



2006 ANNUAL CSO REPORT

PREPARED FOR
THE WASHINGTON STATE DEPARTMENT OF ECOLOGY

May 2007

TO COMPLY WITH
CONDITION S11 OF NPDES PERMIT NO. WA-0023973,
WAC 173-245-090(1),
and
AGREED ORDER NO. 3853

A handwritten signature in black ink, appearing to read "Stephen Sperr".

Prepared By
Stephen Sperr, P.E., Engineering Manager

A. SUMMARY

This Report addresses the period from January 1, 2006 through December 31, 2006 with regards to the reporting requirements in the NPDES Permit. The City has four Combined Sewer Overflow (CSO) sites that are continuously monitored by Geotivity Qtrek2 flow recorders. The City has a service contract with Geotivity, Inc., where raw data is uploaded via cellular phone service to Geotivity's website every 5 minutes. Geotivity verifies the data, issues CSO flow event start and end emails, and convert it to a format that can produce reports of varying length, as well as graphs.

The four CSO discharge outfalls are as follows:

- 006 - Oak & Railroad, discharges into Port Angeles Harbor
- 007 - Laurel & Railroad, discharges into Port Angeles Harbor
- 008 - ½ Alley & Lincoln, discharges into Peabody Creek culvert which discharges into Port Angeles Harbor
- 010 - Francis Street Park, discharges into Port Angeles Harbor

In Appendix A is a map showing the locations of the four CSO sites.

Section F of this Report addresses the following, which under Agreed Order No. 3853, the City agreed to address on a yearly basis: (1) the progress made to comply with terms of this Agreed Order over the previous year, (2) any deviations from the schedule referenced above, (3) a plan for bringing the project back on-schedule if necessary, and (4) any anticipated deviations from the schedule for the coming year.

B. CSO DISCHARGES – DATE, DURATION AND VOLUME

Appendix B includes tables that detail for each site the date, total volume and duration for each CSO event. Table 1 below summarizes the total number of CSO events and volume for each of the four remaining CSO sites in the last four years.

Table 1 – Total Events and Volumes for Each CSO Site, 2003-06

Site No.	2003		2004		2005		2006	
	Events	Volume	Events	Volume	Events	Volume	Events	Volume
006	6	1,166,421	11	99,169	30	2,157,945	29	4,919,933
007	10	5,958,953	15	586,688	37	15,143,072	30	17,033,788
008	2	1,201,531	0	0	9	45,767	9	948,030
010	12	21,400,462	3	1,096,603	34	15,788,946	20	52,614,746
Total	30	29,727,367	29	1,796,488	110	33,135,730	88	75,516,497

C. CSO REDUCTION ACCOMPLISHMENTS IN 2006

The following projects were completed or initiated in 2006 as part of the City's CSO Reduction Plan:

1. Went through a consultant selection process for the pre-design of several CSO Projects, including the Francis Street sewer main, as part of the first phase of CSO Projects identified in the City's CSO Reduction Facilities Plan. Selected Brown and Caldwell.
2. Completed an update to the CSO Reduction Facilities Plan/General Sewer Plan in June 2006. Cost in 2006: \$72,000
3. Received approval from Ecology of the Plan as a Facility Plan in November 2006.
4. Completed installation in October 2006 of a storm sewer along Lincoln Street from 4th Street to 8th Street, separating stormwater from the sanitary sewer in this area. This should reduce CSO flows at CSO 008. Cost in 2006: \$725,000
5. Continuation of the disconnection program (\$50,000 per year on average) for storm inlets/catch basins and incorporate disconnections into adjacent public works projects.
6. Pre-design for Phase 1 CSO Projects. Cost in 2006: \$425,000

When you include labor costs, the total amount spent by the City of Port Angeles in 2006 to address Combined Sewer Overflows was more than \$1,300,000.

D. CSO PROJECTS PLANNED FOR 2007

In 2007, the City plans to complete most of the detailed design of the suite of projects listed below, to be constructed under Phase 1 of the CSO Reduction Plan. The design cost to accomplish this work is \$1,320,000, which as of May 1, 2007 was obligated in Amendment No. 1 to the Consultant Agreement 06-01 with Brown and Caldwell. The design of the following projects is scheduled to be completed by June 2008:

1. Construction of approximately 3,500 feet of 36-inch diameter sewer main, from the north end of Francis Street to the headworks of the City's wastewater treatment plant (WWTP).
2. Construction of two sewer force mains, one 24-inch and the other 30-inch, each approximately 8,000 feet long, from Oak Street to the WWTP. The force mains will replace one existing, undersized force main.
3. Purchase of and construction of modifications to one existing 5 million gallon storage tank and associated property for use as a CSO storage facility, and design of flow diversion facilities will be constructed to manage flows into and out of the storage facility.

