Unknown	Appx. 125	2	0

Utility responsibility for laterals (none, whole, lower) **lower**

Size Distribution of Collection System

Diameter in inches	Gravity Sewer (miles)	Force Mains (miles)
6 inches or less	8.25	0
8 inches	1.75	0.9
9 - 18 inches	0.5	0.3
19 - 36 inches	0.5	0
> 36 inches	0	0

Age Distribution of Collection System

Age	Sewer Mains, miles	# of Pump Stations
0 - 25 years	6.7	0
26 - 50 years	5.5	2
51 - 75 years	0	0
> 76 years	0	0

(City's response appears reflective of pipe lining work. During the interview, the City indicated that pipes were installed 100 years ago.)

SYSTEM FLOW CHARACTERISTICS

Collection System		
Average Daily Dry Weather Flow (MGD)	Peak Daily Wet Weather Flow (MGD)	Peak Instantaneous Wet Weather Flow (MGD)
0.4	0.7 (Summer Q)	2.0

Location of flow monitor(s) from which above information obtained: **WWTP effluent meter**

Period over which flow was monitored: **24 hours/day**

Agency conducting the flow monitoring: **United Water Environmental Services, Inc.**

If no flow monitors, describe method for estimating flows:

Wastewater Treatment Plant		
Average Daily Dry Weather Flow (MGD)	Peak Daily Wet Weather Flow (MGD)	Peak Instantaneous Wet Weather Flow (MGD)
0.4	0.7	2.0

Upstream Satellite Name	Avg. Dry Weather Flow		Peak Flow (MGD)	Flow based on meter or estimate?
	(MGD)	% of total flow		
Hamilton Cove	0.02	4.0	.05	estimate

Constructed Overflow Points		
Overflow Point	Location	Number of Discharges/Year
None		

REGULATORY BACKGROUND

Does the system operate under the provisions of an NPDES permit (either their own or under provisions of another agencies permit)? (Y/N) **Y**

Permit holder: **City of Avalon**

Permit # **NPDES Permit No. CA0054372**

List provision of the permit that apply (If permit holder is other than the agency being inspected)

Does the system operate under a state permit? (Y/N) **Y**

Are there any spill reporting requirements? (Y/N) **Y**

Which agency (or agencies) promulgates the spill reporting requirements? **Los Angeles County Health Department; California Office of Emergency Services; California Regional Water Quality Control Board, Los Angeles Region**

Outline the spill reporting requirements (summarize spill reporting requirement for each applicable statute, regulation and permit): **See spill reporting plan.**

SPILLS

Sanitary Sewer Overflows From and Caused by Utility									
Note: Spill Rate = number of SSOs/100 miles of sewer pipe/year									
Year	Mains (Miles of Mains <u>11</u>)			Laterals (Miles of Laterals <u>0</u>)			Totals (Total Miles <u>11</u>)		
	#SSOs	(1)Spill Rate (see below)	Gross Spill Volume	#SSOs	(2)Spill Rate (see below)	Gross Spill Volume	Total SSOs	(3)Total Spill Rate (see below)	Total Gross Spill Volume
2010	3	27	29,200	NR	--	--	3	27	29,200
2009	2	18	14,300	NR	--	--	2	18	14,300
2005	1	9	1,300	NR	--	--	1	9	1,300
Total	6		44,800	NR	--	--			

(1)Spill Rate = [(#SSOs in main pipe) X 100]/Miles of Main Pipe in System

(2)Spill Rate = [(#SSOs in laterals) X 100]/Miles of Lateral in System

(3)Total Spill Rate = [(#SSOs in Main + #SSOs in Laterals)X100]/[Miles of Main + Miles of Laterals]

Spill Cause

Year (as listed in Table above)	Blockage								Gravity Pipe Break		Force Main Break		Pump Station		Capacity		
	Grease		Roots		Debris		Multiple		#	%	#	%	#	%	#	%	
	#	%	#	%	#	%	#	%									
2010														2	66	1	34
2009														2	100		
2005					1	100											
Total																	

Please attach a copy of facility spill records for each of the past five years. The information for each spill should include, at a minimum, the following: Date of spill, time spill reported, location of spill (address and city), whether the spill occurred in a private lateral, whether it reached a surface water, total volume of the spill, volume of spill recovered, volume of spill that reached a surface water, the appearance point of the spill, final spill destination, spill cause and explanation, whether a health warning was posted.

