Anacortes Water Comprehensive Plan Technical Memorandum

Date: November 22, 2010

Subject: Watershed Control Plan Update

To: File

From: Eric Habermeyer and Jeff Hansen, HDR

This technical memorandum presents an update to the City of Anacortes' (City) Watershed Control Plan (WCP).

1. Purpose of Watershed Control Plan

The Washington Department of Health (DOH) is responsible for the regulation and protection of our State's drinking water sources. Compliance with DOH regulatory standards is achieved using a variety of methods, depending on the type of water source involved and the current and projected demand on the water system. In systems where the primary source is surface water, such as a river, the source may be susceptible to contamination from a variety of sources throughout the watershed. In an effort to address this issue, DOH requires a Watershed Control Program to be implemented to minimize the risk posed by these potential sources of contamination.

The City initially developed its WCP in 2004, to meet the following objectives:

- to describe the watershed;
- maintain an up-to-date land use inventory;
- identify potential sources of contamination;
- describe watershed control measures;
- evaluate water quality trends and monitoring practices;
- evaluate treatment operations;
- evaluate the risks associated with potential sources of contamination;
- describe planned public education and outreach programs;
- summarize existing emergency spill response and contingency plans; and

- provide recommendations for future watershed program improvements.

To meet requirements in WAC 246-290-135, systems must update their watershed control plans every six years as part of updating Water Comprehensive Plans.

This 2010 Watershed Control Plan Update (WCP Update) has been developed to document and summarize changes in the watershed, activities conducted by the City to manage and protect water quality of this source, and planned efforts to continue protecting the City's Skagit River supply.

2. Update Approach

This WCP Update was prepared as part of the 2010 City's Water Comprehensive Plan. This update was developed by reviewing available data and information from the City. In addition, Washington State Department of Ecology's (DOE) Facility/Site Identification Database was used to develop the potential point source contaminant inventory.

3. Watershed Description

The term "watershed" can be defined in a variety of ways depending on the application and context. The Washington Administrative Code defines the term, in relation to the regulation of drinking water, as "the region or area that ultimately drains into a surface water source that is diverted for drinking water supply; and affects the physical, chemical, microbiological, and radiological quality of the source." In the case of the Skagit River Watershed, this definition encompasses an extensive area and involves multiple jurisdictions. For the purpose of regulation at the local level, this definition creates an impractical implementation area that covers thousands of square miles and extends into Canada. It was therefore necessary to more narrowly define the area to be considered in the WCP and in this update document.

The watershed was defined in the 2004 WCP using computer-based watershed delineation tools and elevation data from the U.S. Geological Survey. No data were available for the portion of the watershed that extends into Canada, and since this area is outside of state and local jurisdiction, it was not included. The Skagit River Watershed is comprised of Water Resource Inventory Areas 3 and 4, as defined by the Washington Departments of Ecology , Natural Resources, and Fish and Wildlife in 1970.

The City's WCP program area includes approximately 80 square miles within the Skagit River Watershed located in western Skagit County. The program area is mostly contained within Water Resource Inventory Area 3, the Lower Skagit-Samish Basin. Rolling foothills and floodplains characterize the terrain. Natural vegetation includes species such as western hemlock, western red cedar, red alder, and Douglas fir. Land use is dominated by forestry and agriculture. The municipalities of Burlington, Concrete, Hamilton, Lyman, Mount Vernon, and Sedro-Woolley are located in the program area. The primary population centers are Burlington, Mount Vernon and Sedro-Woolley.

Figure 1 depicts the program area location. Additional detail is provided in the 2004 WCP. The program area delineation has not changed from that presented in the 2004 WCP.

4 Source Description

The City owns and operates a regional water treatment plant located near Mount Vernon on the east bank of the Skagit River. The plant was constructed and placed in operation in 1971. The City's water system serves Anacortes, La Conner, Oak Harbor, the Tesoro and Shell Oil Refineries, the Swinomish Indian Reservation, portions of the PUD service area, and numerous other industrial customers. The supply for the City's water treatment plant is from the Skagit River, where there is an intake providing water to the City and other jurisdictions.

5 Water Quality

Skagit County currently monitors water quality within the watershed at 41 permanent locations. Each site in the monitoring program is visited every two weeks where dissolved oxygen, temperature, pH, turbidity, conductivity, salinity, and fecal coliform are measured, with additional samples collected for total nitrogen, ammonia, nitrate, nitrite, total phosphorus and total suspended solids on a quarterly basis.

Table 1 presents a comparison of water quality data collected in recent years at Site 29 - Skagit River at River Bend Road and Site 30 – Skagit River at Cape Horn Road. These site locations are identified on Figure 1.

Table 1 Water Quality Data for Two Monitoring Sites on the Skagit River

Water Quality Parameter	Unit	Skagit River at River Bend Road Site #29	Skagit River at Cape Horn Road Site #30
		2003 – 2009 Average	2002 – 2006 Average
Fecal Coliform	cfu	33	10
Ammonia-N	mg/L	0.06	0.02
Nitrate/Nitrite-N	mg/L	0.08	0.09
Oxygen	mg/L	11.10	11.31
pH	pH unit	7.32	7.29
Suspended Solids	mg/L	30	28
Temperature	°C	9.1	8.5
Total Phosphorous	mg/L	0.06	0.07
Turbidity	NTU	19.70	13.22

6. Land Use

Land use in the program area is dominated by agriculture. The majority of land is privately owned; public lands are located primarily within the city limits of municipalities.

Skagit County is required to plan land use and zoning under the State's Growth Management Act. Land located within the program area and outside the city limits of municipalities is subject to regulation under the Skagit County Comprehensive Plan, land use and zoning regulations. Incorporated cities within the program area have individual comprehensive plans to regulate land use and zoning within city limits.

Sources of potential water supply source contamination within the program area are of paramount concern in the development and implementation of the WCP. To that end, a list of Potential Contaminant Sources (PCSs) was developed for use in the 2004 WCP. The PCS list is comprised of parcels within the program area where the current land use designation is one considered to pose a threat to water quality in the Skagit River.

Three aggregate groups of PCSs were created for use in the 2004 WCP:

- **Agriculture**, including cropland, pasture, and orchards
- **Commercial/Industrial**, including manufacturing, retail, construction, mining and other resource production
- **Transportation**, including associated parking and maintenance facilities

These PCS groups were developed by grouping activities associated with land use designations from the Skagit County Comprehensive Plan, which are assigned to individual parcels by the Skagit County Assessor's Office. Table 2 describes the types of contaminants associated with these activity groups. Figure 1 depicts the location and extents of each of these designations throughout the program area.

Table 2 Activities and Contaminants Associated with PCS Groups

PCS Group	Activities	Contaminants
Agriculture	Fertilizers/herbicides/pesticides Contained animal feeding operations Lagoons and liquid waste Irrigation/erosion of natural deposits	Organic Inorganic Trihalomethanes Microbial
Commercial/Industrial	Fabrication/manufacturing Synthetics/plastic production Chemical/petroleum processing Wastewater discharge	Organic Inorganic Trihalomethanes Microbial Radionuclides
Transportation	Maintenance/fueling areas Stormwater runoff Hazardous materials transport	Organic Inorganic Trihalomethanes

In addition, facilities regulated by DOE were considered potential sources of contamination. DOE is tasked with administration and enforcement of the National Pollution Discharge Elimination System (NPDES) in our State. Authorized by the federal Clean Water Act, the NPDES permit program regulates point sources that discharge pollutants into waters of the United States. DOE regulates these and other types of sites that pose a potential threat to the environment. DOE regulated sites located within the program area (as of a November 2010 review of DOE data) are listed in Table 3. Figure 1 shows the location and type of each site.

Within the program area, there are 189 potential point sources of contamination. This is significantly more than the 95 potential point sources identified within the same area as part of the 2004 WCP. The difference is likely due to changes in how DOE tracks and stores facility information. Many of these facilities are close to or within the Cities of Burlington and Mt Vernon.

According to DOE, there are 66 underground storage tanks within the program area and 18 leaking underground storage tanks. These sites could contaminate groundwater in the area and have the potential to affect the water quality at the source.

Sites that handle or generate hazardous waste also present potential for surface and groundwater contamination. The type of contamination that could occur is specific to each location and the materials being handled.

Additionally, contamination can occur due to accidental discharges or spills from or on major roadways and other structures. An inventory of such potential sources of contamination is provided in the 2004 WCP, and has not materially changed since it was initially developed.

7. Watershed Control Program Strategies

In the case of the Skagit River Watershed and the program area defined in this document, obtaining or maintaining complete control of all potential contaminant sources is impossible due to the wide variety of land owners and uses present. In this situation, the goal of the WCP is not to control all potential contaminant sources, but to minimize the risk of potential contamination and the impact on the public drinking water supply if contamination does occur.

The City identified the following program strategies in the 2004 WCP. These strategies remain valid today, and the City plans to implement them as resources (both monetarily and in terms of staff time) allow during the six-year planning horizon.

7.1 Public Education

The most effective way to minimize the risk of source supply contamination in the program area is to educate the public about this risk. Land owners and users within the program area are most likely to cause an accidental spill; they are most likely to be the first point of contact with emergency management agencies by reporting a spill; and they are most able to prevent accidents through conscientious management of potential sources of contamination. The 2004 WCP contains specific education activities the City plans to implement in the future.

7.2 Emergency Notification

Once an accidental spill occurs or a peak flow event becomes imminent, the focus of the WCP is to facilitate an appropriate response to protect the public drinking water supply. Timely notification of key personnel at the state and local levels is essential in this situation. Travel times of contaminants to the City or PUD water intakes can be very short and will necessitate a prompt response to protect the public drinking water supply. Notification protocols are outlined in the 2004 WCP.

7.3 DOE Permit Holder Notification

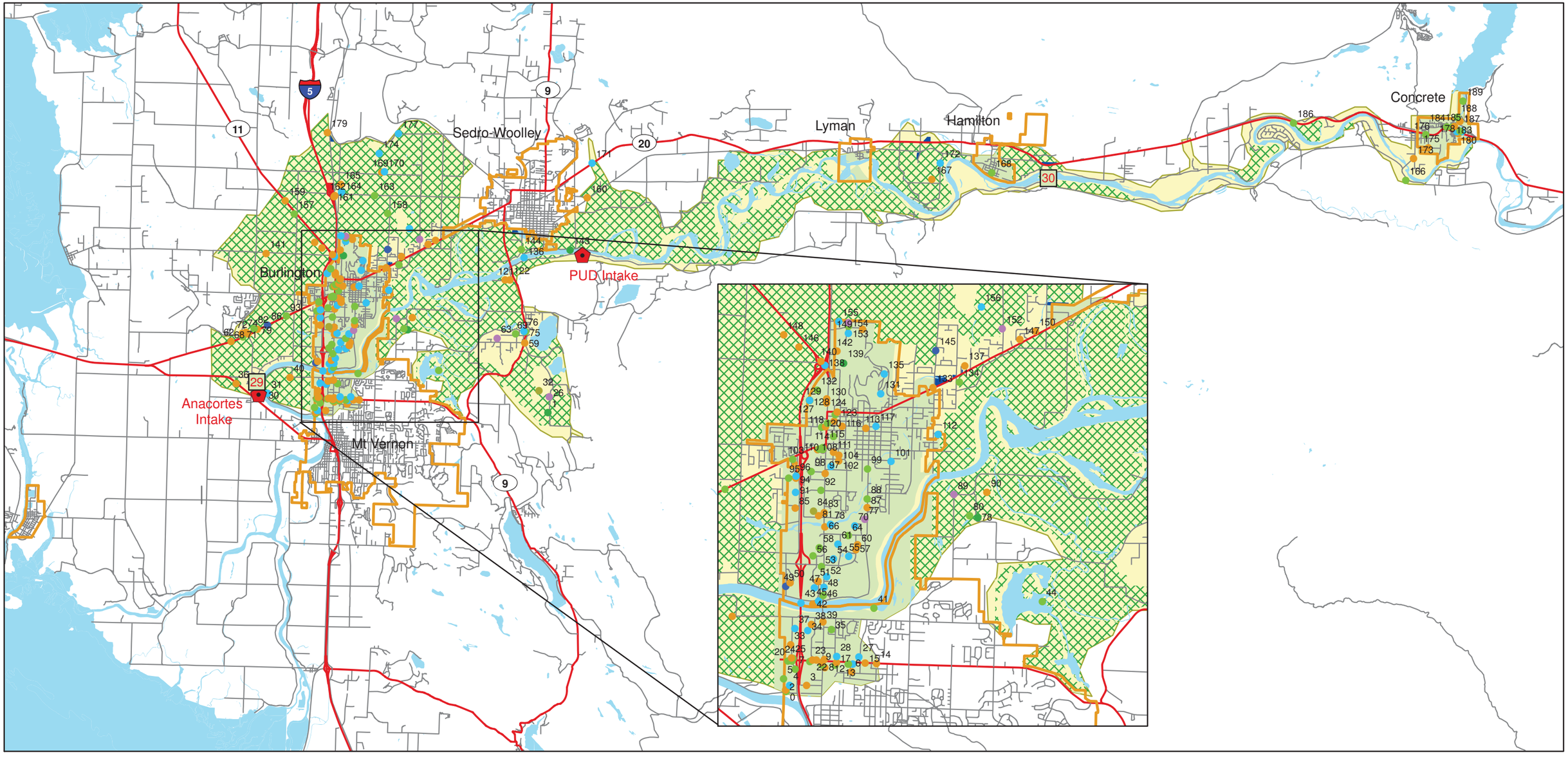
This involves contacting individuals listed as holders of the environmental permits issued by DOE within the program area to describe and explain the WCP and explain to permit holders what they should do in the event of an accidental contaminant discharge. The City will evaluate the feasibility and cost of implementing this measure within the next six years.

7.4 Interlocal Agreements

Implementation of the WCP is dependent upon coordination among municipalities within the program area. The first step in fostering this coordination is to initiate communication with the governments of Burlington, Concrete, Hamilton, Lyman, Mount Vernon, Sedro-Woolley and Skagit County, as well as emergency management agencies, law enforcement, and other parties. The City will consider entering into Memoranda of Agreement with such entities.

7.5 Cooperation

The key to success of this WCP is the development of cooperation among state and local agencies, municipalities in the program area, the City and the PUD. These parties must be made aware of the WCP and their active, on-going role in its implementation. Potential coordination activities are identified in the 2004 WCP. The City will implement these measures as resources allow.



Legend

DOE Facility Category

- Hazardous Waste
- Ecology Action Site
- Spills
- Toxics
- Waste to Resource
- Water Quality
- Water Reservoir

ProgramArea

30 Skagit Co Monitoring Site

- CityLimits
- Roads
- Highway
- Waterbody
- Transportation
- Industrial
- City
- Agriculture

Note:
See Table 3 for listing of potential contaminant sources

Figure 1
Watershed Control Program Area
Inventory of Potential Contaminant Sources
November 2010
City of Anacortes

N

0 6,250 12,500 25,000
Feet

Table 3 Potential Contaminant Sources

FID	DOE Facility ID	Site name	Type of Point Source	Ecology program
0	349764	Aqua Jet Enterprises	Revised Site Visit Program	Toxics
1	7488656	Leclair Dairy Waste Pond	Dam Site	Ecology Action Site
2	1838	Farrells Auto Wrecking	Revised Site Visit Program	Hazardous Waste
3	32542885	Dallys Auto Body	Hazardous Waste Generator	Hazardous Waste
4	97994478	Skagit County Public Utility 1	Emergency/Haz Chem Rpt TIER2	Water Quality
5	36682659	Freeway Drive Texaco	Haz Waste Management Activity	Toxics
6	39874293	Draper Valley Farms Mt Vernon	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
			Industrial IP	Toxics
			Industrial SW GP	Toxics
7	14995166	Fuel Express	Underground Storage Tank	Toxics
			Enforcement Final	Hazardous Waste
			LUST Facility	Hazardous Waste
8	23834	Sherwin Williams Co 8252	Hazardous Waste Generator	Hazardous Waste
9	49355844	Top Auto Inc Mt Vernon	Underground Storage Tank	Toxics
10	45759235	Nelson Distributing	Emergency/Haz Chem Rpt TIER2	Toxics
11	1456761	Skagit Valley Herald	Emergency/Haz Chem Rpt TIER2	Water Quality
12	17285127	Washington Cheese Co	Emergency/Haz Chem Rpt TIER2	Toxics
13	61364131	Dari Marketing Services	Underground Storage Tank	Toxics
14	36453625	Rental Service Corporation 566	Haz Waste Management Activity	Hazardous Waste
			Emergency/Haz Chem Rpt TIER2	Water Quality
15	8191655	Island Construction Mt Vernon	Non Enforcement Final	Hazardous Waste
			401CZM Project Site	Water Quality
16	86757962	U Save Oil Co Inc Mt Vernon	LUST Facility	Hazardous Waste
			State Cleanup Site	
17	2678	Unocal Mt Vernon Bulk Fuel	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
18	65436525	Tosco Corporation Site 25630731148	Underground Storage Tank	Toxics
			Haz Waste Management Activity	Toxics
19	2659	Mt Vernon Gasoline Spill	Independent Cleanup	Toxics
20	22941236	Kwik n Kleen Carwash & Foodmart	Underground Storage Tank	Toxics
21	717314	Safeway Fuel Mt Vernon	Underground Storage Tank	Hazardous Waste
22	50528846	Hawleys Automotive	Underground Storage Tank	Hazardous Waste
23	69264124	Mt Vernon Exxon 262	LUST Facility	Hazardous Waste
24	9977921	Lowes HIW 035	Hazardous Waste Generator	Toxics
25	5820586	Kwick n Kleen	Enforcement Final	Hazardous Waste
26	8396488	Leclair Farms Mt Vernon	Dairy	Waste to Resource
27	23526	Aquatechnex Beaver Lake	AP Aquatic Plant and Algae Management GP	Water Quality
28	15912	Paulson Commercial Project	Construction SW GP	Water Quality
29	65372773	Northwest Hay Sales	Underground Storage Tank	Toxics
30	79423677	Anacortes WTP	Emergency/Haz Chem Rpt TIER2	Water Quality
31	3730	Anacortes Water Treatment Plant	Water Treatment Plant GP	Water Quality
32	5108482	Beaver Lake Quarry	Sand and Gravel GP	Spills
33	44421189	NC Machinery Co Mt Vernon	Haz Waste Management Activity	Hazardous Waste
			Underground Storage Tank	Hazardous Waste
34	11478272	Walmart 2596	Hazardous Waste Generator	Water Quality
35	5581542	Gary Minton Property	Underground Storage Tank	Toxics
36	38531157	WA WSU Mt Vernon Res & Ext Unit	State Cleanup Site	Hazardous Waste
			Hazardous Waste Generator	Toxics
			Haz Waste Management Activity	Toxics
			Industrial SW GP	Toxics
			Underground Storage Tank	Toxics
37	16107	Walmart Supercenter 2596	Hazardous Waste Generator	Water Quality
38	23590	Sherwin Williams 1729	Hazardous Waste Generator	Hazardous Waste
39	65248552	Valley Oldsmobile Cadillac	Underground Storage Tank	Hazardous Waste
40	61467836	Earl Hanson	Hazardous Waste Generator	Hazardous Waste
41	5235055	Hoag Road Dike	401CZM Project Site	Toxics
			Construction SW GP	Water Quality
			Non Enforcement Final	Water Quality
42	8610624	Fibres International Inc 4th Ave	Storage & Handling	Hazardous Waste
			Industrial SW GP	Hazardous Waste
43	6569	Gateway Storage Park	Construction SW GP	Water Quality
44	66456218	USA Petroleum Sta 188	LUST Facility	Toxics
			Hazardous Waste Generator	Hazardous Waste
45	2235552	Cascade Ready Mix Garl	Underground Storage Tank	Water Quality
			Industrial IP	Ecology Action Site
46	48157755	Burlington Ford New Holland Inc Burlington	Emergency/Haz Chem Rpt TIER2	Toxics
47	6417564	Home Depot 8561	Hazardous Waste Generator	Water Quality
48	5327890	Mutual Materials Co Mt Vernon	Emergency/Haz Chem Rpt TIER2	Water Quality
49	4236	PR Burlington Properties	Construction SW GP	Water Reservoir
50	82363767	Foothills Pontiac Buick Toyota	Underground Storage Tank	Hazardous Waste
51	51752151	Arco 5955	Underground Storage Tank	Hazardous Waste
52	3036	Cascade Concrete Industries	Sand and Gravel GP	Water Quality
53	77426355	USA Petroleum 290	Emergency/Haz Chem Rpt TIER2	Toxics
			LUST Facility	Toxics
			Underground Storage Tank	Hazardous Waste
54	21276226	Sears Unit 2389/6170	Hazardous Waste Generator	Water Quality
55	4737	Hopper Road Business Park	Construction SW GP	Water Quality
56	96826483	Costco Wholesale 662	Haz Waste Management Activity	Toxics
			Underground Storage Tank	
			Voluntary Cleanup Sites	
57	64937476	UPS Burlington	LUST Facility	Hazardous Waste
			State Cleanup Site	Toxics
58	6874060	Larrys Auto & Truck Parts Inc	Recycling	Toxics
			Industrial SW GP	Water Quality
			Revised Site Visit Program	Toxics
			Storage & Handling	Hazardous Waste
59	73997864	Country Convenience Clear Lake	Underground Storage Tank	Hazardous Waste
			Enforcement Final	Hazardous Waste
			LUST Facility	Hazardous Waste
60	8427430	Advanced H20 LLC	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
61	1993	Tudor Site Commercial	Construction SW GP	Water Quality
62	2667	Olympic Pipe Line Co Allen Station	Hazardous Waste Generator	Hazardous Waste
			Emergency/Haz Chem Rpt TIER2	Waste to Resource
			Oil Facility Contingency Plan	Water Quality
			State Cleanup Site	Water Quality
63	16100	Johnson Dairy Farm	Energy Recovery	Waste to Resource
64	68744675	Commercial Aircraft Interiors	Emergency/Haz Chem Rpt TIER2	Toxics
			Hazardous Waste Generator	Toxics
65	36345693	Cargill Animal Nutrition	Emergency/Haz Chem Rpt TIER2	Toxics
			Industrial SW GP	Water Quality
			Toxics Release Inventory	Water Quality
66	311283	His Place Community Church	State Cleanup Site	Hazardous Waste
67	5332714	National Frozen Foods Mt Vernon	Emergency/Haz Chem Rpt TIER2	Toxics
68	31426711	Transmart Petroleum Avon Bulk Pant	LUST Facility	Hazardous Waste
			Emergency/Haz Chem Rpt TIER2	Hazardous Waste
			State Cleanup Site	Hazardous Waste
			Underground Storage Tank	Hazardous Waste
			Hazardous Waste Generator	Toxics
69	46858985	Clear Lake Elementary School	Emergency/Haz Chem Rpt TIER2	Toxics
70	7226	DS Waters	Haz Waste Management Activity	Water Quality
71	59973687	Olympic Pipe Line Co Bayview Terminal	Hazardous Waste Generator	Toxics
			Oil Facility Contingency Plan	Hazardous Waste
72	85862767	Edco Inc	Industrial SW GP	Hazardous Waste
73	10532	Burlington Regional Stormwater Facilty	Construction SW GP	Water Quality
74	78427782	UAP Distribution Inc	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
75	65722165	Valley Freightliner	Haz Waste Management Activity	Toxics
			Industrial SW GP	Toxics
76	704301	Jansma Construction Inc	Recycling	Water Quality
77	7036275	Northwest Farm Foods Coop	Emergency/Haz Chem Rpt TIER2	Waste to Resource
			Industrial IP	Ecology Action Site
			Industrial IP	Water Quality
78	7739758	De Vries Dairy LP	Dairy	Ecology Action Site
79	4481712	Martin Commercial Fueling Inc	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
80	83839671	Alice Devries	Underground Storage Tank	Toxics
			LUST Facility	
81	42536776	Chevron Station 207730	Haz Waste Management Activity	Hazardous Waste
			Underground Storage Tank	Water Quality
82	56197864	Wilbur Ellis Co Mt Vernon	Emergency/Haz Chem Rpt TIER2	Toxics
83	29974694	Skagit Farmers Supply Burlington 1260	Underground Storage Tank	Hazardous Waste
84	95774849	Skagit Farmers Supply Burlington 1276	Emergency/Haz Chem Rpt TIER2	Spills
85	57726192	Fisher Sons Inc	Hazardous Waste Generator	Hazardous Waste
86	8574870	Draper Valley Farms Burlington	Emergency/Haz Chem Rpt TIER2	Water Reservoir
87	54933375	Skagit River Steel & Recycling Inc	Underground Storage Tank	Hazardous Waste
			Energy Recovery	Toxics
			Industrial SW GP	Hazardous Waste
88	8009	Dynes Farm Inc	Enforcement Final	Toxics
89	8277655	Nookachamps Wetlands Mitigation Bank	Non Enforcement Final	Waste to Resource
			401CZM Mitigation Site	Toxics
90	9353808	Devries Dairy Waste Pond	Dam Site	Hazardous Waste
91	13700	Goldenrod Tenancy in Common	Construction SW GP	Water Quality
92	3438911	Target Store 0696	Hazardous Waste Generator	Toxics
93	65239992	1303 Village	LUST Facility	Toxics
			Underground Storage Tank	Toxics
94	4814477	Burlington Cardlock	Underground Storage Tank	Hazardous Waste
95	2671	PSC Skagit SVC	Underground Storage Tank	Toxics
96	22184	Site Plan for Re Carpet	Construction SW GP	Water Quality
97	12229	Fred Meyer/Fuel Stop 024	Underground Storage Tank	Hazardous Waste
98	23005	Skagit Transmission Lila Lane	Moderate Risk Waste	Toxics
99	35336572	Helena Chemical Co Burlington	Emergency/Haz Chem Rpt TIER2	Toxics
100	14458	NW Plus Credit Union - Burlington Site	Construction SW GP	Water Quality
101	5855	32 Lot Helgesen Residential Plat	Construction SW GP	Water Quality
102	2978184	Fibrex Corp	Industrial SW GP	Hazardous Waste
			Industrial IP	Water Quality
103	42487926	Arco 6194	Underground Storage Tank	Toxics
			LUST Facility	Waste to Resource
104	77927419	Fibrex Corporation	Toxics Release Inventory	Hazardous Waste
			Emergency/Haz Chem Rpt TIER2	Toxics
			Hazardous Waste Generator	Hazardous Waste
			Toxics Release Inventory	Toxics
105	4477949	North Sound Marine Inc	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
106	23836	Burlington Walgreens	Construction SW GP	Waste to Resource
107	82249852	Gull Industries Inc 294	LUST Facility	Toxics
			Voluntary Cleanup Sites	
108	53793776	Burlington Bulk Plant 296	LUST Facility	Hazardous Waste
			Enforcement Final	Spills
109	69895318	WA DOT Burlington Rio Vista	Underground Storage Tank	Toxics
110	77756314	Texaco Station 121367	Haz Waste Management Activity	Toxics
			Hazardous Waste Generator	Toxics
			Underground Storage Tank	Toxics
111	14636279	Americold Corp Burlington	Emergency/Haz Chem Rpt TIER2	Toxics
			Industrial SW GP	Toxics
112	6460019	Raspberry Ridge Apartment Property	State Cleanup Site	Water Quality
113	85527746	Burlington Edison School Dist	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
114	6043070	Ajax Inc	Revised Site Visit Program	Toxics
115	25786278	Skagit Big Mini Mart 1	Underground Storage Tank	Hazardous Waste
116	74486678	Glow Cleaners	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
117	7656	City of Burlington	Municipal SW Phase II Western WA GP	Water Quality
118	25796697	Burlington Wash Rack	LUST Facility	Toxics
119	93515752	WA Parks Northwest Region HQ	Haz Waste Management Activity	Hazardous Waste
120	46849498	Hexcel Corp	Hazardous Waste Generator	Toxics
121	8851127	Clear Lake Compactor Site	Moderate Risk Waste	Hazardous Waste
			Energy Recovery	Hazardous Waste
			Recycling	Toxics
122	9160169	WA AGR Skagit 2	Hazardous Waste Generator	Hazardous Waste
123	4535542	Skagit County Public Works Avon St	Underground Storage Tank	Hazardous Waste
			Emergency/Haz Chem Rpt TIER2	Hazardous Waste
			LUST Facility	Waste to Resource
			State Cleanup Site	Water Quality
124	5448177	Burlington Edison Sd 100 Auxiliary Svc	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
			Haz Waste Management Activity	Waste to Resource
125	27561372	Burlington Edison Bus Garage	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
126	55536418	Pacific Pride Andis Road	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
127	58128843	Roberts Co Inc	Emergency/Haz Chem Rpt TIER2	Toxics
128	84563866	Hearth Trends Inc	Emergency/Haz Chem Rpt TIER2	Toxics
129	97418151	Lakeside Industries Burlington	Emergency/Haz Chem Rpt TIER2	Water Quality
130	73449299	Burlington Bulk Plant	LUST Facility	Hazardous Waste
131	11671	Plat of Bendtsen Heights	Construction SW GP	Water Quality
132	8659899	Buffalo Industries	Energy Recovery	Toxics
133	9631174	Raspberry Ridge II	State Cleanup Site	Hazardous Waste
134	66314669	Whatcom Drums	Emergency/Haz Chem Rpt TIER2	Toxics
135	21296	Burlington Hill Condominium	Construction SW GP	Water Quality
136	6665	Sedro Woolley STP	Municipal IP	Water Quality
			Biosolids	Toxics
137	69293456	Holiday Market	Underground Storage Tank	Hazardous Waste
138	15235	WSDOT SR 11 ChuckAnut	Construction SW GP	Water Quality
139	1777686	Skagit Transit	Emergency/Haz Chem Rpt TIER2	Ecology Action Site
140	17669878	WA DOT Burlington Chuckanut	Underground Storage Tank	Hazardous Waste
141	13786924	Double k Farms Inc Burlington	Underground Storage Tank	Hazardous Waste
142	74815578	Puget Propane Burlington	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
143	4428338	Sid Top Dairy	Dairy	Ecology Action Site
144	17866918	Arts Auto Wrecking	Industrial SW GP	Toxics
			Revised Site Visit Program	Water Quality
145	6437826	Wolters Dairy LLC	Dairy	Water Reservoir
146	20311	Watson Properties Commercial Dev	Construction SW GP	Hazardous Waste
147	7816417	Sams Stop & Go	Underground Storage Tank	Hazardous Waste
			LUST Facility	Hazardous Waste
			Emergency/Haz Chem Rpt TIER2	Water Quality
			Municipal IP	Waste to Resource
148	5019	Tri County Truss Inc	Industrial SW GP	Hazardous Waste
149	649974	PSE Skagit Service Center	Hazardous Waste Generator	Water Quality
150	35686153	United General Hospital	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
151	19239	North Hill Resources	Sand and Gravel GP	Hazardous Waste
152	5737459	De Boer Dairy LLC	Dairy	Waste to Resource
153	7236178	Skagit Farmers Supply II	Underground Storage Tank	Toxics
154	8358774	Pacific Woodtech Corporation	Hazardous Waste Generator	Waste to Resource
			Hazardous Waste Planner	Toxics
155	7472943	Douwe Dykstra Dairy	Dairy	Water Quality
			Composting	Ecology Action Site
156	5033	Dual State Investments	Sand and Gravel GP	Water Quality
157	92443888	Double K Farms Inc	Underground Storage Tank	Toxics
158	31347735	Dans Dairy	Dairy	Toxics
159	57492751	Sakuma Brothers Processing Inc	Underground Storage Tank	Hazardous Waste
			Emergency/Haz Chem Rpt TIER2	Water Quality
			Industrial IP	Hazardous Waste
160	8017804	Harris Property Auto Recyling	State Cleanup Site	Hazardous Waste
161	35788228	Sun Energy Services LLC	Underground Storage Tank	Hazardous Waste
162	54732941	Skagit Cardlock Systems UST 5218	LUST Facility	Hazardous Waste
			Underground Storage Tank	Toxics
163	3794013	Twogates Reg Holsteins	Dairy	Toxics
			Non Enforcement Final	Hazardous Waste
164	4348	WA DOT SR11 I5	Construction SW GP	Water Quality
			Industrial SW GP	Hazardous Waste
165	316236	Lagerwood Farms Inc	Dairy	Hazardous Waste
166	48556819	Concrete Shop	Underground Storage Tank	Toxics
			Enforcement Final	Water Quality
167	3122006	Branshel Farm	Dairy	Hazardous Waste
168	77671279	Hamilton Log Yard	Emergency/Haz Chem Rpt TIER2	Toxics
169	5376956	CSR Associated Butler Pit	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
170	11591	Cemex Butler Pit	Sand and Gravel GP	Water Quality
171	5561833	Nielsen Brothers Inc	Enforcement Final	Water Quality
172	6510	Cockreham Island	Enforcement Final	Water Quality
173	90279462	Skagit County Public Works Concrete	Emergency/Haz Chem Rpt TIER2	Hazardous Waste
174	9586	Concrete Northwest Peterson	Sand and Gravel GP	Water Quality
175	76238174	Concrete School District 11	Underground Storage Tank	Hazardous Waste
176	46574748	Loggers Landing	Underground Storage Tank	Toxics
177	3098	Concrete Northwest Butler Pit	Sand and Gravel GP	Water Quality
			Sand and Gravel GP	Ecology Action Site
178	74176417	Skagit Cardlock Systems UST 11238	Underground Storage Tank	Hazardous Waste
179	34593771	Fast Break Operations	Underground Storage Tank	Hazardous Waste
180	7356	Town of Concrete WTP Improvements	Construction SW GP	Water Quality
			Biosolids	Toxics
181	8085730	Concrete STP	Enforcement Final	Water Quality
			Municipal IP	Waste to Resource
182	57962132	PSE Upper Baker Generating Sta	Haz Waste Management Activity	Toxics
183	9333187	GTE Northwest Incorporated 6634	Voluntary Cleanup Sites	Toxics
184	61443811	Philips Corner Rich or Dale Philips	Emergency/Haz Chem Rpt TIER2	Toxics
185	43943216	Texaco Station Peterson	Underground Storage Tank	Hazardous Waste
186	44711491	Grandy Creek Grocery	Underground Storage Tank	Toxics
187	91913661	PSE Lower Baker Switchyard	Independent Cleanup	Hazardous Waste
188	9410484	PSE Upper Baker River Generation	Emergency/Haz Chem Rpt TIER2	Toxics
189	8529946	PSE Lower Baker Dam	Non Enforcement Final	Toxics

