





Volume 13 of 16 -**Chapter 8 Appendices**

December 2022

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2001 Drought Response Plan

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SNOHOMISH PUD N0. 1 DROUGHT RESPONSE PLAN June, 2001

OBJECTIVE

The objective of the Drought Response Plan (DRP) is to establish procedures for the Snohomish County PUD No. 1 (PUD) to manage water supply and demand during periods of weather-related water shortages. This will help maintain essential public health and safety services, and minimize adverse impacts on the local economy, the environment, and the well-being of the PUD's wholesale and retail water customers.

OVERVIEW

The PUD owns thirteen water systems and operates under contract, two additional systems. In addition, the PUD provides wholesale water to the Cities of Granite Falls and Arlington. The vulnerability of each system to a drought is dependent on the vulnerability of each system's source of water to drought conditions. Water sources for the PUD's systems include wells and purchased water from Everett by means of the Spada Reservoir (Spada) and the Jackson Hydroelectric Project (Jackson Project).

In addition, the joint operating agreement between Everett and the PUD for operation of the Jackson Project gives the PUD the right to review and approve any proposed conveyance of Everett water to customers outside of Snohomish County. Discussions between water purveyors in Snohomish and King Counties (SnoKing Group) are proceeding relative to the availability and cost of such a transfer during the summer and fall of 2001.

Droughts are naturally occurring but unpredictable weather events of varying frequency, duration and severity. In the PUD's service area, there is a low probability of a multi-year drought, but unusual weather events can cause short-term shortages by affecting aquifer recharge and the annual refill and draw-down of Spada, which is the origin of Everett's water supply. This can occur in one or more of the following ways:

- A dry fall and/or winter can disrupt the refill cycle, which normally recharges aquifers and replenishes Spada before the peak summer season.
- A less than normal winter snowpack can limit the volume of flows from snowmelt in the spring to fill Spada for the peak summer season.
- Unusually warm and dry spring weather can increase demand, causing excessive drawdown in ground water levels, and cause an early melting of the snowpack and an early filling and drawdown of Spada.
- Unusual warm and dry summer weather can significantly increase peak summer season demands and drawdown in ground water and Spada levels.

The DRP identifies the range of demand and reduction actions that are available and defines the mechanism(s) by which decisions will be made during a drought event. Since each drought situation has unique characteristics, the DRP cannot address all of the scenarios, or all of the supply and demand management actions that are appropriate to a given situation. As a result, the DRP is intended as a general framework of actions that will be tailored to meet the specific needs of the drought-related supply situation.

In addition to meeting the needs of the PUD and its wholesale water customers, the DRP is designed to help achieve three goals. First, to ensure that an adequate quantity of high quality water is maintained throughout a drought event. Second, to ensure that adequate stream flows are maintained for fish and wildlife habitat. Third, where feasible, to maintain adequate storage in Spada for the generation of hydroelectric power.

Finally, the DRP is intended to guide the PUD's actions and relations with its wholesale and retail water customers, resource/regulatory agencies, Everett, the SnoKing Group, and the owners of the contract operated systems.

DATA NEEDS

The DRP provides a blueprint for planning in advance of a drought situation to help forestall, to the extent reasonably possible, a drought-related water supply shortage. For the DRP to be effective, it is critical that the PUD establish a channel of clear, timely, and specific information on the supply conditions early in the process. At a minimum, this information should include:

- Regular updates on the water level in Spada.
- Information on the snowpack in the Sultan River watershed, upstream of Spada.
- Monthly or bi-monthly updates on the level of water in each of its water supply wells, including wells supplying contract operated systems.
- Weather and precipitation forecasts from the Climate Prediction Center, the Northwest River Forecast Center and other sources.
- Water demand forecasts identifying normal consumption levels and projected consumption patterns based on historical data for previous weather conditions.

The PUD should communicate its information to Everett, since the Jackson Project provides Everett with its source of water supply. The PUD and Everett may increase the frequency of snow pack measurements in the Sultan River watershed as necessary to assist with water forecasts.

COORDINATION

Since the PUD purchases the majority of its water from Everett, it is important that the DRP be consistent with Everett's Regional DRP, with the plans of other purveyors that purchase wholesale water from Everett, and with the DRP plans of the PUD's own wholesale purveyor customers. It is important that the plans and actions be regionally consistent for a number of reasons:

- A unified message and approach is easier to communicate to the public and easier for the public to understand.
- Public support and cooperation are likely to be higher if drought management actions are equitable throughout Everett's Water Service Area (EWSA).
- It is easier to forecast and manage demand if drought management actions are consistent throughout the EWSA.

DRP STAGES

The PUD's DRP recognizes the fact that customers prefer the opportunity to meet targeted demand reductions through voluntary measures before mandatory restrictions, rate incentives or penalties are put in place. As a result, the DRP provides a four-stage approach to deal with a drought event. Each stage provides an increasingly aggressive set of actions that will be implemented, as drought conditions become more severe.

The four stages of the DRP include a variety of communications, internal operating adjustments, and supply and demand management strategies. These stages are characterized as follows:

- <u>Advisory Stage</u> The public is informed that a water shortage may occur and is encouraged to use water wisely.
- <u>Voluntary Stage</u> If supply conditions worsen, this stage relies on voluntary cooperation to meet communicated demand-reduction goals. During this stage, the PUD will implement water saving actions and recommend specific voluntary actions for its retail and wholesale customers. The Voluntary Stage actions are listed in Table 1, on page 6.
- <u>Mandatory Stage</u> If the Voluntary Stage does not meet the demand reduction goals, the DRP moves to the Mandatory Stage. During this stage, the PUD will implement more aggressive water saving actions, including consideration of rate incentives, and will limit or prohibit certain water use activities. The Mandatory Stage actions are listed in Table 2, on page 8.
- <u>Emergency Stage</u> If supply conditions worsen and the Mandatory Stage does not meet the required demand reduction, the plan moves to the

Emergency Stage. This stage addresses the most severe need for demand reduction, establishes emergency restrictions, and may include penalties.

Recommendations_for implementing the four stages of the DRP will be made to the PUD's Assistant General Manager for Water Resources (Water Resources AGM) by the Water Resource Senior Managers for Engineering, Administration and Operations/Maintenance (Drought Response Team –(DRT)).

STAGE 1 – ADVISORY

Any one of the following conditions will trigger the Advisory Stage:

- Spada water level is at or less than 80 percent of normal, due to exceptionally low precipitation, and/or lower than normal carryover from the previous year.
- The snowpack and inflows that feed Spada are at or less than 80 percent of normal levels.
- Water table measurements in wells supplying the PUD's, or contract operated water systems are at or less than 80 percent of historically normal levels. In this case, only the customers served by the affected well (not all PUD customers) would be affected.

The Advisory Stage will focus on external communications. The PUD will inform affected customers that the potential exists for a future water shortage. The message would include the following basic elements.

- There is a lower than normal supply of water in Spada or the water table.
- It is not known when conditions may return to normal.
- If the conditions do not improve, the PUD may have to take steps to reduce water consumption.
- Customers are encouraged to use water wisely to avoid the possibility of more stringent actions.

In addition to advising customers about the potential water shortage, the Advisory Stage will prompt a number of actions at the PUD:

- The DRT will assess the situation and assign responsibilities for carrying out plan actions.
- Data collection (e.g., stream flows, snowpack conditions, water table measurements, weather forecasts, reservoir levels) and computer modeling of projected supply, demand and storage will be intensified.

- Media contacts will be identified and a fact sheet will be developed and provided to PUD customer service staff that outlines the water situation.
- Planning and preparation for the Voluntary Stage will be initiated including an assessment of staffing impacts, training needs and communication strategies.

STATE 2 – VOLUNTARY

Any one of the following conditions will trigger the Voluntary Stage:

- Spada water level is at or less than 75 percent of normal, due to exceptionally low precipitation, and/or lower than normal carryover from the previous year.
- The snowpack and inflows that feed Spada are at or less than 75 percent of normal levels.
- Water table measurements in the wells supplying the PUD's, or contract operated water systems are at or less than 75 percent of historically normal levels. In this case, only the customers served by the affected well (not all PUD customers) would be contacted.

The Voluntary Stage will be a call to action. The PUD will inform its wholesale and retail customers that water supply conditions have not improved and that the PUD needs their help to reduce water consumption. This message will include the following elements:

- The water supply in Spada continues to be lower than normal.
- Water table levels are lower than normal.
- There is a reasonable probability that the conditions will not return to normal prior to the peak summer season.
- The PUD is taking steps to limit the water it uses.
- Announce a conservation goal of a 10 percent reduction.
- Customers are encouraged to voluntarily reduce demand to avoid the need for more stringent actions in the future.

In the Voluntary Stage, the PUD will implement a number of water-saving steps and will ask retail customers to limit certain specific water related activities. These actions are shown in Table 1:

PUD Actions	Wholesale/Retail Customer Actions
• Limit all non-essential domestic uses of	• Limit all non-essential domestic uses of
water	water
• Limit landscape irrigation around public facilities	• Limit car washing and spray cleaning of driveways
• Encourage Fire Districts to limit water use during drills	• Limit irrigation of residential gardens and lawns
• Limit the frequency of water flushing activities	• Limit irrigation of golf fairways and cemeteries
• Reduce operating pressure where feasible	• Limit most recreational uses of water

TABLE 1:	Stage 2	Voluntary	Actions
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In addition to promoting voluntary water conservation, the Voluntary Stage will prompt a number of other actions at the PUD:

- The DRT will begin to meet on a regular basis to coordinate internal and external actions.
- A communications plan will be developed and implemented to keep customers, informed about the water situation, promote conservation strategies, and encourage behavioral changes. The communications plan will also address a systematic approach for communicating with the PUD's Board of Commissioners, and elected officials and staff of the PUD's wholesale water customers.
- Watering (irrigation) guidelines will be established and communicated to the PUD's wholesale and retail customers.
- Members of the DRT will meet with staff and elected officials of the Cities of Arlington and Granite Falls to discuss the situation and the possibility that mandatory and/or emergency actions may be required if the water supply situation worsens. DRT staff would seek an agreement with the cities, in which the cities agree to a 10 percent reduction in their water demand in the event that Mandatory Stage is reached.
- Planning and preparation for the Mandatory Stage will be initiated, including an assessment of staffing impacts, training needs, rate incentive options and communication strategies.

STATE 3 – MANDATORY

The Water Resources AGM will authorize progressing to the Mandatory Stage based on the recommendations of the DRT. This will be triggered by either of the following conditions:

- Supply conditions have become progressively more serious and disruptions in service are anticipated if significant reductions or source enhancements are not made. This trend is expected to continue or worsen, and the goals established in the Voluntary Stage have not been achieved.
- Supply modeling indicates that demand levels must be reduced by specific, quantifiable amounts to avoid serious impacts on the ability to meet essential water needs in the future. Supply modeling indicates that expected demands may not be met if this trend continues.

The Mandatory Stage will identify specific water conservation actions that customers are required to take. The PUD will inform its wholesale and retail customers that voluntary actions have not been successful and that restrictions must be imposed to address the water shortage situation. This message will include the following elements:

- The water supply in Spada is lower than normal and is unlikely to return to normal conditions in the immediate future.
- The water level in supply wells is lower than normal and is unlikely to return to normal conditions in the immediate future.
- The voluntary approach has not resulted in the necessary savings.
- Water Consumption has reached or exceeded 95 percent of production capacity.
- The PUD is instituting water restrictions to ensure that there is an adequate supply of water throughout the duration of the shortage period.
- The Lake Stevens wells will be used if needed.
- Rate incentives to reduce water demand will be presented to the PUD's Board of Commissioners for their consideration.
- Customers are instructed to eliminate certain water-use activities to avoid even more stringent measures in the future.
- The PUD will seek reductions or limits to out-of-county transfers of water to King County.
- The PUD will consider emergency response regulations including the ability to penalize violations of water use restrictions.

In the Mandatory Stage, the PUD will eliminate all non-essential uses of water and will ask wholesale and retail customers to eliminate a variety of water-related activities. These actions are shown in Table 2:

PUD/Wholesale Actions	Retail Customer Actions
• Eliminate all non-essential services and	• Eliminate all non-essential domestic
uses of water	uses of water
• Eliminate landscape irrigation around	• Eliminate washing cars, spray cleaning
public facilities	and pressure washing
• Eliminate irrigation of parks and	• Eliminate irrigation of residential
median/gateway areas	gardens and lawns
• Eliminate non-essential system flushing	• Eliminate irrigation of golf fairways
activities	and cemeteries
• Eliminate non-essential sewer flushing	• Eliminate all recreational uses of PUD
activities	water (swimming pools, water slides,
	etc)
Restrict Fire Department training	• Reduce commercial uses of water to
activities	prescribed levels
Limit water sales outside Snohomish	Reduce process water usage to
County	prescribed levels

TABLE 2: Stage 3 Mandatory Actions

In addition to prescribing mandatory conservation actions, the Mandatory Stage will prompt a number of other actions by the PUD:

- Implement the reductions to Arlington and Granite Falls that were included in negotiated agreements.
- Develop and implement a communications plan to keep all affected customers informed about the water situation and to publicize the restrictions.
- Develop an enforcement plan for consideration by the PUD's Board of Commissioners which defines the enforcement mechanism(s), identifies staffing and management of the enforcement process, and defines procedures for dealing with violators.
- Develop a policy for granting water restriction exemptions that identifies the exemption criteria, an application procedure, and the evaluation/determination process.
- Planning and preparation for the Emergency Stage will be initiated, including an assessment of staffing impacts, training needs, and communication strategies.

STATE 4 – EMERGENCY

The likelihood of the Emergency Stage is extremely remote and no drought-related emergency has occurred in the area. The Emergency Stage identifies actions that will be taken only when a shortage of water for public health and safety is imminent. Three things characterize this stage. First, increasingly stringent restrictions will be established and enforced. Second, significant rate surcharges may be implemented to reduce consumption. Third, extraordinary measures, such as hauling water or installing emergency pumps may be necessary.

The PUD will inform its wholesale and retail customers that all previous actions have not been successful and that emergency restrictions must be imposed to address the water shortage. This message will include the following elements:

- The water shortage problem is severe and has become a public emergency.
- All non-essential uses of water must be eliminate
- Taste and odor water quality problems may occur due to system-wide reductions of water consumption, reduced water pressure and system flushing, however the water supply still meets all health related standards.
- Low pressure problems may occur throughout the water system.
- There will be increased enforcement of the water-use restrictions and violators will face penalties.
- The PUD's Board of Commissioners may implement a rate surcharge.

Given the unique nature of the Emergency Stage, a list of actions will be developed by the DRT based on the characteristics of the water shortage event.

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Appendix 8-2

Water Rights

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Lake Stevens Integrated Water Right Self-Assessment Form for Water System Plan

<u>Water Right</u> <u>Permit,</u> <u>Certificate, or</u> <u>Claim #</u> *If water right is	WFI Source # If a source has multiple water rights, list each water right on	Qi= Instar Qa= Ar T	Existing Wat ntaneous Flow Rat nnual Volume Allo his includes whole	M or CFS) t/Year) d	Current Source Production – Most Recent Calendar Year Qi = Max Instantaneous Flow Rate Withdrawn (GPM or CFS) Qa = Annual Volume Withdrawn (Acre-Feet/Year) This includes wholesale water sold				10-Year Forecasted Source Production (determined from WSP) This includes wholesale water sold				20-Year Forecasted Source Production (determined from WSP) This includes wholesale water sold				
interruptible,	separate line	Primary	Non-Additive	Primary	Non-	<u>Total Qi</u>	<u>Current</u>	Total Qa	<u>Current</u>	<u>Total Qi</u>	<u>10-Year</u>	Total Qa	10-Year	<u>Total Qi</u>	<u>20-Year</u>	Total Qa	<u>20-Year</u>
identify limitation		Qi	Qi	<u>Qa</u>	Additive Qa	Maximum	Excess or	Maximum	Excess or	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted
in yellow section		Maximum	Maximum	Maximum	Maximum	Instantaneous	(Deficiency)	Annual	(Deficiency)	Instantaneous	Excess or	Annual	Excess or	Instantaneous	Excess or	Annual	Excess or
below		Rate Allowed	Rate	Volume	Volume	Flow Rate	Qi	Volume	<u>Qa</u>	Flow Rate	(Deficiency)	Volume	(Deficiency)	Flow Rate	(Deficiency)	Volume	(Deficiency)
			Allowed	Allowed	Allowed	Withdrawn		Withdrawn		in 10 Years	Qi	in 10 Years	Qa	in 20 Years	Qi	in 20 Years	<u>Qa</u>
1 G1-*00782C (Cert 168-A)	S05 AGB694 Lake Stevens Well 1	1,200	0	700	0	1200	0	609	92	1,200	-	700	-	1,200	-	700	-
2 G1-*00783C (Cert 169-A)	S06 AGB695 Lake Stevens Well 2	1,200	0	700	0	1200	0	609	92	1,200	-	700	-	1,200	-	700	-
3 S1-*07584C (Cert 04648)	Lake Stevens Surface Water	224	0	362*	0	0	224	-	362	-	224	-	362	-	224	-	362
	TOTALS =	2,624		1,762		2400	224	1217	545	2400	224	1400	362	2400	224	1400	362
Column Identifier	s for Calculations:	A		В		С	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	Н	=B-H

PENDING WATER RIGHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology.

Application	New or Change		Quantities Requested									
Number	Application?	Date Submitted	Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa						

INTERTIES: Systems receiving	NTERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.															
Name of Wholesaling	g Quantities Allowed Expirati			Currently Purchased				10-Year Forecasted Purchase				20-Year Forecasted Purchase				
System Providing Water	In Contract		Date of	Current quantity purchased through intertie			Forecasted quantity purchased through intertie				Forecasted quantity purchased through intertie					
	<u>Maximum</u>	<u>Maximum</u>	Contract	<u>Maximum</u>	<u>Current</u>	<u>Maximum</u>	<u>Current</u>	<u>Maximum</u>	Future Excess	<u>Maximum</u>	Future	<u>Maximum</u>	<u>Future</u>	<u>Maximum</u>	<u>Future</u>	
	Qi	<u>Qa</u>		Qi	Excess or	<u>Qa</u>	Excess or	Qi	<u>or</u>	<u>Qa</u>	Excess or	<u>Qi</u>	Excess or	<u>Qa</u>	Excess or	
	Instantaneous	Annual		Instantaneous	(Deficiency)	Annual	(Deficiency)	10-Year	(Deficiency)	10-Year	(Deficiency)	20-Year	(Deficiency)	20-Year	(Deficiency)	
	Flow Rate	Volume		Flow Rate	Qi	Volume	Qa	Forecast	Qi	Forecast	Qa	Forecast	Qi	Forecast	Qa	
1 City of Everett	Nolimit	Nolimit		6 002		2 700	NI/A	0 0 2 2	NI/A	6 2 1 0	NI / A	10 1/1	NI / A	7 2 2 2		
(See list on next page)				0,003	N/A	5,790	N/A	0,032	N/A	0,510	N/A	10,141	N/A	1,522	N/A	
2																
TOTALS =				6,003	N/A	3,790	N/A	8,832	N/A	6,310	N/A	10,141	N/A	7,322	N/A	
Column Identifiers for Calcula	ations: A	В		C	=A-C	D	=B-D	E	=A-E	F	=B-F	G	=A-G	Н	=B-H	
						i										

INTERRUPTIBLE WATER RIGHTS: Identify limitations on any water rights listed above that are interruptible.											
Water Right #	Conditions of Interruption	Time Period of Interruption									
1											
2											
3											

ADDITIONAL COMMENTS:

* PUD estimate. Not a legal quantification.

- 1. The following page lists all interties that supply Everett water to the Lake Stevens Integrated water system.
- could be off-line on a peak day.
- 8,722 acre-ft in 2040) minus the maximum allowed Qa from the Lake Stevens wells.

2. The 10-year & 20-year Qi for interties are based on the Lake Stevens projected MDD in Table 5-9 (12,718,506 in 2030 & 14,603,199 gpd in 2040) converted to gpm continuously over 24 hours, considering the possibility that Lake Stevens wells

3. The 10- and 20-year Qa for interties is based on the Lake Stevens annual projection in Table 5-9 (7,710 acre-ft in 2030 &

4. As stated in Section 8.1.1 of the WSP, PUD has an ongoing interest in retaining the municipal Lake Stevens surface water right to meet future demands within the Lake Stevens Integrated water system.

Purchased Wat	er Connections f	for the Lake	Stevens	Integrated	Water Syst	em:

Name	Name of Purveyor Providing Water	Facility Description
S01 – Everett (Glenwood)	Everett	Pumped supply, capacity = 3500 gpm
		(2000 gpm to 500 ft HGL and 1500 gpm to 580 ft HGL)
S02 – Everett (East Hewitt)	Everett	Pump station decommissioned.
		Scheduled for re-construction in 2029.
		See CIP 100, 3500 gpm future pump station capacity.
S03 – Everett (Soperwood Gravity)	Everett via Marysville JOA-line	Gravity supply. 500 gpm capacity reported on WFI.
S04 – Everett (Cavaleros)	Everett	Gravity supply. 1750 gpm capacity reported on WFI.
S08 – Everett (Machias)	Everett	Pumped supply, capacity = 3000 gpm
S10 – Everett (Soperwood Pumped)	Everett via Marysville JOA-line	Pumped supply, capacity = 1600 gpm
S11 – Everett (Roesiger)	Everett	Pumped supply, capacity = 700 gpm
S12 – Everett (Dutch Hill 1)	Everett	Gravity supply. 1250 gpm capacity reported on WFI.
S13 – Everett (Dutch Hill 2)	Everett	Gravity supply. 1250 gpm capacity reported on WFI.
S14 – Everett (157 th Ave SE)	Everett	Gravity + Pumped supply. 800 gpm reported capacity.

Other than the 3.42 mgd withdrawal limit from the Marysville JOA-line (S03 & S10 combined), there is no limit for withdrawals from the supply connections.