BUILDING BACKUPS (list only backups caused by problems in sewer mains)		
Year	Number of backups	Cost of Settled Claims
2010	1	In process
TOTAL	1	

STAFFING

Indicate *Number of Staff – As pertaining specifically to collection system responsibilities

***Provided as numerical or FTEs or positions**

Management and Administrative: Budgeted 0.2 Filled 0.2

Maintenance: Budgeted 0.0 Filled 0.0

Electricians and Mechanical Technicians: Budgeted 0.0 Filled 0.0

Operators: Budgeted 0.6 Filled 0.6

Engineering: Budgeted 0.0 Filled 0.0

Number of Certified Collection System Operators/Certification Program: 0.0

Number of Sewer Cleaning Crews: 1.0

Sewer Cleaning Crew Size: 0.6

Contractor Services	Contractor Name(s) (NA if contractors not used)	Cost (\$/year)
Sewer Cleaning	Performance Pipeline	\$20,000
Chemical Root Control	None	\$0
Spot Repairs	Jamison Eng.	\$10,000
CCTV	Performance Pipeline	\$20,000
Spill Response	None	\$0
Other:		

EQUIPMENT

List Major Equipment Owned by the Utility:

Equipment	Number	Number in Service
Combination Trucks (hydroflush and vactor)	1	1
Hydroflusher	0	0
Mechanical Rodder	0	0
CCTV Truck	0	0
Utility Truck	2	2
Portable Pumps	3	3
Portable Generator	3	3

FINANCIAL

Does the collection system operate from an enterprise fund? Yes/No

REVENUES	
Revenue Source	Annual Revenue (\$/year)
User Fees	\$1,330,632
Connection Fees	\$10,000
Grants	
Bonds	
SRF Loans	
Interest	\$15,100
TOTAL	

EXPENSES		
Expense	Annual Cost (\$/year)	Cost / Mile of Pipe (Total Pipe Mileage: <u>12.5</u>)
Maintenance	\$225,753	\$18,060
Operations (electric, fuel, etc.)	\$15,000	\$1,200
Salaries and Benefits	\$45,573	\$3,646
Capital Improvements	(See ACIA budget)	
Debt payments		
Contract services	\$878,685	\$70,295
TOTAL	\$1,165,011	\$93,201

Average Monthly Household User Fee for Sewage Collection: **\$36.06 (\$432.71 billed annually)**
 Wastewater Treatment: **No separate charge**
 Total Wastewater Fees: **\$36.06 (\$432.71 billed annually)**

Sewer Fee Rate Basis (i.e. water consumption, flat rate, etc.): **Flat rate based on number of units**

Last Fee Increase (Date): **7/01/2009**

Planned Fee Increases: **A fee increase is expected in FY2011 - 2012 as the sewer master plan is developed.**

Capital Improvement Fund: **\$885,000** for **one** years (**see ACIA budget**) (City's budget is attached.)

SPILL RESPONSE, NOTIFICATION AND REPORTING

Does the Utility Have a Written Spill Response Plan? **Yes**

Is the Plan Carried by Maintenance/Spill Response Crews? **No**

Indicate Elements Included In the Spill Response Plan		
Element	Y/N	Comment
Identification of Responsible Staff	Y	United Water emergency call-out sheet
DISPATCH		
System for Becoming Aware of Spills	Y	
System for Receiving Public Calls	Y	
Dispatch Procedures – Normal Hours	Y	
Dispatch Procedures – After Hours	Y	
Coordination with First Responders (police, fire department)	Y	
Response Time Goal	20 min.	
SPILL CONTROL/MITIGATION		
Spill Response Activity Sequence	Y	
Spill Site Security	Y	Local sheriff as needed
Procedures for Stopping Spills	Y	
Spill Containment	Y	
Protection of Storm Drains	N	Storm drain system provides containment
Cleanup/Mitigation	Y	
DOCUMENTATION		
Spill Volume Estimation Method (list method in comment field)		Volume based on pump rate and time element involved
Determination of Spill Start Time	Y	
Spill Sampling	N	
Receiving Water Sampling	Y	
Photographing Spill Site	Y	
Field Notes Form	N	

Spill Report Form	Y	
NOTIFICATION		
Notification of Affected Public (schools, recreational users, etc.)	Y	
Posting Warning Signs	Y	
Sanitation Information re: building backups	Y	
REPORTING		
Reporting Procedures	Y	
Spill Report Forms	Y	
Persons Responsible for Filing Reports	Y	Plant manager

Are all spills reported regardless of volume? **Yes**

Are Contractors Required to Follow Spill Response Procedures? **Yes**

Average Spill Response Time (normal work hours): **0.3** hours

Average Spill Response Time (after hours/holidays): **0.5** hours

Does the Utility CCTV Pipes Following Spill? **No**

Are Cleaning Schedules Adjusted in Response to Spills? **No**

SEWER CLEANING AND MAINTENANCE

Does the Utility Have Detailed Sewer System Maps? **No**

Are Maps on GIS Database? **No**

Are Maps Available to Maintenance Crews? **No**

Maintenance Management System is (check whichever is applicable):

Written ___ Computerized **X** Both ___ Other (describe) _____

ANNUAL SEWER CLEANING – Include hydroflushing, mechanical and hand rodding		
Pipe Cleaning excluding repeats		Pipe Cleaning Including Repeats
(miles/year)	% of system/year	(miles/year)
2	20	2

What does the crew report for total length of pipe cleaned in a single visit if they clean the same pipe segment more than once during that visit?