Final Report for:

City of Anacortes

Public Utility District #1
Of Skagit County

Skagit River
Watershed Control Plan

November 2004

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City of Anacortes/PUD #1 of Skagit County
Skagit River Watershed Control Plan

Certification

This Skagit River Watershed Control Plan has been prepared under the direction of the Registered Professional Engineer indicated below.

EXPIRES 12-09-05

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HDR/EES
1601 William Way STE C
Mount Vernon, WA 98273
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Executive Summary

Under the Public Water System Coordination Act of 1977, purveyors of public drinking water systems that utilize surface water sources are required to develop and implement a Watershed Control Program. This document represents a cooperative effort by the City of Anacortes and the Public Utility District #1 of Skagit County to create a Watershed Control Program in accordance with state law to minimize the risk of contamination of the Skagit River affecting drinking water supplies and public health.

The purpose of a Watershed Control Program is to control sources of potential contamination to the supply source of a public drinking water system. In the case of the Skagit River Watershed, obtaining or maintaining complete control of all potential contaminant sources is impossible due to the wide variety of land owners and uses present. The goal of the Skagit River Watershed Control Program, therefore, is not to control all potential contaminant sources, but to minimize the risk of potential contamination and the impact on the public drinking water supply if contamination does occur.

A Watershed Control Program Area is defined in this document for the purpose of development and implementation of the Skagit River Watershed Control Program. The Watershed Control Program Area consists of 80.6 square miles within the Skagit River Watershed located in western Skagit County, including the 43-mile length of the Skagit River between River Miles 13.2 and 56, as well as 750 feet of riverbank on either side of the Skagit River and the corresponding portion of the 100-year flood zone. The Watershed Control Program Area is intended to provide an adequate and manageable buffer to protect the quality of water being withdrawn from the Skagit River to supply public drinking water.

An inventory of land use in the Watershed Control Program Area identified parcels and other landmarks where land use or other factors pose a potential threat to water quality of the Skagit River. These Potential Contaminant Sources include parcels with agricultural, commercial/industrial or transportation land use designations; sites regulated by the Washington Department of Ecology due to potential environmental impact; stormwater outfalls, bridges and pipelines that cross or are located adjacent to the Skagit River.

A review of existing conditions in the Skagit River Watershed revealed two particular types of events that pose a threat to the water quality of the Skagit River, and subsequently to public drinking water supplies: 1) human-produced pollutant loading from accidents or treatment plant failures, and 2) surface runoff during peak flow events and/or over-bank flood waters carrying pollutants into the river. In an effort to define and measure these potential threats, a hydrologic study was completed determine travel times of pollutants that may enter the Skagit River within the program area, due to accident or flood, at various times of year and rates of streamflow. This information may be utilized by emergency management personnel and water treatment plant operators to minimize the risk of potential contamination and determine the appropriate response to an event.

Several strategies may be used to minimize the risk of potential contamination of the Skagit River, including public education, improved communication and emergency notification procedures, and cooperation among state and local agencies, governments, and others. This document provides recommendations and a schedule for the development and implementation of the Skagit River Watershed Control Plan and highlights the proactive steps being taken by the City of Anacortes and the Public Utility District #1 of Skagit County to protect the quality of drinking water supplies and public health.

Section 1
Introduction

1.1 Introduction and Background

Diminishing water availability and quality, and increased water demand due to population growth, are key issues facing the State of Washington. Our State depends on reliable sources of safe drinking water to protect the health and well being of current and future water consumers.

The Washington Department of Health (DOH) is responsible for the regulation and protection of our State's drinking water sources. Compliance with DOH regulatory standards is achieved using a variety of methods, depending on the type of water source involved and the current and projected demand on the water system. In systems where the primary source is surface water, such as a river, the source may be susceptible to contamination from a variety of sources throughout the watershed. In an effort to address this issue, DOH requires a Watershed Control Program (WCP) to be implemented to minimize the risk posed by these potential sources of contamination.

The purpose of this document is to provide a framework for implementation of a WCP in the Skagit River Watershed. The City of Anacortes (City) currently utilizes the Skagit River as its sole source of supply for its public drinking water system. The Public Utility District #1 of Skagit County (PUD) proposes to construct a water diversion to draw water from the Skagit River to supplement existing supplies. As purveyors of public water systems, the City and the PUD have cooperated to create this document in accordance with DOH regulations to minimize the risk of contamination of the Skagit River affecting drinking water supplies and public health.

1.2 Legal Basis for the Watershed Control Program

The Safe Drinking Water Act of 1974 and its amendments provide a framework for management and regulation of public water systems[1]. The Act places primary enforcement responsibility with the States. DOH is tasked with regulation of our State's public drinking water supplies[2].

Under the Public Water System Coordination Act of 1977, purveyors, or public water system operators, are required to submit a Water System Plan to DOH that demonstrates a system's capability to comply with minimum quality standards set by DOH, and meet present and future demand[3]. Purveyors of water systems using surface water sources are required to develop and implement a WCP as part of the Water System Plan[4].

[1] U.S.C. Title 42 Chapter 6A Subchapter XII Part B
[2] Chapter 43.20 RCW; Chapter 246-290 WAC
[3] Chapter 70.116 RCW; Chapter 246-290 Section 100 WAC
[4] Chapter 246-290 Section 135 WAC

The WCP must contain, at a minimum, of the following[5]:

- A general description of the watershed, including location, hydrology, land ownership and activities that may adversely affect source water quality
- Documentation of current source water quality trends
- An inventory of potential sources of contamination within the watershed
- A description of the treatment operation, including emergency provisions
- Control measures to minimize risk of contamination and monitor source water quality, including relevant written agreements and monitoring activities

As owner and operator of a regional public water supply system utilizing the Skagit River as a supply source, the City is required to submit a WCP to DOH for approval and implement the WCP upon approval. If the PUD utilizes the Skagit River as a water source in the future, it would also be required to submit and implement a WCP; the PUD has therefore cooperated in the development of this document in a proactive effort to address this requirement. DOH requires that the WCP be updated every six years.

1.3 The Watershed Control Program Area

The following section describes the area within which the WCP will be implemented. The Watershed Control Program Area (program area) was designed in an effort to achieve regulatory compliance and create a practical area for local and interlocal cooperation, monitoring and administration of the WCP.

1.3.1 General Description and Location of the Program Area

The term "watershed" can be defined in a variety of ways depending on the application and context. The Washington Administrative Code defines the term, in relation to the regulation of drinking water, as "… the region or area that ultimately drains into a surface water source that is diverted for drinking water supply; and affects the physical, chemical, microbiological, and radiological quality of the source[6]." In the case of the Skagit River Watershed, this definition encompasses an extensive area and involves multiple jurisdictions. For the purpose of regulation at the local level, this definition creates an impractical implementation area that covers thousands of square miles and extends into Canada; it was therefore necessary to more narrowly define the area to be considered in the WCP and in this document.

The Skagit River Watershed is defined for the purposes of the WCP as shown in Exhibit 1-1. The watershed was defined using computer-based watershed delineation tools and elevation data from the U.S. Geological Survey. No data were available for the portion of the watershed that

[5] Chapter 246-290 Section 135 WAC
[6] Chapter 246-290 Section 010 WAC

extends into Canada, and since this area is outside of state and local jurisdiction, it was not included. The Skagit River Watershed is comprised of Water Resource Inventory Areas 3 and 4, as defined by the Washington Departments of Ecology (DOE), Natural Resources, and Fish and Wildlife in 1970[7].

The program area includes 80.6 square miles within the Skagit River Watershed located in western Skagit County (Exhibit 1-1). The program area is mostly contained within Water Resource Inventory Area 3, the Lower Skagit-Samish Basin[8]. Rolling foothills and floodplains characterize the terrain. Natural vegetation includes species such as western hemlock, western red cedar, red alder, and Douglas fir. Land use is dominated by forestry and agriculture. The municipalities of Burlington, Concrete, Hamilton, Lyman, Mount Vernon, and Sedro-Woolley are located in the program area. The primary population centers are Burlington, Mount Vernon and Sedro-Woolley.

1.3.2 Criteria Used to Define the Program Area

Based on discussions between the City and the PUD and consultations with DOH, it was determined that the program area should encompass the 43-mile length of the Skagit River between River Miles 13.2 and 56.6 and include the water withdrawal point for the City and the proposed withdrawal point for the PUD. The program area includes 750 feet of riverbank on either side of the Skagit River and the corresponding portion of the 100-year flood zone. Major tributaries within the program area such as Hansen Creek and Nookachamps Creek are considered as part of the flood zone. The westernmost portion of the 100-year flood zone was excluded due to its location downstream from water withdrawal points.

The program area begins downstream of the City's raw water intake structure and ends at the point of confluence with the Baker River east of the Town of Concrete. In 1978, the segment of the Skagit River from the pipeline crossing at Sedro-Woolley upstream to and including the mouth of Bacon Creek was designated as a Wild and Scenic River[9]. The Wild and Scenic designation indicates that human-induced contamination is minimal. However, the program area includes the segment from Sedro-Woolley upstream to Concrete due to the wastewater treatment facility and corresponding outfall to the Baker River located in Concrete. Several municipalities are located upstream from Concrete; however, these communities utilize septic systems and were assumed to pose no significant threat to water quality in the Skagit River.

[7] Washington Department of Ecology, 2003, Water Resource Inventory Maps, http://www.ecy.wa.gov/services/gis/maps/wria/wria.htm
[8] Washington Department of Ecology, 2003, Watershed Conditions, http://www.ecy.wa.gov/programs/eap/wrias/index.html
[9] National Park Service, 2003, Skagit Wild and Scenic River, Washington, http://www.nps.gov/rivers/wsr-skagit.html

City of Anacortes
Public Utility District #1
of Skagit County

Skagit River Watershed Control Plan

Exhibit 1-1
Watershed Control Program Area and Vicinity

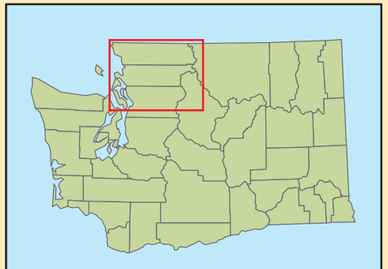
January 2004

Note:
Skagit River watershed boundary does not include portions in British Columbia or river delta.

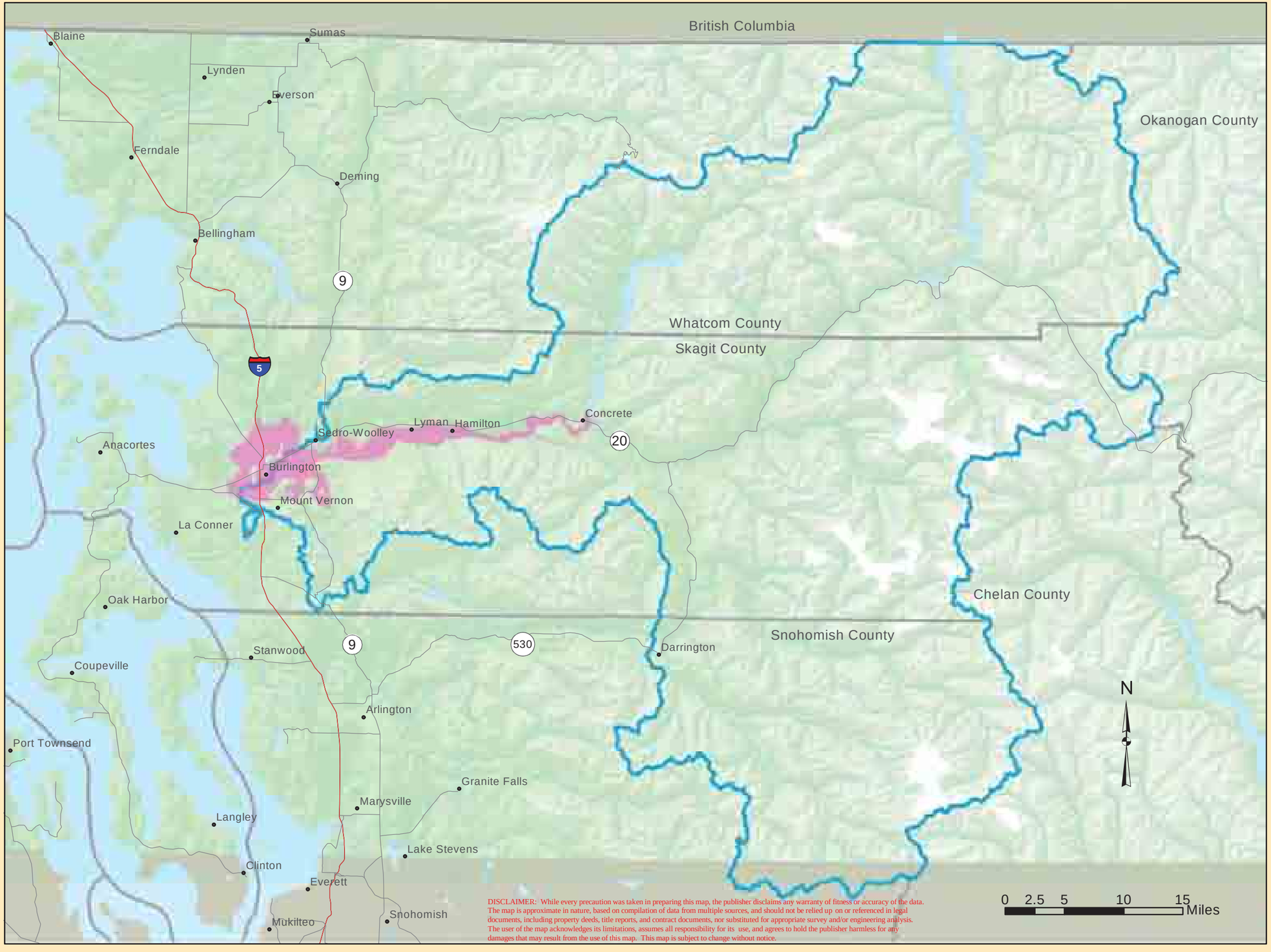
Map Prepared By
HydroLogic Services Company

Legend

- Program Area
- Skagit Watershed



Enlarged Area In Red



1.4 Organization of Document

The remainder of this document is organized as follows:

- Section 2.1 provides a description of watershed characteristics in the Skagit River Watershed and the program area
- Section 2.2 summarizes recent water quality trends in the Lower Skagit River Watershed and the program area
- Section 2.3 describes land use and ownership in the program area and defines Potential Contaminant Sources
- Section 2.4 describes existing water treatment operations and emergency provisions that have been implemented by the City and the PUD to protect public drinking water supplies
- Section 2.5 describes existing mechanisms for monitoring water quality in the Skagit River Watershed
- Section 3.1 discusses threats to water quality in the program area
- Finally, Section 3.2 provides recommended strategies for further development and implementation of the Skagit River WCP.

Section 2
Existing Conditions

2.1 Watershed Characteristics

This section provides a detailed description of the physical characteristics found in the Skagit River Watershed and the program area. This information provides a framework for consideration of the potential threats to water quality and alternatives for management of those threats in the program area.

2.1.1 Physical Setting

The Skagit River Basin originates in Canada, encompasses a portion of the northern Cascade Mountains including Mt. Baker, and extends down to the lowland broad outwash plain from Sedro-Woolley west. The program area is located within the Skagit River Basin and includes a portion of the low gradient outwash, with elevations ranging from near sea level at the western boundary near the Anacortes water supply intake, to 130 feet at Concrete just below the eastern boundary. Foothills along the Skagit River's banks near its confluence with the Baker River provide the only significant elevation in the program area, rising to 225 feet.

A significant portion of the Skagit River Basin has been diked and drained for agricultural use since the late 19th Century. Dikes extend along the river on either side from the beginning of the program area upstream for three miles, and on the north side for an additional three miles, ending east of Burlington. The dikes protect municipalities and populations from seasonal flooding, and prevent floodwaters from returning to the river. In addition, drainage of the low elevation outwash plain has transformed the landscape from wetlands and estuaries into productive agricultural areas.

2.1.2 Climate

The climate in the program area is temperate, with mean monthly temperatures ranging from 41°F in winter to 62°F in summer. Precipitation varies widely, both geographically and seasonally. Annual snowfall within the program area is minimal; however, snowfall upstream from the program area is significant such that snow and glacial melt constitute a large portion of the Skagit River streamflow in the spring and summer/early fall. Tables 2-1 and 2-2 summarize data collected at climate stations located in Mount Vernon and Concrete[10].

[10] Western Regional Climate Center, Desert Research Institute, 2003, Washington Climate Summaries, http://www.wrcc.dri.edu/summary/climsmwa.html

Table 2-1 Monthly Climate Summary for Mount Vernon, WA													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec.	Annual
Avg. Max Temp (F)	45.5	49.1	52.7	57.5	63.9	68.5	73.1	73.7	68.6	59.4	50.7	45.8	59.1
Avg. Min Temp (F)	33.6	35.1	37.0	39.9	44.6	48.8	50.5	50.8	46.9	41.7	37.8	34.5	41.8
Avg. Total Precip(in.)	4.04	2.87	2.72	2.48	2.18	1.83	1.18	1.39	1.85	3.18	4.40	4.10	32.22

Period of Record: 1/1/1956 to 6/30/2003
Data compiled by Western Regional Climate Center

Table 2-2 Monthly Climate Summary for Concrete, WA													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Avg. Max Temp (F)	42.3	47.3	52.9	60.1	66.9	70.9	76.4	76.7	71.3	61.0	49.3	43.1	59.9
Avg. Min Temp (F)	31.6	33.0	35.3	39.6	44.8	49.7	52.4	52.8	49.3	43.5	37.3	33.3	41.9
Avg. Total Precip(in.)	9.46	7.05	6.85	4.58	3.28	2.76	1.52	1.66	3.43	6.71	10.10	10.71	68.13

Period of Record: 1/1/1931 to 7/31/2003
Data compiled by Western Regional Climate Center

2.1.3 Hydrology

Streamflows in the Skagit Basin have been heavily regulated since the early 20th Century by a series of hydroelectric dams. Table 2-3 shows average streamflows calculated from stream gage data collected in Mount Vernon and Concrete.

Table 2-3 Average Streamflows in the Program Area		
	Skagit River near Mount Vernon, WA* (USGS 12200500) (cfs)	Skagit River near Concrete, WA** (USGS 12194000) (cfs)
September (low flow during dry season)	9,369	8,478
June (peak flow due to snowmelt)	24,750	24,590
Winter	14,000 – 19,000	12,000 – 16,000

* 62 years of record
** 78 years of record
Data compiled by HydroLogic Services Company

Despite regulation upstream, seasonal flooding does occur in the Skagit River Basin and the program area. Flooding is largely contained by dikes from Burlington west; current

flood protection is designed to control a 50 year flood event. Table 2-4 shows estimated streamflows near Mount Vernon during peak flow events.