The following purchased water connections were abandoned and will not return to service:

Name	Name of Purveyor Providing Water	Facility Description				
S07 – Everett (Williams Rd)	Everett	Abandoned				
S09 – Everett (Marysville 44 th St NE)	Marysville/Everett	Abandoned Emergency Intertie				
S15 – Everett (KlaHaYa)	Everett	Abandoned in November 2022				

Storm Lake Water Right Self-Assessment Form for Water System Plan

<u>Water Right</u> <u>Permit,</u> <u>Certificate, or</u> <u>Claim #</u> *If water right is	WFI Source # If a source has multiple water rights, list each water right on	Qi= Instaı Qa= Aı T	Existing Wat ntaneous Flow Rat nnual Volume Allo his includes whole	Current Qi = Max Insta Qa = Ann Th	Source Prod Calend Intaneous Flow Intaneous Flow Intaneous Flow	uction – Mos lar Year Rate Withdraw thdrawn (Acre- olesale water sc	<u>t Recent</u> n (GPM or CFS) Feet/Year) old	<u>10-Yea</u> Th	r Forecasted ((determined) is includes who	Source Proc from WSP) esale water so	luction old	20-Year Forecasted Source Production (determined from WSP) This includes wholesale water sold					
interruptible,	separate line	Primary	Non-Additive	Primary	Non-	<u>Total Qi</u>	<u>Current</u>	Total Qa	<u>Current</u>	<u>Total Qi</u>	<u>10-Year</u>	Total Qa	10-Year	<u>Total Qi</u>	<u>20-Year</u>	Total Qa	<u>20-Year</u>
identify limitation		Qi	Qi	<u>Qa</u>	Additive Qa	Maximum	Excess or	Maximum	Excess or	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted
in yellow section		Maximum	Maximum	Maximum	Maximum	Instantaneous	(Deficiency)	Annual	(Deficiency)	Instantaneous	Excess or	Annual	Excess or	Instantaneous	Excess or	Annual	Excess or
below		Rate Allowed	Rate	Volume	Volume	Flow Rate	<u>Qi</u>	Volume	<u>Qa</u>	Flow Rate	(Deficiency)	Volume	(Deficiency)	Flow Rate	(Deficiency)	Volume	(Deficiency)
			Allowed	Allowed	Allowed	Withdrawn		Withdrawn		in 10 Years	Qi	in 10 Years	<u>Qa</u>	in 20 Years	Qi	in 20 Years	<u>Qa</u>
1																	
2																	
3																	
4																	
5																	
6																	
	TOTALS =																
Column Identifiers	s for Calculations:	А		В		С	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	Н	=B-H

PENDING WATER R	PENDING WATER RIGHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology.													
Application	New or Change			Quantities	Requested									
Number	Application?	Date Submitted	Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa								

INTERTIES: Systems receiving	ITERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.															
Name of Wholesaling System Providing Water	Quantities In Cor	s Allowed htract	Expiration Date of	Curre	Currently Pure	chased (2020) hased through ir	ntertie	10-Year Forecasted Purchase (2030) Forecasted quantity purchased through intertie				20-Year Forecasted Purchase (2040) Forecasted guantity purchased through intertie				
- , ,	Maximum	Maximum	Contract	Maximum	<u>Current</u>	Maximum	<u>Current</u>	<u>Maximum</u>	Future Excess	Maximum	<u>Future</u>	Maximum	Future	Maximum	Future	
	Qi	<u>Qa</u>		Qi	Excess or	<u>Qa</u>	Excess or	Qi	or	Qa	Excess or	Qi	Excess or	<u>Qa</u>	Excess or	
	Instantaneous	Annual		Instantaneous	(Deficiency)	Annual	(Deficiency)	10-Year	(Deficiency)	10-Year	(Deficiency)	20-Year	(Deficiency)	20-Year	(Deficiency)	
	Flow Rate	Volume		Flow Rate	<u>Qi</u>	Volume	<u>Qa</u>	Forecast	Forecast <u>Qi</u> Forecast <u>Qa</u>				<u>Qi</u>	Forecast	<u>Qa</u>	
1 City of Everett	No Limit	No Limit		109	N/A	60	N/A	125	N/A	68	N/A	141	N/A	77	N/A	
2																
3																
TOTALS =				109	N/A	60	N/A	125	N/A	68	N/A	141	N/A	77	N/A	
Column Identifiers for Calcula	ations: A	В		C	=A-C	D	=B-D	E	=A-E	F	=B-F	G	=A-G	Н	=B-H	

INTERRUPTIBLE WA	TER RIGHTS: Identify limitations on any water rights lis	ted above that are interruptible.
Water Right #	Conditions of Interruption	Time Period of Interruption
1		
2		
3		

ADDITIONAL COMMENTS:

- Qi is the MDD (gpd) from Table 5-9 (157,585 gpd in 2020; 180,676 gpd in 2030 and 202,722 gpd in 2040) divided by 1,440 minutes per day.
- Qa is the annual projection from Table 5-9 in 2020, 2030 and 2040.

Creswell Water Right Self-Assessment Form for Water System Plan

<u>Water Right</u> <u>Permit,</u>	WFI Source # If a source has	Qi= Instar	Existing Wat ntaneous Flow Rat	t <mark>er Rights</mark> e Allowed (GPI	M or CFS)	<u>Current Source Production – Most Recent</u> <u>Calendar Year</u>			10-Year Forecasted Source Production (determined from WSP)				20-Year Forecasted Source Production (determined from WSP)				
Certificate, or	multiple water	Qa= Ar	nnual Volume Allo	wed (Acre-Fee	t/Year)	Qi = Max Insta	ntaneous Flow	Rate Withdraw	n (GPM or CFS)	Th	is includes who	esale water so	old	Th	is includes who	esale water sol	d
Claim #	rights, list each	Т	his includes whole	esale water solo	d	Qa = Ann	iual Volume Wi	thdrawn (Acre-l	eet/Year)								
*If water right is	water right on		Primary Non-Additive Primary Non-			Tł	nis includes who	olesale water so	ld				Γ				
interruptible,	separate line	Primary	Non-Additive	Primary	Non-	<u>Total Qi</u>	<u>Current</u>	<u>Total Qa</u>	<u>Current</u>	<u>Total Qi</u>	<u>10-Year</u>	<u>Total Qa</u>	<u>10-Year</u>	<u>Total Qi</u>	<u>20-Year</u>	<u>Total Qa</u>	<u>20-Year</u>
identify limitation		<u>Qi</u>	<u>Qi</u>	<u>Qa</u>	Additive Qa	Maximum	Excess or	Maximum	Excess or	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted
in yellow section		Maximum	Maximum	Maximum	Maximum	Instantaneous	(Deficiency)	Annual	(Deficiency)	Instantaneous	Excess or	Annual	Excess or	Instantaneous	Excess or	Annual	Excess or
below		Rate Allowed	Rate	Volume	Volume	Flow Rate	<u>Qi</u>	Volume	<u>Qa</u>	Flow Rate	<u>(Deficiency)</u>	Volume	(Deficiency)	Flow Rate	<u>(Deficiency)</u>	Volume	(Deficiency)
			Allowed	Allowed	Allowed	Withdrawn		Withdrawn		in 10 Years	Qi	in 10 Years	<u>Qa</u>	in 20 Years	Qi	in 20 Years	<u>Qa</u>
1																	
2																	
3																	
4																	
5																	
6																	
	TOTALS =																
Column Identifiers	for Calculations:	A		В		С	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	Н	=B-H

PENDING WATER R	IGHT APPLICATIONS: Ide	entify any water right a	pplications that have bee	en submitted to Ecology.							
Application	New or Change			Quantities	Requested						
Number	Application?	Date Submitted	Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa					

NTERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.															
Name of Wholesaling System Providing Water	Quantities In Cor	s Allowed ntract	Expiration Date of	Curre	Currently Pure	chased (2020) nased through ir	ntertie	10- Foreca	Year Forecasted asted quantity purc	Purchase (203 hased through in	30) tertie	20-Y Forecas	ear Forecasted	Purchase (20 hased through i	40) ntertie
	<u>Maximum</u>	<u>Maximum</u>	Contract	<u>Maximum</u>	<u>Current</u>	<u>Maximum</u>	<u>Current</u>	<u>Maximum</u>	Future Excess	<u>Maximum</u>	<u>Future</u>	<u>Maximum</u>	<u>Future</u>	<u>Maximum</u>	<u>Future</u>
	Qi	<u>Qa</u>		Qi	Excess or	<u>Qa</u>	Excess or	<u>Qi</u>	or	<u>Qa</u>	Excess or	<u>Qi</u>	Excess or	<u>Qa</u>	Excess or
	Instantaneous	Annual		Instantaneous	(Deficiency)	Annual	(Deficiency)	10-Year	(Deficiency)	10-Year	(Deficiency)	20-Year	(Deficiency)	20-Year	(Deficiency)
	Flow Rate	Volume		Flow Rate	<u>Qi</u>	Volume	<u>Qa</u>	Forecast	<u>Qi</u>	Forecast	<u>Qa</u>	Forecast	<u>Qi</u>	Forecast	<u>Qa</u>
1 City of Everett	No Limit	No Limit		58 gpmC	N/A	6 afy	N/A	67 gpm	N/A	7 afy	N/A	75 gpm	N/A	8 afy	N/A
2															
3															
TOTALS =				58 gpm	N/A	6 afy	N/A	67 gpm	N/A	7 afy	N/A	75 gpm	N/A	8 afy	N/A
Column Identifiers for Calcula	ations: A	В		C	=A-C	D	=B-D	E	=A-E	F	=B-F	G	=A-G	Н	=B-H

INTERRUPTIBLE WA	TER RIGHTS: Identify limitations on any water rights lis	ted above that are interruptible.
Water Right #	Conditions of Interruption	Time Period of Interruption
1		
2		
3		

ADDITIONAL COMMENTS:

- Qi is the peak hour demand (PHD) from Table 5-9, because the Creswell system has no storage until it is merged into the Lake Stevens Integrated system.
- Qa is the annual projection for Creswell from Table 5-9 in 2020, 2030 and 2040.

May Creek Water Right Self-Assessment Form for Water System Plan

<u>Water Right</u> <u>Permit,</u> <u>Certificate, or</u> Claim #	WFI Source # If a source has multiple water rights, list each	Qi= Instar Qa= Ar T	Existing Wat ntaneous Flow Rat nnual Volume Allo his includes whole	ter Rights are Allowed (GP wed (Acre-Fee esale water sol	M or CFS) et/Year) d	Current Source Production – 2020 Qi = Max Instantaneous Flow Rate Withdrawn (GPM or CFS) Qa = Annual Volume Withdrawn (Acre-Feet/Year) This includes wholesale water sold					ir Forecasted (203 is includes who	Source Proc 30) lesale water so	luction	20-Year Forecasted Source Production (2040) This includes wholesale water sold				
*If water right is interruptible, identify limitation in yellow section below	water right on separate line	Primary Qi Maximum Rate Allowed	Non-Additive Qi Maximum Rate Allowed	Primary Qa Maximum Volume Allowed	Non- Additive Qa Maximum Volume Allowed	<u>Total Qi</u> Maximum Instantaneous Flow Rate Withdrawn	<u>Current</u> <u>Excess or</u> (Deficiency) <u>Qi</u>	<u>Total Qa</u> Maximum Annual Volume Withdrawn	<u>Current</u> <u>Excess or</u> (Deficiency) <u>Qa</u>	Total Qi Maximum Instantaneous Flow Rate in 10 Years	<u>10-Year</u> <u>Forecasted</u> <u>Excess or</u> (Deficiency) <u>Qi</u>	Total Qa Maximum Annual Volume in 10 Years	<u>10-Year</u> Forecasted Excess or (Deficiency) Qa	Total Qi Maximum Instantaneous Flow Rate in 20 Years	20-Year Forecasted Excess or (Deficiency) Qi	<u>Total Qa</u> Maximum Annual Volume in 20 Years	20-Year Forecasted Excess or (Deficiency) Qa	
1 G1-*09360C (Cert #6488-A)	S01 Well 1 AGB579 S02 Well 2 ABG629	300	0	15	0	500	0	15	0	500	0	15	0	500	0	15	0	
2 G1-20625C	S01 Well 1 AGB579 S02 Well 2 ABG629	200	0	304.5	15	500	0	84	220.5	300	0	105	199.5	500	0	131	173.5	
3											-				-		-	
	TOTALS =	500		319.5		500	0	99	220.5	500	0	120	199.5	500	0	146	173.5	
Column Identifier	rs for Calculations:	A		В		С	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	Н	=B-H	

PENDING WATER RI	GHT APPLICATIONS: Ide	entify any water right a	pplications that have bee	en submitted to Ecology.									
Application New or Change Date Submitted Date Submitted													
Number	Application?	Date Submitted	Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa							

ITERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.															
Name of Wholesaling System Providing Water	Ading Water Quantities Allowed In Contract Expiration Date of Currently Purchased Current quantity purchased through intertie								10-Year Forecas sted quantity purc	ted Purchase	itertie	Forecas	20-Year Forecas sted quantity purcl	ted Purchase nased through in	ntertie
	<u>Maximum</u>	<u>Maximum</u>	Contract	<u>Maximum</u>	<u>Current</u>	<u>Maximum</u>	<u>Current</u>	<u>Maximum</u>	Future Excess	<u>Maximum</u>	<u>Future</u>	<u>Maximum</u>	<u>Future</u>	<u>Maximum</u>	<u>Future</u>
	Qi	<u>Qa</u>		Qi	Excess or	<u>Qa</u>	Excess or	<u>Qi</u>	or	<u>Qa</u>	Excess or	<u>Qi</u>	Excess or	<u>Qa</u>	Excess or
	Instantaneous	Annual		(Deficiency)	Annual	(Deficiency)	10-Year	(Deficiency)	10-Year	(Deficiency)	20-Year	(Deficiency)	20-Year	(Deficiency)	
	Flow Rate	Volume		Flow Rate	Qi	Volume	<u>Qa</u>	Forecast	<u>Qi</u>	Forecast	<u>Qa</u>	Forecast	Qi	Forecast	<u>Qa</u>
1 Gold Bar (Emergency															
Intertie only)															
TOTALS =															
Column Identifiers for Calcula	ations: A	В		С	=A-C	D	=B-D	E	=A-E	F	=B-F	G	=A-G	Н	=B-H

INTERRUPTIBLE WA	TER RIGHTS: Identify limitations on any water rights list	ted above that are interruptible.
Water Right #	Conditions of Interruption	Time Period of Interruption
1		
2		
3		

ADDITIONAL COMMENTS:

May Creek Wells 1 & 2 alternate in operation.

The pump and flow control valves in Well 2 are designed with the intent to match Qi. Qa is from Table 5-9 for the indicated years.

Quantity/Type of Use/Period of Use, according to both the superseding certificates: "Municipal Supply - *The combined nonmitigated water quantities authorized for municipal use from the well field under Change to Ground Water Certificates 6488-A and CG1-20625C shall not exceed 500 gpm or 319.5 afy as stipulated in the SETTLEMENT AGREEMENT between the Tulip Tribe and the Snohomish PUD."

The Settlement Agreement stipulates that a portion of the groundwater pumped shall be returned to May Creek whenever the daily withdrawal exceeds 398,880 gpd in a 24-hour period. The 2040 MDD projection is about 63% of this amount, so the requirement is not expected to trigger during the 20-year planning period. The amount of water to be returned to May Creek is specified by a formula in the agreement.

Skylite Tracts Water Right Self-Assessment Form for Water System Plan

<u>Water Right</u> <u>Permit,</u> <u>Certificate, or</u> Claim #	WFI Source # If a source has multiple water rights, list each	Qi= Instar Qa= Ar T	Existing War ntaneous Flow Rar nnual Volume Allo his includes whole	ter Rights te Allowed (GP owed (Acre-Fee esale water sole	M or CFS) t/Year) d	Qi = Max Insta Qa = Anr Tł	rent Source F Intaneous Flow Inual Volume Wi Inis includes wh	Production – 2 Rate Withdraw thdrawn (Acre- olesale water sc	2020 n (GPM or CFS) ^F eet/Year) Ild	<u>10-Yea</u> Th	ir Forecasted (203 is includes who	Source Proc 80) lesale water so	luction	20-Year Forecasted Source Production (2040) This includes wholesale water sold				
*If water right is interruptible, identify limitation in yellow section below	water right on separate line	Primary Qi Maximum Rate Allowed	Non-Additive Qi Maximum Rate Allowed	Primary Qa Maximum Volume Allowed	Non- Additive Qa Maximum Volume Allowed	<u>Total Qi</u> Maximum Instantaneous Flow Rate Withdrawn	Current Excess or (Deficiency) Qi	<u>Total Qa</u> Maximum Annual Volume Withdrawn	<u>Current</u> <u>Excess or</u> (Deficiency) <u>Qa</u>	Total Qi Maximum Instantaneous Flow Rate in 10 Years	<u>10-Year</u> <u>Forecasted</u> <u>Excess or</u> (Deficiency) <u>Qi</u>	Total Qa Maximum Annual Volume in 10 Years	<u>10-Year</u> <u>Forecasted</u> <u>Excess or</u> <u>(Deficiency)</u> <u>Qa</u>	Total Qi Maximum Instantaneous Flow Rate in 20 Years	20-Year Forecasted Excess or (Deficiency) Qi	Total Qa Maximum Annual Volume in 20 Years	20-Year Forecasted Excess or (Deficiency) Qa	
1 G1-*10429C (Cert. 7293-A)	S01 Well AAA901	50		7.3		50	0	7.3	0	50	0	7.3	0	50	0	7.3	0	
2 G1-22033C	S01 Well AAA901	100		29.7		5	95	21.7	8	70	30	21.7	8	100	0	22.7	7	
3																		
	TOTALS =	150		37		55	95	29	8	120	30	29	8	150	0	30	7	
Column Identifier	s for Calculations:	A		В		С	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	Н	=B-H	

PENDING WATER R	PENDING WATER RIGHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology.												
Application	New or Change			Quantities	Requested								
Number	Application?	Date Submitted	Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa							

ITERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.															
Name of Wholesaling System Providing Water	Quantities In Con	Allowed tract	Expiration Date of	Curre	Currently lent quantity purch	Purchased nased through ir	ntertie	Foreca	10-Year Forecas sted quantity purc	ted Purchase hased through ir	Forecas	20-Year Forecasted Purchase Forecasted quantity purchased through intertie			
	<u>Maximum</u>	<u>Maximum</u>	Contract	<u>Maximum</u>	Current	Maximum	Current	<u>Maximum</u>	Future Excess	<u>Maximum</u>	Future	<u>Maximum</u>	Future	<u>Maximum</u>	Future
	Qi Qa Excess or Qa Excess or Qi Excess or Qa Excess or Instruction Instruction Instruction Instruction Instruction Instruction Instruction Instruction Instruction														
	Instantaneous	Annual		Instantaneous	(Deficiency)	Annual	(Deficiency)	10-Year	(Deficiency)	10-Year	(Deficiency)	20-Year	(Deficiency)	20-Year	(Deficiency)
	Flow Rate	Volume		Flow Rate	RateQiVolumeQaForecastQiForecastQaForecastQi							Forecast	Qa		
1															
TOTALS =															
Column Identifiers for Calcula	ations: A	В		C	=A-C	D	=B-D	E	=A-E	F	=B-F	G	=A-G	Н	=B-H

INTERRUPTIBLE WATER RIGHTS: Identify limitations on any water rights listed above that are interruptible.											
Water Right #	Conditions of Interruption	Time Period of Interruption									
1											
2											
3											

Qa is from Table 5-9 for the indicated years.

The Skylite system is served by a single well containing two pumps that currently alternate in operation. Snohomish PUD plans to replace the smaller of the two pumps within the next 10 years. At that time, PUD will explore the possibility of operating the two pumps together, as the community did before transferring ownership of the system to PUD. In the longer term, PUD will explore increasing the capacity of the well pumps to restore the ability to match the 150 gpm Qi. This could be either through installing larger pump(s) or pursuing a second point of withdrawal under the existing water rights to drill a second well on the adjacent reserve well site. When the well was drilled, it was pump tested for four hours at 150 gpm with 6 feet of drawdown and had very fast recovery. Drawdown and recovery of the well is still consistent with the original pump test.

Sunday Lake Water Right Self-Assessment Form for Water System Plan

<u>Water Right</u> <u>Permit,</u> <u>Certificate, or</u>	WFI Source # If a source has multiple water rights, list each	Qi= Instar Qa= Ar T	Existing Wat ntaneous Flow Rat nnual Volume Allo his includes whole	ter Rights are Allowed (GP wed (Acre-Fee esale water sol	M or CFS) t/Year) d	Qi = Max Insta Qa = Ann Tł	rent Source P ntaneous Flow nual Volume Wi nis includes who	Production – 2 Rate Withdraw thdrawn (Acre- olesale water sc	<mark>2020</mark> n (GPM or CFS) ^F eet/Year) Id	<u>10-Yea</u> Th	r Forecasted (203 is includes who	Source Proc 80) lesale water so	luction old	20-Year Forecasted Source Production (2040) This includes wholesale water sold				
*If water right is interruptible, identify limitation in yellow section below	water right on separate line	Primary Qi Maximum Rate Allowed	Non-Additive Qi Maximum Rate Allowed	Primary Qa Maximum Volume Allowed	<u>Non-</u> <u>Additive Qa</u> Maximum Volume Allowed	<u>Total Qi</u> Maximum Instantaneous Flow Rate Withdrawn	<u>Current</u> <u>Excess or</u> (Deficiency) <u>Qi</u>	<u>Total Qa</u> Maximum Annual Volume Withdrawn	<u>Current</u> <u>Excess or</u> (Deficiency) <u>Qa</u>	<u>Total Qi</u> Maximum Instantaneous Flow Rate in 10 Years	<u>10-Year</u> <u>Forecasted</u> <u>Excess or</u> (Deficiency) <u>Qi</u>	Total Qa Maximum Annual Volume in 10 Years	<u>10-Year</u> <u>Forecasted</u> <u>Excess or</u> (Deficiency) <u>Qa</u>	<u>Total Qi</u> Maximum Instantaneous Flow Rate in 20 Years	20-Year Forecasted Excess or (Deficiency) Qi	Total Qa Maximum Annual Volume in 20 Years	20-Year Forecasted Excess or (Deficiency) Qa	
1 G1-27418C	S03 Well #3 ABG638	100	0	40.5	0	100	0	40.5	-	100	-	40.5	-	100	-	40.5	-	
2 G1-*09636C (Cert. 07295)	S03 Well #3 ABG638	30	0	60	0	30	0	1.5	58.5	30	-	9.5	50.5	30	-	20.5	39.5	
							0		0		-		-		-		-	
	TOTALS =	130		100.5		130	0	42	58.5	130	0	50	50.5	130	0	61	39.5	
Column Identifier	rs for Calculations:	A		В		С	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	Н	=B-H	

PENDING WATER R	PENDING WATER RIGHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology.												
Application	New or Change			Quantities	Requested								
Number	Application?	Date Submitted	Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa							

ITERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.															
Name of Wholesaling System Providing Water	Quantities In Con	Allowed tract	Expiration Date of	Currently Purchased Current quantity purchased through intertie					10-Year Forecas sted quantity purcl	ted Purchase	itertie	20-Year Forecasted Purchase Forecasted quantity purchased through intertie			
	<u>Maximum</u>	<u>Maximum</u>	Contract	Maximum	Current	<u>Maximum</u>	<u>Current</u>	Maximum	Future Excess	<u>Maximum</u>	Future	<u>Maximum</u>	Future	<u>Maximum</u>	<u>Future</u>
	Qi	Qa		Qi	Excess or	Qa	Excess or	Qi	<u>or</u>	Qa	Excess or	Qi	Excess or	Qa	Excess or
	Instantaneous	Annual		Instantaneous	(Deficiency)	Annual	(Deficiency)	10-Year	(Deficiency)	10-Year	(Deficiency)	20-Year	(Deficiency)	20-Year	(Deficiency)
	Flow Rate	Volume		Flow Rate Qi Volume Qa Forecast Qi Forecast Qa						Forecast <u>Qi</u> Forecast					
TOTALS =															
Column Identifiers for Calcula	ations: A	D	=B-D	E	=A-E	F	=B-F	G	=A-G	Н	=B-H				

INTERRUPTIBLE WATER RIGHTS : Identify limitations on any water rights listed above that are interruptible.											
Water Right #	Conditions of Interruption	Time Period of Interruption									
1											
2											
3											

ADDITIONAL COMMENTS:

Qa is from Table 5-9 for the indicated years.