System Cleaning Frequency (years to clean entire system): **5**

Types of problems subject to hot spot cleaning? **None**

HOT SPOT CLEANING SCHEDULE			
Cleaning Frequency	Number of Locations	Pipe length excluding repeats (miles)	Pipe length including repeats (miles)
1/month			
6/year			
4/year			
2/year			
1/year	3	< 1 mile	< 1 mile

CHEMICAL ROOT TREATMENTS

Length of pipe subject to chemical root treatments (miles/year): _____

Chemical treatment frequency: **Never**

Root treatment chemicals used: _____

SPOT REPAIRS

Spot repairs completed annually: _____ (#/year); _____ (miles/year)

Spot repair budget (\$/year): _____

Spot repair expenditures last year: \$_____ ; year: _____

ODORS

Annual number of complaints: **3**

Odor hot spot locations: **Pebbly Beach**

Odor treatment facilities: **2**

EASEMENT PIPE CLEANING

Total length of easement pipes (miles): **0**

Annual easement pipe cleaning (miles/year): **0**

Do maintenance workers have access to all easements? _____

(The section on cleaning and preventive maintenance differs from what the City said to inspection team during the interview. The City said during the interview that it does not have preventive maintenance schedules, but does respond to “problem spots” and reacts to problems. Preventive maintenance is performed only at the pump stations.)

FATS, OILS AND GREASE (FOG) CONTROL

Does the Utility have a FOG source control ordinance? **No**

Ordinance Citation: _____

Agency responsible for implementing the FOG control program: **City of Avalon**

Number of Food Service Establishments (FSEs) in service area: _____

Number of FSEs subject to FOG ordinance: **0**

Indicate Elements Included In the Food Service Establishment FOG Source Control Program		
Element	Y/N	Comment
FSE Permits	N	
FSE inspections	N	
FSE enforcement	N	
Oil & grease discharge concentration limit	N	
Grease removal device (GRD) requirements:		
traps	N	

interceptors	N	
Automatic cleaning traps	N	
FSEs subject to GRD installation:		
all FSEs (new and existing)	N	
new FSEs	N	
remodeled FSEs	N	
for cause at existing FSEs	N	
GRD maintenance requirements:		
Cleaning frequency	0	
25% rule (grease and solids accumulation)	N	
Kitchen BMP Requirements (list required BMPs below)		
Allowance for chemical additives?	N/A	
Allowance for biological additives?	N/A	
FOG Disposal Requirements	N/A	
FOG Disposal Manifest System	N/A	

Number of FOG Program staff:

Inspectors 0

Permit writers 0

Other 0

FSE Inspection frequency: N/A

Annual number of FSE inspections: 0

Does Utility use CCTV to identify FOG sources? No

Does sewer maintenance staff coordinate with FOG source control program staff? No

Cleaning targeted to FOG hot spots? N/A

Maintenance crew referrals to FOG program? N/A

Pipe repairs at FOG hot spots? N/A

Describe program for public outreach and education related to residential FOG sources:

PIPE INSPECTION AND CONDITION ASSESSMENT

Gravity Main Inspection

Describe Pipe Inspection Methods: **Gravity sewers are inspected using a CCTV system.**

Miles of Pipe Inspected in the Last 10 Years and Planned Inspection Next 10 Years				
Date Range	Inspection Method	Miles of Pipe without repeats	Useable Condition Assessment	
			Miles of Pipe (without repeats)	% of System (System miles:)
2000 to present	CCTV	8.25	8.25	75%
2000 to present	Other	--	--	--
Present to 2020	CCTV	11	11	100%
Present to 2020	Other	2.2	2.2	20%

Describe Planned Pipe Inspection: **20% (2.2 miles/year)**

Summary of Condition Assessment Findings:

Force Mains

Describe Force Main Inspection Methods: **None**

Describe Program for Inspecting Air Relief Valves: **N/A**

Private Laterals

Does the Utility Inspect Private Laterals? **Yes**

Number of Private Laterals Inspected 2006 to Present: **325**

Summary of Inspection Findings: **129 laterals relined, 196 replaced (2008).**

Number of Private Laterals Planned for Inspection Present to 2020_____

CAPACITY ASSURANCE

List Locations and Dates of Repeats Capacity Spills:

Pebble Beach Pump Station

8/31/10

8/22/10

10/5/05

List Locations of Known Capacity Bottlenecks:

Dry Weather: **Pebble Beach Pump Station**
Catherine Pump Station

Wet Weather: **Pebble Beach Pump Station**
Catherine Pump Station

Describe I&I Assessments Completed by the Utility (dates, area covered, findings, etc.):

A hydraulic and infiltration analysis was conducted for each site/basin for the flow monitoring period of March 12, 2004 to May 01, 2004. A summary of the relevant data is provided in Table 5.1 (below).

Net daily average and diurnal flows from each metered area were typical of other like sized areas with similar land uses. Estimated base infiltration (BI) rates system-wide do not appear to be unreasonably high, although there is evidence to suggest that some isolated zones within the system may be experiencing above standard BI rates. The BI rates since 1993 appear to have decreased in Basins 003 and 004 as well as system-wide.

Hydraulic performance at each metered site indicates the system is not experiencing any significant dry-weather capacity issues.