Table 2-4
Peak Flow Events on Skagit River near Mount Vernon (USGS stream gage 12200500)

Flood Event	Flood Magnitude (cfs)*
2 year flood	65,000
10 year flood	113,000
25 year flood	140,000
100 year flood	153,000

* Post-regulated record 1941-2001 approximate values
Data compiled by HydroLogic Services Company

2.2 Water Quality

This section describes recent water quality trends in the Lower Skagit River Watershed and the program area. DOE is tasked with setting surface water quality standards to comply with the federal Clean Water Act[11]. Within the program area, the portion of the watershed from the beginning of the program area boundary upstream to the north end of Skiyou Slough near Sedro-Woolley is classified as a Class A fresh water body; the portion upstream from this point to the end of the program area boundary is classified as a Class AA water body. Water quality standards for these classes are described in Table 2-5.

Table 2-5
Washington State Water Quality Standards for Surface Fresh Water Bodies

Parameter	Class A Quality Standard	Class AA Quality Standard
Fecal Coliform	≤ 100 colonies/100mL (geometric mean)	≤ 50 colonies/100mL (geometric mean)
Dissolved Oxygen	≥ 8.0 mg/L	≥ 9.5 mg/L
Temperature	≤ 18°C	≤ 16.0°C
pH	6.5 to 8.5	6.5 to 8.5
Turbidity	Not to exceed 5 NTU over background	Not to exceed 5 NTU over background
Toxics	Below levels specified by WAC 173-201A-240	Below levels specified by WAC 173-201A-240

DOH requires public water system operators to test raw water and treated water to ensure compliance with drinking water standards established by the U.S. Environmental Protection Agency. Standards are enforced for the following categories of contaminants[12]:

[11] Chapter 173-201A WAC
[12] U.S. Environmental Protection Agency, 2003, Potential Sources of Drinking Water Contamination Index, http://www.epa.gov/ogwdw/swp/sources1.html

- **Organic contaminants**, such as pesticides and herbicides, petroleum products, solvents cleaners and degreasers, which may come from a variety of sources such as agriculture, stormwater runoff, wastewater treatment facilities and residential areas, gas stations and maintenance facilities.

- **Inorganic contaminants**, such as salts and metals, which may come from stormwater runoff, industrial or domestic wastewater discharges, or agriculture

- **Disinfection by-products**, such as trihalomethanes, which may come from agricultural and stormwater runoff or drinking and wastewater treatment discharges

- **Microbial contaminants**, such as fecal coliform, *Giardia*, *Cryptosporidium* and *E.coli*, which may come from sewage treatment plants, septic systems, and agricultural livestock operations

- **Radionuclides**, such as radium and uranium, which may occur naturally or result from oil and gas production or mining activities

As discussed in detail below, several water bodies in the Lower Skagit River Watershed have experienced water quality problems in recent years, such as high temperature, low dissolved oxygen and presence of fecal coliform. These data are presented to describe general water quality trends in the watershed, and do not necessarily indicate a problem that will affect drinking water quality. For example, high temperature and dissolved oxygen are stream habitat issues, not indicators of poor quality drinking water. Further, the contribution of these tributaries is relatively small compared to the volume of the Skagit River, and water treatment processes such as disinfection are used by treatment plants to remove contaminants that may enter the river.

2.2.1 DOE Water Quality Studies

DOE completed its first major study of water quality in the Lower Skagit River in 1997[13]. The study area included the North and South Forks and the mainstem of the Skagit River from its mouth upstream to the north end of Skiyou Slough near Sedro-Woolley. The study evaluated water quality and proposed Total Maximum Daily Loads for fecal coliform in Nookachamps Creek and dissolved oxygen in the Lower Skagit River near Conway (downstream from the program area). The fecal coliform Total Maximum Daily Load was approved in 2000. DOE is currently completing a reassessment of Total Maximum Daily Loads in the Lower Skagit River Watershed.

The DOE water quality survey demonstrated that fecal coliform levels regularly exceeded Class A fresh water quality standards in many tributaries in the Lower Skagit; bacteria levels upstream from Sedro-Woolley exceeded the more stringent Class AA standards which apply to that area[14]. The following water bodies in the program area were listed in 1996 as quality-limited under the federal Clean Water Act for exceeding fecal coliform standards: Lower Skagit River, Gages

[13] Washington Department of Ecology, July 1997, Lower Skagit River Total Maximum Daily Load Water Quality Study, http://www.ecy.wa.gov/pubs/97326a.pdf
[14] Washington Department of Ecology, July 1997, Lower Skagit River TMDL Water Quality Study, Page 2

Slough, Nookachamps Creek, Hart Slough/ Brickyard Creek, and Hansen Creek[15]. High bacteria levels have historically been attributed to dairy farms and other agricultural practices, urban stormwater runoff, and failing septic systems. DOE is currently working to establish a Total Maximum Daily Load for fecal coliform in the Lower Skagit River to address impairments to contact recreation and protect shellfish harvesting in Skagit Bay[16].

In addition, DOE has identified the following areas as high temperature problem areas under the federal Clean Water Act: Carpenter creek, Coal Creek, Cumberland Creek, Day Creek, Fisher Creek, Hansen Creek, Indian Slough, Jones Creek, and Nookachamps Creek. Hansen Creek, Parker Creek and Sorenson Creek have also been identified as problem areas with regard to fish habitat.

2.2.2 Skagit County Baseline Monitoring Project

The Skagit County Public Works Department developed and implemented a baseline water quality monitoring project in 2001[17]. The project was intended to identify trends in watershed health in the Samish and Skagit River Basins, and to provide baseline water quality data in Skagit County's agricultural areas as a standard for future comparisons. Data were collected biweekly at 27 monitoring stations between July 2001 and June 2002. Parameters monitored included dissolved oxygen, temperature, conductivity, salinity, pH, turbidity, plant nutrient levels, and fecal coliform.

The relatively short period of record in this study is limiting in terms of analysis; however, the data collected demonstrated significant deviations from water quality standards in several parameters. Only eight of the 27 locations tested met the dissolved oxygen standard in all samples taken, and readings from five stations failed to meet the standard in more than 50% of samples. Maximum temperatures exceeded the high temperature standard at 15 locations. Temperatures over 20°C were recorded in samples from Colony Creek and Nookachamps Creek. Samples taken at each of the stations failed to meet fecal coliform standards at some point during the year, and the geometric mean exceeded maximum contaminant levels in samples from Thomas Creek, Samish River, College Way Creek, and most significantly at Nookachamps Creek, where a geometric mean of 169 colonies/100mL was recorded.

[15] Washington Department of Ecology, July 1997, Lower Skagit River TMDL Water Quality Study, Page 4
[16] Washington Department of Ecology, June 2000, Lower Skagit River Fecal Coliform TMDL Submittal Report, Page 3, http://www.ecy.wa.gov/pubs/0010010.pdf
[17] Skagit County Public Works Department, September 2002, Baseline Monitoring Project Annual Report for the Monitoring Period July 2001-June 2002

2.2.3 Anacortes Public Works Department

The City has tested raw water quality to ensure compliance with federal drinking water quality standards since the water treatment plant became operational in 1971. Testing has been established for the following contaminants: inorganics, chlorinated hydrocarbons, volatile organics, and radionuclides. Trihalomethanes and micro-organisms are also monitored in compliance with federal drinking water standards. The data collected indicates that all parameters are in compliance. Recent water quality testing results are provided in Appendix A of this document.

2.2.4 PUD Water Quality Analysis

The Cultus Mountain Watershed has been the PUD's principal source of drinking water since the construction of Judy Reservoir in 1947[18]. The Watershed is located southeast of Sedro-Woolley on the south side of the Skagit River, and ultimately drains into the Skagit River and the program area. Raw water is diverted from four creeks (Salmon, Gilligan, Turner and Mundt) and collected in Judy Reservoir. The PUD completed a WCP for the Cultus Mountain Watershed in 1960, with subsequent revisions in 1979 and 1991.

A water quality analysis was completed as part of the Water System Plan the PUD completed in September 2001[19]. The analysis compiled and evaluated historical water quality data collected by the PUD. Levels of micro-organisms, trihalomethanes, inorganic chemicals, volatile organics, and radionuclides were found to be consistently well below maximum levels allowed by federal drinking water quality standards[20]. A similar water quality analysis will be implemented for the proposed Skagit River intake.

2.3 Land Use Inventory

This section describes the types of land use and activities that occur in the program area. Special attention is paid to land uses that are considered a potential threat to water quality in the Skagit River. This information is essential to the process of developing watershed control measures.

2.3.1 General Description, Land Ownership and Activities

Land use in the program area is dominated by agriculture. The majority of land is privately owned; public lands are located primarily within the city limits of municipalities.

Skagit County is required to plan land use and zoning under the State's Growth Management Act[21]. Land located within the program area and outside the city limits of municipalities is subject to regulation under the Skagit County Comprehensive Plan, land use and zoning

[18] Public Utility District No. 1 of Skagit County, September 2001, Water System Plan, 2-4
[19] Public Utility District No. 1 of Skagit County, September 2001, Water System Plan, 4-41
[20] See PUD Water System Plan, Appendix E for further detail
[21] Chapter 36.70A RCW

regulations. Incorporated cities within the program area have individual comprehensive plans to regulate land use and zoning within city limits.

2.3.2 Potential Contaminant Sources

Sources of potential water supply source contamination within the program area are of paramount concern in the development and implementation of the WCP. To that end, a list of Potential Contaminant Sources (PCSs) was developed for use in the WCP. The PCS list is comprised of parcels within the program area where the current land use designation is one considered to pose a threat to water quality in the Skagit River.

Three aggregate groups of PCSs were created for use in the WCP:

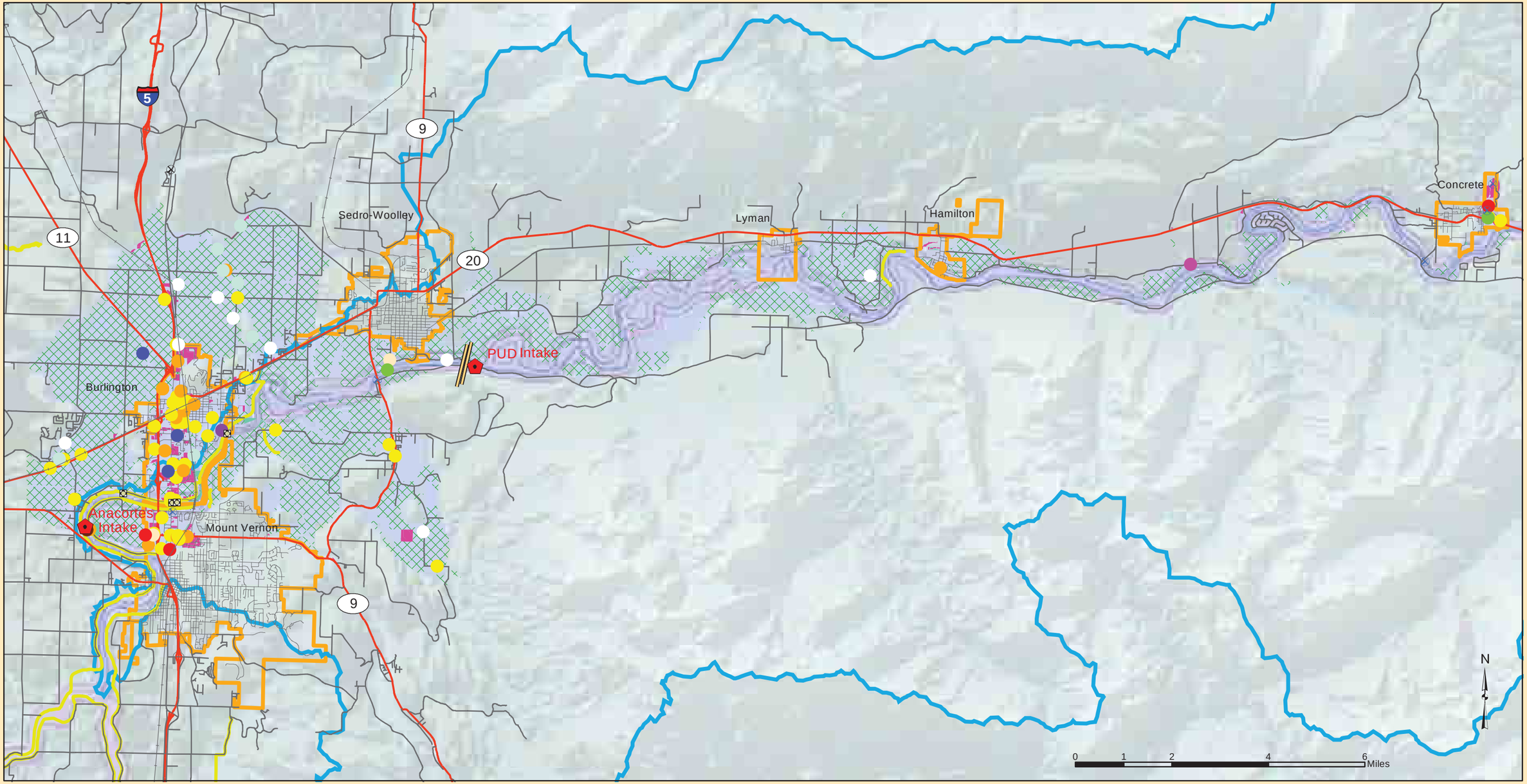
- **Agriculture**, including cropland, pasture, and orchards
- **Commercial/Industrial**, including manufacturing, retail, construction, mining and other resource production
- **Transportation**, including associated parking and maintenance facilities

These PCS groups were developed by grouping activities associated with land use designations from the Skagit County Comprehensive Plan, which are assigned to individual parcels by the Skagit County Assessor's Office. Table 2-6 describes the types of contaminants associated with these activity groups[22]. The Skagit County Assessor's land use categories that constitute the PCS groups and the number of parcels identified within each group are listed in Table 2-7. Exhibit 2-1 shows the location and type of PCSs found within the program area.

Table 2-6
Activities and Contaminants Associated with PCS Groups

PCS Group	Activities	Contaminants
Agriculture	Fertilizers/herbicides/pesticides Contained animal feeding operations Lagoons and liquid waste Irrigation/erosion of natural deposits	Organic Inorganic Trihalomethanes Microbial
Commercial/Industrial	Fabrication/manufacturing Synthetics/plastic production Chemical/petroleum processing Wastewater discharge	Organic Inorganic Trihalomethanes Microbial Radionuclides
Transportation	Maintenance/fueling areas Stormwater runoff Hazardous materials transport	Organic Inorganic Trihalomethanes

[22] Adapted from U.S. Environmental Protection Agency, 2003, Potential Drinking Water Contaminant Index, http://www.epa.gov/safewater/swp/vcontam3.html



Legend

- Stormwater Outfall
- Water Intake
- Dikes
- 750ft River Buffer
- City Limits
- Skagit Watershed
- Pipeline
- Program Area

Potential Contaminant Source Parcels

- Commercial / Industrial
- Agriculture
- Transportation

DOE Regulated Sites

- Dairy
- Hazardous Chemical Inventory TIER2
- General Permit Industrial
- General Permit Municipal
- General Permit Storm Industrial
- Hazardous Waste Generator
- Landfill
- Minor Municipal
- State Cleanup Site
- Voluntary Cleanup Site
- Burlington Sewer Treatment Plant

City of Anacortes / Public Utility District #1 of Skagit County
Skagit River Watershed Control Plan
Exhibit 2-1: Watershed Control Program Area and Potential Contaminant Sources

Map prepared by HydroLogic Services Company, January 2004

Table 2-7
PCS Parcels in the Program Area

PCS GROUP	PARCELS
Agriculture	
Agriculture Related Activities	33
Agriculture, Non-classified	325
Open Space Farm and Agriculture	1,551
Commercial / Industrial	
Chemicals	1
Contract Construction Services	7
Fabricated Metal Products	1
Land Zoned Industrial with Residence	42
Mining Activities & Related Services	13
Miscellaneous Services	434
Other Resource Production	4
Scientific, Photo & Optical	1
Repair Services	42
Retail Trade/Building Materials/Hardware/Farm Equipment	16
Rubber & Misc. Plastic Products	7
Stone, Clay and Glass Products	17
Wholesale Trade	18
Transportation	
Aircraft Transportation	3
Automobile Parking	36
Highway & Street Right of Way	10
Marine Craft Transportation	1
Motor Vehicle Transportation	14
Other Transport/Communications/Utilities	28
Railroad Transportation	50
Total Number of Parcels	**2,654**

Data source: Skagit County Assessor's Office http://www.skagitcounty.net/
Data compiled by HydroLogic Services Company

In addition to Assessor's parcels, facilities regulated by DOE were considered potential sources of contamination. DOE is tasked with administration and enforcement of the National Pollution Discharge Elimination System (NPDES) in our State. Authorized by the federal Clean Water Act, the NPDES permit program regulates point sources that discharge pollutants into waters of the United States[23]. DOE regulates these and other types of sites that pose a potential threat to the environment. Categories of DOE regulated sites and the number of sites within each category is listed in Table 2-8. Exhibit 2-1 shows the location and type of DOE regulated sites. Exhibits 2-2 and 2-3 identify individual sites in the program area with identification numbers. These numbers correspond to Appendix B, which provides information about ownership, activities and the types of contaminants found at each site.

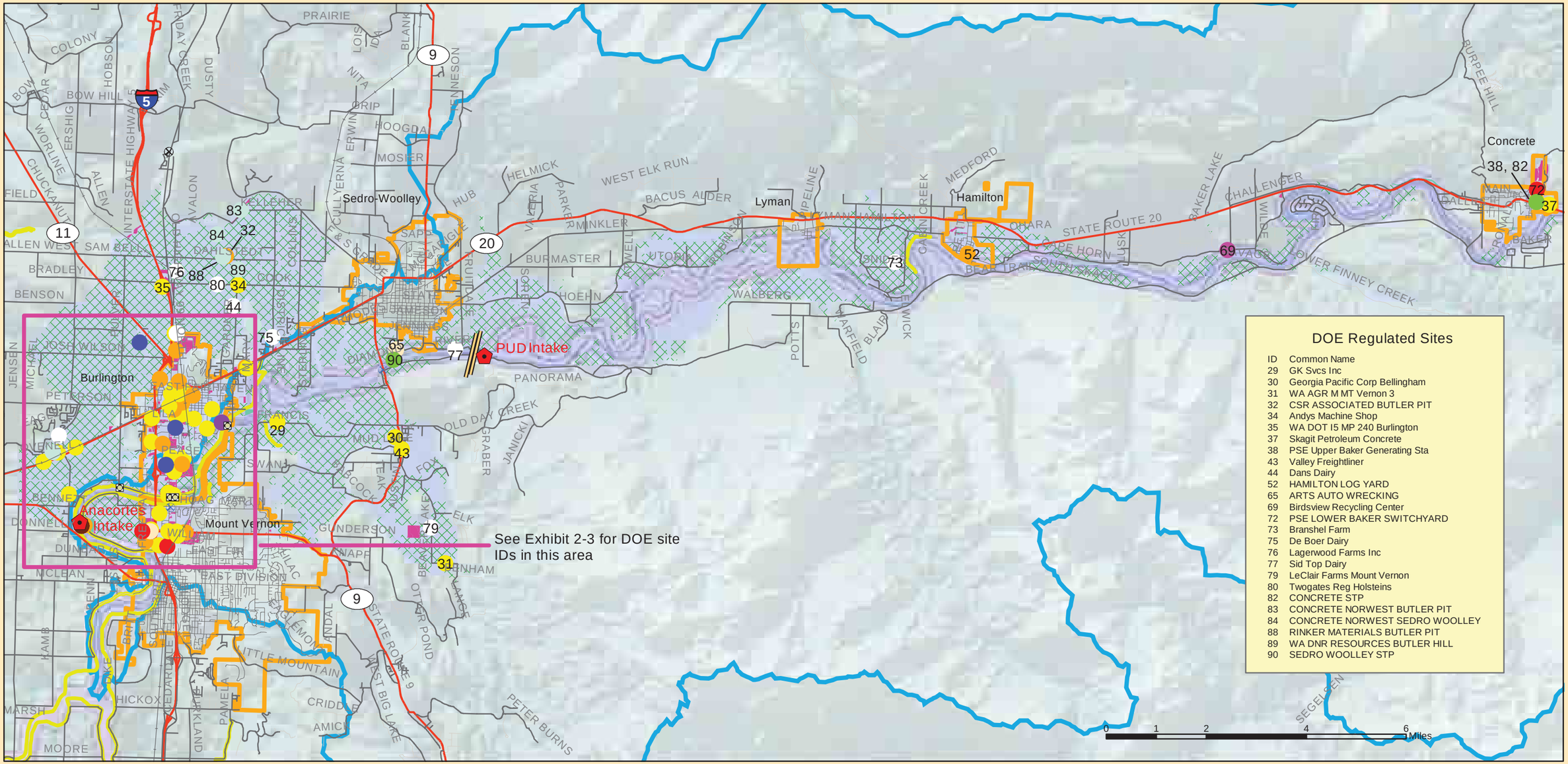
[23] U.S. Environmental Protection Agency, 2003, National Pollutant Discharge Elimination System, Overview, http://www.epa.gov/npdes/

Table 2-8
DOE Regulated Sites in the Program Area

FACILITY TYPE	SITES
Dairy	9
Emergency/Hazardous Chemical Inventory TIER2	21
General Permit Industrial	7
General Permit Municipal	1
General Permit Storm Water Industrial	3
Hazardous Waste Generator	43
Landfill	1
Minor Municipal	2
State Cleanup Site	3
Voluntary Cleanup Sites	2
Underground Storage Tank (Burlington STP)	1
Total DOE Regulated Sites	**93**

Data source: Washington Department of Ecology http://www.ecy.wa.gov/
Data compiled by HydroLogic Services Company

Other PCSs considered in this WCP include landmarks such stormwater outfalls, bridges and pipelines that cross the Skagit River in the program area. These landmarks are shown in Exhibits 2-1, 2-2 and 2-3. The pipeline crossing shown in the Exhibits represents two natural gas pipelines operated by Williams Northwest Pipline Company.



DOE Regulated Sites

ID	Common Name
29	GK Svcs Inc
30	Georgia Pacific Corp Bellingham
31	WA AGR M MT Vernon 3
32	CSR ASSOCIATED BUTLER PIT
34	Andys Machine Shop
35	WA DOT I5 MP 240 Burlington
37	Skagit Petroleum Concrete
38	PSE Upper Baker Generating Sta
43	Valley Freightliner
44	Dans Dairy
52	HAMILTON LOG YARD
65	ARTS AUTO WRECKING
69	Birdsview Recycling Center
72	PSE LOWER BAKER SWITCHYARD
73	Branshel Farm
75	De Boer Dairy
76	Lagerwood Farms Inc
77	Sid Top Dairy
79	LeClair Farms Mount Vernon
80	Twogates Reg Holsteins
82	CONCRETE STP
83	CONCRETE NORWEST BUTLER PIT
84	CONCRETE NORWEST SEDRO WOOLLEY
88	RINKER MATERIALS BUTLER PIT
89	WA DNR RESOURCES BUTLER HILL
90	SEDRO WOOLLEY STP

Legend

- Stormwater Outfall
- Water Intake
- Dikes
- 750ft River Buffer
- City Limits
- Skagit Watershed
- Pipeline
- Program Area

Potential Contaminant Source Parcels

- Commercial / Industrial
- Agriculture
- Transportation

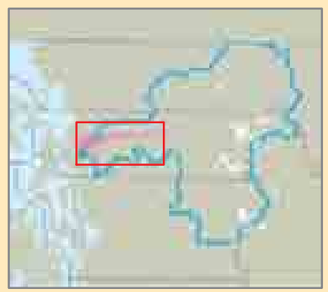
DOE Regulated Sites

- Dairy
- Hazardous Chemical Inventory TIER2
- General Permit Industrial
- General Permit Municipal
- General Permit Storm Industrial
- Hazardous Waste Generator
- Landfill
- Minor Municipal
- State Cleanup Site
- Voluntary Cleanup Site
- Burlington Sewer Treatment Plant

City of Anacortes / Public Utility District #1 of Skagit County
Skagit River Watershed Control Plan