G1-*09636C (aka 07295) is a superseding certificate issued on May 19, 2009. This amount (30 gpm/ 60 afy) was transferred to Sunday Lake from other water systems that had merged into the District's main water system. A provision in the superseding certificate says, "The combined Qi and Qa of GWC 7295 and G1-27418C shall not exceed 130 gpm and 100.5 afy, which are authorized maximums of the individual rights."

The existing consumption indicated above is from a single well. The withdrawal is split across the water rights to illustrate how both rights are being used.

Warm Beach System, Kayak Wells - Water Right Self-Assessment Form for Water System Plan

Water Right	WFI Source #		Existing Wat	ter Rights		Curr	ent Source P	roduction – 2	2020	<u>10-Yea</u>	r Forecasted	Source Proc	luction	<u>20-Yea</u>	ar Forecasted	Source Prod	uction
Permit,	If a source has	Qi= Instar	ntaneous Flow Rat	te Allowed (GP	M or CFS)	Qi = Max Insta	ntaneous Flow	Rate Withdraw	n (GPM or CFS)		<u>(203</u>	<u>80)</u>			<u>(20</u> 4	<u>IO)</u>	
Certificate, or	multiple water	Qa= Ar	nnual Volume Allo	wed (Acre-Fee	et/Year)	Qa = Ann	ual Volume Wi	thdrawn (Acre-	Feet/Year)	Th	is includes who	esale water so	old	Th	nis includes who	esale water so	ld
Claim #	rights, list each	Т	his includes whole	esale water sol	d	Th	nis includes wh	olesale water so	old						•		
If water right is	water right on	Primary	Non-Additive	Primary	<u>Non-</u>	<u>Total Qi</u>	<u>Current</u>	<u>Total Qa</u>	<u>Current</u>	<u>Total Qi</u>	<u> 10-Year</u>	Total Qa	<u>10-Year</u>	<u>Total Qi</u>	<u>20-Year</u>	Total Qa	<u>20-Year</u>
interruptible,	separate line	Qi	<u>Qi</u>	<u>Qa</u>	Additive Qa	Maximum	Excess or	Maximum	Excess or	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted
identify limitation		Maximum	Maximum	Maximum	Maximum	Instantaneous	(Deficiency)	Annual	(Deficiency)	Instantaneous	Excess or	Annual	Excess or	Instantaneous	Excess or	Annual	Excess or
in yellow section		Rate Allowed	Rate	Volume	Volume	Flow Rate	<u>Qi</u>	Volume	<u>Qa</u>	Flow Rate	(Deficiency)	Volume	(Deficiency)	Flow Rate	(Deficiency)	Volume	(Deficiency)
below			Allowed	Allowed	Allowed	Withdrawn		Withdrawn		in 10 Years	<u>Qi</u>	in 10 Years	<u>Qa</u>	in 20 Years	Qi	in 20 Years	<u>Qa</u>
1 G1-23278C	Kayak Well 1 (not on WFI)	70 gpm		72 afy		0	70 gpm	0	72 afy	0	70	0	72 afy	0 gpm	70	0	72 afy
2 G1-24415C	S07 Kayak Well 2 BBF570	57 gpm		42 afy		57 gpm	0	42 afy	0	57 gpm	0	42 gpm	0	57 gpm	0	42 afy	0
3 G1-25989C	S07 Kayak Well 2 BBF570 S08 Kayak Well 3 BBF571	243 gpm	57 gpm	114 afy	42 afy	243 gpm	0	62 afy	52 afy	243 gpm	-	73 gpm	41 afy	243 gpm	-	85 afy	29 afy
	TOTALS =	370 gpm		228 afy		300 gpm	70 gpm	104 afy	124 afy	300	70	115 gpm	113 afy	300 gpm	70	127 afy	101 afy
Column Identifiers	s for Calculations:	A		В		С	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	Н	=B-H

PENDING WATER RI	PENDING WATER RIGHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology.												
Application	New or Change			Quantities	Requested								
Number	Application?	Date Submitted	Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa							

INTERTIES: Systems receiving	ITERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.														
Name of Wholesaling System Providing Water	Quantities	Allowed	Expiration Date of	Curre	Currently I	Purchased	tertie	Foreca	10-Year Forecas	ted Purchase	ntertie	Forecas	20-Year Forecas	ted Purchase	ntertie
System Fronung Water	Maximum Qi Instantaneous	Maximum Qa Annual	Contract	Maximum Qi Instantaneous	<u>Current</u> <u>Excess or</u> (Deficiency)	Maximum Qa Annual	Current Excess or (Deficiency)	Maximum Qi 10-Year	Future Excess or (Deficiency)	Maximum Qa 10-Year	<u>Future</u> <u>Excess or</u> (Deficiency)	Maximum Qi 20-Year	<u>Future</u> <u>Excess or</u> (Deficiency)	Maximum Qa 20-Year	<u>Future</u> <u>Excess or</u> (Deficiency)
	Flow Rate	Volume		Flow Rate	Qi	Volume	Qa	Forecast	Qi	Forecast	Qa	Forecast	Qi	Forecast	Qa
1															
TOTALS =															
Column Identifiers for Calculations: A B C =A-C D =B-D E =A-E F =B-F G =A-G H									Н	=B-H					

INTERRUPTIBLE WA	TER RIGHTS: Identify limitations on any water rights list	sted above that are interruptible.
Water Right #	Conditions of Interruption	Time Period of Interruption
1		
2		
3		

ADDITIONAL COMMENTS:

- Although the Kayak and Warm Beach wells are all used for the PUD's Warm Beach Water System, they are presented in separate water right self-assessment forms to help tracking for the Warm Beach Well 4 G1-25686P, which is restricted for use within the historic Warm Beach Water Association (WBWA) service area until that permit is perfected. - Under normal operation, the Kayak wells feed only the Kayak Pressure zones. When pressure drops in the Warm Beach-230 and/or -450 pressure zones under abnormal conditions, the Kayak wells supplement the Warm Beach pressure zones. -Qa values on this form are from the Kayak section of Table 5-9, and the other WSRA form uses Qa values from the "Warm Beach" section of Table 5-9. (To simplify the evaluation, this form does not account for the occasional passage of water from the Kayak zones to the Warm Beach pressure zones.)

- The 300 gpm combined Qi of the Kayak Well 2 & 3 water rights is based on the flow from Kayak Well 3. The Kayak Wells 2 & 3 alternate in operation, with Well 2 producing a slightly lower flow rate. - As described in Section 8.4.2 of the WSP, PUD intends to apply to transfer water rights from the Kayak Well 1 to its other wells or to drill a replacement well in the future. However, this may not be necessary prior to 2040.

Warm Beach System, WBWA Wells - Water Right Self-Assessment Form for Water System Plan

Water Right	WFI Source #		Existing Wat	ter Rights		Curi	rent Source F	Production –	2020	<u>10-Ye</u>	ar Forecasted	Source Proc	luction	<u>20-Ye</u>	ar Forecasted	Source Pro	duction
Permit,	If a source has	Qi= Instan	ntaneous Flow Rat	e Allowed (GI	PM or CFS)	Qi = Max Insta	intaneous Flow	Rate Withdrav	vn (GPM or CFS)		<u>(20</u>	<u>30)</u>			<u>(20</u>	<u>40)</u>	
Certificate, or	multiple water	Qa= An	nual Volume Allo	wed (Acre-Fe	et/Year)	Qa = Anr	nual Volume Wi	ithdrawn (Acre	-Feet/Year)	Т	his includes who	olesale water so	old	T	his includes who	olesale water s	sold
Claim #	rights, list each	Tł	his includes whole	esale water so	ld	TI	his includes wh	olesale water s	old								
*If water right is	water right on	Primary	Non-Additive	Primary	<u>Non-</u>	<u>Total Qi</u>	<u>Current</u>	Total Qa	<u>Current</u>	<u>Total Qi</u>	<u>10-Year</u>	<u>Total Qa</u>	<u>10-Year</u>	Total Qi	<u>20-Year</u>	Total Qa	<u>20-Year</u>
interruptible,	separate line	<u>Qi</u>	<u>Qi</u>	Qa	Additive Qa	Maximum	Excess or	Maximum	Excess or	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted
identify limitation		Maximum	Maximum	Maximum	Maximum	Instantaneous	(Deficiency)	Annual	(Deficiency)	Instantaneous	Excess or	Annual	Excess or	Instantaneou	Excess or	Annual	Excess or
in yellow section		Rate Allowed	Rate	Volume	Volume	Flow Rate	Qi	Volume	<u>Qa</u>	Flow Rate	(Deficiency)	Volume	(Deficiency)	s Flow Rate	(Deficiency)	Volume	(Deficiency)
below			Allowed	Allowed	Allowed	Withdrawn		Withdrawn		in 10 Years	<u>Qi</u>	in 10 Years	<u>Qa</u>	in 20 Years	<u>Qi</u>	in 20 Years	<u>Qa</u>
1 SWC 328	Lake Martha		0.3 cfs		216 afy												
	Lake Martha	0.3 cfs					405				105				405		
2 SWC 11576		(135 gpm)		81 aty*	135 afy*	0	135 gpm	0	81 aty*	0	135 gpm	0	81 afy*	0	135 gpm	0	81 afy*
3 G1-00718C	Warm Beach Well 1	35 gpm			30 afy	0	35 gpm	0		0	35 gpm	0		0	35 gpm		
4 G1-24266C	S01 Well 2 ABR307	50 gpm			80 afy	50 gpm	0	22 afy	58 non-additive	50 gpm	0	26 afy	54 non-additive	50 gpm	0	30 afy	50 non-additive
5 G1-24690C	Warm Beach Well 3R	33 gpm			39.6 afy	0	33 gpm	0		0	33 gpm	0		0	33 gpm		
6 G1-25686P	S04 Well 4 ABR309	200 gpm		135 afy*		200 gpm	0	87 afy	26 afy*	200 gpm	0	102 afy	7 afy*	200 gpm	0	120 afy	(-15 afy)*
	TOTALS =	453 gpm		216 afy		250 gpm	203 gpm	109 afy	107 afy	250 gpm	203 gpm	128 afy	88 afy	250 gpm	203 gpm	150 afy	66 afy
Column Identifiers	s for Calculations:	A		В		С	=A-C	D	=B-D	E	= A-E	F	=B-F	G	=A-G	Н	=B-H

Mouse-over any link for more information. Click on any link for more detailed instructions.

PENDING WATER RIGHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology.								
Application	New or Change Application?	Date Submitted	Quantities Requested					
Number			Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa		

INTERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.															
Name of Wholesaling System Providing Water	Quantities Allowed In ContractExpiration Date of			Currently Purchased Current quantity purchased through intertie			10-Year Forecasted Purchase Forecasted quantity purchased through intertie				20-Year Forecasted Purchase Forecasted quantity purchased through intertie				
	<u>Maximum</u>	<u>Maximum</u>	Contract	<u>Maximum</u>	<u>Current</u>	<u>Maximum</u>	<u>Current</u>	<u>Maximum</u>	Future Excess	<u>Maximum</u>	Future	<u>Maximum</u>	<u>Future</u>	<u>Maximum</u>	Future
	Qi	<u>Qa</u>		<u>Qi</u>	Excess or	Qa	Excess or	Qi	or	Qa	Excess or	<u>Qi</u>	Excess or	Qa	Excess or
	Instantaneous	Annual		Instantaneous	(Deficiency)	Annual	(Deficiency)	10-Year	(Deficiency)	10-Year	(Deficiency)	20-Year	(Deficiency)	20-Year	(Deficiency)
	Flow Rate	Volume		Flow Rate	Qi	Volume	Qa	Forecast	Qi	Forecast	Qa	Forecast	Qi	Forecast	Qa
1															
TOTALS =															
Column Identifiers for Calcula	ations: A	В		С	=A-C	D	=B-D	E	=A-E	F	=B-F	G	=A-G	Н	=B-H

INTERRUPTIBLE WATER RIGHTS: Identify limitations on any water rights listed above that are interruptible.						
Water Right #	Conditions of Interruption	Time Period of Interruption				
1						
2						
3						

ADDITIONAL COMMENTS:

* 135 afy of the 216 AFY surface water rights were transferred to the wells; 81 afy remains to be used from Lake Martha or transferred to groundwater sources, which is expected to be needed within the 20-year planning period.
* The 135-afy Qa for Well 4 includes annual volumes pumped from the other wells.
- Well 3R is in backup status until treatment difficulties are resolved and Well 1 is offline until it can be rehabilitated or replaced. The 2040 "Warm Beach" MDD of 361,788 gpd /1440 min/day = 251 gpm will necessitate action before 2040.
- Although the Kayak and WBWA wells are all used for the Warm Beach water system, they are presented on separate WRSA forms to help track G1-25686P, which is restricted for use within the historic WBWA service area until perfected.
- Under normal operation, the Kayak wells feed only the Kayak Pressure zones. When pressure drops in the Warm Beach-230& 450 pressure zones under abnormal conditions, the Kayak wells supplement the Warm Beach pressure zones. The system is set up to not allow water from the Warm Beach wells to enter the Kayak pressure zones.

- Qa values on this form are from the "Warm Beach" section of Table 5-9; and "Kayak" Qa is on the other form.

Lake Stevens

CERTIFICATE OF CHANGE TO CHANGE THE POINT OF WITHDRAWAL OF GROUND WATERS

Friend

THIS IS TO CERTIFY THAT Snohomish County Public Utility District No. 1 of Everett, Washington has complied with the requirements of the Revised Code of Washington 90.03 and 90.44 and is hereby granted a change in location of the well as granted in Groundwater Right Certificate 168-A recorded in Snohomish County.

That the previous point of withdrawal located 80 feet north and 80 feet west from the southwest corner of the northeast quarter of Section 8, Township 29N., Range 6E.W.M., is changed and now located 133 feet north and 130 feet west from the southwest corner of the northeast quarter, Section 8, Township 29N., Range 6E.W.M., Snohomish County.

That the withdrawal rate of 1,200 gpm, 700 acre-feet per-year for domestic supply as granted in Certificate 168-A remains unchanged.

Given under my hand and seal of this office, Department of Ecology, Northwest Region, this ______ day of ______, 1988.

> Department of Ecology Christine O. Greguire

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Northwest Regional Manager

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Certificate of Change Vol /, page ZS

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JOHN SPELLMAN Governor



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DONALD W. MOOS Director

Water & Properties Dept.

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STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

4350-150th Ave. N.E. • Redmond, Washington 98052 • (206) 885-1900

September 26, 1984

Snohomish County PUD No. 1 Attn: Craig Thompson P.O. Box 1107 Everett, Washington 98206

Application of Change No. 168A

Gentlemen:

Your application for change has been approved in accordance with the enclosed Report of Examination. Fees for recording the Certificate of Change will be requested when all provisions specified in the report are satisfied. A period of three years has been given in which to accomplish the change and notify our office.

This letter and enclosed Report of Examination constitute our determination and order. Chapter 43.21B RCW provides that any person who feels aggrieved by such an order may submit an appeal to the Pollution Control Hearings Board of Washington, with a copy to the Director of the Department of Ecology, within 30- days or receipt of the order. Procedures for requesting a hearing may be obtained from the department.

Sincerely,

Ceriek by SB

Regional Manager Northwest Regional Office

RKM:gm

Enclosure

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DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION FOR APPLICATION OF CHANGE

Background:

On November 17, 1983 this application for change was submitted by Snohomish County PUD No. 1 requesting to change the point of withdrawal of Ground Water Certificate No. 168-A.

Notice of publication appeared in The Herald on January 14 and 21, 1984. No protests were filed on the application.

Investigation:

Evaluation for this application consists of review of office records, field visit conducted on April 20, 1984 plus conversations with the applicant.

The existing Certificate of Water Right (168-A) was granted to Snohomish County PUD No. 1 for the use of a well for domestic supply in the amount of 1200 gallons per minute, 700 acre-feet per year. The priority of use dates back to March 23, 1948.

The well site is located in Lake Stevens on the corner of 20th Street N.E. and 131st Ave N.E. and being 80 feet north and 80 feet west from the east-quarter corner of Section 8, Township 29N., Range 6E. The well is 20 inches by 107 feet deep. Catherine Creek flows along the western boundary of the property. The existing well is 130 feet from the creek. The replacement well will be approximately 100 feet from the creek. Since the existing well does not have adequate screening and does not meet the Department of Social and Health Services standards, the Snohomish PUD plans to place a new well approximately forty feet northwest of the old well. At the time of the field visit the old well was not located and the replacement well was not constructed, but there was evidence of ground clearing and work. The geotechnical and hydrogeologic consulting firm of Hart Crowser & Associates were hired by the applicant to do an evaluation of the proposed site. A report was prepared and included with the application.

Two test holes were placed on the lot at two different depths - 25 feet and 75 feet. Initial testing indicated the 75-foot depth provided the quantity needed to replace the old well and would be in the same aquifer. Tests were also made to determine hydraulic continuity with the creek for the new well location and the extent of any influence. Results indicate there is hydraulic continuity but not significant where it would require regulation by our department. The presence of an aquatard aids in minimizing the effects of well pumping on surface waters in the creek.

To meet the requirements for a certificate of change, the following items must be satisfied:

- 1) the replacement well must be tapping the same body of groundwater,
- use of the original well shall be discontinued upon construction of the replacement well,
- the construction and use of the replacement well shall not enlarge the right conveyed by the original certificate,
- 4) other existing rights shall not be impaired.

Conclusion:

From the information provided by the applicant and geotechnical consultants, it has been shown that the replacement well will not enlarge the original right, it will be in the same aquifer as the original well, and it will not impair existing rights. However until the replacement well has been constructed and the old well discontinued, the certificate of change can not be made.

Recommendation:

A certificate of change to move the withdrawal point of Ground Water Certificate No. 168-A should be granted to the Snohomish County Public Utility District No. 1 with the following conditions. The certificate of change can not be issued until the replacement well has been drilled and used, with the old well discontinued.

A development schedule of three years shall be given to accomplish the change in well location.

A well log of the completed well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well, in addition to any pump test data, shall be submitted as it is obtained.

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port.

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An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through WAC 508-64-040 (Installation, operation and maintenance requirements attached hereto).

REPORT BY: Janet Jane DATE: 4/27/84

CERTIFICATE RECORD NO. 1

PAGE NO. 168-4

Lake Stevens



Certificate of Ground Water Right

Issued in accordance with the provisions of Chapter 263, Laws of Wazhington for 1945, and the rules and regulations of the State Supervisor of Hydraulics thereunder.

THIS IS TO CERTIFY That SNOHONT	SH COUNTY PUBLIC UTILITY DI	STRICT NO. 1
of	Everett, Washington	has made proof
to the satisfaction of the State Supervise	or of Hydraulics of Washington, of a	right to the use of the
ground waters of a Well		
losstad within the SR4 of SR4 of	WPL of See 0 mm on w	D

for the purpose of Doutestic Supply

under Ground Water Permit No. 702 ______issued by the State Supervisor of Hydraulics, and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington, and is hereby confirmed by the State Supervisor of Hydraulics of Washington and entered of record in Volume _1_____at page 168-A; that the right hereby confirmed dates from March 23, 1948 ; that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 1,200

per minute; 700 acre-feet per year.

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A description of the lands to which such ground water right is appurtenant, and the place where such water is put to beneficial use, is as follows:

Lake Stevens and vicinity, including Hartford, East Everett, Glenwood, etc., Snohomish County, Washington.

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Hydraulics affixed this 25th day

of.

CERTIFICATE OF CHANGE TO CHANGE THE POINT OF WITHDRAWAL OF GROUND WATERS

THIS IS TO CERTIFY THAT Snohomish County Public Utility District No. 1 of Everett, Washington has complied with the requirements of the Revised Code of Washington 90.03 and 90.44 and is hereby granted a change in location of the well for withdrawal of water as granted in Groundwater Right Certificate 169-A recorded in Snohomish County.

That the previous point of withdrawal located 180 feet north and 86 feet west from the southeast corner of the northeast quarter of Section 8, Township 29N., Range 6E.W.M., is changed and now located 193 feet north and 130 feet west from the southwest corner of the northeast quarter, Section 8, Township 29N., Range 6E.W.M., Snohomish County.

That the withdrawal rate of 1,200 gpm, 700 acre-feet per.year for domestic supply as granted in Certificate 169-A remains unchanged.

Given under my hand and seal of this office, Department of Ecology, Northwest Region, this <u>Seventh</u> day of <u>spril</u>, 1988.

> Department of Ecology Christine O. Gregoire

Northwest Regional Manager

RECORDED:

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Certificate of Change Vol ___, page ____

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DONALD W. MOOS Director

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STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

4350-150th Ave. N.E. • Redmond, Washington 98052 • (206) 885-1900

September 26, 1984

Snohomish County PUD No. 1 Attn: Craig Thompson P.O. Box 1107 Everett, Washington 98206

Application of Change No. 169A

Gentlemen:

Your application for change has been approved in accordance with the enclosed Report of Examination. Fees for recording the Certificate of Change will be requested when all provisions specified in the report are satisfied. A period of three years has been given in which to accomplish the change and notify our office.