4. Construction of WWTP modifications and a new pipeline for final treated effluent disposal via one or both outfalls.

There will also be a continuation of the disconnection program (\$50,000 per year on average) for storm inlets/catch basins and incorporate disconnections into adjacent public works projects.

In addition, the flow monitoring at the four CSO sites will continue to be monitored through a contract with Geotivity, Inc. to not only host the CSO flow information on a website, but also inspect and service the flow recorders on a monthly basis to ensure that they stay in service.

E. NINE MINIMUM CONTROLS

The nine minimum controls as described in S11.B.1 to 9 of the permit are being followed as described in the Port Angeles WWTP Combined Sewer Overflow Pollution Prevention Plan, dated September 2004, which was submitted per item 7 of order DE 04WQSR-6042. The Plan was submitted along with a revised Sampling and Analysis Plan per item 5 of the same order. Ecology has acknowledged receipt of these documents and that they meet the requirements in the order.

The following is a summary of activities in 2006 supporting the nine minimum controls:

1. Proper operation and regular maintenance program for the sewer system

Wastewater Collections and WWTP staff have performed maintenance at all the lift stations according to the work orders set up in the City of Port Angeles HTE software program. Visual inspections of CSO outfalls, regulator structures, and signs are also tracked in the City of Port Angeles HTE software. WWTP Staff are using CSO survey and inspection forms to record information found after each overflow event that occurs during our regular work week, as per the sampling plan. Work orders to perform these tasks print out periodically at the WWTP office and are forwarded to work crews. Finished work orders are used to update the HTE work orders system maintained by WWTP staff. Finished work orders are then filed in the appropriate year 'CSO field reports' file in the Superintendent's office. The WWTP Superintendent also collects data from the Wastewater Collections crew monthly, and for 2006: 45,466 feet of sanitary sewer was jetted, 1,365 feet of storm sewer was jetted, 3839 feet of sanitary sewer was root foamed, 6 backed up sewers were called in (in the City), and 32 backed up sewers were called in on private property.

2. Maximum use of the collection system for storage

The City has not added any significant storage to the collection system in 2006. The collection system does not have any appreciable oversized sewers or wet wells at pump stations to provide storage capacity.

3. Review and modification of pretreatment requirements to assure CSO impacts are minimized

In 2006, the WWTP received 1.55 million gallons of sewage from septage pumpers through the use of long term and annual contracts. This is an increase from the previous year (1.06 million gallons). The WWTP has also begun taking pumper waste from restaurant grease separators on an interim basis. The WWTP treated 3.71 million gallons of leachate from the Rayonier landfill and 15.32 million gallons of leachate from the City of Port Angeles landfill in 2006. With land filling being replaced by a transfer station at the end of 2006, we are expecting the leachate flows from the City of Port Angeles landfill to be greatly reduced. The project to cap the active landfill cell is going to bid in June 2007 and will be completed in 90 days. The 2006 Pretreatment Report was mailed to Ecology on November 2, 2006 and it reflected no new IWA permits.

Enforcement for the pretreatment program has consisted of 12 inspections for the year. The WWTP had only 13 permits in effect in 2006. None of the local limits in the City's sewer ordinance were exceeded. The WWTP has not had any biological upsets or any pass through events. Sampling and monitoring of CSO sites have shown no appreciable impacts as is noted later in the report.

4. Maximization of flow to the publicly owned treatment works (POTW) for treatment

The WWTP has had all units on line and taken the maximum flow delivered from the sanitary sewer system in 2006. The average flow for 2006 was 2.76 MGD with a peak daily flow of 7.79 MGD.

5. Prohibition of CSOs during dry weather

Dry weather overflows are treated like a spill investigation and a City of Port Angeles "Pollution Investigation Checklist" is always used to report these. There was one dry weather overflow at CSO 007 on April 4, 2006 caused by a water main break. The Geotivity report recorded total flows of 5 gallons that day. The CSO internet notification system from Geotivity has been set up since September 2004. We are continuing to receive reports from Geotivity on flows at the CSO sites and checking them for any dry weather flows.

6. Control of solid and floatable materials in CSOs

WWTP staff inspects the baffles and discharge areas after each overflow event. Survey reports show the baffles have successfully kept the floatables and solids out of the overflow discharge pipes. Inspection of the beach areas has detected no floatables or solids. These CSO survey forms are kept in the lab at the WWTP.