Exhibit 2-2
DOE Regulated Sites in the Program Area

Map prepared by HydroLogic Services Company, January 2004



City of Anacortes
Public Utility District #1
of Skagit County

Skagit River
Watershed Control Plan

Exhibit 2-3
Enlarged View of
DOE Regulated Sites

January 2004
Map prepared by HydroLogic Services Company

Legend

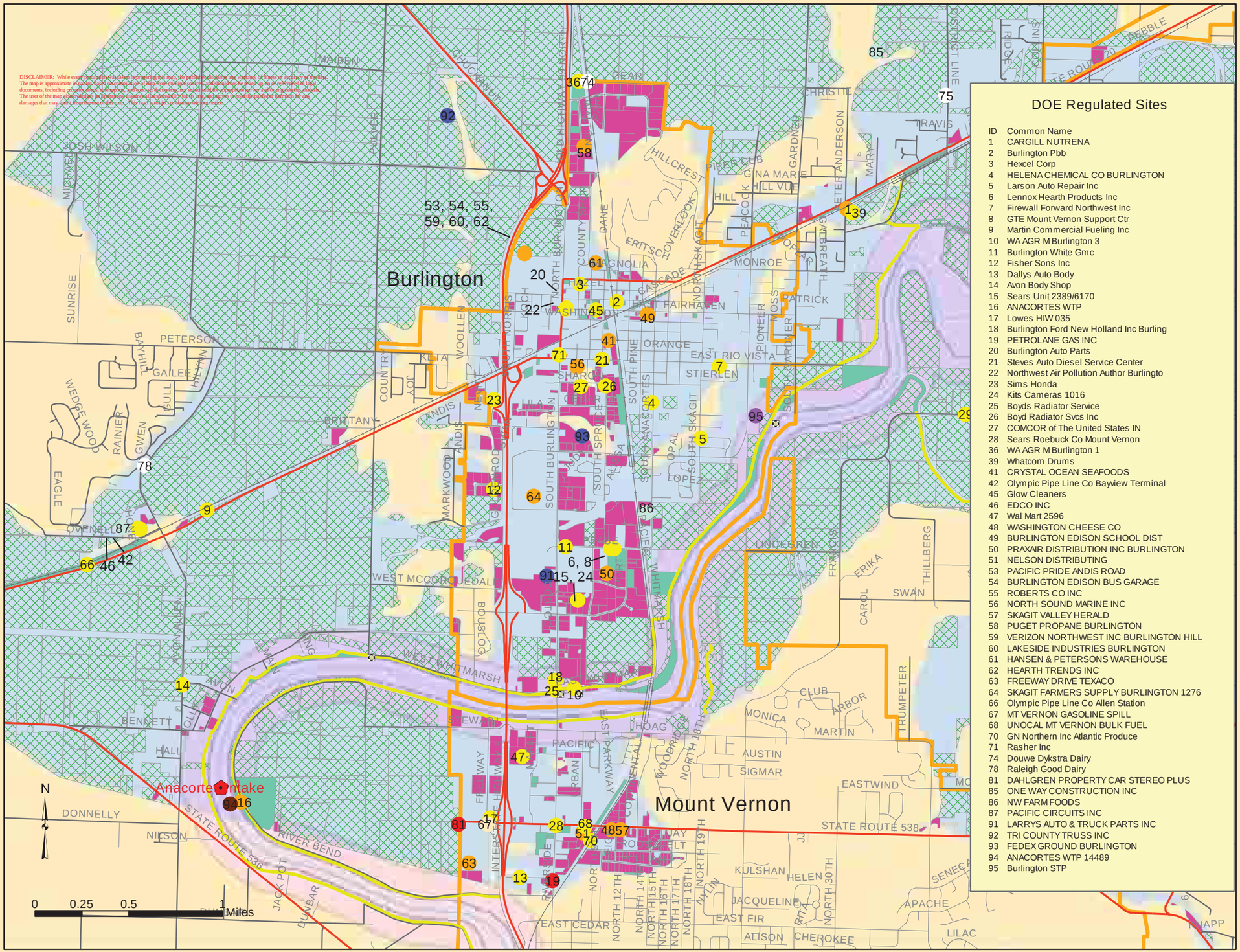
- Stormwater Outfall
- Water Intake
- Dikes
- 750ft River Buffer
- City Limits
- Program Area

Potential Contaminant Source Parcels

- Commercial / Industrial
- Agriculture
- Transportation

DOE Regulated Sites

- Dairy
- Hazardous Chemical Inventory TIER2
- General Permit Industrial
- General Permit Municipal
- General Permit Storm Industrial
- Hazardous Waste Generator
- Landfill
- Minor Municipal
- State Cleanup Site
- Voluntary Cleanup Site
- Burlington Sewer Treatment Plant



DOE Regulated Sites

ID	Common Name
1	CARGILL NUTRENA
2	Burlington Pbb
3	Hexcel Corp
4	HELENA CHEMICAL CO BURLINGTON
5	Larson Auto Repair Inc
6	Lennox Hearth Products Inc
7	Firewall Forward Northwest Inc
8	GTE Mount Vernon Support Ctr
9	Martin Commercial Fueling Inc
10	WA AGR M Burlington 3
11	Burlington White Gmc
12	Fisher Sons Inc
13	Dallys Auto Body
14	Avon Body Shop
15	Sears Unit 2389/6170
16	ANACORTES WTP
17	Lowes HIW 035
18	Burlington Ford New Holland Inc Burling
19	PETROLANE GAS INC
20	Burlington Auto Parts
21	Steves Auto Diesel Service Center
22	Northwest Air Pollution Author Burlingto
23	Sims Honda
24	Kits Cameras 1016
25	Boyds Radiator Service
26	Boyd Radiator Svcs Inc
27	COMCOR of The United States IN
28	Sears Roebuck Co Mount Vernon
36	WA AGR M Burlington 1
39	Whatcom Drums
41	CRYSTAL OCEAN SEAFOODS
42	Olympic Pipe Line Co Bayview Terminal
45	Glow Cleaners
46	EDCO INC
47	Wal Mart 2596
48	WASHINGTON CHEESE CO
49	BURLINGTON EDISON SCHOOL DIST
50	PRAXAIR DISTRIBUTION INC BURLINGTON
51	NELSON DISTRIBUTING
53	PACIFIC PRIDE ANDIS ROAD
54	BURLINGTON EDISON BUS GARAGE
55	ROBERTS CO INC
56	NORTH SOUND MARINE INC
57	SKAGIT VALLEY HERALD
58	PUGET PROPANE BURLINGTON
59	VERIZON NORTHWEST INC BURLINGTON HILL
60	LAKESIDE INDUSTRIES BURLINGTON
61	HANSEN & PETERSONS WAREHOUSE
62	HEARTH TRENDS INC
63	FREEWAY DRIVE TEXACO
64	SKAGIT FARMERS SUPPLY BURLINGTON 1276
66	Olympic Pipe Line Co Allen Station
67	MT VERNON GASOLINE SPILL
68	UNOCAL MT VERNON BULK FUEL
70	GN Northern Inc Atlantic Produce
71	Rasher Inc
74	Douwe Dykstra Dairy
78	Raleigh Good Dairy
81	DAHLGREN PROPERTY CAR STEREO PLUS
85	ONE WAY CONSTRUCTION INC
86	NW FARM FOODS
87	PACIFIC CIRCUITS INC
91	LARRYS AUTO & TRUCK PARTS INC
92	TRI COUNTY TRUSS INC
93	FEDEX GROUND BURLINGTON
94	ANACORTES WTP 14489
95	Burlington STP

2.4 System Operations

This section describes existing water treatment operations and emergency provisions that have been implemented by the City and the PUD, which are detailed in their most recent WCPs submitted to DOH in September 2000 and 2001, respectively[24]. The PUD does not currently draw water from the Skagit River; however, PUD system operations that are already in place will be expanded to accommodate the proposed Skagit River raw water intake. Any changes in operations that result from the additional intake will be included in WCP updates.

2.4.1 Water Treatment Operations - Anacortes

The City owns and operates a regional water treatment plant located near Mount Vernon on the east bank of the Skagit River. The plant was constructed and placed in operation in 1971. The City's water system serves Anacortes, La Conner, Oak Harbor, the Tesoro and Shell Oil Refineries, the Swinomish Indian Reservation, portions of the PUD service area, and numerous other industrial customers[25].

The City's water treatment system consists of raw water intake, flocculation, sedimentation, filtration, chlorination, and finished water pumping[26]. Water is pumped from the intake structure located on the west bank of the Skagit River across the river to the flocculation and sedimentation basins. Alum, lime and other chemicals can be mixed with the raw water to aid in removal of particles and other contaminants. Solids settling out in the sedimentation basin are continuously removed to settling lagoons.

Once sedimentation is complete, water flows through six mixed media filters that remove remaining particles before water enters the clearwell for chlorination. The filters are equipped with air wash systems to optimize water quality and filtration rates[27]. Following chlorination, the treated water is pumped through the transmission pipelines to contract customers and the distribution system.

2.4.2 Emergency Provisions - Anacortes

The City developed and implemented an emergency response plan for the water treatment plant in 1994 and the plan has been updated annually since 2000. The emergency response plan provides detailed protocols with which operators may respond to an emergency that poses a potential threat to the City's water system.

The City's water treatment plant is on the notification lists of Skagit County Department of Emergency Management and Washington State Patrol for immediate contact in the event of any hazardous material spill in the Skagit River Watershed. In addition, discharge permits held by

[24] Additional information regarding emergency provisions may be found in emergency response plans issued by the City and the PUD.
[25] City of Anacortes Public Works Department, 2003, Water System Consumer Confidence Report, http://www.cityofanacortes.org/
[26] R.W. Beck, September 2000, City of Anacortes Water System Plan, 4-1
[27] R.W. Beck, September 2000, City of Anacortes Water System Plan, 4-1

wastewater treatment plants upstream of the City's water intake, located in Burlington, Sedro-Woolley, and Concrete, require notification of DOE in the event of effluent discharge parameter violations[28]. Local officials and utilities are notified by DOE, emergency management agencies or the plants directly.

In the event of a spill or accidental discharge, the plant manager or designated supervisor will determine if the plant and intake should be shut down, based on the spill type, estimated time of arrival of the spill to the plant, and river elevation[29]. Booms are to be deployed for river elevations of 12.0 feet or less. If it is deemed necessary to shut down, all major customers will be notified and asked to cease water withdrawal. The City's primary water reservoir will be isolated, and emergency water conservation measures will be implemented. Essential personnel at the City, Skagit County and DOH will be notified, and assistance will be requested from Skagit County Emergency Services.

The plant is located within the floodplain, and existing flood protection measures provide protection from the 50-year flood[30]. The City maintains a flood fight operations plan, and holds annual staff training sessions to prepare for the flood season[31]. In the event of a flood or peak flow event, several stages of response are outlined in the emergency response plan and flood fight operations plan, to be implemented as the degree of flood threat warrants. During a flood watch, the plant manager will be immediately notified of any deviation from normal water quality parameters. The plant manager will determine if additional plant personnel are required, and will coordinate the appropriate response to weather conditions and river level with the City public works director and the Mayor.

If a flood becomes imminent, steps will be taken to secure the plant structure and obtain necessary resources to implement flood fight operations. Flood fight procedures include sandbagging, dike patrols, and coordination with emergency management agencies. If the flood fight is unsuccessful and the treatment plant must be shut down and evacuated, essential personnel at the City, Skagit County and DOH will be notified and evacuation is coordinated by emergency management agencies. The City's primary water reservoir will be isolated to secure water reserves, and emergency water conservation measures will be implemented.

2.4.3 Water Treatment Operations - PUD

The PUD is a municipal corporation of the State of Washington, established by general election in 1936[32]. Responsibilities and powers of the PUD are exercised through a board of term-elected commissioners that employs staff to oversee operations and management of the water system. The PUD operates the most expansive water system in Skagit County, serving over 19,500 metered services in the cities of Burlington, Mount Vernon, and Sedro-Woolley, the communities

[28] R.W. Beck, September 2000, City of Anacortes Water System Plan, Appendix E, Watershed Plan
[29] RH2 Engineering, P.S., May 1994, City of Anacortes Water Treatment Plant Emergency Response Plan, Emergency Response No. 9
[30] R.W. Beck, September 2000, City of Anacortes Water System Plan, 4-4
[31] RH2 Engineering, P.S., May 1994, City of Anacortes Water Treatment Plant Emergency Response Plan, Emergency Response No. 3
[32] Public Utility District No. 1 of Skagit County, September 2001, Water System Plan, 2-1

of Alger, Cedargrove, Clear Lake, Conway, Dewey, Rockport and Similk Beach, and adjacent rural and suburban areas.

The PUD established utility service by purchasing the water systems in the Cities of Mount Vernon, Burlington and Sedro-Woolley from the Peoples Water and Gas Company in 1939[33]. With these water systems, the PUD acquired water rights for the Skagit River, local springs, and five creeks in the Cultus Mountains. Subsequent acquisitions occurred and the system was integrated in 1940.

In 1947 the Judy Reservoir was completed, which became the PUD's principal source of water supply[34]. Water is diverted from four creeks in the Cultus Mountain Watershed and piped to the 1.45 billion gallon impoundment reservoir. These creeks are subject to instream flow requirements, which limit the amount of water the PUD may withdraw during periods of low flows[35]. To ensure that adequate water supplies are available to PUD customers, a Memorandum of Agreement was signed in 1996 by the PUD, the City, Ecology and other interested parties, which allows the PUD to withdraw water from the Skagit River in the same quantity as it was not authorized to withdraw from the flow-limited creeks[36]. To facilitate this withdrawal from the Skagit River, the PUD plans to construct a new pump station and pipeline from the Skagit River to Judy Reservoir[37]. Existing Skagit River water rights acquired by the PUD with city water systems in 1939 have been transferred to the proposed intake. The location of the proposed Skagit River raw water intake is noted in Exhibits 2-1, 2-2 and 2-3.

Water from Judy Reservoir is treated at the PUD's multi-media direct filtration water treatment plant[38]. The plant was constructed in 1990 and serves the cities of Burlington, Mount Vernon and Sedro-Woolley, as well as many rural communities in western Skagit County. Water is disinfected and filtered to meet federal drinking water standards, and transferred to two clearwells with a combined capacity of 2.44 million gallons. Finished water from the clearwells flows by gravity to the transmission pipelines for distribution.

2.4.4 Emergency Provisions - PUD

Due to the size of the Judy Reservoir, the PUD has the ability to shut down its proposed Skagit River water intake in the event of an accidental discharge or peak flow event. Raw water is continually monitored for turbidity and particulate levels, and if the water does not meet limits acceptable to the plant operators, the intake is shut down until water quality improves.

The Cultus Mountain Watershed is privately owned and accidental pollutant discharges are unlikely, so no emergency spill response is currently in place. If or when the Skagit River is utilized as a water supply source, the PUD will shut down the raw water intake immediately once notified of an accidental pollutant discharge upstream.

[33] Public Utility District No. 1 of Skagit County, September 2001, Water System Plan, 2-2
[34] Public Utility District No. 1 of Skagit County, September 2001, Water System Plan, 2-4
[35] Chapter 173-505 WAC
[36] See PUD Water System Plan, Section 3 for further detail
[37] See PUD Capital Improvement Plan and PUD Water System Plan, Section 5 for further detail
[38] Public Utility District No. 1 of Skagit County, September 2001, Water System Plan, 4-4

2.5 Water Quality Monitoring Programs

This section describes water quality monitoring programs that have been or are currently implemented in the Lower Skagit River Watershed.

2.5.1 DOE Water Quality Monitoring Stations

DOE maintains one long-term water quality monitoring station in the Lower Skagit River near Mount Vernon[39]. This station has been sampled continuously since 1974, and data is available for specific years dating back to 1947. Five other DOE monitoring stations are located in the program area, but long-term sampling data is not available for these stations. Data is collected monthly at the Mount Vernon station for the following parameters: fecal coliform, oxygen, pH, suspended solids, temperature, nitrogen, phosphorus, and turbidity.

2.5.2 Skagit County Public Works Department

Skagit County intends to expand upon the baseline monitoring program implemented in 2001 by adding 20 sampling sites and monitoring these sites through 2008[40]. Data will be reported to DOE and made available on the Skagit County website quarterly, and data summaries will be issued annually.

2.5.3 Anacortes Public Works Department

The City is required to monitor and report the quality of raw water entering the public water system[41]. In addition, the City prepared a Coliform Monitoring Plan in 2000[42]. Reports are submitted annually to DOH and consumer confidence reports are submitted to the public annually via mail and the City's website.

2.5.4 PUD Water Quality Monitoring Program

The PUD currently monitors the quality of raw water entering the Judy Reservoir system. This monitoring program will include testing of water withdrawn from the Skagit River once the new intake is in use. Water quality reports are submitted annually to DOH and consumer confidence reports are submitted to the public annually.

2.5.5 Skagit Conservation District

[39] Washington Department of Ecology, 2003, River and Stream Water Quality Monitoring, 03A060 – Skagit R nr Mount Vernon, http://www.ecy.wa.gov/apps/watersheds/
[40] Skagit County Public Works Department, 2003, Skagit County Monitoring Program: Public Review Draft Monitoring Plan, http://www.skagitcounty.net/PublicWorksSurfaceWaterManagement/
[41] Chapter 246-290 Section 300 WAC
[42] R.W. Beck, September 2000, City of Anacortes Water System Plan, 6-8

The Skagit Conservation District operates a citizen volunteer water quality monitoring program called the Skagit Stream Team[43]. The Stream Team program began in 1998, and the Skagit Conservation District has completed annual water quality reports since 2000. Stream Team volunteers are trained to collect and record water quality data and perform fecal coliform and turbidity tests. Data are collected on a monthly basis from stream reaches in the Nookachamps Creek, Padilla Bay and Samish Watersheds. The goal of the Stream Team program is to monitor water quality and demonstrate improvements in water quality as a result of implementation of voluntary Best Management Practices in the Watershed. The program also serves to inspire community stewardship and educate the public about water quality issues.

[43] Skagit Conservation District, 2003, Skagit Stream Team, http://www.skagitcd.org/

Section 3
Watershed Control Program

3.1 Threats to Water Quality

Two particular types of events pose a threat to the water quality of the Skagit River, and subsequently to the water supply of the City and the PUD: 1) human-produced pollutant loading from accidents or treatment plant failures, and 2) surface runoff during peak flow events and/or over-bank flood waters carrying pollutants into the river. The WCP must address both of these types of events in order to protect the public drinking water supply from potential contaminants that pose a public health risk.

This section summarizes a hydrologic study of the program area completed by HydroLogic Services Company. The goal of this study was to determine travel times of pollutants that may enter the Skagit River within the program area, due to accident or flood, at various times of year and rates of streamflow. Travel times may then be used by the City and the PUD, emergency management personnel and water treatment plant operators to determine the appropriate response to an event. For example, a decision to shut down a water intake could be based on the location, distance and estimated travel time of a spill. Similarly, an understanding of river dynamics and peak flows could help plant operators to anticipate changes in turbidity and other key water quality parameters.

As discussed in Section 2.1.3, the Skagit River is a highly regulated river with two hydroelectric utilities operating releases from a total of five reservoirs. The chronology of the reservoir completion on the Skagit River is shown in Table 3-1. Exhibit 3-1 demonstrates the difference in magnitude of peak flows since regulation.

Table 3-1
Chronology of Skagit River Regulation

Utility and Reservoir Name	Date of Completion of Dam
Puget Sound Energy	
Lake Shannon	1927
Baker Lake	1959
Seattle City Light	
Diablo	1930
Ross	1949
Gorge	1960

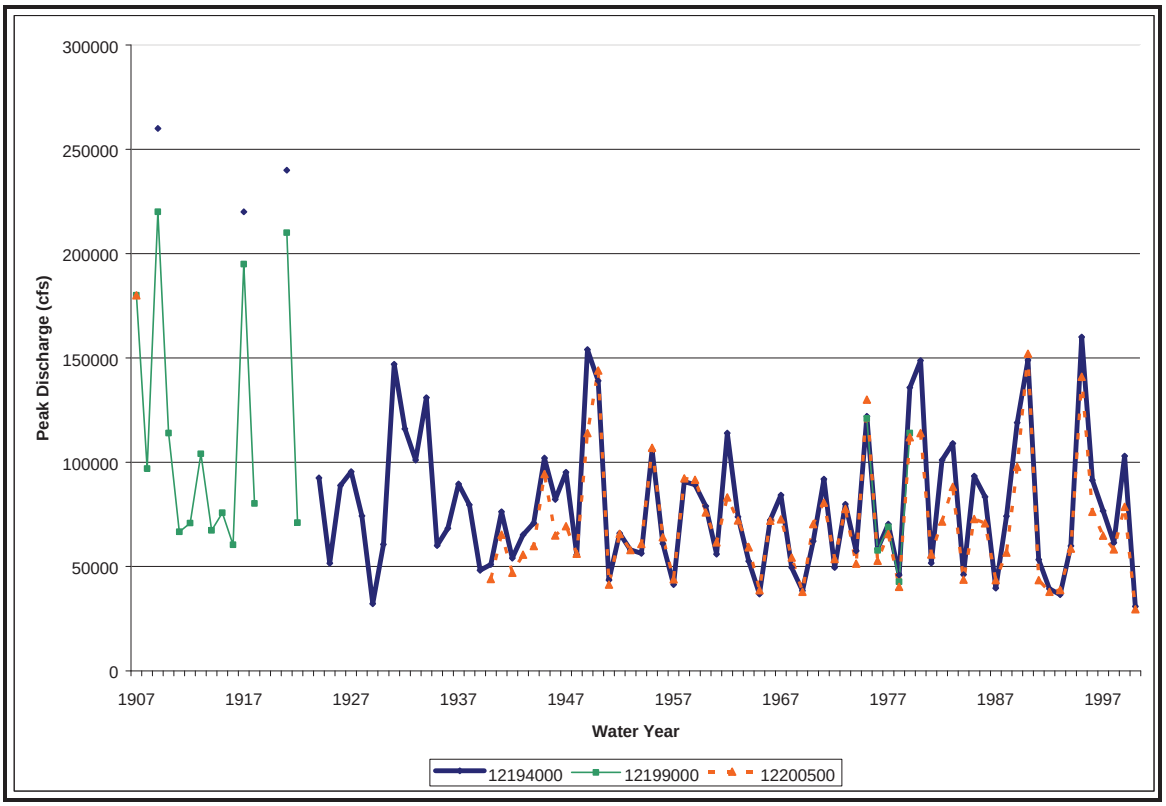


Exhibit 3-1
Skagit River Annual Peak Flows at Three Streamflow Gages

For the purposes of this study, only data from the post-regulation period was used; the potential for future contamination would likely be related to the magnitude of streamflows that occur in the post-regulated environment.

3.1.1 Accidental Discharge

Accidental discharges of pollutants to the Skagit River could occur from several sources including but not limited to oil and gas pipeline leaks, transport vehicle accidents on bridges or adjacent roads, wastewater treatment plant discharge failures, gasoline spills at service stations, etc. These events can occur at any time, during periods of high or low streamflows. Travel times vary depending on the magnitude of the flow.

In order to determine appropriate responses in the event of an accidental contaminant discharge to the Skagit River, travel times from selected points of interest on the river were calculated to the City's raw water intake structure and the proposed PUD intake. Tables 3-2 and 3-3 show the distance and travel time from points of interest to the City's intake. This information is graphically depicted in Exhibit 3-2. Tables 3-4 and 3-5 and Exhibit 3-3 demonstrate these relationships between points of interest and the proposed PUD intake.

Distance upstream from the City's intake was determined for eleven points of interest (Table 3-2). These locations varied from two miles upstream to more than 39 miles upstream from the intake (Exhibit 3-2). Travel times of a spill occurring less than 2.5 miles upstream would generally take less than one hour to reach the intake and would require a quick response to mitigate effects on the water supply. Further upstream, travel times vary according to the magnitude of streamflow (Table 3-3 and Exhibit 3-2). The maximum amount of travel time occurs during a summer mean flow between the Concrete Sauk Valley Bridge crossing and the City's intake (29 hours). A flood ten times the magnitude of the mean summer flow reduces the travel time to eight hours.

Table 3-2
Distance from Points of Interest to Anacortes Intake

Points of Interest	Distance Upstream from Anacortes Intake (Miles)
Anacortes Intake	0
I-5 Bridge	2.00
SR 99 Bridge	2.27
BNSF Railroad Bridge	2.76
SR 9 Bridge	8.75
Pipeline Crossing	10.74
PUD Intake	10.85
South Skagit Hwy At River Bend near Blair Road	23.35
South Skagit Hwy Near Fox Creek Rd	26.43
South Skagit Hwy Near Lower Finney Creek Rd	32.44
SR 20 At Milepost 84.7	35.44
Concrete Sauk Valley Bridge (USGS Gauge)	39.69

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Table 3-3
Travel Times to Anacortes Intake

Event Type	Approximate Discharge (cfs)	Approximate Velocity (ft/s)	Travel Time in Hours From Point of Interest to Anacortes Intake										
			I-5 Bridge	SR 99 Bridge and Mt. Vernon gauge	BNSF RR Bridge	SR 9 Bridge	Pipeline Crossing	PUD Intake	South Skagit Hwy at Bend near Blair Rd	South Skagit Hwy nr Fox Creek Rd	South Skagit Hwy nr Lower Finney Creek Rd	SR 20 at Milepost 84.7	Concrete Sauk Valley Bridge (USGS gauge)
Late summer Mean flow	10,000	2	1.5	2	2	6	8	8	17	19	24	26	29
Early winter /late spring Mean flow	20,000	3	1	1	1	4	5	5	11	13	16	17	19
~ 1 year Flood	30,000	3.8	<1 hour	<1 hour	1	3	4	4	9	10	13	14	15
~ 2 year Flood	65,000	5	<1 hour	<1 hour	<1 hour	2.5	3	3	7	8	10	10	12
~ 10 year Flood	115,000	7	<1 hour	<1 hour	<1 hour	1.8	2	2	5	6	7	7	8
25-50 year Flood	140,000	11	<1 hour	<1 hour	<1 hour	1.2	1.4	1.5	3	3	4	5	5

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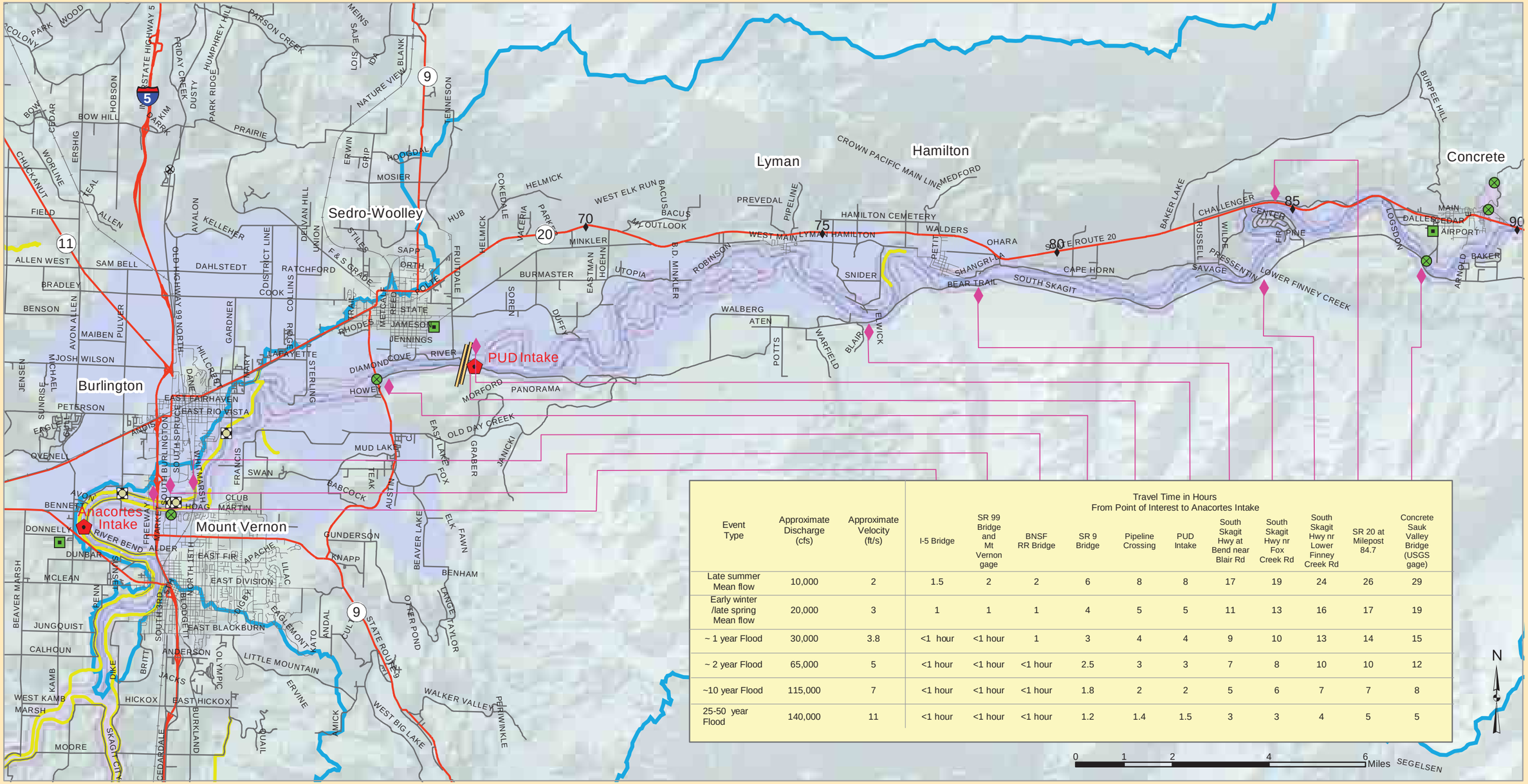