This letter and enclosed Report of Examination constitute our determination and order. Chapter 43.21B RCW provides that any person who feels aggrieved by such an order may submit an appeal to the Pollution Control Hearings Board of Washington, with a copy to the Director of the Department of Ecology, within 30- days or receipt of the order. Procedures for requesting a hearing may be obtained from the department.

Sincerely,

acoust by B . McCormic

Regional Manager Northwest Regional Office

RKM:gm

Enclosure

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DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION FOR APPLICATION OF CHANGE

Background:

On November 17, 1983 the Snohomish County Public Utility District No. 1 submitted this application of change on ground water right No. 169-A in order to change the location of the well.

Notice was published in The Herald on January 14, and 21, 1984. No protests were received.

Investigation:

Evaluation for the application of change consists of a field visit conducted on April 20, 1984, conversations with the applicant, and their engineering consulting firm of Hart Crowser and Associates.

The applicant holds two water right certificates, 168-A for a well in the amount of 1200 gpm, 700 acre feet per year for domestic supply and 169-A for a well in the amount of amount of 1200 gpm, 700 acre feet per year for domestic supply. Both certificates have the same priority date and the well covered by certificate No. 169-A is approximately 100 feet north of the well for 168-A. Well logs for the wells indicate both are approximately the same depth; the well for 168-A is 20 inches x 107 feet and the well for 169-A is 12 inches x 105 feet.

The applicant wishes to replace the existing well covered by certificate 169-A by drilling a new well approximately 50 feet west of the old well. Another well is planned to be drilled in the same area to replace the well covered by certificate No. 168-A.

The well site is located on an unoccupied lot in Lake Stevens at the corner of 20th Street NE and 131st Avenue N.E. The site is also within the SE4NE4 of Sec. 8, T. 29N, R. 6E. A small stream called Catherine Creek flows along the west side of the property. At the time of the field visit there was evidence of ground clearing about 125 feet west of the property line boarding 131st Avenue N.E.

The applicant contracted Hart Crowser to do a hydrogeologic study of the site in the summer of 1983. Two test wells were drilled - one to a depth of 25 feet, the other to a depth of 75 feet. Initial test results indicated the deeper well was in the same water bearing zone as the well on existing right No. 169-A and that the deeper well could produce quantities equal to that granted on the existing certificate.

As part of the testing procedures, analysis was made on whether or not the proposed new well site would be hydraulically connected to the nearby stream, Catherine Creek, tributary to the Little Pilchuck. Testing showed the presence of an aquitard between the stream and proposed replacement well location. Hydraulic continuity between the new well and the creek proved to be insignificant; consequently would not merit regulation by this department.

In order to satisfy the requirements for a change of certificate, the following conditions must be met:

- 1. the replacement well shall tap the same body of ground water,
- use of the original well shall be discontinued upon construction of the replacement well,
- 3. the replacement well shall not enlarge the right conveyed by the original certificate,
- 4. other existing rights shall not be impaired.

Conclusion:

From the data provided by our records, hydrogeologic test and study results by the firm of Hart Crowser, the proposed replacement well would meet the necessary criteria for allowing a change in the point of withdrawal.
Recommendation:

A change of certificate should be granted for a new point of withdrawal from a well in the amount of 1200 gallons per minute 700 acre feet per year for a community domestic supply as covered by ground water right No. 169-A:

The change of point of withdrawal shall not be granted until the replacement well is constructed, in production, and the old well discontinued.

A development schedule consisting of three years is to be followed, the first year to start construction, a second year to finish construction, and the third year to finalize the actual use of water and discontinue the old well.

Provisos:

A well log of the completed well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well, in addition to any pump test data, shall be submitted as it is obtained.

Installation and maintenance of an access port as described in Ground Water Bullétin No. 1 is required. An air line and gauge may be installed in addition to the access port.

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through WAC 508-64-040 (Installation, operation and maintenance requirements attached hereto).

REPORT BY: DATE: 1/27/84

F. No. 7361-10-47-1M. 16559.

CERTIFICATE RECORD NO. 1 PAGE NO. 169-A

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STATE OF WASHINGTON, COUNTY OF Snohomish

Certificate of Ground Water Right VOL 421 PLOCED

Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and the rules and regulations of the State Supervisor of Hydraulics thereunder.

THIS IS TO CERTIFY That <u>SNOHOMISH COUNTY PUBLIC UTILITY DISTRICT NO. 1</u> of <u>Everett, Washington</u>, has made proof to the satisfaction of the State Supervisor of Hydraulics of Washington, of a right to the use of the

ground waters of a <u>Well</u>

located within the SEZ of SEZ of NEZ of Sec. 8, Twp. 29 N., Rge. 6 E.W.M.

for the purpose of Domestic supply.

under Ground Water Permit No. 703 issued by the State Supervisor of Hydraulics, and that said right to the use of said ground waters has been perfected in accordance with the laws of Washington. and is hereby confirmed by the State Supervisor of Hydraulics of Washington and entered of record in Volume 1 at page 169-A; that the right hereby confirmed dates from May 23, 1948 that the quantity of ground water under the right hereby confirmed for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed

1200 gallons per minute; 700 acre-feet per year.

A description of the lands to which such ground water right is appurtenant, and the place where such water is put to beneficial use, is as follows:

Lake Stevens and vicinity, including Hartford, East Everett, Glenwood, etc., Snohomish County, Washington.

The right to the use of the ground water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

WITNESS the seal and signature of the State Supervisor of Hydraulics affixed this 25th day

By

August

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H. W. POLLOCK State Supervisor of Hydraulics

fr Kasha

APPLEBY, Assistant

STATE OF WASHINGTON, COUNTY OF. 1027467

Snohomish

VOL 493 PAGE 5115

This Stevens

OF SURFACE WATER RIGHT FICATE

(In accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the State Supervisor of Water Resources thereunder.)

This is to certify that..... SNOHOMISH COUNTY PUBLIC UTILITIES DISTRICT NO. 1 of . Everatt , State of Washington has made proof to the satisfaction of the State Supervisor of Water Resources of Washington, of a right to the use of the waters of ______ Lake Stevens _____, a tributary of Pilchuck and Snohomish Rivers, with point or points of diversion within the St of SEt of Sec. 7, Twp. 29 N., R. 6 E., W. M., under and subject to provisions contained in Appropriation Permit No. 7219 issued by the State Supervisor of Water Resources, and that said right to the use of said waters has been perfected in accordance with the laws of Washington. and is hereby confirmed by the State Supervisor of Water Resources of Washington and entered of record in Volume 10 , at Page 4648 , on the 16th day of May, 19.52 that the priority date of the right hereby confirmed is _____ December 28, 1946____; that the amount of water under the right hereby confirmed, for the following purposes is limited to an amount actually beneficially used and shall not exceed. £ 225 GPM

0.50 of a cubic foot per second for the

purpose of domestic supply.

A description of the lands under such right to which the water right is appurtenant, ...nd the place where such water is put to beneficial use, is as follows:

> NE of SEL of Sec. 7, Twp. 29 N., Rge. 6 E.W.M., and properties adjacent comprising the Community of Lake Stevens.

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Sections 6 and 7, Chapter 122, Laws of 1929.

Vilia

WITNESS the seal and signature of the State Supervisor of Water Resources affixed this

, 19.52.

May Creek

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PUD No. 1 of Snohomish County P O Box 1107 Everett WA 98206



STATE OF WASHINGTON SUPERSEDING CERTIFICATE OF WATER RIGHT

Document Title: Certificate of Water Right

Agency: Department of Ecology Northwest Regional Office 3190 160th Avenue SE Bellevue, WA 98008 Applicant: PUD No. 1 of Snohomish County P O Box 1107 Everett WA 98206

Reference Number:

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
May 17, 1973	G1-20625	G1-20625P	G1-20625C

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

	<u>P</u>	UBLIC WATE	ERS TO BE APPROPR	RIATED	
SOURCE			TRIBUTARY OF (IF SURFACE WATERS)		
Wells within a	Well Field				
MAX. CUBIC FEE	T PER SECON	D MAX	GALLONS PER MINUTE	MAX	K. ACRE-FEET PER YEAR
*200			*319.5		
QUANTITY/TYPE	OF USE/PERM	OD OF USE			······
from the well exceed 500 gp Tribes and the LEG	field under C m or 319.5 a Snohomish	ombined non-m hange to Groun fy as stipulated PUD PTION OF LC	d Water Certificates 648 in the SETTLEMENT A	s authorized 38-A and CO <i>GREEMEN</i> SION/WIT	HDRAWAL
1/4 1/4 SE¼ NW¼ SW¼	section 4	TOWNSHIP N. 27	RANGE (E. OR W.) W.M. 9E	W.R.I.A. 7	COUNTY Snohomish
PARCEL # 2709	0400303400	I	L		.1

1/4 1/4 SECTION TOWNSHIP N. RANGE (E. OR W.) W.M. W.R.LA. COUNTY	LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED						
	1/4 1/4	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	W.R.I.A.	COUNTY	

PARCEL #

ADDITIONAL LEGAL IS ON PAGE 2

SUPERSEDING CERTIFICATE OF WATER RIGHT - 1 -

CONTINUED LEGAL DESCRIPTION FOR LOCATION OF DIVERSION/WITHDRAWAL

CONTINUED LEGAL DESCRIPTION FOR PROPERTY ON WHICH WATER IS TO BE USED

Area served by the May Creek Water System of the Public Utility District No. 1 of Snohomish County (Snohomish PUD). According to RCW 90.03.380, the service area shall comply with and be consistent with the water system plan or small water system management program on file with the department of health, including those terms which include water conservation, and shall be consistent with any other applicable comprehensive plan, land use plan, or development regulation adopted by a city, town, or county; or any watershed plan approved under chapter 90.82 RCW, or a comprehensive watershed plan adopted under RCW 90.54.040(1).

PROVISIONS

• The SETTLEMENT OF AGREEMENT between the Tulalip Tribes of Washington and the Public Utility District No. 1 of Snohomish County will be adhered to as agreed; of which the following excerpt is included...

THE SETTLEMENT AGREEMENT

2. STIPULATION

The parties wish to resolve the dispute herein and not incur any further expense or time in litigation of this appeal and, therefore, stipulate and agree as provided in this document.

The parties agree that the augmentation plan proposed in Section 3 below will benefit instream flows and fisheries habitat of May Creek and will offset impacts of the water rights changes requested by Snohomish PUD to service its May Creek Water System.

3. AUGMENTATION PLAN

The Snohomish PUD shall implement the following augmentation plan (all references to maps and appendix's are not included in this report of exam; the actual document referenced is located with the Snohomish PUD):

3.1 <u>Flow Augmentation</u>. Snohomish PUD will provide flow augmentation by means of a deliver pipe approved by the Washington Department of Fish and Wildlife.

3.2 <u>Point of Augmentation and Source of Water</u>. The point of flow augmentation input will be at or near 423rd Avenue SE, at its intersection with May Creek, as depicted on the attached map Appendix B (not attached in this report of exam). The source of the water will be the May Creek well field indicated on Appendix B (not included in the report of exam), and will be taken from those water withdrawal and use quantities authorized in the existing ground water certificates.

3.3 <u>Timing, Quality, and Rate of Discharge</u>. Whenever the Snohomish PUD May Creek Water System withdraws, in any calendar day, a quantity of water exceeding 398,880 gallons (277 gpm times 1,440 minutes per day), for May Creek Water System use, Snohomish PUD shall cause to be delivered to May Creek a quantity of water (the "mitigation flow") equal to the volume calculated utilizing the "Jenkins Depletion Model", water system withdrawal and use in excess of 398,880 gallons per day. The "mitigation flow" shall be diverted to May Creek at the rate and time determined by the Depletion Model.

<u>Provided</u>, that in no event shall the total quantity of water withdrawn by the Snohomish PUD from its May Creek well field exceed 500 gallons-per-minute, or 319.5 acre feet per year; and <u>provided further</u>, that the parties may agree in writing that the volume of "mitigation flow" required hereunder for augmentation of May Creek may be withdrawn and discharged to May Creek during an alternate period and at a different rate of discharge for purposes of greater fishery enhancement or in accordance with an alternate stream depletion model selected by both parties, following reevaluation, and deemed by each of the parties to provide a more accurate and beneficial mitigation flow regime under this Agreement.

The mitigation discharge may be interrupted only in instances of immediate emergency endangering the public safety, or threatening property damage, such as (but not limited to) maintenance of flows necessary for fire suppression, main rupture with loss of water and system pressure, and storage recovery following emergency response, but in no event will the flow augmentation provided for this Section 3 be curtained or reduced to avoid the imposition of water usage restrictions in response to increasing demands die to area population growth and development.

3.4 Monitoring and Reporting.

<u>a.</u> Snohomish PUD will install a totalizing flow meter and rate-of-flow control valve to monitor and control the rate of release of augmentation flows to May Creek. Snohomish PUD will monitor the

SUPERSEDING CERTIFICATE OF WATER RIGHT

- 2 -

G1-20625C

releases at least weekly during the augmentation period. Snohomish PUD will provide written reports of metering data to the Department of Ecology (NWRO- WR, 3190 160th Avenue SE, Bellevue, WA 98008) and the Tulalip Tribe Natural Resources Division (7615 Totem Beach Road, Marysville, WA 98271) no later than November 1, of each year.

- <u>b.</u> Snohomish PUD agrees to permit one or more representatives of the Tulalip Tribes Natural Resources Division to inspect the flow augmentation system installed pursuant to this agreement once per year, upon 72 hours notice to the Assistant General Manager, Water Resources Division. <u>Provided</u>, that additional brief inspections may be made by such Tulalip representatives at time when Snohomish PUD's personnel are otherwise scheduled to be present at the site; Snohomish PUD shall not unreasonably withhold approval for such brief inspections.
- 3.5 <u>System Maintenance</u>. Snohomish PUD is responsible for all augmentation system maintenance. The physical components of the augmentation plan will be included on routine maintenance and monitoring schedules for Snohomish personnel. In the event inadequate maintenance results in non-compliances with the terms of this agreement, water withdrawals from Snohomish PUD's May Creek Water System Well Field shall be limited to 398,880 gallons in any calendar day, which limitation shall continue pending completion of necessary maintenance of repairs to return the system to compliance, and the Tulalip Tribes shall have all other remedies allowed by law unless by written approval of the Tulalip Tribes, such limitation is not required under the circumstances.
- 3.6 Implementation of the Augmentation Plan. Snohomish PUD will begin construction of augmentation facilities upon receipt of all necessary governmental permits and authorization, including but not limited to hydraulic permits and state approval of a water right change amendment. The parties intend that the augmentation plan will be implemented and available for use not later than June 15, 2001, but it is understood and agreed that issuance of change authorizations and permits may be subject to matters beyond the reasonable control of Snohomish PUD, and any delays not the fault of Snohomish PUD shall not be deemed non-compliance with this Stipulation. It is further understood and agreed that stream flow augmentation shall not be required for withdrawals for water system use in any calendar day of less than 398,880 gallons as described in subsection 3.3 above. There shall be no water withdrawals of greater than 398,880 gallons in any calendar day at any time prior to implementation of the augmentation plan.
- 3.7 Necessary Permits and Easements.
 - a. Snohomish PUD agrees to secure any and all permits and easements necessary to construct and utilize the augmentation system required to carry out the Augmentation Plan described in this Section 3. ... In the event that any permit cannot be issued consistent with Section 3, the parties will meet in good faith to revise this agreement in a manner to accomplish the same general purposes as outlined in this Section 3 above.
 - Snohomish PUD agrees that not later than March 1, 1999, it shall submit an amended application to the Department of Ecology NWRO to include as an additional purpose of use authorized by Certificates 6488-A and G1-20625C that stream flow augmentation of May Creek as provided in this agreement.
 - b. The Tulalip Tribes agree that they shall not further appeal or protest the change application described in this agreement or any decision by the Department of Ecology to approve and issue a certificate of change in use for Certificates 6488-A and G1-20625C which complies with this agreement.
 - <u>c.</u> The Tulalip Tribes agree not to oppose the issuance of any and all state and local permits required of Snohomish PUD to carry out the augmentation plan described in this Section 3 so long as said permits are consistent with the terms of this agreement and applicable law.

Sections "4. <u>Binding Agreement</u> and 5. <u>Continuing Negotiation</u>" sections will not be included in this superseding certificate. These sections are valid and included in the original *PCHB No. 96-200 STIPULATION* AND ORDER OF DISMISSAL.

6. <u>Withdrawal of Appeal.</u> This agreement resolves all disputes arising from Ground Water Right Change Application No. 6488-A and G1-20625C and its appeal by the Tulalip Tribes. The Tulalip Tribes hereby agree to withdraw the appeal in this matter before the Washington Pollution Control Hearings board, and to execute and submit, without delay, any and all documentation as may be reasonably required by such Board or the Department of Ecology to accomplish such withdrawal and termination of the subject appeal.

- The water source and/or water transmission facilities are not wholly located upon the land swind by the applicant. Issuance of a permit by this department for appropriation of the waters in questor does not convey a right of access to, or other right to use land which the applicant does not legally possess. Obtainment of such right is a private matter between applicant and owner of the land.
- A well log of the completed well shall be submitted by the driller to the Department of Ecclogy within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well, in addition to any pump test data, shall be submitted as it is obtained.

SUPERSEDING CERTIFICATE OF WATER RIGHT

- 3 -

G1-20625C

- Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port.
- **METERING:**

An approved measuring device shall be installed and maintained for each diversion/withdrawal of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use," Chapter 173-173 WAC.

Water use data shall be recorded weekly. The maximum annual instantaneous rate of diversion/withdrawal and the annual total volume shall be submitted to Ecology by January 31st of the following year.

The following information shall be included with each submittal of water use data: owner, contact name if different, mailing address, daytime phone number, Permit/Certificate/Claim No., source name, volume including units, Department of Health WFI water system number and source number(s) (for public drinking water systems), and well tag number (for ground water withdrawals). In the future, Ecology may require additional parameters to be reported or more frequent reporting. Ecology prefers web based data entry, but does accept hard copies. Ecology will provide forms and electronic data entry information.

Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are contained in the document entitled "Water Measurement Device Installation and Operation Requirements".

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

- In order to monitor the resource, static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year. See enclosed form.
- If it can be shown that this change approval has a detrimental effect on existing rights, it shall be the responsibility of the operator to mitigate for this impact and/or alter or cease withdrawal of water.
- This change approval is subject to the implementations of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, March 1994.
- Nothing in this superseding certificate shall be construed as excusing the permittee from compliance with any applicable federal, state o or local statues, ordinances, or regulations.

The right to use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for non-use of water as provided in RCW 90.14.180.

> Given under my hand and the seal of this office at Bellevue, Washington, this <u>22</u>^{Mb} _ day of ______ 2004.

> > Linda Hoffman Department of Ecology

Jame (By \geq

Daniel Swenson, Section Supervisor

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SUPERSEDING CERTIFICATE OF WATER RIGHT

- 4 -

G1-20625C

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PUD No. 1 of Snohomish County P O Box 1107 Everett WA 98206



STATE OF WASHINGTON SUPERSEDING CERTIFICATE OF WATER RIGHT

Document Title: Certificate of Water Right

Agency: Department of Ecology Northwest Regional Office 3190 160th Avenue SE Bellevue, WA 98008 Applicant: PUD No. 1 of Snohomish County P O Box 1107 Everett WA 98206

Reference Number:

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
April 4, 1968	9360	8755	6488-A

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

SOURCE						
SOURCE			TRIBUTART OF (IF SURFACE WATERS)			
Wells within a	Well Field					
MAX. CUBIC FEF	T PER SECON	d Max	GALLONS PER MINUTE	МАХ	K. ACRE-FEET PER YEAR	
*300		I	*15			
QUANTITY/TYPE	OF USE/PERI	OD OF USE				
Municipal Sup from the well exceed 500 gp Tribes and the	ply - *The c field under C m or 319.5 a Snohomish	ombined non-m hange to Groun fy as stipulated PUD	itigated water quantities d Water Certificates 6488 in the SETTLEMENT AG	authorized 3-A and CC REEMENT	for municipal use 31-20625C shall not between the Tulalip	
LEG	AL DESCRI	PTION OF LO	DCATION OF DIVERS	ION/WIT	HDRAWAL	
				1		

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED						
1/4 1/4	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	W.R.I.A.	COUNTY	
PARCEL #	.		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	

ADDITIONAL LEGAL IS ON PAGE 2

SUPERSEDING CERTIFICATE OF WATER RIGHT

CONTINUED LEGAL DESCRIPTION FOR LOCATION OF DIVERSION/WITHDRAWAL

CONTINUED LEGAL DESCRIPTION FOR PROPERTY ON WHICH WATER IS TO BE USED

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<u>Provided</u>, that in no event shall the total quantity of water withdrawn by the Snohomish PUD from its May Creek well field exceed 500 gallons-per-minute, or 319.5 acre feet per year; and <u>provided further</u>, that the parties may agree in writing that the volume of "mitigation flow" required hereunder for augmentation of May Creek may be withdrawn and discharged to May Creek during an alternate period and at a different rate of discharge for purposes of greater fishery enhancement or in accordance with an alternate stream depletion model selected by both parties, following reevaluation, and deemed by each of the parties to provide a more accurate and beneficial mitigation flow regime under this Agreement.

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SUPERSEDING CERTIFICATE OF WATER RIGHT

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Snohomish PUD agrees that not later than March 1, 1999, it shall submit an amended application to the Department of Ecology NWRO to include as an additional purpose of use authorized by Certificates 6488-A and G1-20625C that stream flow augmentation of May Creek as provided in this agreement.

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- <u>c.</u> The Tulalip Tribes agree not to oppose the issuance of any and all state and local permits required of Snohomish PUD to carry out the augmentation plan described in this Section 3 so long as said permits are consistent with the terms of this agreement and applicable law.

Sections "4. <u>Binding Agreement</u> and 5. <u>Continuing Negotiation</u>" sections will not be included in this superseding certificate. These sections are valid and included in the original *PCHB No. 96-200 STIPULATION* AND ORDER OF DISMISSAL.

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- The water source and/or water transmission facilities are not wholly located upon the land upon does not applicant. Issuance of a permit by this department for appropriation of the waters in quarter does not convey a right of access to, or other right to use land which the applicant does not legal prossess. Obtainment of such right is a private matter between applicant and owner of the land
- A well log of the completed well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well, in addition to any pump test data, the submitted as it is obtained.

SUPERSEDING CERTIFICATE OF WATER RIGHT

6488-A

- Installation and maintenance of an access port as described in <u>Ground Water Bulletin No. 1</u> is required. An air line and gauge may be installed in addition to the access port.
- METERING:

An approved measuring device shall be installed and maintained for each diversion/withdrawal of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use," Chapter 173-173 WAC.