7. Pollution Prevention

In 2006, the City of Port Angeles Street and Parks Division removed approximately 500 wet tons of material through street sweeping maintenance. A total of 3,565 miles of road surface was swept. They also removed (by educting) 156.2 wet tons of combined catch basin material. A total of 297 catch basins were cleaned. These materials were used as

daily cover at the Port Angeles Landfill (PALF) until it was closed. We are now diverting sweepings and construction spoil to a decant facility we are constructing at the Port Angeles Landfill site. Wastewater Collections staff have labeled the entire downtown area with "no dumping" decals on the storm water catchments. This was completed on 9/29/2006 while they cleaned the basins with the vacor truck. Also newly installed catch basins have been labeled for no dumping. City Street/Parks staff has also maintained the daily pickup of the downtown receptacles. Funding for the City of Port Angeles Pollution Prevention Plan has been maintained through sewer and storm water billing to provide these services.

8. Public notification to ensure that the public receives adequate notification of CSO occurrences and impacts

Geotivity has maintained the internet notification system that emails stakeholders whenever a CSO event begins or ends. The WWTP has received no complaints on the operation of this system and it works well. The CSO notification signs located at each of the four remaining discharge sites, as well as at Hollywood Beach and the City Pier, have been maintained. The signs are being checked by the Wastewater Collection crew and a record of the inspection is entered using the HTE monthly work orders. Signs that are destroyed or missing are promptly replaced by WWTP staff. In addition, there are handouts explaining the status of the City of Port Angeles CSO program at the front counter where citizens pay bills and take out permits. This information was mailed in the September/October 2006 utility billing. We also have that information available on the City of Port Angeles web site located at www.cityofpa.us.

9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls

As of October 1, 2004, WWTP staff has been using the CSO survey and inspection forms to record information regarding each overflow event, as per the sampling plan. This sampling and survey information is kept in a binder in the WWTP Lab and is updated anytime a new survey or sampling event is performed. Table 2 summarizes CSO sampling data gathered in 2006.

Table 2 - 2006 CSO DATA City of Port Angeles

Site	Date	TSS	Fecal
CSO # 6 Strait	05/22/2006	425	>200
CSO #6 MH	05/22/2006	189	49,000,000
CSO #6 Strait	05/23/2006	303	>200
CSO #6 MH	05/23/2006	171	510,000,000
CSO #6 Strait	05/24/2006	159	>200
CSO #6 MH	05/24/2006	209	4,300,000
CSO #6 Strait	11/06/2006	159	>200
CSO #6 MH	11/06/2006	170	500,000
CSO #6 Strait	12/14/2006	211	>200
CSO #6 MH	12/14/2006	42	1,466,666
CSO #7 Strait	01/30/2006	237	>200
CSO #7 MH	01/30/2006	39	23,000,000
CSO #7 Strait	02/23/2006	99	>200

CSO #7 MH	02/23/2006	104	2,000,000
CSO #7 Strait	05/22/2006	354	>200
CSO #7 MH	05/22/2006	115	7,633,333
CSO #7 Strait	05/23/2006	203	>200
CSO #7 MH	05/23/2006	143	7,173,333
CSO #7 Strait	05/24/2006	109	>200
CSO #7 MH	05/24/2006	141	4,800,000
CSO #7 Strait	11/06/2006	109	>200
CSO #7 MH	11/06/2006	137	2,000,000
CSO #7 Strait	12/14/2006	166	200
CSO #7 MH	12/14/2006	74	1,333,333
CSO #8 MH	05/22/2006	118	40,000,000
CSO # 10 Strait	05/22/2006	420	>200
CSO # 10 MH	05/22/2006	120	23,000,000
CSO # 10 Strait	05/23/2006	379	>200
CSO # 10 MH	05/23/2006	170	8,466,666
CSO # 10 Strait	05/24/2006	105	>200
CSO # 10 MH	05/24/2006	159	5,000,000
CSO # 10 Strait	11/06/2006	385	80
CSO # 10 MH	11/06/2006	115	0

F. AGREED ORDER NO. 3853

This Section addresses the following, which under Agreed Order No. 3853, the City agreed to address on a yearly basis: (1) the progress made to comply with terms of this Agreed Order over the previous year, (2) any deviations from the schedule referenced above, (3) a plan for bringing the project back on-schedule if necessary, and (4) any anticipated deviations from the schedule for the coming year.

