

## **APPENDIX 8-3**

### **Coliform Monitoring Plan**

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*City of Anacortes*  
**Water Treatment Plant**



**ANACORTES WATER TREATMENT PLANT**

# Coliform Monitoring Plan

Prepared by Water Treatment Plant Staff

Created: 6/26/1996

Revised: 1/25/2012

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## **System Overview**

### *System Identification*

System Name: City of Anacortes

System ID#: 02200C

County System: Skagit

### *Population Served*

The City of Anacortes owns and operates a regional water treatment plant located near Mount Vernon, on the east bank of the Skagit River. The current plant has been in operation since February of 1970 and serves a total of 56,000 residential, commercial, and industrial customers.

The City itself currently has 6517 service connections serving approximately 17534 residents and provides water service to the cities of LaConner and Oak Harbor, as well as NAS Whidbey Island and Skagit County PUD.

### *Water Source*

The Skagit River is the sole source of water for the City of Anacortes Water System. The Skagit River is the largest of the Puget Sound river basins. Its total drainage area covers approximately 3093 square miles and 1.98 million acres. The headwaters are the snow capped peaks of the Cascade Mountains that extend from southern British Columbia to Glacier Peak. The mainstream river runs 162 miles to the shores of Puget Sound. The watershed is host to salmon, eagles, the nation's first Wild and Scenic Rivers, hydroelectric dams, a variety of agricultural uses spanning timber to tulips, residential, commercial, and industrial development. This wide variety of use and growth creates an ever increasing challenge to provide high quality safe drinking water.

### *System Facilities*

#### Treatment

The City of Anacortes Water Treatment Plant is a 30 MGD facility. The treatment process starts as water is pumped out of the Skagit River and piped under it to the Treatment Plant. Here the raw source water undergoes coagulation, flocculation, filtration, and disinfection with chlorine gas. It is then pumped through 15 miles of transmission line to the City of Anacortes's three million gallon storage reservoir, with smaller transmission 'branches' off the main to feed industries and homes on the way.

### Storage:

Storage capacity in the City of Anacortes is 7,030,000 gallons in four reservoirs

1. 3 MG: Blue Heron Circle
2. 2 MG: 29<sup>th</sup> Street
3. 2 MG: Skyline Clyde Way
4. 30 K: San Juan Hill/Fidalgo Bay Road

### Pressure Stations: Distribution System

There are 13 Pressure Reducing Stations within the City of Anacortes Distribution System:

1. Longview/ R Ave
2. 36<sup>th</sup>/R Ave
3. 38<sup>th</sup>/N Ave
4. 29<sup>th</sup>/J Ave
5. 22<sup>nd</sup>/J Ave
6. 15<sup>th</sup>/D Ave
7. 15<sup>th</sup>/A Ave
8. West 2<sup>nd</sup>/Georgia
9. Glasgow/Oaks
10. Sunset/Anaco Beach Road
11. Tyler Way
12. Skyline Way/Kingsway
13. Kingsway/Highland Drive

### Pump Stations

There are currently 6 pump stations within the City of Anacortes Distribution System

1. Blue Heron Circle
2. A Avenue
3. The Pointe/ San Juan Lane
4. San Juan Hill/Fidalgo Bay Road (Transmission System)
5. Rockridge
6. Castilleja Bluff

## Bacteria Sampling Plan

The Bacteria Sampling Plan utilizes both Microsoft MapPoint<sup>®</sup> and Microsoft Excel<sup>®</sup> software programs to track and report sampling sites. Twelve fixed, representative sites within and around the City have been identified for sampling and 20 samples are collected, at minimum, every month.