Water use data shall be recorded weekly. The maximum annual instantaneous rate of diversion/withdrawal and the annual total volume shall be submitted to Ecology by January 31st of the following year.

The following information shall be included with each submittal of water use data: owner, contact name if different, mailing address, daytime phone number, Permit/Certificate/Claim No., source name, volume including units, Department of Health WFI water system number and source number(s) (for public drinking water systems), and well tag number (for ground water withdrawals). In the future, Ecology may require additional parameters to be reported or more frequent reporting. Ecology prefers web based data entry, but does accept hard copies. Ecology will provide forms and electronic data entry information.

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Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

- In order to monitor the resource, static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year. See enclosed form.
- If it can be shown that this change approval has a detrimental effect on existing rights, it shall be the responsibility of the operator to mitigate for this impact and/or alter or cease withdrawal of water.
- This change approval is subject to the implementations of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, March 1994.
- Nothing in this superseding certificate shall be construed as excusing the permittee from compliance with any applicable federal, state o or local statues, ordinances, or regulations.

The right to use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for non-use of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at Bellevue, Washington, this ______ **29**th day of ______ **December**_____, 2004.

Linda Hoffman Department of Ecology

- 4 -

By 4.0 Daniel Swenson, Section Supervisor



SUPERSEDING CERTIFICATE OF WATER RIGHT

6488-A



RECEIVED MAY 62 1995 WATER DEPT.

3

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

May 1, 1996

CERTIFIED MAIL Z 143 211 874

Snohomish County PUD #1 P.O. Box 1107 Everett, WA 98206

Dear Sir or Madam:

Re: Water Right Application for Change #6488, G1-20625

Your application for change has been approved and a Certificate of Change will be issued upon payment of the statutory fees:

\$10.00 - certificate fee made payable to the Department of Ecology.

\$16.00 - recording fee made payable to the County Auditor.

Issuance of this Report of Examination is an appealable decision under Chapter 43.21B RCW. If you would like to appeal this order and determination, you must file your appeal with the Pollution Control Hearings Board, P.O. Box 40903, Olympia, WA, 98504-0903 within thirty (30) days of your receipt of this letter and the attached Report of Examination. A copy of your appeal must also be sent to the Department of Ecology, Shorelands and Water Resources Program, c/o Linda Pilkey-Jarvis, P.O. Box 47600, Olympia, WA, 98504-7600 within thirty (30) days of receipt of this letter and the attached Report of Examination.

Please submit two separate checks and forward both to this office within thirty (30) days.

Sincerely,

Raymond K. Hellwig Section Supervisor Shorelands & Water Resources

RKH: CV

DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION

FOR APPLICATION FOR CHANGE OF WATER RIGHT

Surface Water generating the provisions of Chapter 117, Laws of Westington for 1917, and amendments thereto, and the rules and regulations of

PRIORITY DATE May 17, 1973	APPLICATION NUMBER G1-20625	G1-20625 P	G1-20625 C
NAME Snohomish County P	UD #1		
ADORESS (STREET) PO Box 1107	Everett	Washington	(ZP COOR 98206

PUBLIC WATERS TO BE APPROPRIATED

SOURCE Well THIBUTARY OF (IF BURFACE WATERS) MAXIMUM CUBIC FEET PER SECOND MAXIMUM GALLONS PER MINUTE 200 MAXIMUM ACRE-FEET PER YEAR 319.5

OUANTITY, TYPE OF USE, PERIOD OF USE Municipal supply

LOCATION OF DIVERSION/WITHDRAWAL

1029 feet south and 1085 feet east from the W¹/₄ corner of Section 4.

LOCATED WITHIN (SM SE1/4 NW1/4	ALLEST LEGAL SUBOMISION	4 27 9E VILLA 7 ST				Snohomish
		RECORDED P	LATTED PRO	OPERTY		
LOT	BLOCK	OF	OF (GIVE NAME OF PLAT OR ADDITION)			
	LEGAL DESCRIP	TION OF PROPE	TTY ON WHI	CH WATER IS TO B	E USED	

Area served by the May Creek Water System of the Public Utility District No. 1 of Snohomish County within Sections 4, 5, 6, 8 and 9 of Township 27N, Range 9E, W.M., Snohomish County.

DESCRIPTION OF PROPOSED WORKS

	DEVELOPMENT SCHED	ULE
BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
	REPORT	

REQUEST:

Snohomish County Public Utility District No. 1 (the PUD) submitted an application for change of certificates, Ground water Certificates 6488 and G1-20625C, to change the place of use to correspond to the area served by the PUD's May Creek Water System, to change the designation of the water right from group domestic to municipal, and to change the point of withdrawal to a well field consisting currently of Well 1 and Well 2.

HISTORY:

Ground Water Applications for Change: 6488 and G1-20625C

The PUD originally applied for additional water under application G1-25040 on July 31, 1987. Application fees were paid and the PUD published in <u>The Herald</u> on September 7 and 14, 1987. Ten protests were received. After many discussions with Ecology personnel, it was determined that the PUD had existing rights that could meet their needs through an application of change. Application G1-25040 was withdrawn on February 29, 1996.

The date of July 31, 1987, the notice of publication, and fees submitted under application G1-25040 were applied to this application for change of water right.

BACKGROUND:

Application date for change: July 31, 1987

Certificates for Well No. 1:

<u>6488:</u>

Priority Date - April 4, 1968 Qi - 300 gpm and Qa - 15 af/y POINT OF DIVERSION: Located at 1029 feet south and 1085 feet east from the W¹/₄ corner of Section 4 in Township 27N, Range 9 in Snohomish County.

<u>G1-20625C:</u> Priority Date - May 17, 1973 Qi - 200 gpm and Qa - 319.5 af/y POINT OF DIVERSION: Located at 1029 feet south and 1085 feet east from the W⁴ corner of Section 4 in Township 27N, Range 9 in Snohomish County.

Change to Include:

Diversion to be changed to a Well Field with the Point of Diversion within: The SE¼ NW¼ SW¼ of Section 4, Township 27, Range 9E, W.M. in Snohomish County.

Description of Use change from group domestic to municipal. Area served by the May Creek Water System of the Public Utility District No. 1 of Snohomish County within Sections 4, 5, 6, 8 and 9 of Township 27N, Range 9E, W.M., in Snohomish County.

Legal Notice:

Published September 7, and 14, 1987 in The Herald

Protests Received: Ten protestants. Nine indicating this proposal may be detrimental to their water supply.

One protested supplying Loth Lumber with water.

INVESTIGATION:

In consideration of this application of change, the following records were reviewed and analyzed:

- 1) existing water rights
- 2) the applicants file
- 3) Hart Crowser & Associated, Inc. report
- 4) meeting with applicant and consultants on February 7, 1996
- 5) consultations with Ecology specialists,
- 6) review of water right statues, rules and basin plans

FINDINGS:

Based upon the above investigation, the Department of Ecology finds the following:

- 1) The proposed uses are a beneficial use of water
- 2) No additional Qi or Qa withdrawals are being sought
- 3) The source of water requested is from a well field located within Section 5, Township 27N, Range 9E, W.M., in Snohomish County.
- 4) A review of the consultant's report, Hart Crowser & Associates Inc., December 17, 1985 report, the following findings were indicated:
 - A. The geologic sequence consists of a permeable Gravel unit that lies between 4 and 33 feet, underlain by a Sand unit that lies between 33 to 155 feet, which is on top of a deeper silt and clay unit.
 - B. All, but one, of the neighboring domestic wells monitored are shallow dug wells possibly in the upper Gravel unit. The PUD's source is from a deeper intermediate sand aquifer.
 - C. Six neighboring domestic wells were observed during the pump tests. The results indicate the neighboring wells should not be affected by the May Creek well (Well #1) pumpage.
 - D. The aquifer at the well sit is capable of yielding 500 gpm and 806.5 acre feet per year.
- 5) In addressing protests regarding water supply concerns: Existing water rights will not be impaired according to the analysis compiled by AGI Technologies (which support Hart Crowser & Associates Inc. 1985 report) and reported in the April 1, 1996, brief. The comparison consisted of analysis of water levels with precipitation and monthly pumping. The analysis shows no decline in water levels of wells, within a distance of one-half mile, related to pumping. Water declines correlated with variations in precipitation.
- 6) In addressing protests regarding service to an industrial user: Prior agreements with Snohomish PUD and Loth Lumber Mill restricted water supply for domestic use and fire protection purposes and not industrial uses. Loth Lumber Mill has since declared bankruptcy and closed down.

DISCUSSION:

The Snohomish Basin Instream Resources Protection Program (Chapter 173-507) was adopted pursuant to Chapter 90.54 RCW to provide for the proper management of the public's water, and is determinative in analyzing applications for the use of water which will impact the instream resources and senior water rights.

In accordance with RCW 90.54.020(7) development of water supply systems which provide water to the public generally in regional areas within the state shall be encouraged. In accordance with RCW 90.43.020 the municipality shall be guided by the fundamentals for utilization and management of waters of the state.

Report Continued

CONCLUSION:

- The change of water rights 6488 and G1-20625C to provide a well field consisting of Well 1 and Well 1. 2 to perfect the Qi without exceeding the Qa will enhance the beneficial use of water (RCW 90.54.020[1]).
- The change of water rights 6488 and G1-20625C will not increase the quantities of water previously 2. granted.
- The documentation submitted supports the conclusion that there will not be a detriment or injury to 3. existing rights.
- In accordance with 90.54.020(2) this change is in the public interest. 4.

RECOMMENDATION:

In accordance with RCW 90.03.380, RCW 90.44.100, and RCW 90.54.020(7), it is recommended that this application for change to certificates 6488 and G1-20625C be approved as requested subject to existing rights and the following provisions:

The water source and/or water transmission facilities are not wholly located upon the land owned by the applicant. Issuance of a permit by this department for appropriation of the waters in question does not convey a right of access to, or other right to use land which the applicant does not legally possess. Obtainment of such right is a private matter between applicant and owner of that land.

A well log of the completed well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well, in addition to any pump test data, shall be submitted as it is obtained.

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port.

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under chapter 18.104 RCW (Washington Water Well Construction Act of 1971) and chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells).

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through 508-64-040 (Installation, operation and maintenance requirements enclosed). Meter readings shall be recorded monthly and this data shall be maintained and be made available to the Department of Ecology upon request.

In order to monitor the resource, static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year. See enclosed form.

Nothing in this permit shall be construed as excusing the permittee from compliance with any applicable federal, state or local statutes, ordinances, or regulations.

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REPORT BY: Reggy Milliams DATE: 5-1-9/

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION

FOR APPLICATION FOR CHANGE OF WATER RIGHT

re of Washington for 1917, and a

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reto, and the rules and regulations of

PRIORITY DATE April 4, 1968	APPLICATION NUMBER 9360	PERMIT NUMBER 8755	6488-A
Snohomish County P	UD #1		
ADORESS (STREET) P.O. Box 1107	Everett	washington	(ZP CODE) 98206
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		TO MAN ITE	ACRE-FEET PER YEAR

OUNNITY, TYPE OF USE, PERIOD OF USE Municipal supply

MAXIMUM CUBIC FEET PER SECOND

Surface Water

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LOCATION OF DIVERSION/WITHDRAWAL

MAXIMUM GALLONS PER MINUTE

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL 1029 feet south and 1085 feet east from the W¼ corner of Section 4.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) SE1/4 NW1/4 SW1/4		4	27	9E	7	Snohomish
		RECORDED P	LATTED PRO	OPERTY		
LOT	BLOCK	OF (DIVE NAME OF PLAT OR ADDITION)				
	LEGAL DESCRI	PTION OF PROPE	RTY ON WHI	CH WATER IS TO B	E USED	

Area served by the May Creek Water System of the Public Utility District No. 1 of Snohomish County within Sections 4, 5, 6, 8 and 9 of Township 27N, Range 9E, W.M., Snohomish County.

DEVELOPMENT SCHEDULE							
BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:					
	REPORT						

REQUEST:

Snohomish County Public Utility District No. 1 (the PUD) submitted an application for change of certificates, Ground water Certificates 6488 and G1-20625C, to change the place of use to correspond to the area served by the PUD's May Creek Water System, to change the designation of the water right from group domestic to municipal, and to change the point of withdrawal to a well field consisting currently of Well 1 and Well 2.

HISTORY:

Ground Water Applications for Change: 6488 and G1-20625C

The PUD originally applied for additional water under application G1-25040 on July 31, 1987. Application fees were paid and the PUD published in <u>The Herald</u> on September 7 and 14, 1987. Ten protests were received. After many discussions with Ecology personnel, it was determined that the PUD had existing rights that could meet their needs through an application of change. Application G1-25040 was withdrawn on February 29, 1996.

The date of July 31, 1987, the notice of publication, and fees submitted under application G1-25040 were applied to this application for change of water right.

BACKGROUND:

Application date for change: July 31, 1987

Certificates for Well No. 1:

6488:

Priority Date - April 4, 1968 Qi - 300 gpm and Qa - 15 af/y POINT OF DIVERSION: Located at 1029 feet south and 1085 feet east from the W¹/₄ corner of Section 4 in Township 27N, Range 9 in Snohomish County.

<u>G1-20625C:</u> Priority Date - May 17, 1973 Qi - 200 gpm and Qa - 319.5 af/y POINT OF DIVERSION: Located at 1029 feet south and 1085 feet east from the W¼ corner of Section 4 in Township 27N, Range 9 in Snohomish County.

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-2-

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- 4) meeting with applicant and consultants on February 7, 1996
- 5) consultations with Ecology specialists,
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FINDINGS:

Based upon the above investigation, the Department of Ecology finds the following:

- 1) The proposed uses are a beneficial use of water
- 2) No additional Qi or Qa withdrawals are being sought
- The source of water requested is from a well field located within Section 5, Township 27N, Range 9E, W.M., in Snohomish County.
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In accordance with RCW 90.54.020(7) development of water supply systems which provide water to the public generally in regional areas within the state shall be encouraged. In accordance with RCW 90.43.020 the municipality shall be guided by the fundamentals for utilization and management of waters of the state.

3-

CONCLUSION:

- The change of water rights 6488 and G1-20625C to provide a well field consisting of Well 1 and Well 1. 2 to perfect the Qi without exceeding the Qa will enhance the beneficial use of water (RCW 90.54.020[1]). •
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Nothing in this permit shall be construed as excusing the permittee from compliance with any applicable federal, state or local statutes, ordinances, or regulations.

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REPORT BY: Jugary Miam DATE: 5-1-96.

LAW OFFICES MORISSET, SCHLOSSER, AYER & JOZWIAK A PROFESSIONAL SERVICE CORPORATION

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FEB 1 4 2000

1115 NORTON BUILDING COUNCEL

M. FRANCES AYER (DC, GA) NATHAN E. CLUKEY (DC, VA) JENNIFER P. HUGHES (DC, MA, NY) FRANK R. JOZWIAK (WA) K. ALLISON McGAW (WA) MASON D. MORISSET (WA) THOMAS P. SCHLOSSER (WA)

SHARON I. HAENSLY (WA)

RUTH E. VALINE

February 11, 2000

WASHINGTON, D.C. OFFICE 1730 RHODE ISLAND AVENUE, N.W. SUITE 209 WASHINGTON, D.C. 20036-3120 FACSIMILE: (202) 331-8738 (202) 331-8690

801 SECOND AVENUE SEATTLE, WASHINGTON 98104-1509 FACSIMILE: (206) 386-7322 (206) 386-5200

> PLEASE REPLY TO THE SEATTLE OFFICE

Glen R. Mixdorf, Esq. Associate General Counsel Snohomish County PUD No. 1 P.O. Box 1107 2320 California Street Everett, Washington 98206-1107

> Re: Tulalip Tribes v. DOE & Snohomish PUD PCHB NO. 96-200, Settlement Agreement

Dear Glen:

Enclosed is the Settlement Agreement in the above-referenced matter. The Agreement has been signed by Herman Williams Jr., Chairman of the Tulalip Tribes Board of Directors. Also enclosed is a copy Tulalip Tribes Resolution No. 99-341, which authorizes the signing of the Settlement Agreement. I have taken the liberty of setting the "effective date" in the first paragraph at November 6, 1999, the date the Tribal Board of Directors approved the agreement.

I will be submitting a withdrawal of the appeal in the near future.

Sincerely yours,

MORISSET, SCHLOSSER, AYER & JOZWIAK

Mason D. Morisset

Enclosures cc w/enc:

Herman Williams Jr., Chairman, Tulalip Tribes Board of Directors Stanley G. Jones Sr., Vice Chairman, Tulalip Tribes Board of Directors Terry Williams, Director, Tulalip Tribes Department of Natural Resources Kimberly Ordon, Esq.

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SETTLEMENT AGREEMENT

THIS AGREEMENT, by and between the Tulalip Tribes of Washington ("Tulalip Tribes"), and Public Utility District No. 1 of Snohomish County, Washington ("Snohomish PUD"), is made and entered effective this ______ day of _______, 19<u>99</u>.

1. BACKGROUND

1.1 Snohomish PUD holds ground water certificates 6488 and G1-20625C, with priority dates of July 1, 1969, and May 17, 1963 respectively, to serve its developing May Creek Water System. Effective July 31, 1987, Snohomish PUD submitted to the Washington State Department of Ecology an application for change of such certificates to change the point of withdrawal; to change the use from group domestic to municipal; and to add a new section to the "area served by" the water right. Appendix A. Ground Water Change Application. The point of withdrawal is located generally in the SE% NW% SW%, S.4, T27N, R9E, Snohomish County and is in hydraulic continuity with May Creek.

1.2 On May 1, 1996, the Department of Ecology issued its Report of Examination approving the change application.

1.3 On June 6, 1996, the Tulalip Tribes appealed the decision of the Department of Ecology to the Pollution Control Hearings Board ("PCHB"). 1.4 May Creek, a tributary to the Wallace River, was closed to further appropriations of surface and ground water pursuant to WAC 173-507-030(2), and WAC 173-507-040, adopted in 1979.

1.5 Snohomish PUD and the Tulalip Tribes have developed a stream flow augmentation plan that the parties agree will benefit the instream flows of May Creek and provide acceptable mitigation for the requested water rights changes.

2. STIPULATION

2.1 The parties wish to resolve the dispute herein and not incur any further expense or time in litigation of this appeal and, therefore, stipulate and agree as provided in this document.

2.2 The parties agree that the augmentation plan proposed in Section 3 below will benefit instream flows and fisheries habitat of May Creek and will offset impacts of the water rights changes requested by Snohomish PUD to serve its May Creek Water System.

3. AUGMENTATION PLAN

The Snohomish PUD shall implement the following augmentation plan:

3.1 <u>Flow Augmentation</u>. Snohomish PUD will provide flow augmentation by means of a delivery pipe approved by the Washington Department of Fish and Wildlife.

3.2 <u>Point of Augmentation and Source of Water</u>. The point of flow augmentation input will be at or near 423rd Avenue SE, at its intersection with May Creek, as depicted on the attached map,

AGREEMENT - 2

Appendix B. The source of the water will be the May Creek well field indicated on Appendix B, and will be taken from those water withdrawal and use quantities authorized in the existing ground water certificates as described in Subsection 1.1 hereinabove.

3.3 <u>Timing, Quality, and Rate of Discharge</u>. Whenever the Snohomish PUD May Creek Water System withdraws, in any calendar day, a quantity of water exceeding 398,880 gallons (277 gpm times 1,440 minutes per day), for May Creek Water System use, Snohomish PUD shall cause to be diverted to May Creek a quantity of water (the "mitigation flow") equal to the volume calculated utilizing the "Jenkins Depletion Model - May Creek Well Field" (the "Depletion Model"), using a storage coefficient of 0.010, to mitigate for such water system withdrawal and use in excess of 398,880 gallons per day. The "mitigation flow" shall be diverted to May Creek at the rate and time determined by the Depletion Model. A description of the Depletion Model is attached hereto as Appendix C.

Provided, that in no event shall the total quantity of water withdrawn by the Snohomish PUD from its May Creek well field exceed 500 gallons-per-minute, or 319.5 acre feet per year; and <u>provided</u> <u>further</u>, that the parties may agree in writing that the volume of "mitigation flow" required hereunder for augmentation of May Creek may be withdrawn and discharged to May Creek during an alternate period and at a different rate of discharge for purposes of greater fishery enhancement or in accordance with an alternate stream depletion model selected by both parties, following reevaluation, and deemed by each of the parties to provide a more accurate and beneficial mitigation flow regime under this Agreement.

The mitigation discharge may be interrupted only in instances of immediate emergency endangering the public safety, or threatening property damage, such as (but not limited to) maintenance of flows necessary for fire suppression, main rupture with loss of water and system pressure, and storage recovery following emergency response, but in no event will the flow augmentation provided for in this Section 3 be curtailed or reduced to avoid the imposition of water usage restrictions in response to increasing demands due to area population growth and development.

3.4 Monitoring and Reporting.

a. Snohomish PUD will install a totalizing flow meter and rate-of-flow control valve to monitor and control the rate of release of augmentation flows to May Creek. Snohomish PUD will monitor the releases at least weekly during the augmentation period. Snohomish PUD will provide written reports of metering data to the Department of Ecology (NWRO-SHWR, 3190 160th Ave. SE, Bellevue, WA 98008) and the Tulalip Tribes Natural Resources Division (7615 Totem Beach Road, Marysville, WA 98271) no later than November 1 of each year. b. Snohomish PUD agrees to permit one or more representatives of the Tulalip Tribes Natural Resources Division to inspect the flow augmentation system installed pursuant to this agreement once per year, upon 72 hours' notice to the Assistant General Manager, Water Resources Division. <u>Provided</u>, that additional brief inspections may be made by such Tulalip representatives at times when Snohomish PUD's personnel are otherwise scheduled to be present at the site; Snohomish PUD shall not unreasonably withhold approval for such brief inspections.

3.5 <u>System Maintenance</u>. Snohomish PUD is responsible for all augmentation system maintenance. The physical components of the augmentation plan will be included on routine maintenance and monitoring schedules for Snohomish PUD personnel. In the event inadequate maintenance results in non-compliance with the terms of this agreement, water withdrawals from Snohomish PUD's May Creek Water System Well Field shall be limited to 398,880 gallons in any calendar day, which limitation shall continue pending completion of necessary maintenance or repairs to return the system to compliance, and the Tulalip Tribes shall have all other remedies allowed by law unless by written approval of the Tulalip Tribes, such limitation is not required under the circumstances.