1. The City completed the construction of the Lincoln Street Stormwater Separation Project in 2006, on time and as planned in the 2006 CSO Reduction Plan. The City also completed the pre-design of not only the Francis Street Sewer Main Project, but also (as of March 2007) the other projects known as Phase 1 of the CSO Reduction Program. These are described in more detail in the document titled Phase 1 Engineering Report, dated March 2007 and previously submitted to the Department of Ecology by Brown and Caldwell for review and approval.
2. There were no deviations from the schedule or terms of the Agreed Order in 2006.
3. The 2006 CSO Reduction Plan listed the New Force Main From Pump Station #4, and the Storage Tank Purchase, as being completed in 2007. The City is proposing a revision to the completion date of these two projects, along with the acceleration of the completion date of the Francis Street Sewer and other projects, as outlined in the Phase 1 Engineering Report, dated March 2007 and previously submitted to the Department of Ecology by Brown and Caldwell for review and approval

Appendix B

Summary of 2006 CSO Events at Each Site

CSO 006, Oak & Railroad

Date (start of event)	Duration (hours)	Total Volume (gallons)
1/1/2006 16:50	2.4	105,655
1/5/2006 9:45	23.7	235,048
1/9/2006 21:45	39.0	484,906
1/16/2006 19:50	15.5	403,576
1/20/2006 1:40	0.9	46,647
1/29/2006 18:05	22.2	1,581,237
2/3/2006 23:10	16.2	618,313
2/23/2006 9:15	1.1	85,323
2/26/2006 18:20	12.7	29,427
3/8/2006 14:55	2.2	159,012
April	none	
5/7/2006 10:50	0.1	82
6/8/2006 19:35	5.4	8,476
July	none	
August	none	
9/6/2006 9:10	0.4	5,385
9/9/2006 0:15	1.0	27,834
10/15/2006 14:00	0.2	7
11/4/2006 11:30	4.2	284,181
11/6/2006 7:15	6.1	238,348
11/8/2006 23:35	0.1	1,144
11/10/2006 10:40	0.7	132
11/12/2006 2:20	20.6	106,033
11/14/2006 15:25	3.6	75,333
11/23/2006 14:35	2.9	6,669
11/26/2006 12:15	1.2	44,532
11/27/2006 16:40	0.6	7,623
12/12/2006 0:10	3.2	13,936
12/14/2006 11:00	27.1	306,060
12/21/2006 16:00	0.2	10
12/24/2006 14:40	6.1	44,543
12/26/2006 16:50	6.2	22,909
Total Events = 29,	Total Volume =	4,919,933.

CSO 008, 1/2 Alley & Lincoln

Date (start of event)	Duration (hours)	Total Volume (gallons)
1/1/2006 17:00	0.7	3,399
1/5/2006 10:05	14.9	1,424
1/9/2006 23:30	5.2	19,121
1/16/2006 20:15	2.6	18,839
1/20/2006 2:10	0.2	2,053
1/29/2006 18:40	1.1	42,093
February	none	
3/8/2006 15:15	6.3	16,611
April	none	
May	none	
June	none	
July	none	
August	none	
9/9/2006 0:15	1.2	840,982
October	none	
November	none	
12/14/2006 15:30	9.2	3,508
Total Events = 9,		Total Volume = 948,030

CSO 010, Francis Street Park

Date (start of event)	Duration (hours)	Total Volume (gallons)
1/1/2006 17:10	0.3	550,620
1/5/2006 10:00	15.1	1,927,268
1/9/2006 23:35	2.3	2,342,907
1/16/2006 20:00	2.7	4,680,266
1/20/2006 2:10	0.3	576,702
1/29/2006 19:20	8.9	12,113,630
2/4/2006 0:15	0.7	412,965
2/23/2006 9:50	0.1	294,556
3/8/2006 15:40	0.3	688,274
April	none	
5/22/2006 15:55	32.0	1,765,998
June	none	
July	none	
August	none	
9/9/2006 0:25	0.7	1,144,181
10/15/2006 14:15	0.1	133,063
11/12/2006 10:20	10.2	1,468,248
11/15/2006 12:30	5.8	1,573,717
11/21/2006 4:05	8.2	2,403,121
12/12/2006 0:10	26.8	796,979
12/14/2006 11:05	23.8	11,850,255
12/21/2006 15:55	0.2	424,506
12/24/2006 14:40	5.5	3,509,958
12/26/2006 16:45	6.2	3,957,633
Total Events = 20,	Total Volume =	52,614,746