Basin/Site	Net Flow (MGD)	Base Infiltration (%ADDF)	Maximum Observed Gross Flow Peaking Factor	Max. d/D Ratio (%)
AVALON_001	-0.02	--	1.74	54%
AVALON_002	0.084	28%	1.96	58%
AVALON_003	0.064	38%	1.89	26%
AVALON_004	0.123	34%	1.91	53%
AVALON_005	0.058	40%	1.89	41%
AVALON_006	0.025	32%	2.69	33%
AVALON_007	0.047	32%	1.92	47%
AVALON_008	0.029	52%	1.98	16%
AVALON_009	0.022	35%	2.05	26%
AVALON_010	0.037	~10%	2.18	26%
AVALON_011	0.026	33%	2.33	21%

Flow Meters (number, locations):

Describe Flow Model Used by the Utility:

Inflow

Does the Utility Prohibit Storm Water Connections to the Sanitary Sewer (roof drains, sump pumps, etc.)? **Unknown**

Describe Program for Enforcing Ban on Illicit Connections: **Unknown**

Describe Program for Locating Illicit Connections (smoke testing, etc.): **Smoke testing done in 1999.**

Locations Subject to Street Flooding: **Clarissa and Crescent Streets.**

Has the Utility Sealed Manholes in Locations Subject to Street Flooding: **Yes**

I&I Control

Describe I&I Control Projects (miles of pipe rehabilitated or replaced for I&I Control)
 Recently Completed Projects: **All manholes in “the Flats” sealed; all mains in “the Flats” sliplined.**

Planned Projects: **Unknown**

Describe Capacity Control Measures (relief sewers, storage, WWTP expansion, etc.)
 Recently Completed Projects: **None.**

Planned Projects: **Unknown.**

INFRASTRUCTURE RENEWAL AND CAPITAL IMPROVEMENTS

Pipe Rehabilitation and Replacement Methods Used:

Miles of Pipe Rehabilitated or Replaced: Last 10 Years and Planned Next 10 Years		
Date Range	Miles of Pipe	% of System (System miles:)
1999 to present	6.7	55%
Present to 20__	Unknown	N/A

Describe Capacity Improvement Program: **N/A**

List Major Planned Improvements:

Per City of Avalon: The FY 2010-2011 ACIA sewer budget contains \$885,000 for capital improvements. Listed below:

Decant Tank Refit	245,000
Casino Sewer Laterals	120,000
Slip Lining - Falls Canyon	25,000
Camera - Marilla, et al	20,000
Slip Lining - Marilla, et al	350,000
Emergency Generator -WWTP	125,000
Total	\$885,000

Describe Master Plan:

Per City of Avalon: The City will award a contract to RBF Consulting on November 16, 2010. This contract will be the basis of developing a master plan to map, grade and improve the system, city wide.

(During the inspection, the City indicated that, although the funds listed above had been budgeted, the projects were “on hold” pending review by the new contractor. The City indicated uncertainty that the projects had been properly described and prioritized, as it was in the middle of a contract dispute with its O&M contractor.)

PUMP STATIONS
 (Please complete one sheet for EACH pump station)

Name and Location of Pump Station: Pebbly Beach Pump Station

Pump Information

Pump #/Name	Dry or Submersible	Capacity	Constant or Variable	In Service?
Pebbly Beach #1	Drywell Sub	700 gpm	Variable	Yes
Pebbly Beach #2	Drywell Sub	700 gpm	Variable	Yes
Pebbly Beach #3	Drywell Sub	700 gpm	Variable	Yes

Pump Station Information:

- A. Average flow: 0.46 MGD
- B. Holding Time: 10 minutes
- C. Does station have sufficient pumping capacity with the largest pump out of service during:
 Peak Dry Weather Flow: Yes
 Peak Wet Weather Flow: Yes
- D. Dry weather capacity limitations? Y/N (if yes, describe) No
- E. Wet weather capacity limitations? Y/N (if yes, describe) No
- F. Number of failures resulting in overflows/bypass or backup, in the last five years 3
- G. Total quantity of overflow/bypass: Gallons or MG 24,300 gallons
- H. Is dry well protected from wet well overflow? Yes X No _____
- I. How often is pump station inspected? Bi-weekly
- J. **Back up power sources and type:**

On-site generators	Portable Generators	Back-Up Line from same grid?	Back-up Line from different grid?	Other (describe)
Yes <u>X</u> No _____	Yes _____ No <u>X</u>	Yes _____ No <u>X</u>	Yes _____ No <u>X</u>	

If generators on-site, describe testing and maintenance procedures: Annual inspection and load test. Weekly run testing.