Event Type	Approximate Discharge (cfs)	Approximate Velocity (ft/s)	Travel Time in Hours From Point of Interest to Anacortes Intake										
			I-5 Bridge	SR 99 Bridge and Mt Vernon gage	BNSF RR Bridge	SR 9 Bridge	Pipeline Crossing	PUD Intake	South Skagit Hwy at Bend near Blair Rd	South Skagit Hwy nr Fox Creek Rd	South Skagit Hwy nr Lower Finney Creek Rd	SR 20 at Milepost 84.7	Concrete Sauk Valley Bridge (USGS gage)
Late summer Mean flow	10,000	2	1.5	2	2	6	8	8	17	19	24	26	29
Early winter /late spring Mean flow	20,000	3	1	1	1	4	5	5	11	13	16	17	19
~ 1 year Flood	30,000	3.8	<1 hour	<1 hour	1	3	4	4	9	10	13	14	15
~ 2 year Flood	65,000	5	<1 hour	<1 hour	<1 hour	2.5	3	3	7	8	10	10	12
~10 year Flood	115,000	7	<1 hour	<1 hour	<1 hour	1.8	2	2	5	6	7	7	8
25-50 year Flood	140,000	11	<1 hour	<1 hour	<1 hour	1.2	1.4	1.5	3	3	4	5	5

Legend

- MilepostMarkers
- Climate Stations
- Stream Gages
- Stormwater Outfall
- Water Intake
- Dikes
- Skagit Watershed
- 750ft River Buffer
- Program Area
- Pipeline

City of Anacortes / Public Utility District #1 of Skagit County
Skagit River Watershed Control Plan
Exhibit 3-2: Skagit River Travel Times to Anacortes Intake

Map prepared by HydroLogic Services Company, January 2004

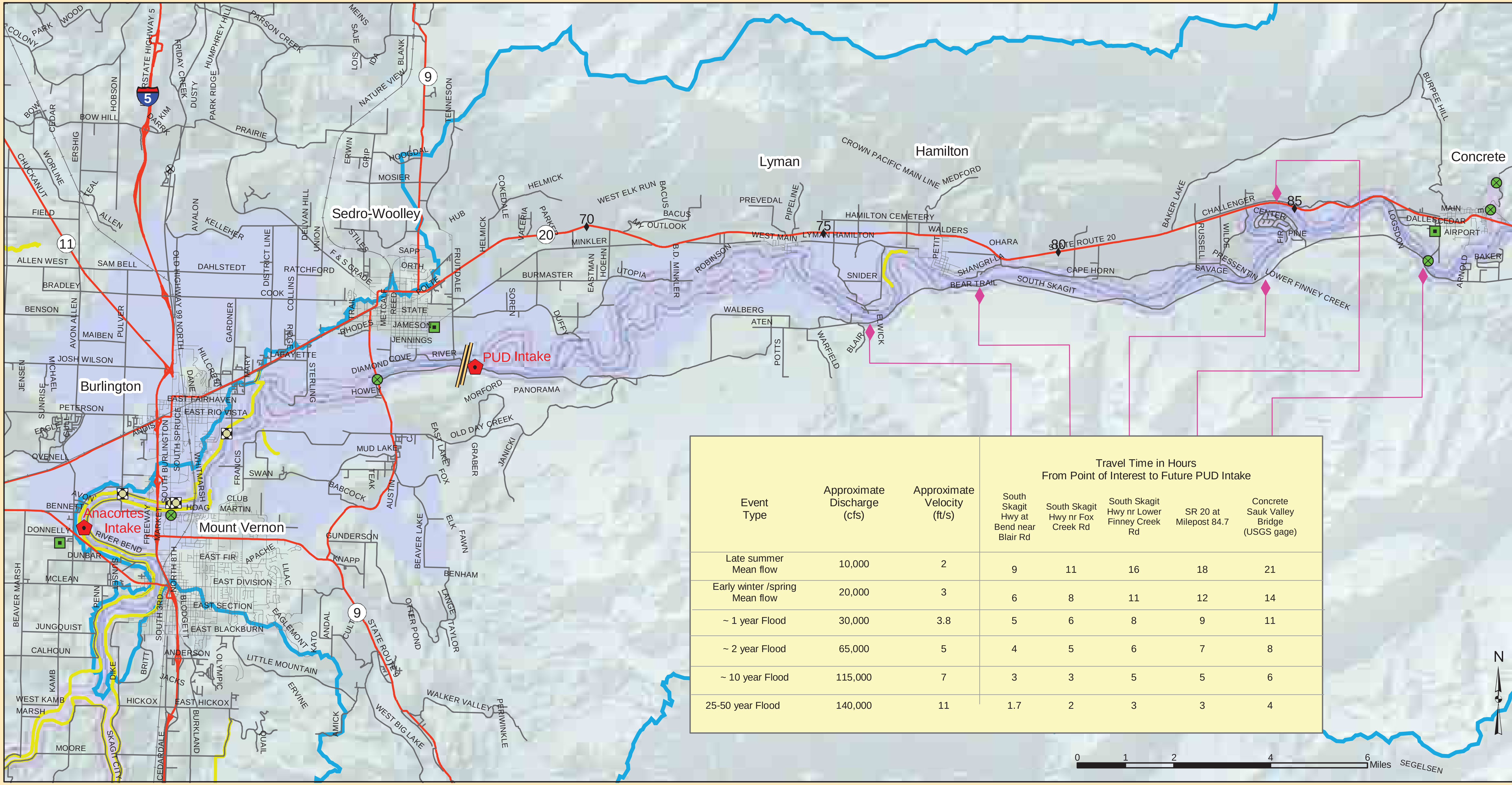
The location of the proposed PUD intake is nearly 11 miles upstream of the City's intake. Five points of interest corresponding to those used in the City intake analysis were used to calculate travel time to the PUD intake (Table 3-4). These locations varied from 12.5 miles upstream to nearly 29 miles upstream (Exhibit 3-3). Travel times of a spill occurring closer than the first point of interest (12.5 miles upstream) would generally take four to eight hours to reach the intake and would require a prompt notification to mitigate effects on the water supply. Further upstream, the travel times vary according to the magnitude of the streamflow (Table 3-5 and Exhibit 3-3). The maximum amount of travel time occurs during a summer mean flow between the Concrete Sauk Valley Bridge crossing and the PUD intake (21 hours). A flood ten times the magnitude of the mean summer flow reduces the travel time to six hours.

Table 3-4
Distance from Points of Interest to
Proposed PUD Intake

River Crossings or Points of Interest	Distance Upstream from PUD Intake (Miles)
PUD Intake	0
South Skagit Hwy At River Bend near Blair Road	12.51
South Skagit Hwy Near Fox Creek Rd	15.58
South Skagit Hwy Near Lower Finney Creek Rd	21.60
SR 20 At Milepost 84.7	24.60
Concrete Sauk Valley Bridge (USGS Gauge)	28.84

Table 3-5
Travel Times to Proposed PUD Intake

Event Type	Approximate Discharge (cfs)	Approximate Velocity (ft/s)	Travel Time in Hours from Point of Interest to PUD Intake				
			South Skagit Hwy at Bend near Blair Rd	South Skagit Hwy nr Fox Creek Rd	South Skagit Hwy nr Lower Finney Creek Rd	SR 20 at Milepost 84.7	Concrete Sauk Valley Bridge (USGS Gauge)
Late summer Mean flow	10,000	2	9	11	16	18	21
Early winter /spring Mean flow	20,000	3	6	8	11	12	14
~ 1 year Flood	30,000	3.8	5	6	8	9	11
~ 2 year Flood	65,000	5	4	5	6	7	8
~ 10 year Flood	115,000	7	3	3	5	5	6
25-50 year Flood	140,000	11	1.7	2	3	3	4



Event Type	Approximate Discharge (cfs)	Approximate Velocity (ft/s)	Travel Time in Hours From Point of Interest to Future PUD Intake				
			South Skagit Hwy at Bend near Blair Rd	South Skagit Hwy nr Fox Creek Rd	South Skagit Hwy nr Lower Finney Creek Rd	SR 20 at Milepost 84.7	Concrete Sauk Valley Bridge (USGS gage)
Late summer Mean flow	10,000	2	9	11	16	18	21
Early winter /spring Mean flow	20,000	3	6	8	11	12	14
~ 1 year Flood	30,000	3.8	5	6	8	9	11
~ 2 year Flood	65,000	5	4	5	6	7	8
~ 10 year Flood	115,000	7	3	3	5	5	6
25-50 year Flood	140,000	11	1.7	2	3	3	4

Legend

- MilepostMarkers
- Climate Stations
- Stream Gages
- Stormwater Outfall
- Water Intake
- Dikes
- Skagit Watershed
- 750ft River Buffer
- Program Area
- Pipeline

City of Anacortes / Public Utility District #1 of Skagit County
Skagit River Watershed Control Plan
Exhibit 3-3: Skagit River Travel Times to Proposed PUD Intake

Map prepared by HydroLogic Services Company, January 2004

3.1.2 Peak Flow Events

Overbank flooding that returns to the river can carry with it contaminants such as manure waste from dairy farms or chemical pollutants from impervious surfaces. In addition, the flood event itself can affect water quality parameters such as turbidity. To assess the threat of water supply contamination during peak flows, a comparison of peak flow events measured at Concrete and Mount Vernon was undertaken to determine travel time of flood waves downstream at different magnitudes as well as velocities expected during floods.

It is important to note that during approximately two-thirds of the overlapping flood events, the flow recorded at the downstream gauge was lower than recorded flows upstream, indicating complex river dynamics during flood events. Several factors could contribute to this situation, including the duration of the flood, the characteristics of flood wave propagation and channel storage within the travel reach, the timing of accretion flow between the gauges, the tendency for a portion of flow to go over bank just upstream of the Mount Vernon gauge site, and the intensity, duration, and spatial pattern of precipitation during the event.

Three recent flood events of different magnitude were investigated to track the timing of peaks at the two stations (Table 3-6). The velocity during higher flow events was ascertained from actual discharge measurement records from the 1996 to 2003 period. The velocity for 12 discharge measurements (flows ranging from 3,290 to 138,000 cfs) at the Concrete Station averaged 4.3 feet per second and ranged from 1.4 ft/s to 11.09 ft/s. At the Mount Vernon station, the velocities ranged from 2 to 6 ft/s and averaged 3.1 ft/sec for 15 measurements with discharges from 4,700 to 113,000 cfs. Exhibit 3-4 shows the correlation between discharge and associated velocity for the recent available measurements at both the Concrete and Mount Vernon stations.

Table 3-6
Time between Peak Flows along Skagit River

Dates of Flood Event	**Skagit River near Concrete #12-194000**		**Skagit River near Mount Vernon #12-200500**		**Time between Instantaneous Peak Flows**
	Peak Flow (cfs)	[Time]	Peak Flow (cfs)	[Time]	(hours)
December 13-14, 1998	61,400	[2100]	58,200	[0715]	10.25
November 12-13, 1999	103,000	[2000]	78,600	[1345]	17.75
October 20-21, 2000	30,900	[2215]	29,500	[0515]	7

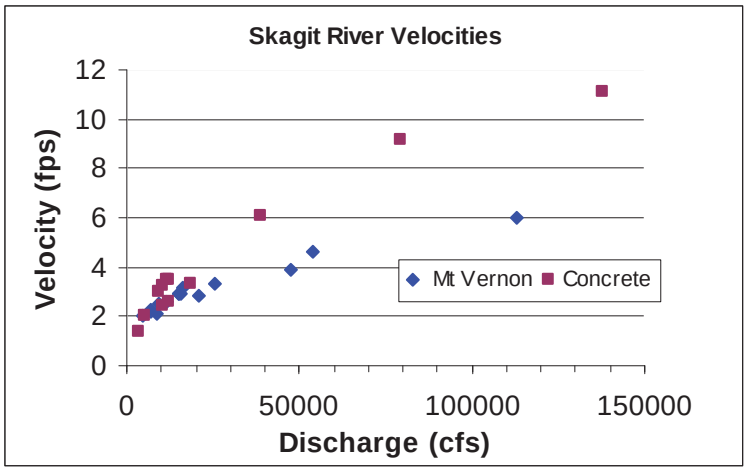


Exhibit 3-4
Streamflow Velocities as a Function of Discharge

The distance along the Skagit River between the two streamflow stations is 38.4 River Miles. At the average velocity rate of approximately three ft/s, the calculated travel time to cover the 38.4 River Miles would be nearly 19 hours. Travel time between the two stations is estimated at less than nine hours for floods with velocities of five or more ft/s. These travel times correspond in terms of order of magnitude to the range of times recorded between instantaneous peaks at the two stations for three flood events (Table 3-6). However, the time between peaks does not show a direct correlation between magnitude of event and time of travel. This can be attributed to complex river dynamics and storm patterns.

3.2 Watershed Control Program Strategies

The purpose of a WCP is to control sources of potential contamination to the supply source of a public drinking water system. In the case of the Skagit River Watershed and the program area defined in this document, obtaining or maintaining complete control of all potential contaminant sources is impossible due to the wide variety of land owners and uses present. In this situation, the goal of the WCP is not to control all potential contaminant sources, but to minimize the risk of potential contamination and the impact on the public drinking water supply if contamination does occur.

The information summarized in previous sections of this document is intended to provide a framework for the development and implementation of a WCP in the context of the Skagit River Watershed. The strategies presented in the following section are designed to provide the City and the PUD with the tools necessary to minimize the risk of contamination by flood or accident of the Skagit River within the program area, and respond appropriately to any event that could result in contamination of the public drinking water supply. A recommended schedule for implementation of these strategies is included in Appendix C.

3.2.1 Public Education

The most effective way to minimize the risk of source supply contamination in the program area is to educate the public about this risk. Land owners and users within the program area are most likely to cause an accidental spill; they are most likely to be the first point of contact with emergency management agencies by reporting a spill; and they are most able to prevent accidents through conscientious management of potential sources of contamination.

The following public education strategies are recommended for use in the WCP:

- Include a notice explaining the purpose and goals of the WCP in the annual consumer confidence reports published by the City and the PUD
- Give presentations at city and county council meetings to describe and explain the purpose of the WCP
- Coordinate public education efforts with community and non-governmental groups such as the Skagit Conservation District (see Section 2.5.5)
- Publish information about the WCP on the City and PUD websites
- Broadcast information about the WCP on public cable access channels

These public education strategies are cost-effective ways to inform water consumers about the potential risks to their drinking water supply, ways they can minimize risks, what actions should be taken in the event of a spill, etc.

Care should be taken, in explanation of the WCP and the potential risk of contamination of public drinking water, not to alarm the public. Rather, emphasis should be placed on the proactive and precautionary intent of the WCP.

3.2.2 Emergency Notification

Once an accidental spill occurs or a peak flow event becomes imminent, the focus of the WCP is to facilitate an appropriate response to protect the public drinking water supply. Timely notification of key personnel at the state and local levels is essential in this situation. As demonstrated in Section 3.1, travel times of contaminants to the City or PUD water intakes can be very short and will necessitate a prompt response to protect the public drinking water supply.

State law requires that DOE be notified when any amount of oil, regulated waste or hazardous material is released to the air, land or water[44]. If state waters are affected, both federal (National Response Center) and state (Washington Emergency Management Division and regional DOE office) spill response agencies must be notified. Notification may come from a variety of

[44] Chapter 173-303 WAC; Washington Department of Ecology, 2003, Emergency Spill Response Overview, http://www.ecy.wa.gov/programs/spills/spills.html

sources including the spiller or the person to identify a spill, local or state law enforcement or emergency personnel, or wastewater treatment plant operators. DOE determines the appropriate level of response to the spill and notifies state and local authorities as deemed necessary. As discussed in Section 2.4, DOE will notify local officials and emergency management personnel as appropriate. However, it is likely that plant operators may be notified by local officials or emergency personnel before DOE notification occurs.

In the case of a peak flow event, the National Weather Service notifies state and local emergency management agencies of potential flood conditions, and these agencies notify local jurisdictions as necessary. Obviously, local officials and plant operators may anticipate such an event prior to official notification and act accordingly.

This "top-down" approach to notification is problematic in terms of the amount of time needed to respond to an event and protect the public drinking water supply. The following strategies are recommended to address this problem:

- Inform local officials, emergency management personnel, law enforcement and others of their need to immediately inform City and PUD water treatment plant operators of accidental discharges to the Skagit River

- Create a clearly outlined notification system in cooperation with these agencies and incorporate the system into the City and PUD emergency response plans

Guidelines for the preparation of an emergency notification system and a list of potential contacts are included in Appendix D.

3.2.3 DOE Permit Holder Notification

A critical step in implementation of the WCP is to make the owners and users of PCS parcels aware of the potential risk posed by their parcel. To that end, the following strategy is recommended:

- Contact individuals listed as holders of the environmental permits issued by DOE within the program area (see Section 2.3.2, Exhibits 2-2 and 2-3) to describe and explain the WCP and explain to permit holders what they should do in the event of an accidental contaminant discharge.

A sample permit holder notification letter is shown in Appendix E.

3.2.4 Interlocal Agreements

Implementation of the WCP is dependent upon coordination among municipalities within the program area. The first step in fostering this coordination is to initiate communication with the governments of Burlington, Concrete, Hamilton, Lyman, Mount Vernon, Sedro-Woolley and Skagit County, as well as emergency management agencies, law enforcement, and other parties. The following strategy is recommended as a first step toward implementation:

- Enter into Memoranda of Agreement with municipalities, agencies and others to demonstrate the mutual understanding of the intent of the WCP and the roles each party will play in implementation of the WCP.

A sample Memorandum of Agreement is shown in Appendix F.

3.2.5 Cooperation

The key to success of this WCP is the development of cooperation among state and local agencies, municipalities in the program area, the City and the PUD. These parties must be made aware of the WCP and their active, on-going role in its implementation. The City and the PUD should be proactive in this effort.

Cooperation of the public is also important. As noted above, the public represents the first line of defense protecting the Skagit River and public drinking water supplies from accidental contamination. To ensure the success of the WCP, the City and the PUD must be take steps to help the public become informed about the WCP and involved in its implementation.

The following strategies are recommended to facilitate cooperation in the development and implementation of the WCP:

- Establish a Coordinating Committee consisting of members representing local agencies, governments and other interested parties to facilitate the on-going development and implementation of the WCP

- Utilize the knowledge, expertise and affiliations of the Coordinating Committee to find ways to facilitate the implementation of the WCP strategies provided in this document

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APPENDIX A
ANACORTES PUBLIC WORKS DEPARTMENT
WATER QUALITY TESTING DATA

EDGE ANALYTICAL

11525 Knudson Rd
Burlington, WA 98233
[illegible]
[illegible] · FAX [illegible]

INORGANIC COMPOUNDS (IOC) REPORT

Client Name: Anacortes, City of Water Trtmnt
14489 Riverbend Rd
Mount Vernon, WA 98273

Reference Number: 03-0770
Project: Annual Inorganic Testing

System Name: ANACORTES, CITY OF
System ID Number: 02200C
DOH Source Number: 01
Multiple Sources:
Sample Type: B
Sample Purpose: C
Sample Location:
County: Skagit

Sample Number: raw water sample
Lab Number: 04601464
Collect Date: 2/10/2003
Date Received: 2/10/2003
Report Date: 2/19/2003
Supervisor: [illegible]

DOH#	ANALYTES	RESULTS	UNITS	SRL	Trigger	MCL	Analyst	METHOD	COMMENT
	EPA Regulated								
4	ARSENIC	ND	mg/L	0.002	0.01	0.05	mvp	200.8	
5	BARIUM	ND	mg/L	0.100	2	2	mvp	200.8	
6	CADMIUM	ND	mg/L	0.001	0.005	0.005	mvp	200.8	
7	CHROMIUM	ND	mg/L	0.010	0.1	0.1	mvp	200.8	
11	MERCURY	ND	mg/L	0.0005	0.002	0.002	sw	245.1	
12	SELENIUM	ND	mg/L	0.005	0.05	0.05	mvp	200.8	
110	BERYLLIUM	ND	mg/L	0.001	0.004	0.004	mvp	200.8	
111	NICKEL	ND	mg/L	0.040	0.1	0.1	mvp	200.8	
112	ANTIMONY	ND	mg/L	0.001	0.006	0.006	mvp	200.8	
113	THALLIUM	ND	mg/L	0.001	0.002	0.002	mvp	200.8	
116	CYANIDE, FREE	ND	mg/L	0.040	0.2	0.2	sv	SM4500-CN F	
19	FLUORIDE	ND	mg/L	0.10	2	4	mvp	300.0	
114	NITRITE-N	ND	mg/L	0.10	0.5	1.0	mvp	300.0	
20	NITRATE-N	0.13	mg/L	0.10	5	10	mvp	300.0	
161	TOTAL NITRATE/NITRITE	0.13	mg/L	0.10	5	10	mvp	300.0	
	EPA Regulated (Secondary)								
8	IRON	0.085	mg/L	0.050	0.3	0.3	pl	200.7	
10	MANGANESE	0.006	mg/L	0.001	0.05	0.05	mvp	200.8	
13	SILVER	ND	mg/L	0.010	0.05	0.05	mvp	200.8	
24	ZINC	ND	mg/L	0.005	5	5	mvp	200.8	
21	CHLORIDE	ND	mg/L	20	250	250	mvp	300.0	
22	SULFATE	ND	mg/L	10	250	250	mvp	300.0	
	State Regulated								
17	TURBIDITY	2.0	NTU	0.02	1.0	1.0	sv	SM2130 B	
14	SODIUM	4.1	mg/L	1.0			pl	200.7	
15	HARDNESS	24.5	mg/L	2.00			pl	200.7	
16	ELECTRICAL CONDUCTIVITY	60	umhos	10	700	700	sv	SM2510 B	
18	COLOR	5	Color Units	5	15	15	sv	SM2120 B	
26	TOTAL DISSOLVED SOLIDS	46	mg/L	10	500	500	sv	SM2540 C	
	State Unregulated								
1	LEAD	ND	mg/L	0.002		0.015	mvp	200.8	
23	COPPER	ND	mg/L	0.005		1.3	mvp	200.8	

[illegible]

[illegible]

Comments:

[illegible]

EDGE ANALYTICAL
11121 Kinsman Rd
Burlington, WA 98233
(360) 755-9295
(206) 767-5060 / FAX (360) 757-1402

INORGANIC COMPOUNDS (IOC) REPORT

Client Name: Anacortes, City of Water Trtmnt
14439 Riverbend Rd
Mount Vernon, WA 98273

Reference Number: 93-0775
Project: Annual Inorganic Testing

System Name: ANACORTES, CITY OF
System ID Number: 0212900
DOH Source Number: 01
Multiple Sources:
Sample Type: A
Sample Purpose: C
Sample Location:
County: Skagit

Sample Number: finish water sample
Lab Number: 04001405
Collect Date: 2/10/2003
Date Received: 2/10/2003
Report Date: 2/19/2003

Supervisor:

DOH#	ANALYTES	RESULTS	UNITS	DRL	Trigger	MCL	Analyst	METHOD	COMMENT
	EPA Regulated								
4	ARSENIC	ND	mg/L	0.002	0.01	0.05	mmg	200.8	
5	BARIUM	ND	mg/L	0.100	2	2	mmg	200.8	
6	CADMIUM	ND	mg/L	0.001	0.005	0.005	mmg	200.8	
7	CHROMIUM	ND	mg/L	0.010	0.1	0.1	mmg	200.8	
11	MERCURY	ND	mg/L	0.0005	0.002	0.002	sw	245.1	
12	SELENIUM	ND	mg/L	0.005	0.05	0.05	mmg	200.8	
119	BERYLLIUM	ND	mg/L	0.001	0.004	0.004	mmg	200.8	
111	NICKEL	ND	mg/L	0.010	0.1	0.1	mmg	200.8	
1	ANTIMONY	ND	mg/L	0.001	0.006	0.006	mmg	200.8	
113	THALLIUM	ND	mg/L	0.001	0.002	0.002	mmg	200.8	
118	CYANIDE, FREE	ND	mg/L	0.040	0.2	0.2	sw	SM4500-CN F	
19	FLUORIDE	ND	mg/L	0.10	2	4	mmg	300.0	
114	NITRITE-N	ND	mg/L	0.10	0.5	1.0	mmg	300.0	
20	NITRATE-N	0.13	mg/L	0.10	5	10	mmg	300.0	
161	TOTAL NITRATE/NITRITE	0.13	mg/L	0.10	5	10	mmg	300.0	
	EPA Regulated (Secondary)								
9	IRON	ND	mg/L	0.050	0.3	0.3	m	200.7	
10	MANGANESE	ND	mg/L	0.001	0.01	0.05	mmg	200.8	
13	SILVER	ND	mg/L	0.010	0.05	0.09	mmg	200.8	
24	ZINC	ND	mg/L	0.005	5	5	mmg	200.8	
21	CHLORIDE	ND	mg/L	20	250	250	mmo	300.0	
22	SULFATE	ND	mg/L	10	250	250	mmo	300.0	
	State Regulated								
17	TURBIDITY	0.97	NTU	0.02	1.0	1.0	sw	180.1 or E	
14	SODIUM	1.1	mg/L	1.0			m	200.7	
16	HARDNESS	27.8	mg/L	0.30			m	200.7	
40	ELECTRICAL CONDUCTIVITY	74	uS/cm	10	700	700	sm	SM2510 B	
18	COLOR	ND	Color Units	5	15	15	sm	SM2120 B	
28	TOTAL DISSOLVED SOLIDS	61	mg/L	10	500	500	sm	SM2540 C	
	State Unregulated								
9	LEAD	ND	mg/L	0.001		0.015	mmg	200.8	
23	COPPER	ND	mg/L	0.005		1.3	mmg	200.8	

