

CITY OF ANACORTES 2008 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.

Discharge number 003 was monitored with Marsh-McBirney Model 260 portable flow meter system from January 1, 2008 to March 31, 2008. On April 1, 2008 a Renaissance Instruments Data Gator flow monitoring system was installed.

The Model 260 flow meter measures level and velocity. The level and velocity measurements are stored in the meter, in the field. The meter is periodically "uploaded" to a laptop computer. During the upload; level, velocity and error logs are transferred to the computer. The Marsh-McBirney Co. Floware for Windows version 2.80.2.8 software package was used to compute flows from this information.

The following information applies to the Marsh-McBirney flow meter systems at Discharge #002 (for the entire year) and #003 (January 1st through March 31st):

1. The flow meter level and velocity-sensing device is located directly in the outfall pipe.
2. The flow meters detect levels in excess of 0.4 inches. In pipe flows that do not reach or exceed 0.4 inches are not measured.
3. The flow meters detect velocity only when the level 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 meters were 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.

The Renaissance Instruments Data Gator system (Discharge #003 – April 1 through December 31st) consists of a fiberglass flow tube installed in the sewer pipe and secured to the pipe wall using an inflatable ring assembly. Three 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 testing revealed that the instrument was not reporting flow accurately. The flow sensing element was replaced and the instrument was retested with a known volume of water. This flow test was performed on June 8, 2008. The flow test volume is reported on the report for that day.

There are no overflow events to report for 2008.

Total rainfall measured at the Anacortes Wastewater Treatment Plant in 2008 was 21.50".

COMPARISON TO BASELINE

There has not been an overflow event at this CSO since 1997. Overflow events and the annual baseline are charted and included at the end of this section.

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

The CSO is monitored with a portable flow meter. As previously stated, the type of meter was changed April 1, 2008. The on flow meter is routinely read on a monthly basis.

There were no overflow events in 2008.

Total rainfall measured in 2008 was 21.50"

COMPARISON TO BASELINE

There has not been an overflow event at this CSO since 1997. Overflow events and the annual baseline are charted and included at the end of this section.

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

Previous reports contain considerable detail explaining the history of this CSO.

There were no overflow events in 2008.

Total rainfall measured in 2008 was 21.50"

COMPARISON TO BASELINE

Flow monitoring was installed on this CSO in January of 1998. This CSO has overflowed once in 2003, and twice in back to back storm events during the first week of January 2007.

CSO REDUCTION ACCOMPLISHMENTS

1. The City of Anacortes has begun a project to repair infiltration and inflow problems in a complete sanitary sewer drainage basin. The City selected the “L” basin, one of the oldest basins in the city, in which to perform this work. In this effort 2743 feet of sewer pipe was lined with a cast in place pipe product, and 10 manholes were also lined. The cost of this project was approximately \$240,000.
2. A block (from 3rd Street to 4th Street of Commercial Avenue) of the Central Business District sidewalks was replaced, and a storm drainage catch basin was installed to divert storm drainage that was connected to the sanitary sewer system.

PLANNED IMPROVEMENTS

The improvements planned for 2009 are as follows:

1. The City will continue the inflow and infiltration repairs to the “L” drainage basin. This year 4500 feet of old clay and concrete sanitary sewer pipe will be replaced, and 16 manholes will be installed.