K. Station Alarms:

Low Wet Well	High Wet Well	Power Loss	Unauthorized Entry	Other (Describe)
Yes _____ No <u>X</u>	Yes <u>X</u> No _____	Yes <u>X</u> No _____	Yes _____ No <u>X</u>	

- a) Is there 24 hour coverage for alarms? Yes X No _____
- b) Alarm signal sent to: Duty operator cell phone

L. What equipment is available for emergency response? Service truck

M. Are there SCADA controls? Yes _____ No X
 If yes, ability to operate station remotely? Yes _____ No _____

PUMP STATIONS
(Please complete one sheet for EACH pump station)

Name and Location of Pump Station: Catherine Pump Station

Pump Information

Pump #/Name	Dry or Submersible	Capacity	Constant or Variable	In Service?
Catherine #1	Drywell Sub	850 gpm	Variable	Yes
Catherine #2	Drywell Sub	850 gpm	Variable	Yes

Pump Station Information:

- A. Average flow: 0.46 GPM
- B. Holding Time: 10 minutes
- C. Does station have sufficient pumping capacity with the largest pump out of service during:
 Peak Dry Weather Flow: Yes X No _____
 Peak Wet Weather Flow: Yes X No _____
- D. Dry weather capacity limitations? Y/N (if yes, describe) No
- E. Wet weather capacity limitations? Y/N (if yes, describe) No
- F. Number of failures resulting in overflows/bypass or backup, in the last five years 0
- G. Total quantity of overflow/bypass: Gallons or MG 0 gallons
- H. Is dry well protected from wet well overflow? Yes X No _____
- I. How often is pump station inspected? Bi-weekly
- J. **Back up power sources and type:**

On-site generators	Portable Generators	Back-Up Line from same grid?	Back-up Line from different grid?	Other (describe)
Yes <u>X</u> No _____	Yes _____ No <u>X</u>	Yes _____ No <u>X</u>	Yes _____ No <u>X</u>	

If generators on-site, describe testing and maintenance procedures: Annual inspection and load testing. Weekly run testing.

K. Station Alarms:

Low Wet Well	High Wet Well	Power Loss	Unauthorized Entry	Other (Describe)
Yes _____ No <u>X</u>	Yes <u>X</u> No _____	Yes <u>X</u> No _____	Yes _____ No <u>X</u>	

- a) Is there 24 hour coverage for alarms? Yes X No _____
- b) Alarm signal sent to: Duty officer cell phone

L. What equipment is available for emergency response? Service truck

M. Are there SCADA controls? Yes _____ No X

If yes, ability to operate station remotely? Yes _____ No _____

ATTACHMENT 1

PHOTOGRAPHS TAKEN DURING INSPECTION OF CITY OF AVALON, CALIFORNIA

Photographs IMG_3259 through IMG_3268 were taken by JoAnn Cola on October 28, 2010



Figure 1: IMG_3259. Pump station for the low-flow diversion station at “Busy Bee” location. The City told the inspection team that the sewer system uses the low-flow diversion system to capture sewer system spills, which can then be pumped back to the WWTP. The system is a separate sewer system but is, in effect, operated similarly to a combined system.



Figure 2: IMG_3260. Low-flow diversion system.



Figure 3: IMG_3261. Manhole located in the alley behind the El Galleon restaurant. Small amount of grease is visible, lots of soap suds.



Figure 4: IMG_3262. Mike Jones of United Water opening the cover at the Catherine lift station.



Figure 5: IMG_3263. Catherine lift station.



Figure 6: IMG_3264. Low point manhole between Catherine & Pebbly Beach lift stations.



Figure 7: IMG_3265. Outlet to beach from the low point manhole pictured in IMG_3264.



Figure 8: IMG_3266. Site of spill at Pebbly Beach lift station.



Figure 9: IMG_3267. Pebbly Beach lift station.



Figure 10: IMG_3268. Control panel and wet well area at Pebbly Beach lift station.

The following photos, IMG_3269 through IMG_3275, were taken at the Avalon wastewater treatment plant by Brandi Outwin, RWQCB4 on October 28, 2010.



Figure 11: IMG_3269. Rotoscreens at wastewater treatment plant, site of an in-plant spill.