ND

Comments:

EDGE ANALYTICAL
1910 Rhodon Rd
Burlington, WA 98233
(360) 757-1400 - FAX (360) 757-1402

INORGANIC COMPOUNDS (IOC) REPORT

Client Name: Anacortes, City of Water Trtmnt
14489 Riverbend Rd
Mount Vernon, WA 98273

System Name: ANACORTES, CITY OF
System ID Number: 5220500
DOH Source Number: 02
Multiple Sources:
Sample Type: A
Sample Purpose: D
Sample Location: Washington Park
County: King

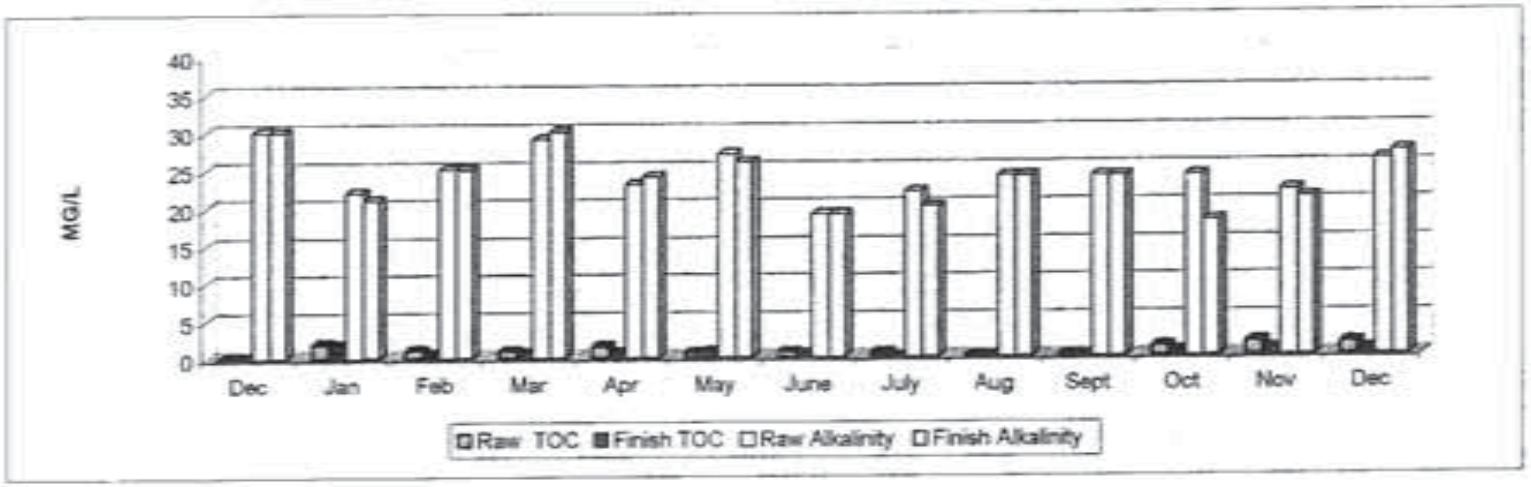
Reference Number: 03-077b
Project: Annual Inorganic Testing

Sample Number: distribution sample
Lab Number: 04001400
Collect Date: 2/10/2003
Date Received: 2/10/2003
Report Date: 2/19/2003

Submitted:

DOH#	ANALYTES	RESULTS	UNITS	DRL	Trigger	MCL	Analyst	METHOD	COMMENT
	EPA Regulated								
4	ARSENIC	ND	mg/l	0.002	0.05	0.05	mwp	200.8	
5	BARIUM	ND	mg/L	0.100	2	2	mwp	200.8	
6	CADMIUM	ND	mg/L	0.001	0.003	0.005	mwp	200.8	
7	CHROMIUM	ND	mg/L	0.010	0.1	0.1	mwp	200.8	
11	MERCURY	ND	mg/L	0.0005	0.002	0.002	sv	245.1	
12	SELENIUM	ND	mg/L	0.005	0.05	0.05	mwp	200.8	
110	BERYLLIUM	ND	mg/L	0.001	0.004	0.004	mwp	200.8	
111	NICKEL	ND	mg/L	0.040	0.1	0.1	mwp	200.8	
1	ANTIMONY	ND	mg/L	0.001	0.005	0.006	mwp	200.8	
113	THALLIUM	ND	mg/L	0.001	0.002	0.002	mwp	200.8	
116	CYANIDE, FREE	ND	mg/L	0.010	0.2	0.2	sv	SM4500-CN F	
19	FLUORIDE	0.90	mg/L	0.10	2	4	mwp	300.0	
114	NITRITE-N	ND	mg/L	0.10	0.5	1.0	mwp	300.0	
20	NITRATE-N	0.18	mg/L	0.10	5	10	mwp	300.0	
161	TOTAL NITRATE/NITRITE	0.18	mg/L	0.10	5	10	mwp	300.0	
	EPA Regulated (Secondary)								
8	IRON	ND	mg/L	0.010	0.2	0.3	jm	200.7	
10	MANGANESE	ND	mg/L	0.001	0.02	0.05	mwp	200.8	
15	SILVER	ND	mg/L	0.010	0.05	0.09	mwp	200.8	
24	ZINC	0.0008	mg/L	0.005	3	5	mwp	200.8	
21	CHLORIDE	ND	mg/L	20	250	250	mwp	300.0	
22	SULFATE	ND	mg/L	10	200	250	mwp	300.0	
	State Regulated								
17	TURBIDITY	0.66	NTU	0.02	4.0	1.0	sv	SM2130 B	
14	SODIUM	1.7	mg/L	1.0			jm	200.7	
15	HARDNESS	28.4	mg/L	0.30			jm	200.7	
16	ELECTRICAL CONDUCTIVITY	75	uMho/cm	10	700	700	sv	SM2510 B	
18	COLOR	ND	Color Units	5	15	15	sv	SM2120 B	
28	TOTAL DISSOLVED SOLIDS	54	mg/L	10	500	500	sv	SM2540 C	
	State Unregulated								
9	LEAD	ND	mg/l	0.001		0.015	mwp	200.8	
23	COPPER	ND	mg/l	0.005		1.0	mwp	200.8	

Total Organic Carbon
and
Alkalinity
2002-2003



	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Raw TOC	0	1.9	1.1	0.96	1.5	0.7	0.71	0.6	0	0	1.34	1.88	1.66
Finish TOC	0	1.8	0.59	0.69	0.73	0.8	0.53	0	0	0	0.7	0.83	0.72
Raw Alkalinity	30	22	25	29	23	27	19	22	24	24	24	22	26
Finish Alkalinity	30	21	25	30	24	26	19	20	24	24	18	21	27

City of Anacortes Water Treatment Plant
Giardia/Cryptosporidium Analysis Summary
Laboratory: Analytical Services,Inc.

	RAW WATER				FINISHED WATER			
	Giardia		Cryptosporidium		Giardia		Cryptosporidium	
Date	Confirmed (Note 1)	Unconfirmed (Note 2)	Confirmed (Note 3)	Unconfirmed (Note 4)	Confirmed (Note 1)	Unconfirmed (Note 2)	Confirmed (Note 3)	Unconfirmed (Note 4)
10/24/1994	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
11/28/1994	0.00	1.00	0.00	8.00	0.00	0.00	0.00	0.00
2/27/1996	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3/6/1996	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
3/19/1996	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00
3/26/1996	0.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00
6/18/1996	0.00	3.00	0.00	1.00	0.00	0.00	0.00	0.00
9/10/1996	1.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00
10/16/1996	0.00	2.00	0.00	2.00	0.00	0.00	0.00	0.00
12/10/1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/8/1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/4/1997	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
12/16/1997	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
3/18/1998	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
10/14/1998	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
3/10/1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/23/1999	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
9/28/1999	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
11/10/1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/21/2000	2*	0*	0*	0*	0.00	0.00	0.00	0.00
5/31/2000	3*	(Note 5)	0.00	(Note 5)	0.00	0.00	0.00	0.00
9/8/2000	5*	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/29/2000	9*	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/6/2001	0*	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/7/2003	0*	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/19/2003	2*	0.00	0.00	0.00	NT	NT	NT	NT
3/6/2003	3*	0.00	0.00	0.00	NT	NT	NT	NT
4/1/2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/7/2003	0.00	0.00	0.00	0.00	NT	NT	NT	NT
6/4/2003	2*	0.00	0.00	0.00	NT	NT	NT	NT
7/15/2003	2*	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8/5/2003	0.00	0.00	0.00	0.00	NT	NT	NT	NT
9/2/2003	5*	0.00	0.00	0.00	NT	NT	NT	NT
10/7/2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/11/2003	0.00	0.00	0.00	0.00	NT	NT	NT	NT
12/2/2003	0.00	0.00	0.00	0.00	NT	NT	NT	NT
1/7/2004	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2/4/2004	0.05	0.00	0.00	0.00	NT	NT	NT	NT

Reporting format changed as per Information Collection Rule (ICR) specifications beginning with our 8/4/97 samples.								
Definitions:	Note 1:	Confirmed Giardia: containing more than one internal structure						
	Note 2:	Unconfirmed Giardia: empty, with amorphous (formless) structure, or containing one internal structure						
	Note 3:	Confirmed Cryptosporidium: containing internal structure						
	Note 4:	Unconfirmed Cryptosporidium: empty, or with amorphous (formless) structure						
	Note 5:	USEPA Method 1623 does not report as unconfirmed						
		NT= Not Tested						
Detection limit per 100 ml is determined by the sediment content of the sample.								
*USEPA Method 1623 for Giardia & Cryptosporidium, EPA Reported as calculated = number /liters sampled								

07-Mar-89

CITY OF ANACORTES WATER TREATMENT PLANT
PRIORITY POLLUTANTS DATA/RAW WATER
SOURCE:SKAGIT RIVER

parts per billion(ug/L)

ANALYTE	MCL ug/l	5/1/87 SAMPLE	1/15/88 SAMPLE	3/10/88 SAMPLE	8/25/88 SAMPLE	8/26/88 SAMPLE	1/10/89 SAMPLE	REMARKS
INORGANICS:								
Antimony		L/50	L/5.	L/5	L/10	L/10	L/10	
Arsenic	50	L/5	L/5.	L/5	L/5	L/5	L/5	
Beryllium		L/1	L/1.	L/1	L/1	L/1	L/1	
Cadmium	10	L/1	L/1.	L/1	L/1	L/1	L/1	
Chromium	50	L/1	L/1.	1	1	L/1	1	
Copper	1000	5	8	13	10	19	11	
Lead	20	L/10	L/10.	L/10	L/5	L/5	L/5	
Mercury	2	L/1	L/1.	L/1	L/1	L/1	L/1	
Nickel	150	L/2	L/2.	2	L/2	L/2	5	
Selenium	10	L/5	L/5.	L/5	L/5	L/5	L/5	
Silver	50	L/1	L/1.	L/1	L/1	L/1	L/1	
Thallium		L/5	L/5.	L/5	L/5	L/5	L/5	
Zinc	5000	5	3	6	4	8	6	
Total Cyanide		L/5	L/5.	L/5	L/5	L/5	L/5	
Total Phenol	50	L/5	L/5.	7	L/5	L/5	L/5	
VOLATILE ORGANICS:								
Chloromethane		L/1	L/1.	L/1	L/1	L/1	L/1	
Bromomethane		L/1	L/1.	L/1	L/1	L/1	L/1	
Vinyl Chloride		L/1	L/1.	L/1	L/1	L/1	L/1	
Chloroethane		L/1	L/3.	L/3	L/3	L/3	L/3	
Methylene Chloride		L/1	L/1.	L/1	L/1	L/1	L/1	
Acrolein		L/5	L/5.	NOTE 8	NOTE 8	NOTE 8	NOTE 8	
Acetone*		L/1	L/5.	L/5	L/5	L/5	L/5	
Acrylonitrile		L/5	L/5.	NOTE 8	NOTE 8	NOTE 8	NOTE 8	
Carbon Disulfide*		L/1	L/1.	L/1	L/1	L/1	L/1	
1,1-Dichloroethene	NOTE 6	L/1	L/1.	L/1	L/1	L/1	L/1	
1,1-Dichloroethane		L/1	L/1.	L/1	L/1	L/1	L/1	
trans-1,2-Dichloroethylene		L/1	L/1.	L/1	L/1	L/1	L/1	
Chloroform		L/1	L/1.	L/1	L/1	L/1	L/1	
2-Butanone*		L/1	L/3.	L/3	L/3	L/3	L/3	
1,2-Dichloroethane		L/1	L/1.	L/1	L/1	L/1	L/1	
1,1,1-Trichloroethane		L/1	L/1.	L/1	L/1	L/1	L/1	
Vinyl Acetate*		L/1	L/1.	L/1	L/1	L/1	L/1	
Bromodichloroethane		L/1	L/1.	L/1	L/1	L/1	L/1	
Carbon Tetrachloride		L/1	L/1.	L/1	L/1	L/1	L/1	
1,2-Dichloropropane		L/1	L/1.	L/1	L/1	L/1	L/1	
Trichloroethylene		L/1	L/1.	L/1	L/1	L/1	L/1	
Benzene		L/1	L/1.	L/1	L/1	L/1	L/1	
Chlorodibromomethane		L/1	L/3.	L/3	L/3	L/3	L/3	
1,1,2-Trichloroethane		L/1	L/1.	L/1	L/1	L/1	L/1	
2-Chloroethyl vinyl ether		L/1	L/1.	NOTE 8	NOTE 8	NOTE 8	NOTE 8	
Bromoform		L/1	L/1.	L/1	L/1	L/1	L/1	
4-Methyl-2-pentanone*		L/1	L/3.	L/3	L/3	L/3	L/3	
2-Hexanone*		L/1	L/3.	L/3	L/3	L/3	L/3	
1,1,2,2-Tetrachloroethane		L/1	L/3.	L/3	L/3	L/3	L/3	
Tetrachloroethylene		L/1	L/1.	L/1	L/1	L/1	L/1	
Toluene		L/1	L/1.	L/1	L/1	L/1	L/1	

***

Chlorobenzene	L/1	L/3.	L/3	L/3	L/3	L/3
trans-1,3-Dichloropropene	L/1	L/3.	L/3	L/3	L/3	L/3
Ethylbenzene	L/1	L/1.	L/1	L/1	L/1	L/1
cis-1,3-Dichloropropene	L/1	L/3.	L/3	L/3	L/3	L/3
Styrene*	L/1	L/1.	L/1	L/1	L/1	L/1
o-Xylene(total)*	L/1	L/1.	L/1	L/1	L/1	L/1
cis-1,2-Dichloroethene	NOTE 7	NOTE 7	L/1	L/1	L/1	L/1
Total-1,2-Dichloroethene	NOTE 7	NOTE 7	L/1	L/1	L/1	L/1

EXTRACTABLES:						
N-nitrosodimethylamine	L/1	NOTE 4	NOTE 4	NOTE 4	NOTE 4	NOTE 4
Bis(2-chloroethyl)ether	L/1	L/2.	L/2	L/4	L/4	L/2
2-Chlorophenol	L/1	L/2.	L/2	L/4	L/4	L/2
Phenol	L/1	L/2.	L/2	L/4	L/4	L/2
1,3-Dichlorobenzene	L/1	L/2.	L/2	L/4	L/4	L/2
1,4-Dichlorobenzene	L/1	L/2.	L/2	L/4	L/4	L/2
1,2-Dichlorobenzene	L/1	L/2.	L/2	L/4	L/4	L/2
Bis(2-chloroisopropyl)ether	L/1	L/2.	L/2	L/4	L/4	L/2
Hexachloroethane	L/1	L/4.	L/4	L/8	L/8	L/4
N-nitroso-di-n-propylamine	L/1	L/2.	L/2	L/4	L/4	L/2
Nitrobenzene	L/1	L/2.	L/2	L/4	L/4	L/2
Isophorone	L/1	L/2.	L/2	L/4	L/4	L/2
2-Nitrophenol	L/1	L/4.	L/4	L/8	L/8	L/4
2,4-Dimethylphenol	L/1	L/2.	L/2	L/4	L/4	L/2
Bis(2-chloroethoxy)methane	L/1	L/2.	L/2	L/4	L/4	L/2
2,4-Dichlorophenol	L/1	L/4.	L/4	L/8	L/8	L/4
1,2,4-Trichlorobenzene	L/1	L/2.	L/2	L/4	L/4	L/2
Napthalene	L/1	L/4.	L/4	L/8	L/8	L/4
Hexachlorobutadiene	L/1	L/2.	L/2	L/4	L/4	L/2
4-Chloro-m-cresol	L/1	NOTE 3	NOTE 3	NOTE 3	NOTE 3	NOTE 3
Hexachlorocyclopentadiene	L/1	L/4.	L/4	L/8	L/8	L/4
2,4,6-Trichlorophenol	L/1	L/4.	L/4	L/8	L/8	L/4
2-Chloronaphthalene	L/1	L/2.	L/2	L/4	L/4	L/2
Acenaphthylene	L/1	L/2.	L/2	L/4	L/4	L/2
Dimethylphthalate	L/1	L/2.	L/2	L/4	L/4	L/2
2,6-Dinitrotoluene	L/1	L/4.	L/4	L/8	L/8	L/4
Acenaphthene	L/1	L/2.	L/2	L/4	L/4	L/2
2,4-Dinitrophenol	L/1	L/20.	L/20	L/40	L/40	L/20
2,4-Dinitrotoluene	L/1	L/4.	L/4	L/8	L/8	L/4
4-Nitrophenol	L/1	L/20.	L/20	L/40	L/40	L/20
Fluorene	L/1	L/2.	L/2	L/4	L/4	L/2
4-Chlorophenyl phenyl ether	L/1	L/2.	L/2	L/4	L/4	L/2
Diethylphthalate	L/1	L/2.	L/2	L/4	L/4	L/2
4,6-Dinitro-o-cresol	L/1	NOTE 3	NOTE 3	NOTE 3	NOTE 3	NOTE 3
1,2-Diphenylhydrazine	L/1	L/4.	L/4	L/8	L/8	L/4
4-Bromophenyl phenyl ether	L/1	L/4.	L/2	L/8	L/8	L/4
Hexachlorobenzene	L/1	L/4.	L/2	L/4	L/4	L/2
Pentachlorophenol	L/1	L/20.	L/20	L/40	L/40	L/20
Phenanthrene	L/1	L/2.	L/2	L/4	L/4	L/2
Anthracene	L/1	L/2.	L/2	L/4	L/4	L/2
Dibutylphthalate	L/1	NOTE 3	NOTE 3	NOTE 3	NOTE 3	NOTE 3
Fluoranthene	L/1	L/2.	L/2	L/4	L/4	L/2
Pyrene	L/1	L/2.	L/2	L/4	L/4	L/2

Benzidine	L/1	L/50.	L/50	L/100	L/100	L/50
Butyl benzyl phthalate	L/1	L/2.	L/2	L/4	L/4	L/2
Benzo(a)anthracene	L/1	L/2.	L/2	L/4	L/4	L/2
Chrysene	L/1	L/2.	L/2	L/4	L/4	L/2
3,3-Dichlorobenzidine	L/1	L/20.	L/20	L/40	L/40	L/20
Bis(2-ethylhexyl)phthalate	L/1	L/2.	L/2	L/4	L/4	5
N-nitrosodiphenylamine	L/1	L/2.	L/2	L/4	L/4	L/2
Di-n-octyl phthalate	L/1	L/2.	L/2	L/4	L/4	L/2
Benzo(b)fluoranthene	L/1	L/4.	L/4	L/8	L/8	L/4
Benzo(k)fluoranthene	L/1	L/4.	L/4	L/8	L/8	L/4
Benzo(a)pyrene	L/1	L/4.	L/4	L/8	L/8	L/4
Indeno(1,2,3-cd)pyrene	L/1	L/4.	L/4	L/8	L/8	L/4
Dibenzo(ah)anthracene	L/1	L/4.	L/4	L/8	L/8	L/4
Benzo(ghi)perylene	L/1	L/4.	L/4	L/8	L/8	L/4
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	NOTE 5	NOTE 5	NOTE 5	NOTE 5	NOTE 5	NOTE 5
Analine*	L/1	L/10.	L/10	L/20	L/20	L/10
Benzoic Acid*	L/1	L/50.	L/50	L/100	L/100	L/50
Benzyl Alcohol*	L/1	L/2.	L/2	L/4	L/4	L/2
4-Chloroanaline*	L/1	L/2.	L/2	L/4	L/4	L/2
Dibenzofuran*	L/1	L/2.	L/2	L/4	L/4	L/2
2-Methylnaphthalene*	L/1	L/2.	L/2	L/4	L/4	L/2
2-Methylphenol*	L/1	L/2.	L/2	L/4	L/4	L/2
4-Methylphenol*	L/1	L/2.	L/2	L/4	L/4	L/2
2-Nitroanilene*	L/1	L/4.	L/4	L/8	L/8	L/4
3-Nitroanilene*	L/1	L/10.	L/10	L/20	L/20	L/10
4-Nitroanilene*	L/1	L/4.	L/4	L/8	L/8	L/4
2,4,5-Trichlorophenol*	L/1	L/4.	L/4	L/8	L/8	L/4
4-Chloro-3-Methylphenol	NOTE 3	L/4.	L/4	L/8	L/8	L/4
4,6-Dinitro-2-Methylphenol	NOTE 3	L/20.	L/20	L/40	L/40	L/20
Di-n-Butyl Phthalate	NOTE 3	L/2.	L/2	L/4	L/4	L/2
PESTICIDES:						
alpha-BHC	L/0.02	L/0.05	L/0.05	L/0.05	L/0.05	L/0.05
beta-BHC	L/0.02	L/0.05	L/0.05	L/0.05	L/0.05	L/0.05
delta-BHC	L/0.02	L/0.05	L/0.05	L/0.05	L/0.05	L/0.05
gamma-BHC (lindane)	L/0.02	L/0.05	L/0.05	L/0.05	L/0.05	L/0.05
Heptachlor	L/0.02	L/0.05	L/0.05	L/0.05	L/0.05	L/0.05
Aldrin	L/0.02	L/0.05	L/0.05	L/0.05	L/0.05	L/0.05
Heptachlor epoxide	L/0.02	L/0.05	L/0.05	L/0.05	L/0.05	L/0.05
Dieldrin	L/0.02	L/0.1	L/0.1	L/0.1	L/0.1	L/0.1
4,4'-DDE	L/0.04	L/0.1	L/0.1	L/0.1	L/0.1	L/0.1
4,4'-DDD	L/0.04	L/0.1	L/0.1	L/0.1	L/0.1	L/0.1
Endosulfan sulfate	L/0.04	L/0.1	L/0.1	L/0.1	L/0.1	L/0.1
4,4'-DDT	L/0.04	L/0.1	L/0.1	L/0.1	L/0.1	L/0.1
Chlordane	L/0.04	NOTE 2	NOTE 2	NOTE 2	NOTE 2	NOTE 2
alpha-Chlordane	NOTE 2	L/0.5	L/0.5	L/0.5	L/0.5	L/0.5
gamma-Chlordane	NOTE 2	L/0.5	L/0.5	L/0.5	L/0.5	L/0.5
alpha endosulfan	L/0.04	L/0.05	L/0.05	L/0.05	L/0.05	L/0.05
beta endosulfan	L/0.04	L/0.1	L/0.1	L/0.1	L/0.1	L/0.1
Endrin	L/0.04	L/0.1	L/0.1	L/0.1	L/0.1	L/0.1
Endrin aldehyde	L/0.04	NOTE 4	L/0.1	L/0.1	L/0.1	NOTE 4
Toxaphene	L/10	L/1.0	L/1.0	L/1.0	L/1.0	L/1.0
PCB 1016 (Aroclor)	L/2	L/0.5	L/0.5	L/0.5	L/0.5	L/0.5
PCB 1221 (Aroclor)	L/2	L/0.5	L/0.5	L/0.5	L/0.5	L/0.5
PCB 1232 (Aroclor)	L/2	L/0.5	L/0.5	L/0.5	L/0.5	L/0.5

Commonly found in plastics - easily picked up in Sampling, etc.!

07-Mar-89

PCB 1242 (Aroclor)	L/2	L/0.5	L/0.5	L/0.5	L/0.5	L/0.5
PCB 1248 (Aroclor)	L/2	L/0.5	L/0.5	L/0.5	L/0.5	L/0.5
PCB 1254 (Aroclor)	L/2	L/1.0	L/1.0	L/1.0	L/1.0	L/1.0
PCB 1260 (Aroclor)	L/2	L/1.0	L/1.0	L/1.0	L/1.0	L/1.0
Methoxychlor	L/0.2	L/0.5	L/0.5	L/0.5	L/0.5	L/0.5
Endrin Ketone	L/0.04	L/0.1	L/0.1	L/0.1	L/0.1	L/0.1

KEY:

* - Indicates additional compounds from the EPA's Hazardous Substance List. Trace indicates an unquantifiable amount between 1 - 5 parts per billion.

L/ - Indicates less than.

