

CITY OF ANACORTES 2009 CSO REPORT

GENERAL INFORMATION

The NPDES permit number WA-002025-7 is issued to the City of Anacortes. The permit identifies CSO's by discharge number. This report will refer to the CSO's as they are identified in the permit. The CSO's are located as identified in the following table:

Discharge No.	Location		Receiving Water
002	Northernmost end of B Avenue	Latitude: 48 30'55" Longitude: 122 38'03"	Guemes Channel
003	Northernmost end of M Avenue	Latitude: 48 31'14" Longitude: 122 36'56"	Guemes Channel
004	Northernmost end of Q Avenue	Latitude: 48 31'18" Longitude: 122 36'34"	Guemes Channel

Discharge number 002 was monitored with a Marsh-McBirney Model 256A flow meter. The Model 256A flow meter measures level and velocity and reports flows to the treatment plant via a radio telemetry system. When the meter is active the plant control system is programmed to activate an alarm that indicates overflow at this CSO. The plant data acquisition system computes daily flow totals. The following information applies to the Marsh-McBirney flow meter systems at Discharge #002:

1. The flow meter level and velocity-sensing device is located directly in the outfall pipe.
2. The flow meter will detect a level in excess of 0.4 inches. Any flow that does not reach or exceed 0.4 inches will not be measured.
3. The flow meter is capable of detecting velocity only when the level in the pipe is in excess of one inch. Total flow is computed from the velocity and level measurements, therefore the flow cannot be totaled unless the level in the pipe exceeds one inch.
4. The flow meter is set to record the level and velocity for 60 seconds, once every fifteen minutes.
5. Flow information is reported from 12:00 p. m. (midnight) to 11:59:59 p. m. (midnight) on the indicated day.

Discharge number 003 was monitored with a Renaissance Instruments Data Gator flow monitoring system. This system consists of a fiberglass flow tube installed in the sewer pipe and secured to the pipe wall using an inflatable ring assembly. Pressure transducers measure the pressure in the inlet, throat and outlet sections of the flow tube. The flow measurement is derived from the relationship of these three pressure readings. The flow tube is calibrated by Renaissance Instruments. The data is logged within the instrument and periodically read into a lap top computer. The system that Anacortes is using is an event triggered system. The instrument checks for pressure readings indicating a flow of one gallon per minute, when this flow is detected the instrument then logs a flow reading every minute until the flow drops to less than one gallon per minute. The system does not log any data when no flow is present.

Discharge number 004 was monitored with a Krohne Magmeter, type IFS-4000/PF. The rate of flow measured by this meter is reported to the wastewater treatment plant via a radio telemetry system. The plant data acquisition system totals the flow data and includes the information on plant reports. A float switch also monitors this CSO. When the level in the sewer system approaches the height of the overflow weir the float is activated. This float switch activates an alarm at the wastewater treatment. Plant personnel are alerted of the impending CSO activity.

Rainfall reported is recorded at the Anacortes Wastewater Treatment Plant by a tipping bucket rain gauge. Rainfall totals are reported from 7:00 a. m. on the indicated day to 6:59:59 a. m. on the following day.

Daily flow totals for Discharge #002 and #004 are included in appendix A.

Daily flow totals for Discharge #003 are included in appendix B.

Rainfall data is included in appendix C.

Appendix D contains a copy of the public notice advertised in the Anacortes American, the City of Anacortes official newspaper of record, announcing the availability of the annual CSO report.

**DETAIL OF FREQUENCY, VOLUME AND COMPARISON TO BASELINE
CONDITION, DISCHARGE NO. 002, "B" AVE. CSO**

FREQUENCY and VOLUME

As stated previously, discharge number 002 is monitored with a Marsh-McBirney Model 256A flow meter. Flow information from this meter is transmitted to the treatment plant via a radio telemetry system. Reports containing this flow information are generated on a daily and monthly basis.

There are no overflow events at this CSO site to report for 2009.

Total rainfall measured at the Anacortes Wastewater Treatment Plant in 2009 was 22.86".

COMPARISON TO BASELINE

There has not been an overflow event at this CSO since 1997. A chart comparing current data to a baseline for this site is not included in this report as there is no data to put into the chart.

**DETAIL OF FREQUENCY, VOLUME AND COMPARISON TO BASELINE
CONDITION, DISCHARGE NO. 003, "M" AVE. CSO**

The CSO is monitored with a Renaissance Instruments Data Gator flow monitoring system. Data from this instrument is uploaded on a monthly basis. This meter was continuously in service for the entire year of 2009.

There were no overflow events at this CSO site during 2009.

Total rainfall measured in 2009 was 22.86"

COMPARISON TO BASELINE

There has not been an overflow event at this CSO since 1997. A chart comparing current data to a baseline for this site is not included in this report as there is no data put into the chart.

DETAIL OF FREQUENCY, VOLUME AND COMPARISON TO BASELINE CONDITION, DISCHARGE NO. 004, "Q" AVE. CSO

This CSO site is monitored with a Krohne Magmeter, type IFS-4000/PF. The rate of flow measured by this meter is reported to the wastewater treatment plant via a radio telemetry system. The plant data acquisition system totals the flow data and includes the information on plant reports. Impending over flow events are detected via a float switch which provides an alarm at the treatment plant. The flow meter was tested with 1000 gallons of clean water during April of 2009. This event is reflected on the monthly overflow report and in the report comments.

There was one overflow event at this site that was caused by precipitation during 2009. On January 4th 0.43" of rainfall was recorded; on the 5th of January 0.21" of rain fell, 0.89" was recorded on the 6th followed by 0.84" on January 7th. The total rain fall recorded during these four days was 2.37" of rain. This represents approximately 10% of the rainfall recorded for the entire year of 2009. The CSO was active for 4.39 hours and discharged a total of 96,704 gallons.

Total rainfall measured in 2009 was 22.86"

COMPARISON TO BASELINE

Flow monitoring was installed on this CSO in January of 1998. Since that date this CSO has overflowed a total of four times, once in 2003, and twice in back to back storm events during the first week of January 2007, and during January of 2009 . A chart detailing overflow events and rainfall information for this CSO site is included at the end of this section.

CSO REDUCTION ACCOMPLISHMENTS

1. The City of Anacortes has been working on a multiyear project to repair infiltration and inflow problems in a complete sanitary sewer drainage basin. This basin is identified as the “L” basin, which happens to be one of the oldest basins in the city. During 2009 approximately 4500 feet of aging clay and concrete sanitary sewer pipe, and 16 manholes were replaced. The dollar value of these improvements was \$309,851.

PLANNED IMPROVEMENTS

The improvements planned for 2010 are as follows:

1. The City is seeking grant funds to continue with repairs to the “L” drainage basin.