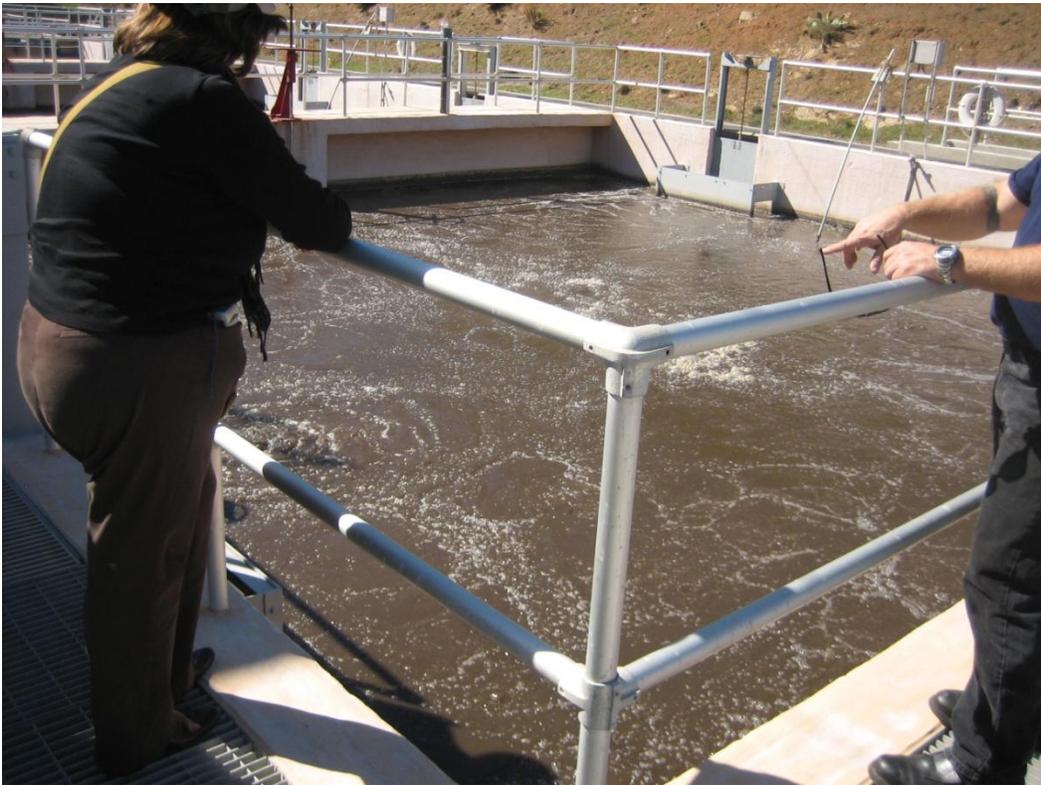


Figure 12: IMG_3270. Aeration basins.



Figure 13: IMG_3271. Aeration basins. Original image has been rotated 90° clockwise.



Figure 14: IMG_3272. Aeration basins. Original image has been rotated 90° clockwise.



Figure 15: IMG_3273. Digesters. Original image has been rotated 90° clockwise.



Figure 16: IMG_3274. Clarifiers.



Figure 17: IMG_3275. Pumps and blowers.

ATTACHMENT 2

INSPECTION SUMMARY

- 1. Introduction.** On October 28, 2010, EPA Region 9, accompanied by Regional Board 4 and the State Attorney General's Office inspected the City of Avalon's wastewater collection system. Information provided by Avalon's representatives is summarized in the Sewage Collection System Inspection Form, above. This summary provides highlights of EPA's inspection findings.

The City of Avalon is located on Catalina Island in Los Angeles County, California. Avalon is approximately 22 miles SSW from Los Angeles Harbor. Avalon is primarily a resort community. Local businesses consist primarily of tourist-related hospitality and retail, with few industrial facilities. Avalon owns 11 miles of sewage collection pipe, including two lift stations, and a waste water treatment plant ("WWTP"). In addition, the City also has a dual piping system to enable it to use saltwater for fire suppression, irrigation, and toilet flushing at elevations of less than 180 feet. The City of Avalon has contracted with United Water for the past 20 years to operate its WWTP, sewage collection system, and the saltwater system. The City of Avalon expects to have a new contract for operation in March 2011. Average daily dry weather flow is 0.49 MGD. Because Avalon is a resort community, high flows typically occur during the summer, when the average daily flow is 1.8 MGD. The influent to the WWTP is approximately 50% saltwater.

- 2. Occurrence of Sanitary System Overflows ("SSOs").** Discharges to waters of the United States without a permit are prohibited by Section 301(a) of the Clean Water Act. Part C.1 Prohibitions of the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, DWQ No. 2006-0003, states that any spill that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited. Part III of the Waste Discharge Requirements for the City of Avalon Order No. R4-2008-0028 NPDES No. CA0054372 also prohibits discharges at locations other than that described in the Permit, and prohibits overflows of untreated wastewater to surface waters or surface water drainage courses.

The City owns and is responsible for the operation and maintenance of 11 miles of pipe. According to responses on the inspection questionnaire submitted by Avalon to EPA following the inspection, from January 1, 2005 through September 30, 2010, 6 SSOs occurred. The spill rate is 10 spills/year/100 miles pipe, when averaged over the 5.75 year period. Of the spills reported during 2009 and 2010, the total spill volume was 43,500 gallons, of which only 600 gallons was recovered. During 2010, all SSOs were reported to CIWQS to have affected surface waters. *Recommendation:* In order to fully comply with the Clean Water Act, the Statewide General Waste Discharge Requirements

for Sanitary Sewer Systems, DWQ No. 2006-0003, and its NPDES Permit, the City must make all reasonable efforts to eliminate SSOs.

- 3. Documentation of SSOs.** The State Water Resources Control Board's Order No. 2006-0003DWQ Statewide General Waste Discharge Requirements also require Avalon to develop and implement a Sewer System Management plan ("SSMP"), including a Sewer System Overflow Response Plan ("SSORP"). State Water Resources Control Board's Monitoring and Reporting Program No. 2006-003-DWQ Statewide General Waste Discharge Requirements for Sanitary Sewer Systems establishes requirements for monitoring, recordkeeping, and reporting. Paragraph B of the Monitoring Program requires that the documentation related to SSOs must be maintained by Enrollee for a period of five years. The required documents include copies of the report submitted to California Integrated Water Quality System ("CIWQS"), logs of SSO calls, service call records, SSO records, complaints, and maintenance records.