3.6 Implementation of the Augmentation Plan. Snohomish PUD will begin construction of augmentation facilities upon receipt of all necessary governmental permits and authorization, including but not limited to hydraulic permits and state approval of a water right change amendment. The parties intend that the augmentation plan will be implemented and available for use not later than June 15, 2001, but it is understood and agreed that issuance of change authorizations and permits may be subject to matters beyond the reasonable control of Snohomish PUD, and any delays not the fault of Snohomish PUD shall not be deemed non-compliance with this Stipulation. It is further understood and agreed that stream flow augmentation shall not be required for withdrawals for water system use in any calendar day of less than 398,880 gallons as described in subsection 3.3 above. There shall be no water withdrawals of greater than 398,880 gallons in any calendar day at any time prior to implementation of the augmentation plan.

3.7 Necessary Permits and Easements.

a. Snohomish PUD agrees to secure any and all permits and easements necessary to construct and utilize the augmentation system required to carry out the Augmentation Plan described in this Section 3. (See Appendix D for Schematic of Augmentation System). In the event that any permit cannot be issued consistent with Section 3, the parties will meet in good faith to revise this agreement in a manner to accomplish the same general purposes as outlined in this Section 3 above.

Snohomish PUD agrees that not later than March 1, 1999, it shall submit an amended application to the Department of Ecology NWRO to include as an additional purpose of use authorized by . Certificates 6488 and G1-20625C that stream flow augmentation of May Creek as provided in this agreement.

b. The Tulalip Tribes agree that they shall not further appeal or protest the change application described in this agreement or any decision by the Department of Ecology to approve and issue a certificate of change in use for Certificates 6488 and G1-20625C which complies with this agreement.

c. The Tulalip Tribes agree not to oppose the issuance of any and all state and local permits required of Snohomish PUD to carry out the augmentation plan described in this Section 3 so long as said permits are consistent with the terms of this agreement and applicable law.

4. BINDING AGREEMENT

The parties agree that this stipulation is a contract that is binding on the parties, that valuable consideration was given and received for its execution, and that it may be enforced as a contract pursuant to the laws of the State of Washington. In the event of suit to enforce its terms, the parties agree to jurisdiction and venue in Snohomish County Superior Court. In the event of such suit, all remedies allowed by law, including but not limited to damages, specific performance, injunctive relief, and other equitable remedies shall be available. Any suit to enforce this agreement shall be in addition to remedies available through the Department of Ecology or the Pollution Control Hearings Board.

5. CONTINUING NEGOTIATIONS

Snohomish FUD and the Tulalip Tribes agree and pledge good faith efforts to engage in cooperative discussions regarding Snohomish FUD's and the Tribes' respective water utility supply and fisheries resource issues and concerns. Snohomish FUD specifically agrees to consult with the Tulalip Tribes regarding the water resource acquisition or development plans of its water utility which Snohomish FUD reasonably believes may impact the water resource or fishery interests of the Tulalip Tribes; the objective of the parties is to adopt an overall understanding and cooperative framework and approach for the mutual exchange of information and assistance to promote the accomplishment of the overall goals and objectives of each of the parties. To this end, the parties agree to schedule periodic meetings for consultation.

If Snohomish PUD requests, in writing, a meeting for consultation regarding a particular matter, and such meeting cannot be conducted within a reasonable time, which shall be deemed to be 30 days from the date of mailing any such written request, written communication to the Tulalip Tribes regarding such matter shall meet Snohomish PUD's obligation under this section.

6. WITHDRAWAL OF APPEAL

This agreement resolves all disputes arising from Ground Water Right Change Application No. 6488 and G1-20625C and its appeal by the Tulalip Tribes. The Tulalip Tribes hereby agree to withdraw the appeal in this matter before the Washington Pollution Control Hearings board, and to execute and submit, without delay, any and all documentation as may be reasonably required by such Board or the Department of Ecology to accomplish such withdrawal and termination of the subject appeal.

THE TULALIP TRIBES OF WASHINGTON mark William Title:

PUBLIC UTILITY DISTRICT NO 1 OF SNOHOMISH COUNTY tompoon By: Title: _Assistant General Manager, Water Resources

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Marks D. Spicher

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Show by a cross (XI) the location of point of diversion (anches want space) or point of withdrawd (ground want sourcet: For ground want applications, show by a circle (O) the locations of subs walk or works within a querer of a suit. Indicate staveling directions from nonrow sows in space below.

At the intersection of IN Highway 2 and 415th Ave S.F. (Picklefarm Boad)

go North to 164th St. S.E. then East to 419th Ave. S.E., then North to

156th St. S.E., then South on 423rd Ave, S.E., 1/4 mile to PUD chain link

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Your water right application will be processed by the Regional Office of the Department of Ecology having jurisdiction in the area in which your water works are located. Piesse submit your completed application form, maps, sketches and \$10.00 examination for to the appropriate Regional Office.

Northwest Regional Office 4350 150th Avenue N.H. Redimond, Washington \$2502 - 5301 Tel. (206) \$25-1900

Southwest Regional Office 7272 Cleanwater Line Otympia, Wathington 98504 - 4311 Tel. (206) 753-2353 Cratcal Regional Office 3601 West Washington Yakima, Washington 98903 - 1164 Tel. (509) 575-2491

Esstern Regional Office N. 4601 Moserca, Suits 100 Spokane, Weshlagton 99205 - 1295 Tel. (509) 456-2926

The appropriate Regional Office will be happy to answer any further questions you may have.

MAY CREEK MITIGATION PLAN

APPENDIX D.

: :

MAIN WATER METER WELL #1 CHLORINATOR **WELL #2** TO DECHLORINATOR RESERVOIR **BY-PASS EXCESS ALTERNATE 1:** 1/1/ FLOW FLOW WHEN MITIGATION NOT REQUIRED **MITIGATION** PRESSURE -METER > FLOW WHEN MITIGATION **RELIEF VALVE** IS REQUIRED > FLOW WHEN MITIGATION IS REQUIRED - WELL #2 NOT PUMPING FLOW CONTROL VALVE DISCHARGE < **ALTERNATE 2:** TO MAY CREEK MITIGATION FLOW ALTERNATIVE USING DECHLORINATOR, WHEN NEITHER WELL PUMPING.
API	IX C					
AGI Intrinstocati Snohomish Public	odel: May Creek Wellfield lic Utility District No. 1					
The Jenkins Analytical Model will be used to calculate the quantity of stream depletion induced from Ma Glover Models are based on the equations developed by Thies in 1941. (Schroeder's (1987) numerical	ay Creek by ground water withdrawais from the May Creek Replacement Well. The Jenkins and I program uses the Jenkins/Glover Models as its basis). The basic equations are:					
$q'_{Q} = erfc \left(\sqrt{\frac{sdf}{4t}} \right) \frac{\sqrt{Qt}}{Qt} = \left(\frac{sdf}{2t} + 1 \right) erfc \left(\sqrt{\frac{sdf}{4t}} - \left(\sqrt{\frac{sdf}{4t}} \right)^{2} \sqrt{\pi} \exp \left(- \frac{\frac{sdf}{4t}}{4t} \right)$ where: q rate of depletion from stream Q net steady pumping rate (for May Creek: the excess daily consumption in gpm) v volume of stream depletion during time t Qt net volume pumped during time t t time	sdf stream depletion factor, or a ² S/T a the perpendicular distance from the pumped well to the stream (for May Creek = 594 ft) S specific yield of the aquifer (for May Creek = 0.01) T transmissivity (for May Creek = 20,000 gpd/ft)					
Application The daily stream depletion will be calculated by the Jenkins Model for all daily withdrawals in excess of 398,880 gallons (excess daily consumption). The calculated depletion volume will be corrected as described below and returned to May Creek on the following day. The mitigation return flow will be withdrawn from the May Creek Wellfield. All mitigation withdrawals will be mitigated to minimize stream depletion. The total mitigation will be calculated using five (5) iterations. On the last day of "excess daily consumption" the Jenkins Model will be used to calculate the residual depletion based on that day's withdrawal. The corrected residual depletion will be returned to May Creek on a daily basis until the corrected total depletion amount has been fully returned to the stream. The agreed correction factors are: 1. Partial penetration of the stream channel into the aquifer (20% reduction in stream depletion) 2. Aquifer storage beyond partially penetrating stream channel (21% reduction in stream depletion) 3. Hotorscore live beyond partially penetrating stream channel (21% reduction aquifer (7% reduction in stream depletion) 3. Hotorscore live beyond partially depleted to a stream channel (21% reduction aquifer (7% reduction in stream depletion)						
Description of N	fodel and Modifications					
Jenkins Model	Corrections					
The Jenkins Model calculates daily stream depletion as a percentage of the daily pumping rate and withdrawal. The depletion is calculated from the size of the cone of depression and changes as the cone grows and decays. On the last day of pumping (or withdrawals in excess of specified quantity) the Model calculates the daily residual stream depletion as the cone decays. The Jenkins calculations require the first seven assumptions. Additional assumptions appear in Jenkins' text or are noted by subsequent workers. 1. Transmissivity (T) does not change with time. In an unconfined aquifer drawdown is negligible when compared to aquifer thickness. 2. The temperature of the stream is assumed to be constant and the same as the temperature of the aquifer. 3. The aquifer is isotropic, homogeneous, and semi-infinite in areal extent. 4. The stream that forms the boundary is straight and fully penetrates the aquifer. 5. Water is released instantaneously from storage. 6. The well is open to the full saturated thickness of the aquifer and is perfectly efficient. 7. The pumping rate is steady during any period of pumping. 8. The stream is the sole source of recharge (precipitation, irrigation seepage, and other return flows are ignored). 9. The streambed is in perfect hydraulic connection with the aquifer. Analytical Model References Glover, R. E., 1974, Transient Ground Water Hydraulics, Water Resources Publications	The assumptions of the Jenkins Model severely restrict its applicability. When actual field conditions do not meet the assumptions, the Jenkins Model tends to <i>overestimate</i> the rate and volume of stream depietion. Its comparison to a more realistic, three - dimensional numerical model (MODFLOW) indicates the three most significant sources of error are: Streambed clogging, as quantified by streambed-aquifer hydraulic conductivity contrast Degree of stream partial penetration Aquifer heterogenelity					
P. O. Box 303, Fort Collins, CO, 80522, p. 141 - 144 Jenkins, C. T., 1968, Computation of Rate and Volume of Stream Depletion by Wells, Chapter D1, 17 pp., Book 4 Hydrologic Analysis and Interpretation <i>in</i> Techniques of Water-Resources Investigation of the United States Geological Survey Schroeder, D. R., 1987, Analytical Stream Depletion Model, Ground Water Software Publication #1, Office of the State Engineer, Colorado Division of Water Resources, pp. 5	Correction References Sophocleus, M., A. Koussis, J. L. Martin, and S. P. Perkins, 1995, Evaluation of Simplified Stream- Aquifer Depletion Models for Water Rights Administration, Ground Water, Vol. 33, pp 597-588 Spalding, C. P., and R. Khaleel, 1991, An Evaluation of Analytical Solutions to Estimate Drawdowns and Stream Depletions by Wells, Water Resources Research, Vol. 27, pp. 597-609.					

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THE TULALIP TRIBES OF WASHINGTON

RESOLUTION NO. 99.3.11

BE IT RESOLVED: By the Board of Directors of the Tulalip Tribes of Washington, an Indian Tribe organized pursuant to the Indian Reorganization Act of June 18, 1934, (25 USCA 476-477) and in accordance with its Constitution Article VI, Section 1, (a) and the By-Laws as approved by the Secretary of the Interior, and

WHEREAS: the Tulalip Tribes of Washington is a federally recognized Indian Tribe under the Treaty of Point Elliott, signed in 1855, and

WHEREAS: the Tribes Treaty reserved rights include fishing in their usual and accustomed areas, and

WHEREAS: Maintaining the instream flows necessary for salmon production are very important for exercising the Tribes Treaty rights for harvesting fish, and

WHEREAS: the Public Utility District Number 1 of Snohomish County, Washington, desires to withdraw well water, which has a hydraulic continuity to May Creek within the Tulalip usual and accustomed fishing areas, and

WHEREAS: Tulalip has appealed the permits issued for the water withdrawals in order to protect stream flows, and

WHEREAS: Tulalip staff have negotiated a settlement agreement which includes supplementing the stream flows to May Creek with well water, to offset the estimated loss of stream flows from the groundwater withdrawals, and

NOW THEREFORE BE IT RESOLVED: that the Board of Directors for the Tulalip Tribes of Washington, hereby authorize the Chairman (or Vice Chair in his absence) to sign the settlement agreement with the Public Utility District No. 1 of Snohomish County, Washington.

PASSED this <u>1</u> day of <u>fibration</u>-1999 in Special Session with a quorum present, by a vote of <u>6</u> FOR and <u>6</u> AGAINST.

mon allelliam

illiams, Jr., Chairman

ATTESTED:

Marie M. Zackuse, Secretary)



Skylite Tracts

Skylite Tracts STATE OF WASHINGTON DEPARTMENT OF ECOLOGY CERTIFICATE OF WATER RIGHT Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.) Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Scology.) PERMIT NUMBER CERTIFICATE NUMBER APPLICATION NUMBER PRIORITY DATE G1-22033P G1-22033C G1-22033 August 5, 1974 NAME SKYLITE TRACTS, CORP. (ZIP CODE) 98294 (STATE) ADDRESS (STREET) (CITY) Washington Sultan Route 2, Box 618 This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown. PUBLIC WATER TO BE APPROPRIATED SOURCE Well TRIBUTARY OF (IF SURFACE WATERS) MAXIMUM GALLONS PER MINUTE MAXIMUM ACRE-FEET PER YEAR MAXIMUM CUBIC FEET PER SECOND 29.7 100.0 QUANTITY, TYPE OF USE, PERIOD OF USE Community domestic supply - continuously LOCATION OF DIVERSION/WITHDRAWAL APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL 400 feet east and 200 feet north from the southwest corner of Sec. 2 TOWNSHIP N. RANGE, IE. OR W.) W.M. W.R.I.A. COUNTY SECTION LOCATED WITHIN ISMALLEST LEGAL SUBDIVISION 8 E. Snohomish . 27 7 2 SILSIL RECORDED FLATTED PROPERTY OF (GIVE NAME OF PLAT OR ADDITION) BLOCK LOT LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED All of Cov't Lot 8 and SWASWA, Sec. 2, T. 27 N., R. 8 E.W.M., plat as recorded

All of Cov't Lot 8 and SWaSWa, Sec. 2, 1. 27 K., K. & L.M.M., plat as recorded in Snohomish County, 1961, pages 40, 41, and 42 of Volume 20, records of Snohomish County.



PROVISIONS

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The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at Redmond

Washington, this 14th. day

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TO	REPORT OF E APPROPRIATE PUBLIC WATER	EXAMINATION S OF THE STATE OF WASHING	ION
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	APPLICATION NO. G1-22033	PRIORITY DATE OF APPLICATION August 5, 1974	

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DDRESS (STREET) Route 2, Box 618	(CITV) Sultan	Washington	98294
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APPROXIMATE LOCATION OF DIVERSION/WITHDRAWL

400 feet east and 200 feet north from the southwest corner of Sec. 2

LOCATED WITHIN (SMALL	EST LEGAL SUBDIVISION)	SECTION 2	TOWNSHIP N.	RANGE. (E. OR W.) W.M. 8 E.	w.r.i.a. 7	county Snohomish
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REPORT OF EXAMINATION

ECY 040-1-25

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DESCRIPTION OF PROPOSED WORKS

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	DEVELOPMENT SCHEDULE	
BEGINNING DATE	COMPLETION DATE	DATE COMPLETE APPLICATION OF WATER TO BE MADE
Started	Complete	1 yr. from permit issuance

PROVISIONS AND RECOMMENDATIONS

100 gallons per minute, 29-2/3 acre-feet per year approved for community domestic supply. Total withdrawal approved by this permit and Ground Water Certificate 7293-A shall not exceed 37 acre-feet per year.

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Signed at Redmond, Washington,

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ROBERT D. AGGAS District Geologist Department of Ecology

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S. F. No.	7361-(Rev.	6-70).
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CERTIFICATE RECORD NO. 15 , PAGE NO. 7293-A

STATE OF WASHINGTON, COUNTY OF. Snohomish

CERTIFICATE OF GROUND WATER RIGHT

(Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology thereunder.)

.....

THIS IS TO CERTIFY That	R. PEIER BEAUPAIN
of	Seattle, Washington , has made proof
to the satisfaction of the Department of Ec	cology of a right to the use of the public ground waters of
the State of Washington from	a well
located within Lot 44, Block 5, of	Skylite Tracts, Replat of Blocks 5 and 6
Sec. 2 , Twp. 27 N., R. 8 E	•.W.M.,
for the purpose (3) of	community domestic supply
under and specifically subject to provision	s contained in Ground Water Permit No. 9486
issued by the Department of Ecology and the	at said right to the use of said ground waters has been per-
fected in accordance with the laws of Washin	ngton, and is hereby confirmed by the Department of Ecology
and entered of record in Volume15 at	page 7293-A ; that the priority of the right hereby confirmed
dates from September 29, 1969 ; that	the quantity of ground water under the right hereby con-
firmed for the aforesaid purposes, is limited	to an amount actually beneficially used for said purposes,
and shall not exceed 50 gallons per m	inute, 7 1/3 acre-feet per year, duringe entire
year, for community domestic supply.	

A description of the lands to which such ground water right is appurtenant is as follows:

Skylite Tracts and Skylite Tracts, Replat of Blocks 5 and 6, being within Sec. 2, T. 27 N., R. 8 E.W.M.

The right to use of water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390 and 90.44.020.

This certificate of ground water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

	Given	under	my	hand	and	seal	of	this	office	at	Olympia,	Washington,	this	18th	da	y
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of ______ May _____, 19**71**_____

JOHN A. BIGGS, Director Department of Ecology

by Glen H. Fiedler

Engineering Data OK.

Pilchuck 10

Dear Brant Wood,

This email serves to notify you the extension for a *Temporary Donation to the Trust Water Rights* Program Form (ECY 070-488) you submitted on September 9, 2022, has been accepted.

33 gpm and 5.4 ac-ft/yr is enrolled in trust as a temporary until January 7, 2033, according to the terms in the submitted form. You may request to cancel the donation before the term expires by sending a request to wrNWRO@ecy.wa.gov.

Ecology's acceptance of the donated water right into the trust program is not evidence of the extent, validity, or quantities of the water right.

If you have questions or concerns, please contact Michele Curtis at 206-594-0206 or at michele.curtis@ecy.wa.gov.

Thanks, Michele

MICHELE CURTIS PERMITTING & DATABASE COORDINATOR - WATER RESOURCES PROGRAM NORTHWEST REGIONAL OFFICE - WA STATE DEPARTMENT OF ECOLOGY (206)594-0206 (w) | (425)495-4119 (c) | (206)366-7810 (f) | michele.curtis@ecy.wa.gov

This communication is a public record and may be subject to disclosure as per the Washington State Public Records Act, RCW 42.56.



Please consider the environment before printing this e-mail

We have moved!

Ecology's Northwest Regional Office has moved to Shoreline:

- Mailing address: PO Box 330316, Shoreline, WA 98133-9716
- My new phone #: 206-594-0206
- 24-hour reception line: 206-594-0000



Energizing Life in Our Communities

Received Department of Ecology

SEP 15 2022

Water Resources Program

September 9, 2022

۰,

Mr. Buck Smith Washington State Department of Ecology Northwest Regional Office 15700 Dayton Ave N Shoreline, WA 98133

RE: Extension of Temporary Voluntary Trust Water Donation CG1-26382C: PUD No. 1 of Snohomish County

Dear Mr. Smith,

I am writing on behalf of PUD No. 1 of Snohomish County (PUD) to request an extension of Temporary Voluntary Trust Water Donation (Trust Donation) CG1-26382C for a period of 10 years (i.e., January 7, 2033).

It is our understanding that this request may occur without requirement of new application consistent with the Department of Ecology's (Ecology) recently issued Water Right Trust Program Policy (Trust Program) Update (POL – 1010) which states in part: "A water right holder may modify the terms (such as duration or quantity) of a water right donation prior to its expiration without submitting a new donation form by contacting Ecology."

In making this extension request, the PUD reserves the right to withdraw the subject water right from the Trust Program prior to 2033, subject to the provision of proper written notice to the Department of Ecology (Ecology), and/or to extend the period beyond 2033 if deemed appropriate by the PUD and consistent with statute (RCW 90.42). The requested extension of the Voluntary Trust Donation will enable the PUD to continue to make the water right available as a mitigation source for parties in the Pilchuck Creek Sub-basin, and to benefit groundwater preservation and instream flows.

In closing, we look forward to your timely consideration and approval of the requested Trust Donation extension to Jan 7, 2033. Please contact me or our water right counsel, Tom Mortimer, if you have questions.

Sincerely,

Brant E. Wood, PE Assistant General Manager, Water Utility Snohomish County PUD #1 <u>bewood@snopud.com</u> 425-397-3003

Cc: Shawn Aronow, Assistant General Counsel, PUD No. 1 of Snohomish County Tom Mortimer, Attorney at Law

Attachments:

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Attachment 1 – Certificate of Water Right Attachment 2 – Historical Location of Pilchuck 10 well

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PROVISIONS

In order to monitor the resource, static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year.

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through 508-64-040 (Installation, operation and maintenance requirements). Meter readings shall be recorded monthly and this data shall be maintained and be made available to the Department of Ecology upon request.

This certificate is subject to the implementation of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, July 1990.

The right to the use of the water aforesald hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 99.14.150,

Given under my hand and the seal of this office at Bellevue, Washington,

this 30th day of November, 1995.

CERTFICATE

ENGRIEERING DATA OK	Department of Ecology	
	Raymond K. Hellwig, Regional Supervisor, Sh	orelands and Water R
	FOR COUNTY USE ONLY	
	r ()	

.2.

csources

No GI-25382 C



General Location



STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000 711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

JAN 1 0 2013

Brant E. Wood, P.E. Senior Manager Water Resources Operations, Maintenance, & Engineering Public Utility District No. 1 of Snohomish County P.O. Box 1107 Everett, WA 98206-1107

RE: Trust Water Donation CG1-26382C -- Snohomish County

Dear Mr. Wood:

The purpose of this letter is to acknowledge the Department of Ecology's (Ecology) acceptance of your donation to the Washington State Trust Water Right Program. The trust water right has been assigned Application No. CG1-26382C. Please refer to this number when corresponding with us about this trust water right.