NOTES: 1) Changes in detection limits due to changes in methods and/or EPA detection limit studies.
2) Chlordane originally reported as sum of two isomers, EPA now requires them to be reported separately.
3) The following names are synonymous:
4-Chloro-m-cresol / 4-Chloro-3-methylphenol
4,6-Dinitro-o-cresol / 4,6-Dinitro-2-methylphenol
Dibutylphthalate / Di-n-butyl phthalate
4) Not target priority pollutant compounds.
5) Not normally included in a priority pollutant scan.
6) Same compound as ..ethylene,will use ..ethene as of 5/88.
7) Added to EPA list 5/88.
8) Removed from list of priority pollutants by EPA as of 5/88 due to instability of compound for measurement in small amounts.

c.c.
Dave Ford
Mike Foster
Doug Terry/Ralph Rowland
City of Oak Harbor
City of LaConner
P.U.D.#1
D.S.H.S./Moe Batra
D.O.E./Dave Nunnley
S.C.H.D./Lorna Haycox

Washington State Public Health Laboratory
1610 NE 150th Street, Shoreline WA. 98155-9701
Phone (206) 361-2896 FAX (206) 361-2899

RADIONUCLIDE ANALYSES REPORT

System ID No.: 02200C	System Name: Anacortes Water Treatment		
Lab/Sample No: 023698127	Date Collected: 2/10/03 09:05		DOH Source No: 301
Multiple Source Nos:	Sample Type: B		Sample Purpose: C
Date Received: 2/11/03	Date Reported: 02/27/03		Supervisor: JDR/ [illegible]
[redacted]	Date Analyzed: 02/25/03		Analyst: AXS
County: Skagit		Group: A	
Sample Location: WTF Lab Sample Tap RAW WATER			
Send Report To: Anacortes Water Treatment 14459 Riverbend Road Mount Vernon, WA 98273		Bill To: Anacortes Water Treatment 14489 Riverbend Road Mount Vernon, WA 98273	

DOH #	ANALYTES	LAB MDA	RESULTS	UNITS	DATE ANALYZED	MCL	ANALYSIS/METHOD
[redacted]			EPA REGULATED				
39	Radium 226			pCi/l		3	
40	Radium 226 + 228			pCi/l		5	
41	Gross Alpha	1	ND	pCi/l	02/25/03	15*	AXS/EPA 900.0
42	Gross Beta	1	ND	pCi/l	02/25/03	50	AXS/EPA 900.0
43	Tritium			pCi/l		20000	
44	Strontium 90			pCi/l		8	
107	Cesium 134			pCi/l		**	
108	Iodine 131			pCi/l		**	
[redacted]			EPA UNREGULATED				
105	Uranium			pCi/l			
109	Radon			pCi/l			

NOTES:
MCL: Maximum Contaminant Level. If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.
MDA: Minimum Detectable Amount.
NA (Not Analyzed) indicates this analyte was not included in the current analysis.
ND (Not Detected) indicates the analyte was analyzed and not detected at a level greater than or equal to the MDA.
* Excluding Uranium
** The MCL for beta particle and photon radioactivity from man-made radionuclides is the average annual concentration which shall not produce an annual dose equivalent to the total body or any internal organ greater than four millirems/yr.

Comments

gs Amount: $75.00

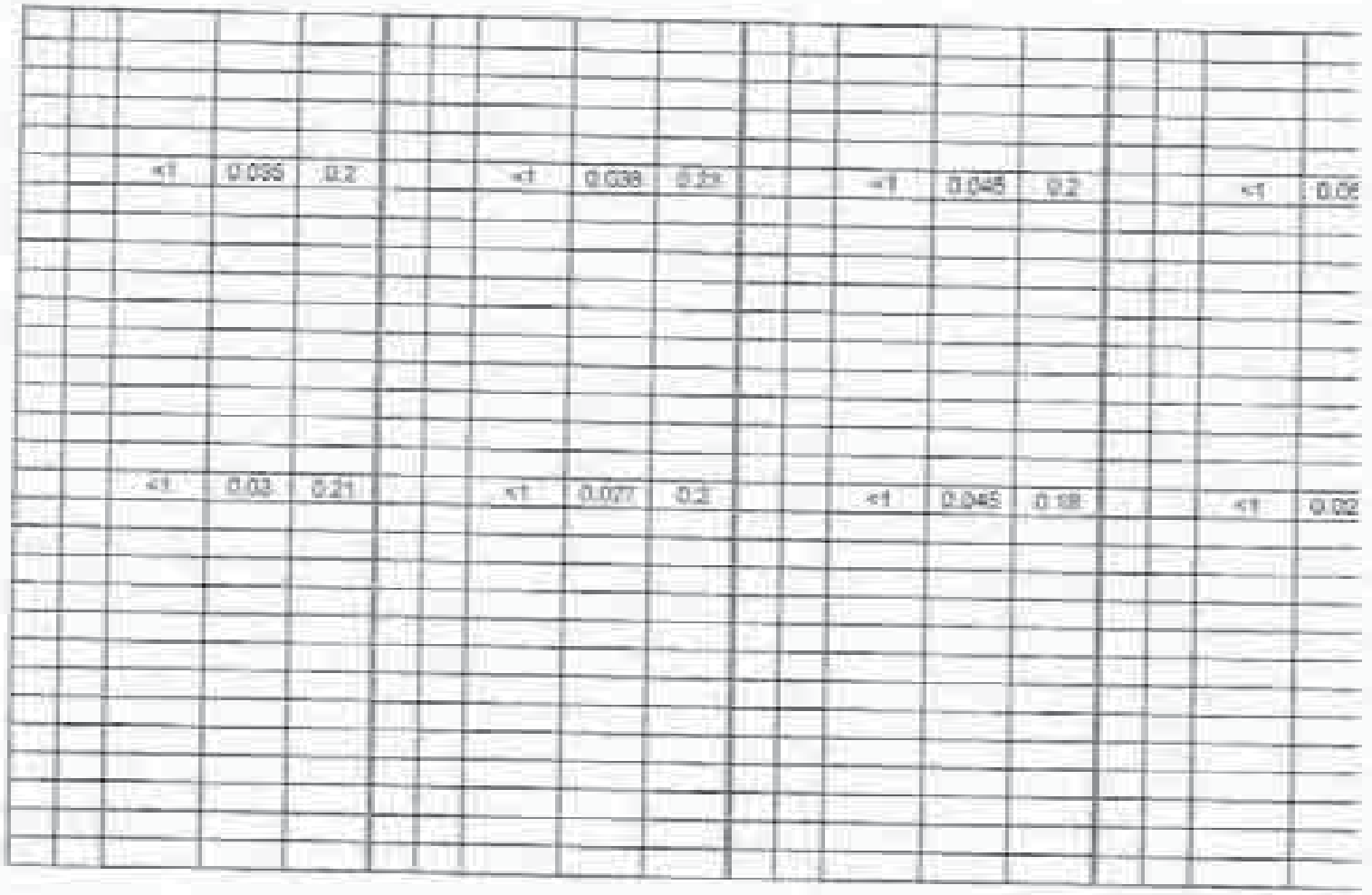
ANACORTES WATER TREATMENT PLANT
BACTERIAL ANALYSIS RESULTS
SKAGIT COUNTY HEALTH DEPT. LAB

DATE	RAW WATER				FINISHED WATER					FILTER #1 EFFLUENT				
2003	TOTAL COLIFORM (/100ml)	FECAL COLIFORM (/100ml)	SAMPLE COLOR (PtCo)	SAMPLE TURB (NTU)	P	A	HPC (/ml)	TURB (NTU)	Cl2 RES (ppm)	P	A	HPC (/ml)	TURB (NTU)	Cl2 RES (ppm)
1/6/2003	110	4	58	8.4		x		0.045	0.40					
1/13/2003	220	11	47	7.9		x		0.043	0.50					
1/21/2003	13	8	17	2.8		x		0.032	0.43					
1/27/2003	170	2	670	117.0		x		0.056	0.43					
2/3/2003	23	2	57	8.6		x		0.031	0.41					
2/10/2003	50	4	17	3.3		x		0.031	0.47					
2/18/2003	50	8	22	3.6		x		0.034	0.48					
2/24/2003	43	13	5	3.7		x		0.030	0.46					
3/3/2003	90	14	9	1.8		x		0.033	0.56					
3/5/2003												16	0.029	0.16
3/10/2003	30	13	40	5.2		x		0.038	0.43					
3/17/2003	23	8	64	10.0		x		0.029	0.60					
3/18/2003												18	0.029	0.13
3/24/2003	80	22	120	22.0		x		0.035	0.46					
3/31/2003	30	13	42	3.5		x		0.033	0.47					
4/7/2003	30	2	17	3.5		x		0.032	0.45					
4/14/2003	50	2	26	3.3		x		0.037	0.44					
4/21/2003	7	4	53	6.7		x		0.034	0.45					
4/28/2003	23	2	17	3.8		x		0.033	0.41					
5/5/2003	110	23	20	1.6		x		0.029	0.45					
5/12/2003	80	8	25	2.4		x		0.031	0.48					
5/19/2003	8	7	20	2.0		x		0.035	0.45					
5/27/2003	50	4	56	9.2		x		0.031	0.45					

6/2/2003	70	13	26	4.7		x		0.031	0.52						
6/9/2003	50	13	67	12.0		x		0.030	0.46						
6/16/2003	30	23	42	8.4		x		0.033	0.46						
6/23/2003	30	8	11	2.8		x		0.036	0.49						
6/30/2003	140	8	22	5.6		x		0.041	0.50						
6/30/2003												<1	0.032	0.18	
7/7/2003	30	11	12	4.3		x		0.031	0.52						
7/14/2003	50	23	41	7.7		x		0.032	0.09						
7/21/2003	50	2	26	4.3		x		0.033	0.48						
7/28/2003	110	11	17	4.3		x		0.032	0.48						
8/4/2003	170	13	40	6.9		x		0.031	0.50						
8/11/2003	80	17	39	4.6		x		0.034	0.48						
8/18/2003	80	13	198	34.8		x		0.032	0.40						
8/25/2003	80	2	58	11.3		x		0.030	0.51						
9/2/2003	300	22	56	10.0		x		0.032	0.48						
9/8/2003	50	11	108	18.8		x		0.032	0.46						
9/8/2003												<1	0.03	0.2	
9/15/2003	80	14	30	8.0		x		0.032	0.49						
9/22/2003	30	8	33	5.8		x		0.031	0.46						
9/29/2003	170	70	96	15.0		x		0.034	0.49						
10/6/2003	70	13	30	4.1		x		0.031	0.44						
10/13/2003	500	300	156	26.0		x		0.044	0.47						
10/20/2003	>1600	220	42	9.4		x		0.032	0.64						
10/27/2003	500	17	37	7.1		x		0.035	0.56						
11/3/2003	30	4	365	74.0		x		0.035	0.44						
11/10/2003	50	11	365	74.0		x		0.035	0.49						
11/17/2003	900	30	391	88.0		x		0.032	0.45						
11/24/2003	110	8	274	58.7		x		0.041	0.47						
12/1/2003	34	8	265	56.0		x		0.034	0.43						
12/2/2003						x		0.030	0.47						

12/8/2003	220	8	172	36.0		x		0.030	0.45						
12/15/2003	30	8	141	22.0		x		0.031	0.44						
12/22/2003	30	2	127	20.4		x		0.031	0.48						
12/22/2003												<1	0.028	0.28	
12/29/2003	170	2	115	21.0		x		0.034	0.47						

FILTER #3 EFFLUENT					FILTER #4 EFFLUENT					FILTER #5 EFFLUENT					FILTER #6 EFFLU			
P	A	HPC (/ml)	TURB (NTU)	Cl2 RES (ppm)	P	A	HPC (/ml)	TURB (NTU)	Cl2 RES (ppm)	P	A	HPC (/ml)	TURB (NTU)	Cl2 RES (ppm)	P	A	HPC (/ml)	TUI (NT
		1	0.029	0.16			9	0.030	0.19			30	0.040	0.17			2	0.02
												24	0.027	0.17				


<1
0.035
0.2
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0.039
0.2
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0.2
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0.027
0.2
<1
0.045
0.18
<1

		<1	0.037	0.21			<1	0.029	0.22			<1	0.027	0.16			<1	0.0

APPENDIX B
DOE REGULATED SITE DETAIL

Appendix B
DOE Regulated Facility/Sites
(Shown in Exhibits 2-2 and 2-3)
Environmental Interest Description Detail

Data source: Washington Department of Ecology, 2003, Facility/Site Dataset, http://www.ecy.wa.gov/services/gis/data/data.htm#stations

DOE Code: **AQLA**
Environmental Interest: Air Quality Local Air Registration Source. Small sources governed only by local air authorities.
Domain: Air Quality Program

DOE Code: **HWG**
Environmental Interest: Hazardous Waste Generator - Facilities that generate regulated amounts of hazardous waste, > 220 lbs./month.
Domain: Hazardous Waste and Toxics Reduction Program

DOE Code: **SCS**
Environmental Interest: State Cleanup Site - A site is being cleaned up under state regulations. Regulations include Model Toxics Control Act or its predecessors.
Domain: Toxics Cleanup Program

DOE Code: **VOLCLNST**
Environmental Interest: Voluntary Cleanup Site - A site being cleaned up by a responsible party without Ecology oversight.
Domain: Toxics Cleanup Program

DOE Code: **WQMNMUNI**
Environmental Interest: Minor Municipal - An Individual Waste Water Discharge Permit issued to a Minor Municipal facility.
Domain: Water Quality Program

DOE Code: **WQGIND**
Environmental Interest: General Permit Industrial - A General Waste Water Discharge General Permit issued to an Industrial facility.
Domain: Water Quality Program

DOE Code: **WQGMUNI**
Environmental Interest: General Permit Municipal - A General Waste Water Discharge General Permit issued to a Municipal facility.
Domain: Water Quality Program

DOE Code: **WQGSWI**
Environmental Interest: General Permit Storm Water Industrial - A General Storm Water Discharge Permit issued to an Industrial facility.
Domain: Water Quality Program

DOE Code: **DAIRY**
Environmental Interest: Dairy farm
Domain: Water Quality Program

DOE Code: **LANDFILL**
Environmental Interest: Landfill
Domain: Solid Waste Program

DOE Code: **TIER2**
Environmental Interest: Emergency & Hazardous Chemical Inventory Report - Businesses that store 10,000 pounds or more of a hazardous chemical or 500 pounds or less, depending on the chemical, of an extremely hazardous chemical on site at any one time must report annually. Reports are sent to the State Emergency Response Commission (represented by Ecology) Local Emergency Planning Committees, and local fire departments for emergency planning. (product, not waste)
Domain: Hazardous Waste and Toxics Reduction Program

ID	Facility Name	State ID#	DOE Code	DOE Environmental Interest Description	Status	DOE Start Date	DOE End Date
29	GK Svcs Inc	51084443	HWG	Hazardous Waste Generator	Inactive	1981-02-02	1985-03-01
30	Georgia Pacific Corp Bellingham	66783935	HWG	Hazardous Waste Generator	Inactive	1982-08-18	1985-03-01
31	WA AGR M MT Vernon 3	35514364	HWG	Hazardous Waste Generator	Inactive	1993-04-16	1995-12-31
32	CSR Associated Butler Pit	5376956	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1994-01-01	
34	Andys Machine Shop	35836516	HWG	Hazardous Waste Generator	Inactive	1994-11-04	1994-12-31
35	WA DOT IS MP 240 Burlington	32983428	HWG	Hazardous Waste Generator	Inactive	1990-10-29	1991-12-31
37	Skagit Petroleum Concrete	23576339	HWG	Hazardous Waste Generator	Inactive	1991-06-18	1995-12-31
38	PSE Upper Baker Generating Sta	57962132	HWG	Hazardous Waste Generator	Active	1996-03-05	
43	Valley Freightliner	65722165	HWG	Hazardous Waste Generator	Active	1999-08-12	
44	Dons Dairy	31347735	DAIRY	Dairy	Active	2002-08-05	
52	Hamilton Log Yard	77671279	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1988-01-01	
65	Arts Auto Wrecking	17869918	VOLCLNST	Voluntary Cleanup Sites	Active	2001-06-14	
69	Birdsview Recycling Center	85143539	LANDFILL	Landfill	Active	1776-07-04	
72	PSE Lower Baker Switchyard	91913661	SCS	State Cleanup Site	Active	2002-06-14	
73	Brasshet Farm	3122006	DAIRY	Dairy	Active	2002-08-05	
75	De Boer Dairy	5737459	DAIRY	Dairy	Active	2002-08-05	
76	Lagerwood Farms Inc	316298	DAIRY	Dairy	Active	2002-08-05	
77	Sid Top Dairy	4428338	DAIRY	Dairy	Active	2002-08-05	
79	LeClair Farms Mount Vernon	8396488	DAIRY	Dairy	Active	2002-08-05	
80	Twogates Reg Holsteins	3794013	DAIRY	Dairy	Active	2002-08-05	
82	Concrete STP	6085730	WQMINMUN	MINOR MUNICIPAL	Active	2001-12-01	
83	Concrete Nonwest Butler Pit	8961942	WQGIND	GENERAL PERMIT INDUSTRIAL	Active	1999-08-06	
84	Concrete Nonwest Sedro Woolley	9435347	WQGIND	GENERAL PERMIT INDUSTRIAL	Active	1999-08-06	
86	Rinker Materials Butler Pit	847361	WQGIND	GENERAL PERMIT INDUSTRIAL	Active	1999-08-06	
89	WA DNR Resources Butler Hill	9129639	WQGIND	GENERAL PERMIT INDUSTRIAL	Active	1999-08-06	
90	Sedro Woolley STP	214470	WQMINMUN	MINOR MUNICIPAL	Active	2000-02-01	
95	Burlington STP	7973564	UST	Underground Storage Tank	Inactive	1975-01-01	2000-05-03

Exhibit 2-3 Detail

ID	Facility Name	State ID#	DOE Code	DOE Environmental Interest Description	Status	DOE Start Date	DOE End Date
1	Cargill Nutrena	81253268	TIER2	Emergency/Haz Chem Rpt TIER2	Inactive	1990-01-01	1776-07-07
2	Burlington Pbb	31161782	HWG	Hazardous Waste Generator	Inactive	1988-03-22	1991-12-31
3	Hexcel Corp	46849498	HWG	Hazardous Waste Generator	Active	1990-03-16	
4	Helena Chemical Co Burlington	35336572	HWG	Hazardous Waste Generator	Inactive	1993-11-23	1996-09-01
5	Larson Auto Repair Inc	49338657	HWG	Hazardous Waste Generator	Active	1994-05-23	
6	Lennox Hearth Products Inc	68744675	HWG	Hazardous Waste Generator	Active	1992-05-05	
7	Firewall Forward Northwest Inc	6119726	HWG	Hazardous Waste Generator	Inactive	1989-08-18	1991-12-31
8	GTE Mount Vernon Support Ctr	83862839	HWG	Hazardous Waste Generator	Inactive	1989-03-15	1992-01-01
9	Martin Commercial Fueling Inc	4481712	HWG	Hazardous Waste Generator	Inactive	1990-01-30	1990-12-31
10	WA AGR M Burlington 3	97836773	HWG	Hazardous Waste Generator	Inactive	1996-05-13	1996-12-31
11	Burlington White Gmc	4441599	HWG	Hazardous Waste Generator	Inactive	1987-05-22	1991-01-02
12	Fisher Sons Inc	57726192	HWG	Hazardous Waste Generator	Active	1994-08-23	
13	Dallys Auto Body	32542885	HWG	Hazardous Waste Generator	Active	1984-09-04	
14	Avon Body Shop	27878593	HWG	Hazardous Waste Generator	Inactive	1984-10-19	1997-12-31
15	Sears Unit 2389/6170	21276226	HWG	Hazardous Waste Generator	Active	1994-08-11	
16	Anacortes WTP	79423677	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1990-01-01	
17	Lowes HW 035	9977921	HWG	Hazardous Waste Generator	Active	1995-03-20	
18	Burlington Ford New Holland Inc	48157755	HWG	Hazardous Waste Generator	Active	1991-09-30	
19	Petrolane Gas Inc	2680	SCS	State Cleanup Site	Inactive	1776-07-04	1999-07-16
20	Burlington Auto Parts	3779252	HWG	Hazardous Waste Generator	Inactive	1992-10-06	1999-02-26
21	Steves Auto Diesel Service Center	65824434	HWG	Hazardous Waste Generator	Inactive	1992-11-09	1998-12-31
22	Northwest Air Pollution Author Burling	65613919	HWG	Hazardous Waste Generator	Inactive	1988-05-09	1989-02-17
23	Sims Honda	51848174	HWG	Hazardous Waste Generator	Active	1995-04-26	
24	Kits Cameras 1016	99218469	HWG	Hazardous Waste Generator	Active	1993-11-05	
25	Boyds Radiator Service	21424876	HWG	Hazardous Waste Generator	Inactive	1989-09-05	1996-12-31
26	Boyd Radiator Svcs Inc	75124161	HWG	Hazardous Waste Generator	Active	1997-03-18	
27	COMCOR of The United States IN	24672761	HWG	Hazardous Waste Generator	Inactive	1983-07-14	1985-05-07
28	Sears Roebuck Co Mount Vernon	51693929	HWG	Hazardous Waste Generator	Inactive	1990-03-02	1991-08-16
36	WA AGR M Burlington 1	86997595	HWG	Hazardous Waste Generator	Inactive	1995-03-14	1995-12-31
39	Whatcom Drums	66314669	HWG	Hazardous Waste Generator	Inactive	1987-04-22	1991-12-31
41	Crystal Ocean Seafoods	34658144	TIER2	Emergency/Haz Chem Rpt TIER2	Inactive	1990-01-01	1776-07-07
42	Olympic Pipe Line Co Bayview Ter	59973687	HWG	Hazardous Waste Generator	Active	1999-05-17	
45	Glow Cleaners	74486678	HWG	Hazardous Waste Generator	Active	1999-11-19	
46	EDCO INC	85862767	HWG	Hazardous Waste Generator	Inactive	2000-04-24	2000-12-31
47	Wal Mart 2596	11478272	HWG	Hazardous Waste Generator	Active	2001-03-26	

48	Washington Cheese Co	17265127	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1987-01-01	
49	Burlington Edison School District	85527746	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1990-01-01	
50	Praxair Distribution Inc Burlington	75811948	TIER2	Emergency/Haz Chem Rpt TIER2	Inactive	1991-01-01	1776-07-07
51	Nelson Distributing	45759235	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1991-01-01	
53	Pacific Pride Andis Road	55536418	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1987-01-01	
54	Burlington Edison Bus Garage	27561372	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1988-01-01	
55	Roberts Co Inc	58128843	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1988-01-01	
56	North Sound Marine Inc	4477949	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1987-01-01	
57	Skagit Valley Herald	1456761	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1987-01-01	
58	Puget Propane Burlington	74815578	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1997-01-01	
59	Verizon NW Inc Burlington Hill	4735168	TIER2	Emergency/Haz Chem Rpt TIER2	Inactive	1995-01-01	1776-07-07
60	Lakeside Industries Burlington	97418151	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1995-01-01	
61	Hansen & Petersons Warehouse	40137155	TIER2	Emergency/Haz Chem Rpt TIER2	Inactive	1996-01-01	1776-07-07
62	Hearth Trends Inc	84563866	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1999-01-01	
63	Freeway Drive Texaco	36682659	TIER2	Emergency/Haz Chem Rpt TIER2	Inactive	1994-01-01	1776-07-07
64	Skagit Farmers Supply Burlington	95774849	TIER2	Emergency/Haz Chem Rpt TIER2	Active	1988-01-01	
66	Olympic Pipe Line Co Allen Station	2667	HWG	Hazardous Waste Generator	Inactive	1980-08-14	
67	MT Vernon Gasoline Spill	2659	VOLCLNST	Voluntary Cleanup Sites	Active	1776-07-04	
68	Unocal MT Vernon Bulk Fuel	2678	HWG	Hazardous Waste Generator	Inactive	1987-09-28	1996-12-31
70	GN Northern Inc Atlantic Produce	43645384	HWG	Hazardous Waste Generator	Active	2002-04-26	
71	Rasher Inc	18434558	HWG	Hazardous Waste Generator	Active	1997-11-26	
74	Douwe Dykstra Dairy	7472943	DAIRY	Dairy	Active	2002-08-05	
78	Raleigh Good Dairy	147650	DAIRY	Dairy	Active	2002-08-05	
81	Dahlgren Property Car Stereo Plus	24441562	SCS	State Cleanup Site	Active	1997-12-19	
85	One Way Construction Inc.	490350	WQGIND	GENERAL PERMIT INDUSTRIAL	Active	1999-08-06	
86	NW Farm Foods	7036275	WQGIND	GENERAL PERMIT INDUSTRIAL	Active	2003-06-01	
87	Pacific Circuits Inc	9274682	WQGIND	GENERAL PERMIT INDUSTRIAL	Active	1999-12-01	
91	Larry's Auto & Truck Parts	6874060	WQGSWI	GENERAL PERMIT STORM WATER IND	Active	2002-09-20	
92	Tri County Truss Inc	8631055	WQGSWI	GENERAL PERMIT STORM WATER IND	Active	2002-09-20	
93	FedEx Ground Burlington	9813776	WQGSWI	GENERAL PERMIT STORM WATER IND	Active	2002-09-20	
94	Anacortes WTP 14489	1785540	WQGMUNI	GENERAL PERMIT MUNICIPAL	Active	2003-02-01	

APPENDIX C
WATERSHED CONTROL PLAN IMPLEMENTATION SCHEDULE

Appendix C
Watershed Control Plan Implementation Schedule

The attached WCP strategy summary table and implementation schedule are intended to assist the City with implementation of the WCP strategies found in Section 3.2 of this document. At this time, the PUD will take on an advisory role in the implementation process as part of the Coordinating Committee. As the PUD brings their water intake on line, they will be come involved in implementation of the WCP. However, due to the location of the City water intake and its greater susceptibility to accidental contaminant discharges, the City will maintain a leadership role in implementation of the WCP.

The summary table of WCP strategies lists the strategies described in Section 3.2 and assigns a task number to each strategy. These numbers correspond to the WCP strategy implementation schedule. The schedule begins in November 2004, which allows time for the City to receive approval from DOH and adopt the WCP.