Except for 911 call audio tapes of those calls made to the sheriff's department, there is no record or log kept of sewer trouble calls made by the public to the City. Both City and United Water representatives told the inspection team that spills are sometimes reported by the public in person to City or United Water staff. United Water representatives said that a log book for the WWTP is maintained, and an entry is made to record trouble call outs.

The City of Avalon's Sewer System Management Plan ("SSMP") is dated September 2010 and was adopted by the City Council in October 2010. Section 5, page 17 of the SSMP describes the actions for staff to take when responding to spills. It says the response staff is to first call to dispatch equipment, then, "...2) determine the flow path, width, length, and depth in order to document the volume of the spill. 3) If possible, take pictures to document the spill and your efforts to contain the flow and restore the area." United Water's Sewer System Overflow Response Plan ("SSORP") is attached as an appendix to the SSMP. Item three of the SSORP instructs response staff to "take camera, GPS, and reporting packet". Based on the statements made by the City during the interview, response personnel do not follow the procedures established by the City's SSMP and SSORP for documenting SSOs. City staff told inspectors that the city vehicles used for spill response do not contain either spill response forms or cameras, and that the response staff does not photograph spills. Although the CIWQS reports prepared by United Water do contain the coordinates of the spill location, the City staff told inspectors that the City has no GPS capability, nor any staff currently trained to use it. United Water staff said that response staff used a photo chart to estimate spill volume. The SSORP contains a "sewer overflow volume estimation guide" comprised of a series of nine photos depicting manhole overflows ranging from 5 to 275 gallons per minute, it is a very poor quality copy, and the SSORP includes no alternate methodology for estimating spill volume. During the interview, the City staff told inspectors that the spill

responders do not take any notes at the spill site. The City told inspectors that, except for the trouble call log binder kept at the WWTP, it does not maintain any written documentation of the spill. United Water staff said that the project manager writes and submits spill reports to CIWQS, with a copy furnished to the City. The inspection team viewed the trouble call binder, which contained copies of the spill response forms submitted to CIWQS, but it contained neither supporting documentation nor other spill documentation required to be maintained under the Statewide General Waste Discharge Requirements. *Recommendation:* To comply with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, the City should fully implement its SSMP, and establish standard procedures for preparing complete and accurate spill documentation, beginning with logging initial calls from the public until the final spill report is submitted to CIWQS. The City should also consider preparing spill response documentation kits to be maintained in service vehicles, consistent with its SSMP and Overflow Response Plan. Staff should receive additional training in preparing and maintaining SSO documentation.

- 4. Reporting of SSOs.** According to the State Water Resources Control Board's Order No. 2006-0003-DWQ Statewide General Waste Discharge Requirements, the City of Avalon, was required to commence reporting all SSOs to the State's CIWQS database on August 17, 2006.

According to the State's CIWQS database, no spills were reported by Avalon to CIWQS prior to July 2010. Three spills were reported during 2010. However, the inspection form filled out by Avalon representatives and submitted to EPA, listed a total of six public SSOs and one building backup as having occurred during the past five years. All SSOs are required to be reported under the State's Order No. 2006-0003-DWQ.

During the interview, City of Avalon representatives told the inspection team that spills in Avalon's downtown area flowed via the storm drain system into the storm water low-flow diversion system at Crescent Ave. near Metropole Ave. and then pumped to the treatment plant. However, the City staff also said that the diversion system was such that runoff went directly to the ocean after about an hour of heavy rainfall. Although the City did state to inspectors that such downtown SSOs were "usually due to pipe failure", the number of such spills was not stated, and no such spills have been reported to CIWQS. All spills from the sewage collection system are required to be reported to CIWQS, regardless the spill is pumped from the low-flow diversion system to the treatment plant. *Recommendation:* The City is required to report all SSOs, including spills that may occur on private property but are due to blockages in a city-owned pipe, as required by the State's Monitoring and Reporting Program No. 2006-0003-DWQ. The City should provide EPA with an explanation of the reasons any SSOs were not reported to CIWQS. The City should report all missing spill data to CIWQS, as appropriate.

- 5. SSO Containment and Mitigation.** Part D.3. of the State Water Resources Control Board Order No. 2006-0003-DWQ states that in the event of a spill, the Enrollee shall take all feasible steps to contain and mitigate the effects of an SSO.

Of the three SSOs reported to CIWQS, the total volume reported is 29,000 gallons. 600 gallons, or 2%, was reported as recovered. United Water has a service truck and also a trailer available for response to SSOs. The trailer is equipped with bypass pumps, sewer snake, and jetter. The City of Avalon owns a combination truck, but United Water must call to request it from the City's Department of Public Works; city staff operates the combination truck. According to the City, Public Works does not usually get calls to respond to spills. Two of the reported spills were reported to have occurred at Pebbly Beach Pump Station; which carries virtually all of the City's flow. The first reported SSO, on August 21, 2010 was caused by corrosion of the control system due to hydrogen sulfide and saltwater. United Water representatives told inspectors that the pump station was serviced weekly; however, the stainless steel support in the control panel failed due to corrosion and the SSO occurred before the panel was repaired. United Water contracted electricians from the mainland to make the extensive repairs. The second SSO occurred ten days later and was caused by a pump becoming vapor locked while the repairs were ongoing. The third SSO occurred at the WWTP following an electrical "brownout". When asked whether the pump station was routinely checked out following electrical problems, United Water representatives stated that "someone should", but did not state that this was actually a standard procedure. *Recommendation:* The City should fully implement its SSMP, and improve its efforts to contain and mitigate SSOs. Because of the proximity of the sewage collection system to the Pacific Ocean, the City should consider developing and implementing spill contingency plans.