Ecology received your trust water right application and accompanying letter on November 26, 2012. In your letter you wrote:

I am writing on behalf of PUD No. 1 of Snohomish County (PUD) to advise you of the PUD's desire to temporarily donate to the Washington State Trust Water Right Program, the entire authorized quantities associated with Certificated Groundwater Rights G1-26382C for a ten (10) year term. This water right, which formerly served the PUD's Pilchuck 10 Water System, has an authorized instantaneous quantity (Qi) of 33 gpm, and an annual quantity (Qa) of 5.4 afy and served via 10 connections, a residential population of 32 residents.

One of the PUD's primary purposes in making the temporary trust donation is to make it available as a mitigation source to parties in the Pilchuck Creek Sub-basin seeking new rights or pursuing water right changes. A closely related purpose is to augment the instream flows of Pilchuck Creek, which is tributary to the Snohomish River. To this end, a Trust application has been attached as well as information regarding its historic beneficial use and function. To achieve its desired objectives, the PUD proposes a term of 10 years, reserving the right to withdraw the water right from the Trust Program upon provision of 45 days written notice to the Department of Ecology.



Brant Wood CG1-26382C TW Donation Page 2

> Because the Pilchuck 10 water right served only 10 residential connections/32 persons until its use was halted in October, 2012, the PUD acknowledges that the water right may not qualify as a municipal water right pursuant to RCW 90.03.015(4)(a). The water right, however, has been applied to continuous beneficial use. Under any circumstance, it is our understanding that because the water right is being proposed as a temporary trust donation, its acceptance in this regard is not subject to an extent and validity determination, nor partial relinquishment. Such an investigation would occur at the time the right is proposed for change to serve as mitigation source or other purpose.

Ecology pursuant to RCW 90.42.080(1)(B) accepts your terms of donation, as summarized below:

Benefiting Water Body:	Pilchuck Creek Sub-basin (tributary to the Snohomish River)
Purpose:	Potential mitigation source, groundwater preservation, & instream flow augmentation
Instantaneous Rate:	33 gallons per minute
Annual Volume:	5.4 acre-feet per year
Season:	01/01 - 12/31
Trust Water Right Place of Use:	Down-gradient of the existing point of withdrawal within the SE ¹ / ₄ SE ¹ / ₄ of Section 5, Township 29 North, Range 7 East
Trust Water Expiration Date:	January 7, 2023

In accordance with RCW 90.42.040(6), RCW 90.14.140(h), and RCW 90.14.215, a water right is not subject to relinquishment while it is managed within the Trust Water Right Program.

Ecology's acceptance of the donated water right into the trust water right program is not evidence of the validity or quantity of the right. When the period of trust ends, the water right will revert back to the water right holder or landowner in the full quantity accepted into the trust water program and for the original purposes.

If, prior to expiration of this temporary donation, you would like to extend the temporary donation, please send us a written request. Also, if you wish to modify any terms of your donation, your letter must include the new terms. Ecology will review your request and any new or modified terms and conditions and will notify you whether the donation can be extended or terminated.

If you have questions or concerns, please contact Buck Smith at (425) 649-7147 or jsmi461@ecy.wa.gov.

Brant Wood CG1-26382C TW Donation Page 3

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.

- Serve a copy of your appeal and this Order on Ecology in paper form by mail or in person. (See addresses below.) E-mail is not accepted.
- You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology	Department of Ecology
Attn: Appeals Processing Desk	Attn: Appeals Processing Desk
300 Desmond Drive SE	PO Box 47608
Lacey, WA 98503	Olympia, WA 98504-7608
Pollution Control Hearings Board	Pollution Control Hearings Board
1111 Israel RD SW Ste 301	PO Box 40903
Tumwater, WA 98501	Olympia, WA 98504-0903

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov.

To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser.

Signed at Bellevue, Washington, this 10 day of Januar 2013.

Jacqueline Klug

Section Manager Water Resources Program

jk/bs/mc

cc: Thomas Mortimer

By Certified Mail: 7010 3090 0000 1910 3266



Providing quality water, power and service at a competitive price that our customers value

RECEIVED NOV 26 2012 DEPT OF ECOLOGY NWRO - WR

November 19, 2012

Mr. Buck Smith Department of Ecology NWRO Water Resources Program 3190 160th Avenue SE Bellevue, WA 98008-5452

RE: PUD No. 1 of Snohomish County

Dear Mr. Smith:

I am writing on behalf of PUD No. 1 of Snohomish County (PUD) to advise you of the PUD's desire to temporarily donate to the Washington State Trust Water Right Program, the entire authorized quantities associated with Certificated Groundwater Rights G1-26382C for a ten (10) year term (Attachment 1). This water right, which formerly served the PUD's Pilchuck 10 Water System, has an authorized instantaneous quantity (Qi) of 33 gpm, and an annual quantity (Qa) of 5.4 afy and served via 10 connections, a residential population of 32 residents.

One of the PUD's primary purposes in making the temporary trust donation is to make it available as a mitigation source to parties in the Pilchuck Creek Sub-basin seeking new rights or pursuing water right changes. A closely related purpose is to augment the instream flows of Pilchuck Creek, which is tributary to the Snohomish River (See Attachment 2). To this end, a Trust application has been attached as well as information regarding its historic beneficial use and function (See Attachment 3). To achieve its desired objectives, the PUD proposes a term of 10 years, reserving the right to withdraw the water right from the Trust Program upon provision of 45 days written notice to the Department of Ecology.

Because the Pilchuck 10 water right served only 10 residential connections/32 persons until its use was halted in October, 2012, the PUD acknowledges that the water right may not qualify as a municipal water right pursuant to RCW 90.03.015(4)(a). The water right, however, has been applied to continuous beneficial use. Under any circumstance, it is our understanding that because the water right is being proposed as a temporary trust donation, its acceptance in this regard is not subject to an extent and validity determination, nor partial relinquishment. Such an investigation would occur at the time the right is proposed for change to serve as mitigation source or other purpose.

In closing, we would appreciate your timely processing of the attached Trust Water Right Program application and the issuance of an acceptance letter that reflects the PUD's interests and conditions as expressed above. If you have any questions or require further information, please feel free to contact me at 425-397-3003 or our water right counsel, Tom Mortimer.

Sincerely,

Pwl

Brant E. Wood, P.E. Senior Manager, Water Resources Operations, Maintenance, and Engineering

cc: Anne Spangler, General Counsel, PUD No. 1 of Snohomish County Tom Mortimer, Attorney at Law

Attachments

STATE OF WASHINGTON APPLICATION TO ENTER A WATER RIGHT INTO THE TRUST WATER RIGHT PROGRAM NOV 26 2012

DEPT OF ECOLOGY NWRO - WR

NOTE: THIS FORM IS **ONLY** TO BE USED FOR THE ACQUISITION OF WATER INTO THE TRUST WATER RIGHT PROGRAM

(Check all that apply.)
Lease
Purchase
⊠ Donation
Other
Explain: Water Right Banking/Mitigation Source

FOR OFFICE USE ONLY
FILE No. CG - 26382C WRIA 7
DATE ACCEPTED
FEE \$ REC'D 11 126 1 12
CHECK No
SEPA: Exempt D Not exempt

Portion of the identified existing water right

IF FOR SEASONAL OR TEMPORARY, START DATE ____/____ END DATE ____/___/

IF MORE SPACE IS NEEDED, ATTACH ADDITIONAL SHEETS (PLEASE PRINT OR TYPE CLEARLY)

1. Applicant Information:

APPLICANT/BUSINESS NAME	PHONE NO.	FAX NO.
Public Utility District No. 1 of Snohomish County	(425) 397-3003	(425) 267-6202
ADDRESS		
P.O Box 1107		
CITY	STATE	ZIP CODE
Everett	WA	98206
and the second		and the second
CONTACT NAMÉ (IF DIFFERENT FROM ABOVE)	PHONE NO.	FAX NO.
Brant Wood	(425) 397-3003	(425) 267-6202
ADDRESS		
Same as Above		
CITY	STATE	ZIP CODE
Same as Above		

2. Water Right Information:

WATER RIGHT OR CLAIM NUMBER	RECORDED NAME(S)
G1-26382C	Snohomish County PUD No. 1
DO YOU OWN THE RIGHT? X YES INO IF NO, PROV	IDE OWNER(S) NAME and ADDRESS:
HAS THE WATER BEEN PUT TO BENEFICIAL USE IN THE LAST F	IVE (5) YEARS? X YES □ NO
ARE WATER DIVERSIONS/WITHDRAWALS OF THIS WATER RIGH	IT METERED OR MEASURED? X YES □ NO
IMPORTANTI PROVIDE INFORMATION SHOWING THE EXTENT (OF WATER USE FOR EACH OF THE LAST FIVE YEARS

Please attach copies of any documentation that demonstrates consistent, historical use of water since the right was established. Also, if you have a water system plan or conservation plan, please include a copy with your application.

FOR OFFICE USE ONLY

WATER RIGHT NO.

FILE (contract) NO._____

3. How is Water to be Made Available for Trust?

Alteration in method of diversion	Alteration in water use/ irrigated acreage
Alteration in method of delivery/conveyance	Nonuse of one or more points of diversion
Alteration in method of water application	Nonuse of all or a portion of the named water right
Alteration in type of crop	Other, Explain below:
PUD seeks to make water right available as a	a possible mitigation source for new water rights/changes

and/or to provide flow augmentation/aquifer preservation in Pilchuck Creek Sub-Basin

WATER RIGHT DESCRIPTION *

4. Point(s) of Diversion/Withdrawal:

A. Existing

SOURCE	NO.	1/4	1/4	SEC.	TWP.	RGE.	PARCEL #	WELL TAG #
Groundwater Well	1	SE	SE	5	29	7E	052907-4- 014-0001	<u>ABO-659</u>
					1			

Please include copies of all water well reports involved with this proposal. Also, if you know the distances from the nearest section corner to the above point(s) of diversion/withdrawal, please include that information in Item No. 6 (remarks) or as an attachment.

5. Purpose of Use:

A. Existing Use of the Water Right

PURPOSE OF USE	GPM or CFS	ACRE-FT/YR	PERIOD OF USE
Multiple Community Domestic	33 gpm	5.4 afy	Continuous/Annual
		1.0.00	

B. Proposed Purpose of the Trust Water Right:

DESCRIBE THE PURPOSE(S) OF USE DURING THE PERIOD OF TRUST:	
PURPOSE OF USE	ACRE-FEET/YR
To serve as a mitigation source for new rights/changes and/or to provide flow augmentation and aquifer preservation in the Pilchuck Creek Sub- Basin.	5.4 afy

6. Place of Use:

A. Existing:

LEGAL DESCRIPTION OF LANDS WHERE WATER IS PRESENTLY USED:

Area Served by PUD No. of Snohomish County

The SE1/4 of the SE1/4 of Section 5, Township 29, Range 7 East W.N., and the E1/2 of the SW 1/4 of the SE1/4 of said Section 5 lying Easterly of County Road (Menzel Road) as conveyed to Snohomish County by Quit Claim Deed recorded March 15, 1940 under Auditors File No. 668394. Snohomish County.

1/4	1/4	SEC.	TWP.	RGE.	COUNTY	PARCEL #	# OF ACRES
SE	SE	5	29	7E	Snohomish		

DO YOU OWN ALL THE LANDS IN THE EXISTING PLACE OF USE? \Box YES <u>X</u> NO – IF NO, PROVIDE OWNER(S) NAME: PUD No. 1 is a municipal water supply system. Property owners within the water right place of use/service are now served by PUD municipal water supply sources.

^{*} If additional space is needed, please continue on the form: Attachment for Application to Enter a Water Right into the Trust Water Right Program.

6. Place of Use (continued)

B. Proposed:

IDENTIFY THE WATER BODY TO BE BENEFITED OR OTHER PLACE TO BE BENEFITED
Pilchuck Creek Sub-Basin and related aquifer system(s).

7. Remarks and Other Relevant Information:

The PUD intends to have the water right serve as a mitigation source for new rights/changes and/or to provide flow augmentation and aquifer preservation in the Pilchuck Creek Sub-Basin.

Certain applications may incur a Real Estate Excise Tax liability for the seller of the water rights. The Department of Revenue has requested notification of potential taxable water right related actions and therefore may be provided with a copy of this request.

Please contact the State Department of Revenue for further information. The phone number is (360) 570-3265. The address is: Department of Revenue, Real Estate Excise Tax, PO Box 47477, Olympia, WA 98504-7477.

8. Signatures:

I certify that the information above is true and accurate to the best of my knowledge. I hereby grant staff from the Department of Ecology access to the above site(s) for inspection and monitoring purposes. If assisted in the preparation of the above application, I understand that all responsibility for the accuracy of the information rests with me.

BEWL (Applicant)	<u>/1 /</u> (Date	<u>19/12</u>
BRANT E. WOOD FOR SNOHOMISH PUD #1	1.	19 / 12
(Water Right Holder)	(Dat	ə)
	/	
(Land Owner(s) of Existing Place of Use)	(Date)	

IMPORTANT! APPLICATION FILING INFORMATION IS PROVIDED ON THE NEXT PAGE.

WE ARE RETURNING YOUR APPLICATIO	N FOR THE FOLLOWIN	IG REASON(S):
	SECTION	IS INCOMPLETE
STAFF:	DAT	E://

IMPORTANT!

Submit your application to Ecology at the regional office for the area of proposed or existing water use. Below is a map of the State of Washington, with outlines of the four Ecology regional offices. If you have questions about your application, contact the Water Resources program at the regional office in which your project is located.



Department of Ecology Central Regional Office 15 W. Yakima Avenue, Suite 200 Yakima, WA 98902 Telephone: (509) 575-2490

Department of Ecology Northwest Regional Office 3190 – 160th Avenue SE Bellevue, WA 98008-5452 Telephone: (425) 649-7000 Department of Ecology Eastern Regional Office N. 4601 Monroe, Suite 202 Spokane, WA 99205-1295 Telephone: (509) 329-3400

Department of Ecology Southwest Regional Office PO Box 47775 Olympia, WA 98504-7775 Telephone: (360) 407-6300

If you need assistance in the application process or those needing this application in an alternate format, please call the Water Resources Program at (360) 407-6600 or 800-833-6388 (TTY).

ATTACHMENT FOR APPLICATION TO ENTER A WATER RIGHT INTO THE TRUST WATER RIGHT PROGRAM

s) of Diversion/Withdrawal - Existing					Proposed:		
NO.	1/4	1/4	SEC.	TWP.	RGE.	PARCEL #	WELL TAG #
			e				
	1.00						1.1918
	NO.	NO. 1/4	sion/Withdrawal -		Sion/Withdrawal - Existing NO. 1/4 1/4 SEC. TWP.	Sion/Withdrawal - Existing Prop	Sion/Withdrawal - Existing Proposed:

B. Proposed Purpose of the Trust Water Right

PURPOSE OF USE	ACRE-FEET/YR

Place of Use - Existing:

				LEGAL DE	SCRIPTION OF LANDS		
4	No. 20 See						
				4			
			and the second				
1. 19	S-92-5-6						
<u></u>							
Sec. Sec.	6.1594	Charles B.					
	Call						and the second
1. 197.							
	<u>a 1977</u>						
1/	1/	850	TIMD	DCE	COUNTY	DADCEL #	# OF ACRES
74	/4	320.	1001.	KGE.	COUNTY	FARGEL #	# OF ACKES
1946							
O YOU O	WN ALL TH	E LANDS IN	ABOVE PLA	CE OF USE?	YES NO - IF NO, PF	ROVIDE OWNER(S) NAME:	

T Ground	The Depertment of Ecology 1 Water secured in accordance with the Department of Ecology) t pus provisions of Oraciur 202. 13	and of Washington for 1945, an	i generalisenski Skenist, i	erd She hater and regulations of
November 14, 1991	артискотон мимеел G1-26382	G1-2638	я 2 Р	G1-26382	ел С
Snohomish County PUL	No. 1 for Pilchuck 7	en Water System	2	and an approximate provide the second provi	
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In order to monitor the resource, static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year.

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through 508-64-040 (Installation, operation and maintenance requirements). Meter readings shall be recorded monthly and this data shall be maintained and be made available to the Department of Ecology upon request.

This certificate is subject to the implementation of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, July 1990.

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at Bellevue, Washington,

this 30th day of November, 1995.

Department of Ecology

ENGINEERING DATA

Raymond K. Heffwig, Regional Supervisor, Shorelands and Water Resources

FOR COUNTY USE ONLY

2.



		Attachme	nt 3 - Pilchu	uck 10 W	ater Syster	n Use	
Year	Number of Connections	Population Served	Annual Total (cf)	Gal/day/ con	Annual Total (MG)	Annual Total (af)	Notes:
1995	2	5	37,602	385	0.28	0.86	
1996	2	5	25,136	258	0.19	0.58	
1997	2	5	26,525	272	0.20	0.61	
1998	2	5	30,109	309	0.23	0.69	
1999	5	12.5	26,908	110	0.20	0.62	
2000	5	12.5	31,621	. 130	0.24	0.73	
2001	5	12.5	59,115	242	0.44	1.36	
2002	5	12.5	74,797	307	0.56	1.72	
2003	5	12.5	41,815	171	0.31	0.96	
2004	9	22.5	71,808	164	0.54	1.65	
2005	9	22.5	92,490	211	0.69	2.12	1 March March 1997
2006	9	22.5	100,710	229	0.75	2.31	
2007	10	25	92,470	190	0.69	2.12	
2008	10	25	160,640	329	1.20	3.69	a Research and an
							Survey done in 2009 to
							determine population.
							Based on survey PUD was
							required by DOH to revise
				and the second			system from Group B to
2009	10	32	164,690	338	1.23	3.78	Group A
2010	10	32	116,770	239	0.87	2.68	
2011	10	32	54,660	112	0.41	1.25	

Note: System transferred to PUD Integrated System October 2011

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Ground V	Vater proves	f in accordance pertment of Ec	оюрду 3 то ра	ovisions a	of Chapter 203, L	ears of Waterbry	on for 1945, and	amanclourse Start	ro, and the rules and regulations (
1	G1-263	NUMBER 82		1	рерият NUCABE G1-26382	2 P	21	G1-2638	umber 2 C
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	PI rect he herein i the State gron, and cially used ERSY. NO OF USE - CONTINI FRICK-WITHO 790 fcc MLOOK LEGAL	P1 G1-2633 G1-263 G1-26 G1-26 G1-26 G1-26 G1-26 G1-26 G	APPLICATION NUMBER G1-26382 y PUD No. 1 for Pilchuch rect Everett he herein named applicant has 'Ite State of Washington as he gon, and is hereby confirmed b cially used. PUBLIC ERN NO MADMUM JA 33 OF USE - COntinuously Pacon-WITHORAWAL 790 feet east from S¼ co AL BURDYNBIONS RECC ILOCATION ILEGAL DESCRIPTION OF	P1 APPLICATION NUMBER G1-26382 y PUD No. 1 for Pilchuck Ten rect Everett he herein named applicant has made p the State of Washington as herein def opartment of Ecology, and that said rigi gton, and is hereby confirmed by the D cially used. 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PROVISIONS

In order to monitor the resource, static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year.

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through 508-64-040 (Installation, operation and maintenance requirements). Meter readings shall be recorded monthly and this data shall be maintained and be made available to the Department of Ecology upon request.

This certificate is subject to the implementation of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, July 1990.

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at Bellevue, Washington,

this 30th day of November, 1995.

Department of Ecology

ENGINEERING DATA

by

Raymond K. Heflwig, Regional Supervisor, Shorelands and Water Resources

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FOR COUNTY USE ONLY

2.

CERTIFICATE

No. G1-26382 C

Sunday Lake

PGS

Snohomish County PUD No. 1 c/o Brant E. Wood PO Box 1107 Everett WA 98206-1107



STATE OF WASHINGTON SUPERSEDING CERTIFICATE OF WATER RIGHT

Document Title: Certificate of Water Right

Agency: Department of Ecology Northwest Regional Office 3190 160th Avenue SE Bellevue, WA 98008

Applicant: Snohomish County PUD No. 1 c/o Brant E. Wood PO Box 1107 Everett WA 98206-1107

Reference Number:

Itelet ence i tumbert	•		
PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
August 6, 1968			07295

This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

-	PUBLIC	C WATERS TO BE API	PROPRIATED	
SOURCE		TRIBUTARY OF (IF SURFA	ACE WATERS)	
Well				
MAX. CUBIC FEET PER SECOND	MAX.	GALLONS PER MINUTE	MAX. ACRE-FEET PER YEAR	
	30		60	

QUANTITY/PURPOSE OF USE, PERIOD OF USE

60.00 acre-feet, Municipal Use, Year round as needed

LOCATION OF DIVERSION/WITHDRAWAL

1350 feet east and 1620 feet north from the southwest corner of Section 26, T.32N., R.4E. W.M.

Sunday Lake Well #3

LEGAL DESCRIPTION OF LOCATION OF DIVERSION/WITHDRAWAL

1/4 1/4	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	W.R.I.A.	COUNTY
NE1/4 SW1/4	26	32	04E	5	Snohomish
		÷			

PARCEL # Tract A of Sunday Lake Plat - No Parcel Number Assigned

	LEGAL DE	SCRIPTION	N OF PROPERTY C	N WHICH	WA	FER IS TO) BE USED
1/4 1/4	SECTION	TOWNSHIP N.	RANGE (E. OR W.) W.M.	W.R.I.A.		COUNTY	
PARCEL #			r		,		

ADDITIONAL LEGAL IS ON PAGE 2

HRAW "In Rittle

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SUPERSEDING CERTIFICATE OF WATER RIGHT

RECEIVED

JUN 2 2 REC'D

WATER DEPT.

RECEIVED

JUN 19 2009 GEN. ACCT.

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL

CONTINUED LEGAL DESCRIPTION FOR LOCATION OF DIVERSION/WITHDRAWAL

CONTINUED LEGAL DESCRIPTION FOR PROPERTY ON WHICH WATER IS TO BE USED

The place of use (POU) of this water right is the service area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as **Snohomish County PUD No. 1** is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

PROVISIONS

STANDARD PROVISIONS

1. Quantities Approved

- 1.1. The amount of water authorized through this amendment to Groundwater Certificate (GWC) 7295 shall not exceed a 30 gallons per minute (gpm) instantaneous rate of withdrawal (Qi) or an annual quantity (Qa) of 60 acre-feet per year (afy).
- 1.2. The combined Qi and Qa of GWC 7295 and G1-27418C shall not exceed 130 gpm (Σ Qi) and 100.5 afy (Σ Qa), which are the authorized maximums of the individual rights.