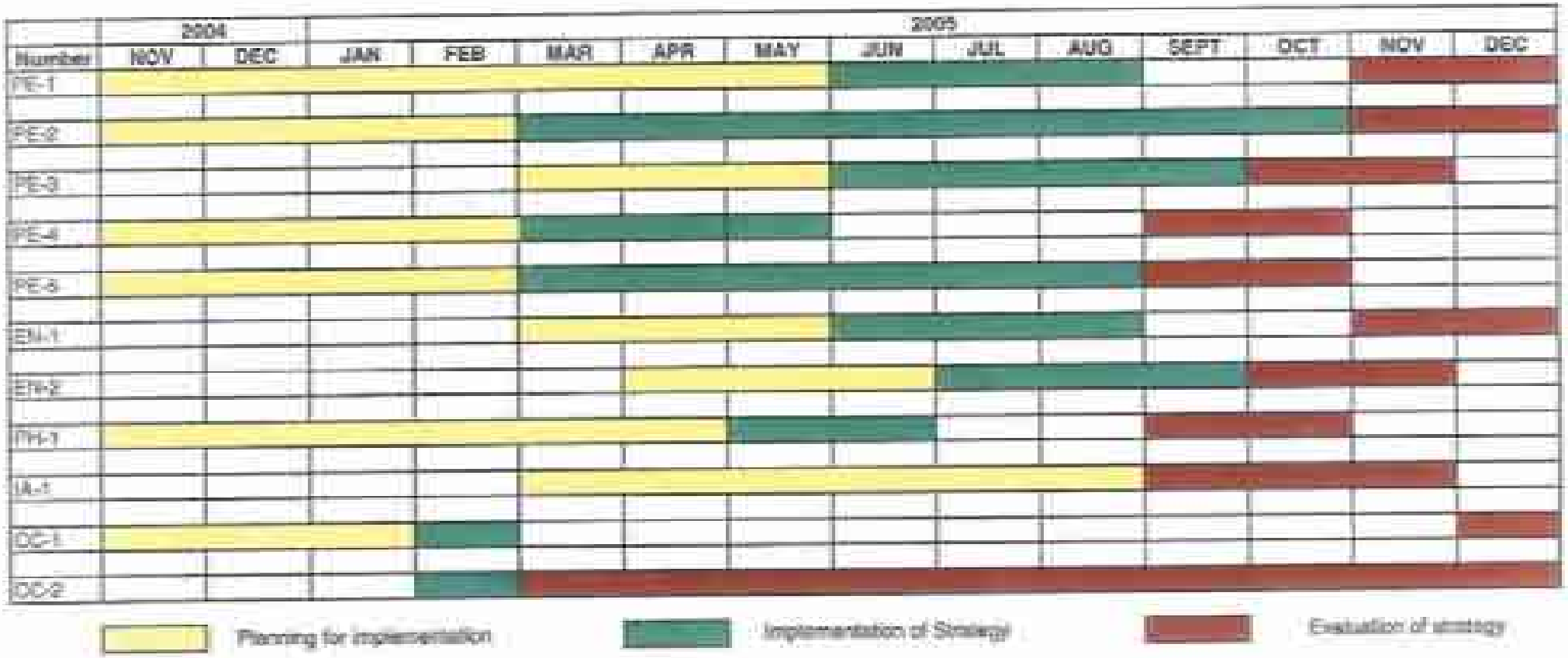
The implementation schedule provides estimates of the date and amount of time with which the City can realistically plan, implement and evaluate each recommended strategy. Implementation of strategies is staggered throughout the year, and strategies are prioritized by importance and ease of implementation. For example, several strategies, such as publishing information about the WCP on the City's website, may be easily implemented by the City with little outside consultation or assistance. Other strategies, such as the formation and implementation of interlocal agreements, will involve a lengthy process and require participation from other parties, and thus will take longer to prepare and implement. The implementation schedule recognizes and reflects these differences among the recommended WCP strategies.

The most critical, and perhaps most challenging strategy is the formation of the Coordinating Committee. The Committee, once formed, could provide resources and expertise to facilitate the development of the relatively complicated WCP strategies, such as interlocal agreements. The success of the Committee will depend upon the active participation of its members.

Watershed Control Plan Strategies

Strategy	Number	Description
Public Education	PE-1	Include a notice explaining the purpose and goals of the WCP in consumer confidence reports
	PE-2	Give presentations at city and county council meetings to describe and explain the purpose of the WCP
	PE-3	Coordinate public education efforts with community and non-governmental groups
	PE-4	Publish information about the WCP on websites
	PE-5	Broadcast information about the WCP on public cable access channels
Emergency Notification	EN-1	Inform local officials, emergency management personnel, law enforcement and others of their need to immediately notify water treatment plant operators of accidental discharges to the Skagit River
	EN-2	Create a clearly outlined notification system in cooperation with these agencies and incorporate the system into emergency response plans
Permit Holder Notification	PH-1	Contact individuals listed as holders of environmental permits within the program area to describe and explain the WCP and explain what permit holders should do in the event of an accidental discharge
Interlocal Agreements	IA-1	Enter into Memoranda of Agreement with municipalities, agencies and others to demonstrate the mutual understanding of the intent of the WCP and the roles each party will play in the implementation of the WCP
Coordination	CC-1	Establish a Coordinating Committee consisting of members representing local agencies, governments and other interested parties to facilitate the ongoing development and implementation of the WCP
	CC-2	Utilize the knowledge, expertise and affiliations of the Coordinating Committee to find ways to facilitate the implementation of the WCP strategies

Watershed Control Plan Strategy Implementation Schedule



APPENDIX D
GUIDELINES FOR PREPARATION OF AN EMERGENCY NOTIFICATIN SYSTEM

Appendix D
Guidelines for Preparation of an Emergency Notification System

The process of creating an emergency notification system that fulfils the goals of the WCP may seem counter-intuitive. Rather than creating a plan for notifying others, this system must be designed to obtain notification *from* others in the event of an emergency. The WCP emergency notification system should therefore be created from the bottom-up, ensuring that appropriate personnel at each level of authority are included in the system.

One simple way to create a list of contacts for the WCP emergency notification system is to adapt existing emergency notification trees. The attached Skagit County Fan-Out Alerting System flowchart is used by the Skagit County Division of Emergency Management in their emergency notification system. This flowchart may be used to generate potential contacts. Both the City and PUD water treatment plants can be found on the flowchart; by following the flow back to the beginning, contacts will be generated. Other examples and potential contacts may be drawn from other emergency response plans, guidelines and other information on spill response provided by DOE, DOH and other agencies. A preliminary list of contacts is provided below.

Once a list of contacts is generated, the WCP Coordinating Committee will make initial contact with appropriate personnel. The Coordinating Committee will work with contacts to demonstrate the need for the water treatment plants to receive early notification of accidental pollutant discharges and other emergencies. An introductory letter explaining the goals of the WCP may be appropriate; however, it is recommended that personal communication also be used to ensure understanding and cooperation between the Coordinating Committee and emergency notification contacts.

Emergency Notification System Contact List

State

Washington State Division of Emergency Management Phone: 800-258-5990	**Washington Department of Ecology** 3190 160th Ave SE Bellevue, WA 98008 Phone: 425-649-7000
Washington Department of Health 1112 SE Quince Street Olympia, WA 98504 Phone: 360-236-3050	**Washington Department of Transportation** 1783 Cedardale Road Mount Vernon, WA 98273 Phone: 360-428-1386
Washington State Patrol 1174 Chuckanut Drive Burlington, WA 98233 360-757-1175	

Local

Skagit County Division of Emergency Management Phone: 360-428-3250	**Skagit County Department of Health** Phone: 360-336-9380
City of Anacortes Mayor: Dean Maxwell 904 6th Street Anacortes, WA 98221 Phone: 360-299-1950 Police Dept: Chief Mike King Phone: 360-293-4684 Fire Dept: Richard Curtis	**City of Burlington** Mayor: Roger Tjoelsma 900 E. Fairhaven Ave Burlington, WA 98233 Phone: 360-755-0531 Police Dept: Chief Bud Bowers Phone: 360-755-0921 Fire Dept: Chief Mark Anderson Phone: 360-755-0261
Town of Concrete Mayor: John Rantsdiler 45672 Main Street PO Box 39 Concrete, WA 98237 Phone: 360-853-8401 Fire Dept: Chief Rich Phillips	**Town of Hamilton** Mayor: Tim Bates PO Box 528 Hamilton, WA 98255 Phone: 360-826-3311

Town of Lyman Mayor: Chris Stormont PO Box 1248 Lyman, WA 98263 Phone: 360-826-3303 Fire Dept: Andy Hawkins	**City of Mount Vernon** Mayor: Bud Norris 910 Cleveland Mount Vernon, WA 98273 Phone: 360-336-6211 Police Dept: Chief Mike Rizzuto Phone: 360-336-6271 Fire Dept Phone: 360-336-6277
City of Sedro Woolley Mayor: Sharon Dillon 720 Murdock Street Sedro Woolley, WA 98284 Phone: 360-855-1661 Fire Dept: Chief Dean Klinger Phone: 360-855-2252	

Private/Other

Burlington Northern Railroad 1250 D Street Bellingham, WA 98225 Phone: 360-734-8479	**William Northwest Pipeline** 15498 Lange Road Mount Vernon, WA 98273 Phone: 360-722-7802 Emergency Phone: 800-972-7733

APPENDIX E
SAMPLE DOE PERMIT HOLDER NOTIFICATION LETTER

Appendix E
Sample
DOE Permit Holder Notification Letter

City of Anacortes logo / address
Public Utility District #1 of Skagit County logo/ address

Date

Permit holder
Address

Subject: Permit Holder Notification of Skagit River Watershed Control Program

To Whom It May Concern:

This letter is to inform you about the Skagit River Watershed Control Program that is being implemented in your area. You have been identified for notification as holder of an environmental permit issued by Washington Department of Ecology for a location within the Skagit River Watershed Control Program Area.

A Watershed Control Program is a strategy to protect public drinking water supplies from contamination by accidental discharge of pollutants to the surface water source. This program is required by Washington State law (Chapter 70.116 Revised Code of Washington) and is administered by Washington Department of Health.

The City of Anacortes and the Public Utility District #1 of Skagit County utilize the Skagit River as a source of public drinking water. These water systems serve thousands of residential and commercial water consumers in Skagit and Island Counties. The Skagit River Watershed Control Program was created to minimize the risk to the public resulting from accidental contamination of the Skagit River, and to help water system operators respond appropriately if contamination does occur.

Contamination of the Skagit River could result from a variety of accidental discharges of pollutants to the river. Examples of accidental discharges include oil and gas pipeline leaks, transport vehicle accidents on bridges or adjacent roads, wastewater treatment plant discharge violations or by-passes, and oil, regulated waste or hazardous material spills. Contamination could also result from overbank flooding that returns to the river carrying contaminants such as manure waste from dairy farms or chemical pollutants from impervious surfaces.

The environmental permit you have been issued by Washington Department of Ecology indicates that the land use(s) or activity(s) at your location is considered to be of environmental interest. The proximity of your location to the Skagit River indicates that

the land use(s) or activity(s) at your location could potentially impact water quality in the Skagit River in the event of an accidental discharge or flood event.
For these reasons, the City of Anacortes and the Public Utility District #1 of Skagit County wish to inform you of this potential risk to public drinking water supplies, and request your cooperation in the effort to prevent accidental contamination of the Skagit River.

If an accident occurs at your location that could affect the water quality of the Skagit River, notify *immediately* the appropriate authorities as designated in your environmental permit. To ensure the protection of public drinking water supplies, notify *immediately*:

- Skagit County Department of Emergency Management: **(360) 428-3250 or 911**
- City of Anacortes Water Treatment Plant: **(360) 428-1598**
- Public Utility District #1 of Skagit County Water Treatment Plant: **(360) 856-5031**

For additional information about the Skagit River Watershed Control Program:

City of Anacortes
Public Works Department
P.O. Box 547
Anacortes, WA 98221
(360)293-1919
http://www.cityofanacortes.org/

Public Utility District #1 of Skagit County
1415 Freeway Drive
Mount Vernon WA. 98273
(360) 424-7104
http://www.skagitpud.org/

Washington Department of Health
Northwest Drinking Water Operations
20435 72nd Avenue S, Suite 200, K17-12
Kent, WA 98032-2358
(253) 395-6750
http://www.doh.wa.gov/ehp/dw/default.htm

For further information about emergency spill preparedness and response:

Washington Department of Ecology Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008-5452
(425) 649-7000
http://www.ecy.wa.gov/programs/spills/spills.html

DOE Permit Notify List

ID	Facility Name	Address	State ID#	DOE Cod	Status	DOE Start D	DOE End Date
1	Cargill Nutrena	1495 Route 20, Burlington, WA 98233	81253268	TIER2	Inactive	1990-01-01	1776-07-07
2	Burlington Pbb	211 Cherry Street, Burlington, WA 98233	31161782	HWG	Inactive	1988-03-22	1991-12-31
3	Hexcel Corp	15062 Steele Road, Burlington, WA 98233	46849498	HWG	Active	1990-03-16	
4	Helena Chemical Co Burlington	1307 S. Anacortes St, Burlington, WA 98233	35336572	HWG	Inactive	1993-11-23	1998-09-01
5	Larson Auto Repair Inc	1207 Crystal Ln, Burlington, WA 98233	49338657	HWG	Active	1994-05-23	
6	Lennox Hearth Products Inc	695 Pease Road, Burlington, WA 98233	68744675	HWG	Active	1992-05-05	
7	Firewall Forward Northwest Inc	1353A Unit 4, Peterson Rd, Burlington, WA 98233	6119726	HWG	Inactive	1989-08-18	1991-12-31
8	GTE Mount Vernon Support Ctr	595 Pease Road, Burlington, WA 98233	83862839	HWG	Inactive	1989-03-15	1992-01-01
9	Martin Commercial Fueling Inc	1489 Avon Cutoff, Mount Vernon, WA 98273	4481712	HWG	Inactive	1990-01-30	1990-12-31
10	WA AGR M Burlington 3	665 E Whitmarsh Rd, Burlington, WA 98233	97836773	HWG	Inactive	1996-05-13	1996-12-31
11	Burlington White Gmc	1720 Pease Road, Burlington, WA 98233	4441599	HWG	Inactive	1987-05-22	1991-01-02
12	Fisher Sons Inc	625 Fisher Ln, Burlington, WA 98233	57726192	HWG	Active	1994-08-23	
13	Dallys Auto Body	300 Willow Ln, Mount Vernon, WA 98273	32542885	HWG	Active	1984-09-04	
14	Avon Body Shop	1401 Avon Allen Rd, Mount Vernon, WA 98273	27878593	HWG	Inactive	1984-10-19	1997-12-31
15	Sears Unit 2389/6170	600 Cascade Mall Dr, Burlington, WA 98233	21276226	HWG	Active	1994-08-11	
16	Anacortes WTP	2809 River Bend Rd, Mount Vernon, WA 98273	79423677	TIER2	Active	1990-01-01	
17	Lowes HIW 035	1717 Freeway Dr, Mount Vernon, WA 98273	9977921	HWG	Active	1995-03-20	
18	Burlington Ford New Holland Inc	1955 S. Burlington Blvd, Burlington, WA 98233	48157755	HWG	Active	1991-09-30	
19	Petrolane Gas Inc	1010 Riverside Dr, Mount Vernon, WA 98273	2680	SCS	Inactive	1776-07-04	1999-07-16
20	Burlington Auto Parts	139 E. Fairhaven, Burlington, WA 98233	3779252	HWG	Inactive	1992-10-08	1999-02-26
21	Steves Auto Diesel Service Center	408 E. Rio Vista, Burlington, WA 98233	65824434	HWG	Inactive	1992-11-09	1998-12-31
22	Northwest Air Pollution Author Burlin	Hwy 20 & Alder Rd, Burlington, WA 98233	65613919	HWG	Inactive	1988-05-09	1989-02-17
23	Sims Honda	1615 S. Goldenrod Rd, Burlington, WA 98233	51848174	HWG	Active	1995-04-28	
24	Kits Cameras 1016	755 Cascade Mall Dr, Burlington, WA 98233	99218469	HWG	Active	1993-11-05	
25	Boyds Radiator Service	1970 S. Burlington Blvd, Burlington, WA 98233	21424876	HWG	Inactive	1989-09-05	1996-12-31
26	Boyd Radiator Svcs Inc	904 S. Spruce St, Burlington, WA 98233	75124161	HWG	Active	1997-03-18	
27	COMCOR of The United States IN	328 E Sharon Rd, Burlington, WA 98233	24672761	HWG	Inactive	1983-07-14	1985-05-07
28	Sears Roebuck Co Mount Vernon	100 College Way, Mount Vernon, WA 98273	51693929	HWG	Inactive	1990-03-02	1991-08-16
29	GK Svcs Inc	3348 Francis Rd, Mount Vernon, WA 98273	51684448	HWG	Inactive	1981-02-02	1985-03-01
30	Georgia Pacific Corp Bellingham	Hwy 9, Clear Lake, WA 98235	66783635	HWG	Inactive	1980-08-18	1985-03-01
31	WA AGR M MT Vernon 3	1500-1525 Beaver Lake Rd, Mount Vernon WA 98273	35514364	HWG	Inactive	1993-04-16	1995-12-31
32	CSR Associated Butler Pit	1755 Kelleher Rd, Burlington, WA 98233	5376956	TIER2	Active	1994-01-01	
34	Andys Machine Shop	1825 Cook Rd, Burlington, WA 98233	3583916	HWG	Inactive	1994-11-04	1994-12-31
35	WA DOT I5 MP 240 Burlington	15 MP 240, Burlington, WA 98233	92963428	HWG	Inactive	1990-10-29	1991-12-31
36	WA AGR M Burlington 1	1709 Gear Rd, Burlington, WA 98233	86997595	HWG	Inactive	1995-03-14	1995-12-31
37	Skagit Petroleum Concrete	216 Main, Concrete, WA 98237	23576339	HWG	Inactive	1981-06-18	1988-12-31

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38	PSE Upper Baker Generating Sta	550 Upper Baker Lake Rd, Concrete, WA 98237	57962132	HWG	Active	1996-03-05	
39	Whatcom Drums	2221 Pacific St, Bellingham, WA 98226	66314669	HWG	Inactive	1987-04-22	1991-12-31
41	Crystal Ocean Seafoods	424 Greenleaf Ave, Burlington, WA 98233	34658144	TIER2	Inactive	1990-01-01	1776-07-07
42	Olympic Pipe Line Co Bayview Ter	14879 Ovenell Rd, Burlington, WA 98233	59973687	HWG	Active	1999-05-17	
43	Valley Freightliner	524 Jacks Lane, Mount Vernon, WA 98273	65722165	HWG	Active	1999-08-12	
44	Dans Dairy	Burlington, WA 98233	31347735	DAIRY	Active	2002-08-05	
45	Glow Cleaners	408 E. Fairhaven Ave, Burlington, WA 98233	74486678	HWG	Active	1999-11-19	
46	EDCO INC	14508 Ovenell Rd, Mount Vernon, WA 98273	85862767	HWG	Inactive	2000-04-24	2000-12-31
47	Wal Mart 2596	2021 Market St, Mount Vernon, WA 98273	11478272	HWG	Active	2001-03-26	
48	Washington Cheese Co	900 E. College Way, Mount Vernon, WA 98273	17285127	TIER2	Active	1987-01-01	
49	Burlington Edison School District	927 E. Fairhaven Ave, Burlington, WA 98233	85527746	TIER2	Active	1990-01-01	
50	Praxair Distribution Inc Burlington	1590 Port Dr, Burlington, WA 98233	75811948	TIER2	Inactive	1991-01-01	1776-07-07
51	Nelson Distributing	615 E. College Way, Mount Vernon, WA 98273	45759235	TIER2	Active	1991-01-01	
52	Hamilton Log Yard	Hwy 20, Hamilton WA 98255	77671279	TIER2	Active	1988-01-01	
53	Pacific Pride Andis Road	1675 Andis Road, Burlington, WA 98233	55536418	TIER2	Active	1987-01-01	
54	Burlington Edison Bus Garage	301 N. Garl, Burlington, WA 98233	27561372	TIER2	Active	1988-01-01	
55	Roberts Co Inc	1178 Water Tank Rd, Burlington, WA 98233	58128843	TIER2	Active	1988-01-01	
56	North Sound Marine Inc	625 S. Spruce St, Burlingotn, W A 98233	4477949	TIER2	Active	1987-01-01	
57	Skagit Valley Herald	1000 E College Way, Mount Vernon, WA 98273	1456761	TIER2	Active	1987-01-01	
58	Puget Propane Burlington	1750 Walton Dr, Burlington, W A98233	74815578	TIER2	Active	1997-01-01	
59	Verizon NW Inc Burlington Hill	Burlington Hill, Burlington, WA 98233	4735168	TIER2	Inactive	1995-01-01	1776-07-07
60	Lakeside Industries Burlington	200 Old Hwy 99, Burlington, WA 98233	97418151	TIER2	Active	1995-01-01	
61	Hansen & Petersons Warehouse	127 N. Oak Street, Burlington, W A98233	40137155	TIER2	Inactive	1996-01-01	1776-07-07
62	Hearth Trends Inc	895 Pease Rd, Burlington, WA 98233	84563866	TIER2	Active	1999-01-01	
63	Freeway Drive Texaco	1515C Freeway Dr, Mount Vernon, WA 98273	36682659	TIER2	Inactive	1994-01-01	1776-07-07
64	Skagit Farmers Supply Burlington	1276 S. Burlington Blvd, Burlignton, WA 98233	95774849	TIER2	Active	1988-01-01	
65	Arts Auto Wrecking	23536 River Rd, Sedro Woolley, WA 98284	17866918	VOLCLNS	Active	2001-06-14	
66	Olympic Pipe Line Co Allen Station	16471 SR 20, Mount Vernon, WA 98273	2667	HWG	Inactive	1980-08-14	
67	MT Vernon Gasoline Spill	College Way & Freeway Dr, Mount Vernon, WA 98273	2659	VOLCLNS	Active	1776-07-04	
68	Unocal MT Vernon Bulk Fuel	620 College Way, Mount Vernon, WA 98273	2678	HWG	Inactive	1987-09-28	1996-12-31
69	Birdsview Recycling Center		65143539	LANDFILL	Active	1776-07-04	
70	GN Northern Inc Atlantic Produce	206 1st St N, Warden, WA 98857	43645384	HWG	Active	2002-04-26	
71	Rasher Inc	610 Hwy 20 W. AM PM, Burlington, WA 98233	18434558	HWG	Active	1997-11-26	
72	PSE Lower Baker Switchyard	Baker River Road, Concrete, WA 98237	91913661	SCS	Active	2002-06-14	
73	Branshel Farm	Sedro Woolley, WA 98284	3122006	DAIRY	Active	2002-08-05	
74	Douwe Dykstra Dairy	Burlington, WA 98233	7472943	DAIRY	Active	2002-08-05	
75	De Boer Dairy	Burlington, WA 98233	5737459	DAIRY	Active	2002-08-05	

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76	Lagerwood Farms Inc	Burlington, WA 98233	316236	DAIRY	Active	2002-08-05	
77	Sid Top Dairy	Sedro Woolley, WA 98284	4428338	DAIRY	Active	2002-08-05	
78	Raleigh Good Dairy	Burlington, WA 98233	147650	DAIRY	Active	2002-08-05	
79	LeClair Farms Mount Vernon	Mount Vernon, WA 98273	8396488	DAIRY	Active	2002-08-05	
80	Twogates Reg Holsteins	Bow, WA 98232	3794013	DAIRY	Active	2002-08-05	
81	Dahlgren Property Car Stereo Plus	1626 Freeway Dr, Mount Vernon, WA 98273	24441562	SCS	Active	1997-12-19	
82	Concrete STP	Lagoon Ave & SR 20, Concrete, WA 98237	8085730	WQMNM	Active	2001-12-01	
83	Concrete Norwest Butler Pit	10067 Kelleher Rd, Burlington, WA 98233	8961942	WQGIND	Active	1999-08-06	
84	Concrete Norwest Sedro Woolley	3 1/2 Miles NW of SW, Sedro Woolley, WA 98284	9435347	WQGIND	Active	1999-08-06	
85	One Way Construction Inc.	1027 District Line Rd, Burlington, WA 98233	490350	WQGIND	Active	1999-08-06	
86	NW Farm Foods	1370 S. Anacortes St, Burlington, WA 98233	7036275	WQGIND	Active	2003-06-01	
87	Pacific Circuits Inc	1162 Westar Ln, Burlington, WA 98233-3621	9274682	WQGIND	Active	1999-12-01	
88	Rinker Materials Butler Pit	19913 Kelleher Rd, Burlington, WA 98233	847361	WQGIND	Active	1999-08-06	
89	WA DNR Resources Butler Hill	Pease Rd, Burlington, WA 98233	9129639	WQGIND	Active	1999-08-06	
90	Sedro Woolley STP	401 Alexander St, Sedro Woolley, WA 98284	214470	WQMNM	Active	2000-02-01	
91	Larry's Auto & Truck Parts	199 Pease Rd, Burlington, WA 98233	6874060	WQGSW	Active	2002-09-20	
92	Tri County Truss Inc	15599 Ashten Rd, Burlington, WA 98233	8631055	WQGSW	Active	2002-09-20	
93	FedEx Ground Burlington	1010 S. Spruce St, Burlington, WA 98233	9813776	WQGSW	Active	2002-09-20	
94	Anacortes WTP 14489	14489 River Bend Rd, Mount Vernon, WA 98273	1785540	WQGMUI	Active	2003-02-01	
95	Burlington STP	900 S. Section St, Burlington, WA 98233	7973564	UST	Inactive	1975-01-01	2000-05-03

APPENDIX F
SAMPLE MEMORANDUM OF AGREEMENT

Appendix F
Sample
Memorandum of Agreement

City of Anacortes, Public Utility District #1 of Skagit County, and City of _____
Memorandum of Agreement Regarding Skagit River Watershed Control Plan

This Memorandum of Agreement (MOA) between the City of Anacortes (Anacortes), the Public Utility District #1 of Skagit County (PUD) and the City of _____ (___) (referred to collectively as the parties) identifies that it is to the benefit of the parties to work cooperatively toward the implementation of the Skagit River Watershed Control Plan, thereby protecting water quality of the Skagit River, drinking water supplies and the public health.

WHEREAS Anacortes, the PUD and _____ recognize that reliable sources of safe drinking water are necessary to protect the health and well being of current and future water consumers; and

WHEREAS the Skagit River serves as the parties' primary source of drinking water, and thus must be protected from accidental contamination; and

WHEREAS the parties recognize it is in the best interest of each party and the public to work cooperatively to protect the Skagit River and public drinking water supplies; and

WHEREAS the parties recognize that _____ emphasizes the use of Best Management Practices at existing commercial and industrial sites and enforces the use of Best Management Practices in new commercial and industrial developments;

NOW, THEREFORE the parties enter into this MOA to strive to implement the Skagit River Watershed Control Plan, thereby protecting the Skagit River from potential contamination and responding appropriately to contamination that may occur, through the following means:

1. _____ will assist Anacortes and the PUD in the facilitation of public education about the Skagit River Watershed Control Plan, potential risks to their drinking water supply, ways they can minimize risks, and what actions should be taken in the event of accidental contamination.

2. _____ will immediately notify Anacortes and PUD water treatment plant operators, in addition to state and local emergency management agencies, of any accidental spill that could contaminate the Skagit River; will instruct emergency management and law enforcement personnel under its jurisdiction to immediately notify Anacortes and PUD water treatment plant operators of any accidental spill.

This Memorandum of Agreement is entered into by:

City of Anacortes

_____ _____

Mayor Date

Public Utility District #1 of Skagit County

_____ _____

General Manager Date

City of _____

_____ _____

Mayor Date