- 6. Sewer System Maintenance.** State Water Resources Control Board Order No. 2006-0003-DWQ requires Enrollees to develop an SSMP, including an Operation and Maintenance Program and Preventative Maintenance Program. Although the City indicated on the inspection form that 20% of the system is cleaned annually, the City told inspectors during the interview that sewer cleaning is not done on a schedule, but that cleaning is reactive to a problem. United Water staff told inspectors that it was "aware of several problem spots", but there is no accelerated cleaning schedule. Avalon owns a vactor truck and jet rodder, but this equipment is used by the City Public Works staff primarily for the low-flow diversion system, and not used for cleaning the sewage collection system. Preventive maintenance is done only at pump stations. There are no programs established for either grease or root control. The City of Avalon provided copies of CCTV work done during July 2010, which shows evidence of both heavy root intrusion and pipes in need of urgent repair in the west side of the city. According to statements made by the City during the interview, there is no maintenance management system, no written work orders, no preventive maintenance schedules, and no long-term capital improvement plan. This appears to conflict with information provided on the

inspection form. There is only one hard copy sewer map, which the City told inspectors was “not accurate”. The inspection team visited the WWTP, and noted that although some refurbishment had occurred, the decant tank appeared to be in need of urgent repair, and was not being used. *Recommendation:* To fully comply with State Water Resources Control Board Order No. 2006-0003-DWQ, the City should fully implement its SSMP. The City must have an accurate sewer map. In addition, the City must plan, budget, and complete appropriate maintenance measures, including preventive maintenance and pipe repairs, in a timely manner to prevent failure and repeat SSOs. Scheduled preventive maintenance may also help to reduce costs by reducing costly emergency repairs.

- 7. Maintenance Management System and Record Keeping.** State Water Resources Control Board Order No. 2006-0003-DWQ requires all Enrollees to maintain records of all SSO calls, spill records, work orders, and lists of complaints from the public. When requested by the inspection team, the City had no such documentation available. The inspection team was also told by the City that Avalon has no digitized sewer system maps, no computerized maintenance management system, and no automated system for generating work orders. There is no system for scheduling routine maintenance, tracking maintenance completed, for facilitating or adjusting the frequency of maintenance, or for generating work orders following SSOs. *Recommendation:* The City should implement its SSMP and adopt a maintenance management system that would more efficiently allow the City to integrate, track, and record maintenance, spills, inspection history, and condition assessment of its pipes. In addition, it would provide a system for maintaining the SSO documentation required by the State’s Order No. 2006-0003-DWQ.
- 8. Capital Improvement Program and Aging Infrastructure.** State Water Resources Control Board Order No. 2006-0003-DWQ requires all Enrollees to develop an SSMP which “should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.” Although the City lists several projects on the inspection form, the City told inspectors that there is no long-term plan currently in place for capital improvements. During the inspection, the City told inspectors that it had refurbished the WWTP, but the inspection team observed a decant tank at the WWTP that had been taken out of service and was clearly in need of repair. The City told inspectors that the funds for repairing the decant tank is in the budget and the project is authorized. The City explained to inspectors that the work had not been done because it doesn’t have confidence that projects had been correctly prioritized. The City said that it has had the funds budgeted for its capital improvement projects, but has not started work because it has been awaiting the award of a contract with a consultant to reevaluate and rank proposed improvements.

During the inspection, the City staff said that most of the sewer pipe was installed approximately 100 years ago. Much of the downtown pipe has been slip-lined, which may account for the apparent conflict with pipe ages listed by the City on the inspection form that indicate no pipe older than 50 years. Most of the city's pipe is clay, although some is of cast iron. Although the lifespan of clay sewer pipe does vary, the average life of a clay sewer pipe is often considered to be approximately 70 years. According to the City staff's statements during the interview, approximately 80% of the City's system has been CCTV inspected, and 50% of that was slip lined approximately 7 to 8 years ago, mainly in the flat area of the City. Therefore, approximately 4.5 miles of the 11 mile system has been slip lined, and 6.5 miles of unrehabilitated pipe remains, mainly in the west side on the slope above downtown. However, the inspection form filled out by the City says that 6.7 miles of the pipe had been rehabilitated during the past 10 years. During the inspection, the City told inspectors that it currently makes repairs upon failure, and rehabilitates its sewer pipes in conjunction with street repairs. Although approximately half of the system has been slip lined, the City stated that there is currently no long range program in place to systematically repair, rehabilitate, or replace components of the sewage collection system before it fails. *Recommendation:* The City should fully implement its SSMP and consider instituting a Capital Improvement Program that includes sufficient funding to refurbish its wastewater infrastructure over time so as to avoid failure.