Location	Address	Sample Frequency	Upstream sample	Downstream sample
3MG Booster	301 Blue Heron Circle	1/Month	4315 Whistle Lake Road	4019 Whistle Lake Road
Washington Park	6410 Loop Road	2/Month	6405 Loop Road	
Police Station	1218 24th Street	2/Month	2202 M Avenue	2511 M Avenue
WWTP	500 T Avenue	2/Month	512 6th Street	409 T Avenue
Castilleja Bluff	3802 Marine Heights Way	2/Month	4121 Clyde Way	4018 Coralroot Place
The Pointe Booster	4155 San Juan Hill Blvd	2/Month	11517 Coronado Drive	4133 San Juan Hill Blvd.
A Ave Pump Station	2205 37th Street	2/Month	3401 34th Street	2219 37th Street
Deception Pass Site	7444 SR-20	1/Month	5596 SR 20	Deception Pass Bridge Restrooms
Volunteer Park	1915 13th Street	2/Month	1309 G Avenue	2102 13 <sup>th</sup> Street
Fidalgo Bay Estates Booster	6991 San Juan Hill Lane	1/month	6957 San Juan Hill Lane	7051 San Juan Hill Lane
Rockridge Booster	2102 Pennsylvania Avenue	2/month	2103 Pennsylvania Avenue	4015 Airport Road
Tesoro Refinery	8401 North Texas Road	1/month	Shell Refinery Meter House	8579 North Texas Road

*Figure 1: Addresses*

Sites are sampled and tested for chlorine residual and submitted to Edge Analytical for coliform testing. If the chlorine residual of a particular sample is below 0.1 mg/l, then a Standard Plate Count is also requested for that sample.

Results of the samples along with location, time/date, and sampling technician name are recorded in the Coliform Monitoring File (Excel) and then ported to MapPoint for tracking. (See [Figure 2: Sample Report](#) and [Figure 3: Sample Map](#))

Figure 2: Sample Report

January Coliform Samples

Date	Bottle Number	Location	Address	Set #	Sampled by	CL2 Residual	HPC	Pass/Fail
1/8/2012	1040086332	Washington Park	6410 Loop Road	1	Scott Eisen	0.23		Pass
1/8/2012	1040086380	Police Station	1218 24th Street	1	Scott Eisen	0.34		Pass
1/8/2012	1040086327	WWTP	500 T Avenue	1	Scott Eisen	0.39		Pass
1/8/2012	1040086325	Castilleja Bluff	3802 Marine Heights Way	1	Scott Eisen	0.47		Pass
1/8/2012	1040086340	The Pointe Booster	4155 San Juan Hill Blvd	1	Scott Eisen	0.12		Pass
1/8/2012	1040086306	A Ave Pump Station	2205 37th Street	1	Scott Eisen	0.57		Pass
1/8/2012	1040086320	Volunteer Park	1915 13th Street	1	Scott Eisen	0.43		Pass
1/8/2012	1040086376	Fidalgo Bay Estates Booster	6991 San Juan Hill Lane	1	Scott Eisen	0.66		Pass
1/8/2012	1040086324	Rockridge Booster	2102 Pennsylvania Avenue	1	Scott Eisen	0.52		Pass
1/8/2012	1040086439	3MG Booster	301 Blue Heron Circle	1	Scott Eisen	0.53		Pass
1/22/2012	1040094479	Washington Park	6410 Loop Road	2	Scott Eisen	0.19		Pass
1/22/2012	1040094484	Police Station	1218 24th Street	2	Scott Eisen	0.41		Pass
1/22/2012	1040094477	WWTP	500 T Avenue	2	Scott Eisen	0.55		Pass
1/22/2012	1040094471	Castilleja Bluff	3802 Marine Heights Way	2	Scott Eisen	0.24		Pass
1/22/2012	1040094480	The Pointe Booster	4155 San Juan Hill Blvd	2	Scott Eisen	0.21		Pass
1/22/2012	1040094475	A Ave Pump Station	2205 37th Street	2	Scott Eisen	0.37		Pass
1/22/2012	1040094489	Volunteer Park	1915 13th Street	2	Scott Eisen	0.54		Pass
1/22/2012	1040094460	Fidalgo Bay Estates Booster	6991 San Juan Hill Lane	2	Scott Eisen	0.61		Pass
1/22/2012	1040094450	Rockridge Booster	2102 Pennsylvania Avenue	2	Scott Eisen	0.29		Pass
1/22/2012	1040094483	Deception Pass Site	7444 SR-20	2	Scott Eisen	0.34		Pass

0.12 Min

0.66 Max

0.40 Average



Figure 3: Sample Map



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