2. Measurements, Monitoring, Metering and Reporting

- 2.1. An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.
- 2.2. Water use data shall, at a minimum, be recorded weekly. The maximum rate of diversion/withdrawal and the annual total volume shall be submitted to the Department of Ecology by January 31st of each calendar year.
- 2.3. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.
- 2.4. Reported water use data shall be submitted via the Internet. To set up an Internet reporting account, access <u>https://fortress.wa.gov/ecy/wrx/wrx/Meteringx/</u>. If you do not have Internet access, contact the NWRO for forms to submit your data.
- 2.5. WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are contained in the document entitled "Water Measurement Device Installation and Operation Requirements". <u>http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html</u>

3. Municipal Place of Use

If the criteria in RCW 90.03.386(2) are not met and a Water System Plan/Small Water System Management Program was approved after September 9, 2003, the place of use of this water right reverts to the service area described in that document. If the criteria in RCW 90.03.386(2) are not met and no Water System Plan/Small Water System Management Program has been approved after September 9, 2003, the place of use reverts to the last place of use described by The Department of Ecology in a water right authorization

4. Water Use Efficiency

Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

5. Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

The right to use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for non-use of water as provided in RCW 90.14.180.

Given under my hand and the seal of t	this office at Bellevue, Washingt	on,
this day of 1	MAY, 2009.	
NUMBER AND	7 • • • • •	
With the second contraction of the second co	Department of Ecology	
DATA REVIEW	1 5	()
CK ECY 040-1-2 (Rev. 8-97)	By	LHG, Section Supervisor
SWERSHORS CERTIFICATE OF WATER RIGHT	2	GWC 7295

	the Depertment of Ecology 3				
X Groun	d Water feaved in accordance with the the Department of Ecology J	provisions of Chapter 203, Laws of Wash	Norgeon for 1948, and e	urasudmenis Shereita, i	ord the roles and regulation of
February 9, 1994	AFFLICATION NUMBER G1-27418	рерылт момеен G1-27418 P		G1-27418	
PLID No. 1 of Spohomi	ish County, Water Depa	rtment			
ACOPENS (STHEET) PO Boy 1107	Everett	Was	thington	95	·
This is to certify that the here by the public waters of the Si Permit issued by the Departm of the State of Washington, a amount actually beneficially	in named applicant has made ate of Washington as herein a ent of Ecology, and that said y ind is hereby confirmed by the used.	proof to the satisfaction of lefined, and under and spe right to the use of said wate Department of Ecology ar	of the Departm cifically subjecters has been put and entered of m	ent of Ecolog t to the provider fected in accepted in accepted as show	y of a right to the use ions contained in the orchunce with the laws n, but is Emited to an
Well Unique Well ID	ABG638	ERS TO BE APPROPRI	ATED		
TRIBUTARY OF (IF BURFACE WATERS)	Sector Sector				
MAXIMUM CUBIC FEET PIPE DECOND	INVOLUM GALLONS	MER MINUTE	40.5	AE-PEET PER YEAR	
OUNNTITY, TYPE OF USE, PERIOD OF USE					
LOCATED WITHIN ISMALLEST LEGAL BUS NEW SW1/4	DIVISION BECT	TON TOWNSHIP R. RAND 32 4E	e e or wi wal	WALA 5	Snohomish
	RECORD	OF DATED PROPER	TY more		
LOT				Carling the state of the state	
	GAL DESCRIPTION OF PE	OPERTY ON WHICH W	ATER IS TO	BE USED	
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Area served by Snohor and periodic updates a	GAL DESCRIPTION OF PI nish County P.U.D. No. Is approved.	ROPERTY ON WHICH W I as reflected in their	MATER IS TO most recen	BE USED it approved	water system plan
Area served by Snohor and periodic updates a	GAL DESCRIPTION OF PI mish County P.U.D. No. is approved.	ROPERTY ON WHICH V I as reflected in their	MATER IS TO most recen	BE USED	water system plan
Area served by Snohor and periodic updates a	GAL DESCRIPTION OF PI mish County P.U.D. No. is approved.	ROPERTY ON WHICH V I as reflected in their	MATER IS TO	BE USED it approved	water system plan
Area served by Snohor and periodic updates a	GAL, DESCRIPTION OF PI mish County P.U.D. No. as approved.	ROPERTY ON WHICH V I as reflected in their	MATER IS TO	<u>BE USED</u> it approved	water system plan
Area served by Snohoi and periodic updates a	GAL DESCRIPTION OF PI mish County P.U.D. No. as approved.	ROPERTY ON WHICH W 1 as reflected in their	MATER IS TO	<u>BE USED</u> it approved	water system plan
Area served by Snohoi and periodic updates a	GAL DESCRIPTION OF PI mish County P.U.D. No. as approved.	ROPERTY ON WHICH W 1 as reflected in their	MATER IS TO	<u>BE USED</u> it approved	water system plan
Area served by Snohor and periodic updates a	GAL DESCRIPTION OF PI mish County P.U.D. No. as approved.	TOPERTY ON WHICH W T as reflected in their	MATER IS TO	<u>BE USED</u> it approved	water system plan
Area served by Snohor and periodic updates a	GAL DESCRIPTION OF PI mish County P.U.D. No. as approved.	ROPERTY ON WHICH Y I as reflected in their	MATER IS TO	<u>BE USED</u> it approved	water system plan
PROVISIONS

Installation and maintenance of an access port as described in <u>Ground Water Bulletin No. 1</u> is required. An air 1 - and gauge may be installed in addition to the access port.

This certificate is subject to the implementation of the minimum requirements established in the <u>Conservation</u> <u>Planning Requirements: Guidelines for Public Water Systems Regarding Water Use Reporting. Demand</u> <u>Forecasting Methodology and Conservation Programs</u>, March 1994.

An approved measuring device shall be installed and maintained in accordance with RCW 50.03.360, WAC 508-64-020 through 508-64-040 (Installation, operation and maintenance requirements). Meter readings shall be recorded monthly and this data shall be maintained and be made available to the Department of Ecology upon request.

In order to monitor the resource, static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year.

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90,14.180.

Given under my hand and the seal of this office at Bellevue, Washington,

this 31st day of January, 1996.

ENGINEERING DATA

Department of Ecology

by

Raymond K. Hellwig, Regional Supervisor, Shorelands and Water Resources

FOR COUNTY USE ONLY

2.

CERTIFICATE

•								
			STATE OF WA	SHINGTON	[
DEPARTMENT OF]	REPORT OF	F EXAMINATION FO	OR WATER	RIGHT	CHAN	GE	
ECOLOGY State of Washington		Water K	ight control fumber	CG1- 07050				
Purpose X	Place of Use	X	Point of Diversion/With	ndrawal	X	Season	Co	nsolidation
PRIORITY DATE August 6, 1968	CLAIM NO.		PERMIT NO.				CERTIFICATE	NO.
NAME Snohomish County Pub	lic Utility Distr	ict No. 1						
ADDRESS/STREET			CITY/STATE		×.			ZIP CODE
P.O. Poy 1107			Everett WA					98206-1107
F.O. BOX 1107			Lvelen, wA					96200-1107
		PUBI	LIC WATERS TO BE A	PPROPRIAT	ED			
SOURCE			WRIA 5				COUNTY	SH
RIBUTARY OF (IF SURFACE	WATERS)		2				SINOTIONI	511
MAXIMUM CUBIC FEET PER	SECOND MAXI	MUM GALLONS	PER MINUTE		MAXIMUM	ACRE FEI	ET PER YEAR	
60.00 acre-ieet, MU, Y	ear round as nee	aed						
APPROXIMATE LOCATION O	F DIVERSIONWIT	LOCA IDRAWAL	TION OF DIVERSION	WITHDRAV	VAL			
1350 feet east and 1620	feet north from	the southwes	st corner of Section 26,	T.32N., R.4I	E. W.M.			
Sounday Lake Well #3	PARC	EL LATI	ITUDE LONGITUDE	NE/SW	SECTIO. 26	N TC	32	04E
		a						
[A	LEGAL E ttachment 1 sho	DESCRIPTION ws location of	N OF PROPERTY ON the authorized place of	WHICH WAT	TER IS T (s) of dive	O BE US rsion or	ED withdrawal]	
The place of use (POU) Management Program a remains in compliance water right.	of this water rig pproved by the with the criteria	ght is the serv Washington S in RCW 90.0	vice area described in the State Department of He 03.386(2). RCW 90.03	e most recen alth, so long 386 may hav	t Water S as Snoho ve the effe	System P omish C ect of rev	Plan/Small W ounty PUD vising the pla	ater System No. 1 is and ace of use of this
		DES	SCRIPTION OF PROPO	DSED WORK	S			
An existing well (DOH G1-27418C will be used by the quantities approv	Source #04332 d as common po red herein will b	-03; DOE Tag int of withdra e tied into the	g # ABG-638) that is cu awal for G1-27418C an e existing infrastructure	d GWC 7295 for Sunday	orized as 5 (G1-*09 Lake syst	the point 9636C). tem.	t of withdraw Additional o	val under Certificate connections served
by the quantities approv	'ed herein will b	e fied into the	e existing infrastructure	for Sunday	Lake syst			

STANDARD PROVISIONS

1. Quantities Approved

- 1.1. The amount of water authorized through this amendment to Groundwater Certificate (GWC) 7295 shall not exceed a 30 gallons per minute (gpm) instantaneous rate of withdrawal (Qi) or an annual quantity (Qa) of 60 acre-feet per year (afy).
- 1.2. The combined Qi and Qa of GWC 7295 and G1-27418C shall not exceed 130 gpm (Σ Qi) and 100.5 afy (Σ Qa), which are the authorized maximums of the individual rights.

2. Measurements, Monitoring, Metering and Reporting

- 2.1. An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.
- 2.2. Water use data shall, at a minimum, be recorded weekly. The maximum rate of diversion/withdrawal and the annual total volume shall be submitted to the Department of Ecology by January 31st of each calendar year.
- 2.3. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.
- 2.4. Reported water use data shall be submitted via the Internet. To set up an Internet reporting account, access <u>https://fortress.wa.gov/ecy/wrx/wrx/Meteringx/</u>. If you do not have Internet access, contact the NWRO for forms to submit your data.
- 2.5. WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements". <u>http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html</u>

3. Department of Health Requirements

Prior to any new construction or alterations of a public water supply system, the State Board of Health rules require public water supply owners to obtain written approval from the Office of Drinking Water of the Washington State Department of Health. Please contact the Office of Drinking Water at Northwest Drinking Water Operations, 20435 72nd Avenue S, Suite 200, K17-12, Kent, WA 98032-2358, (253) 396-6750, prior to beginning (or modifying) your project.

4. Municipal Place of Use

If the criteria in RCW 90.03.386(2) are not met and a Water System Plan/Small Water System Management Program was approved after September 9, 2003, the place of use of this water right reverts to the service area described in that document. If the criteria in RCW 90.03.386(2) are not met and no Water System Plan/Small Water System Management Program has been approved after September 9, 2003, the place of use reverts to the last place of use described by The Department of Ecology in a water right authorization

5. Water Use Efficiency

Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

6. Issuance of Superseding Certificate

A superseding certificate shall be issued upon a showing by the applicant the proposed mitigation plan has been completed and that the proposed point of withdrawal (Sunday Lake Well 3) is capable of supplying the total Qi and Qa (130 gpm and 100.5 afy) approved through this change to GWC 7295.

7. Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

FINDINGS OF FACT AND ORDER

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find the change of water right as recommended will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER approval of the requested change to the purpose of use, place of use and point of withdrawal under Groundwater Change Application No. CG1-*09636C, subject to existing rights, completion of the mitigation as proposed by the applicant, and the provisions specified above.

You have a right to appeal this decision. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your *Notice of Appeal*.
 - Serve and file your appeal in paper form; electronic copies are not accepted.

1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

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OR Deliver your appeal in person to:

The Pollution Control Hearings Board PO Box 40903 Olympia WA 98504-0903 The Pollution Control Hearings Board 4224 – 6th Ave SE Rowe Six, Bldg 2 Lacey WA 98503

2. To serve your appeal on the Department of Ecology

Mail appeal to:

OR Deliver your appeal in person to:

The Department of Ecology Appeals Coordinator P.O. Box 47608 Olympia WA 98504-7608 The Department of Ecology Appeals Coordinator 300 Desmond Dr SE Lacey WA 98503

3. And send a copy of your appeal to:

Andrew B. Dunn, LG, LHG Section Manager Water Resources Program -- Department of Ecology 3190 160th Avenue SE Bellevue, WA 98008-5452

For additional information visit the Environmental Hearings Office Website: <u>http://www.eho.wa.gov</u>. To find laws and agency rules visit the Washington State Legislature Website: <u>http://www1.leg.wa.gov/CodeReviser</u>.

If you have any questions, please contact Doug Wood of Ecology at (425) 649-7077.

		5	t	-		
Signed at Bellevue, V	Washington, this	31	_day of	P	ECEMBER	_, 2008.

Andrew B. Dunn, LG, LHG Section Manager Water Resources Program NWRO

(Certificate No. 7295)

BACKGROUND

Description and Purpose of Proposed Change

Snohomish County Public Utility District No. 1 (PUD) seeks to transfer and to change the purpose and place of use of Ground Water Certificate (GWC) 7295 to serve water needs in the area surrounding Sunday Lake.

The Sunday Lake area lies within the service area of the PUD, but existing water rights held by the PUD in the area are not sufficient to serve ongoing growth in the area. Water for much of the new housing in the Sunday Lake area has been accommodated through the use of unregulated permit exempt wells.

GWC 7295 was issued to the Blue Spruce Grove partnership on June 2, 1972 based on an application filed on August 6, 1968. The original right was primarily intended to supply water to recreational lots, but by the mid 1970's many of the 342 lots had been developed as permanent homes. The Blue Spruce Grove partnership subsequently re-organized in 1985 as Blue Spruce Water District #10 after water quality concerns mandated the construction of a \$385,000 water treatment system upgrade.

During the construction of the Granite Falls Regional Water Supply Project in 1993, the PUD contacted the commissioners of the Blue Spruce Water District with the intent of connecting the district to the new supply system. Although not originally receptive, by 1995 the district was facing an additional \$1.1 million treatment system upgrade, and decided to allow the PUD to assume ownership of the Blue Spruce water system on April 1, 1995.

The PUD has, since 1995, included GWC 7295 within its water rights portfolio as documented in PUD resolution No. 4285 dated February 1995, Quitclaim Deed dated March 8, 1995. The PUD originally planned to incorporate the Blue Spruce water rights, along with rights acquired when it assimilated other Granite Falls area water systems, into a high production deep aquifer groundwater source. After expending money for drilling and testing of a deep well, the PUD in the early 2000's re-evaluated its plans, but has continued to reference these rights within its water system planning documents.

Through application for change CG1-*09636C, the PUD seeks to transfer the perfected portion of the original water right to an existing well located near the west end of Sunday Lake, located approximately 2 miles north of the Stillaguamish River (1/4 mile north of the alluvial plain) between the communities of Stanwood and Arlington, Washington. In order to mitigate any potential negative impacts to the water and fisheries resources of the lower (mainstem) reach of the Stillaguamish River, the PUD has offered to voluntarily relinquish other water rights it holds in the Granite Falls area.

Attributes of the Certificate and Proposed Change

Table 1:	Summary of Proposed Changes to (GWC 7295
Attributes	Existing	Proposed
Name	Blue Spruce Grove	Snohomish County PUD 1
Priority Date	August 6, 1968	
Change Application Date		October 23, 2007
Instantaneous Quantity	130 gallons per minute (gpm)	30 gpm
Annual Quantity	170 acre-feet per year (afy)	64.5 afy
Source	Infiltration Trench	Well
Point of Withdrawal	NW/NW T30N/R06E-11	NE/SW T32N/R04E-26
Purpose of Use	Community Domestic Supply	Municipal Supply
Period of Use	Year-round	Year-round
Place of Use	Plat of Blue Spruce Grove, Divisions 1 through 4 within Government Lots 5 and 6 of Sec. 11 and the west 2/3 of Government Lot 1 and the NW1/4NW1/4 of Sec. 12: All in T. 30 N., R 6 E., W.M.: Less road.	Area Served by Snohomish County PUD No. 1

Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed transfer and change to point of withdrawal, purpose of use, and place of use.

Public Notice

A notice of application was published by the PUD on December 2 and December 9, 2007 in *The Herald* newspaper of Everett, Washington.

• State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met.

- It is a surface water right application for more than 1 cubic feet per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- It is a groundwater right application for more than 2,250 gallons per minute;
- It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;

- It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Because this application does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

Water Resources Case Law and Statutes

The Washington Supreme Court has held that Ecology, when processing an application for change to a water right, is required to make a tentative determination of extent and validity of the claim or right. This is necessary to establish whether the claim or right is eligible for change.

RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changed if it would not result in harm or injury to other water rights.

RCW 90.03.570(1) and (2) state, that if specific conditions are fulfilled, a municipal water supplier is eligible for a change of water right as provided by RCW 90.03.380. This is true even if the right was not put to full beneficial use.

RCW 90.14.130 through RCW 90.14.180 state that water rights not exercised without sufficient cause for a period exceeding five years are relinquished.

RCW 90.14.140(1) defines the term "sufficient cause" and provides eleven specific categories that excuse nonuse and prevent relinquishment.

RCW 90.14.140(2) provides a list of exemptions to relinquishment that includes

- Determined Future Development exemption
 - RCW 90.14.140(2)(c) states that a water right not used for more than 5 years is exempted from relinquishment if it is claimed for a determined future development to take place within 15 years of the last beneficial use of water under the water right. In addition, a series of court cases provide additional guidance in assessing such a plan. In order to be valid, a determined future development plan must satisfy a series of tests as established in
 - The project must be sufficiently complex as to require more than 5 years to complete;
 - The plan must be determined and fixed within five years of the last beneficial use of the water;
 - The party exercising the plan must have equity in the water right;
 - The plan must remain fixed, and;
 - Affirmative steps must be taken to implement the plan within 15 years.
- Municipal Supply exemption
 - RCW 90.14.140(2)(d) exempts from relinquishment water rights claimed for municipal supply purposes.

RCW 90.44.100(2) requires that any well or wells added to a ground water permit must tap the same body of public ground water as the original well on the permit.

RCW 90.44.100 states that a ground water permit holder may construct wells or other means of withdrawal at a new location. The new well(s) may substitute or add to those at the original location.

RCW 90.44.100(1) states that a ground water permit can be amended to replace or add wells.

RCW 36.94.010(4) defines public utility districts and water districts as types of municipal corporation.

RCW 57.04.060 designates Water-Sewer Districts as municipal corporations.

References

This report was prepared using data and information pertinent to the subject application supplied by Snohomish County PUD No.1, from Department of Ecology records and databases, and from the following reports:

Carr, J.R., and Semsak, E.A. (AGI, 1994)

Sunday Lake Production Well 3 Construction and Testing Report, Snohomish, Washington; Prepared for Snohomish PUD No 1 by AGI, Inc., 9 pages plus figures and appendices.

Fiedler, G.H. and Wubbena, R.L. (EES, 1991)

North Snohomish County Coordinated Water System Plan; Prepared by Economic and Engineering Services Inc., 185 pages in 11 Sections, plus appendices and maps.

Thomas, B.E., Wilkinson, J.M., and Embrey, S.S. (USGS, 1997)

The Ground-Water System and Ground-Water Quality in Western Snohomish County, Washington; USGS Water Resources investigations Report 96-4312; Prepared by the US Geological Survey in cooperation with Snohomish County PUD No. 1 and Washington State Department of Ecology, 92 pages plus appendices and maps.

Beaton, Peter (DOH, 1996)

The Water Tap – WA Department of Heath Newsletter, January 1996 – Restructuring Case Histories; A written account of the background, proposal, and decision, to incorporate the Blue Spruce Grove Water District within the Snohomish PUD's Granite Falls Regional Water Supply Project.

INVESTIGATION

History of Water Use

GWC 7295 was originally intended to serve as many 340 connections in the Blue Spruce Grove community, located in Granite Falls, Washington area. At the time of the transfer to the PUD in 1995, Blue Spruce Water District was serving 240 permanent connections. An

examination of recent aerial photography (~2006) and property records available from Snohomish County indicates that the Blue Bruce Grove plat currently has approximately 260 developed lots.

Ground Water Permit 8963 was issued on February 24, 1969 in the amount of 1,000 gpm and 170 afy. The Proof of Appropriation (PA) for GWC 7295 reports that the maximum Qi achieved under the permit was 130 gpm. The PA does not indicate an annual quantity. It is reasonable, given the lack of documented Qa, to estimate that usage by 240 semi-rural residential connections was on the order of 55 afy based on 200 gallons per day per connection.

The Blue Spruce Grove Community Club in 1985 applied for a new water right which was issued in 1989 as certificate G1-24695C. The permit and certificate of G1-24695C specifies that quantities for both GWC 7295 and G1-24695C are not to exceed 175 gpm and 170 afy. Quantities under G1-24695C are therefore non-additive with respect to Qa and only partially additive with respect to Qi (130 of 175 gpm are non-additive). G1-24695P was transferred by assignment to the Blue Spruce Grove Water District in 1988.

The Proof of Appropriation for G1-24695C, filed January 17, 1989, states that Qi under both rights was a maximum of 180 gpm, thus fully utilizing the 130 gpm under GWC 7295 and slightly exceeding the additional 45 gpm allocated under G1-24695C.

Since 1995, when the right transferred, the 240 previously developed connections, and an additional 20 lots within the Blue Spruce Plat have been served through PUD's regional water distribution system. The original intent of the project, for which GWC 7295 was issued, continues therefore to be pursued.

Typical domestic water use in the Puget Sound region ranges from 160 to 300 gpd per connection. The semi-rural nature of the Granite Falls area (and of the Blue Spruce community specifically) is consistent with a water use duty of approximately 200 gpd/connection. This usage is lower than is typical of some similar areas, but still higher than urban areas (approximately 150 to 180 gpd/connection). Given that 240 homes were connected at the time of transfer (1996) system usage would have been approximately 60 acre-feet per year, including a system efficiency loss of 10%.

Plans for future development of GWC 7295 are specified in PUD Resolution 4285, which states that the right offers "a potential benefit to the District, as it relates to the development of future water resources in the larger basin." Beginning in 1996 the Blue Spruce Grove water rights were included in the PUD water system plan. Ecology has reviewed the 2002 plan and confirms that the Blue Spruce rights are listed in Table 7-2 under existing and forecast water rights¹.

In 1996 the PUD retained AGI Technologies to seek a new well to consolidate water rights acquired through directly serving several community water systems in the area of Granite Falls. A new well was drilled, but proved inadequate for PUD supply needs. The PUD continued to seek other well locations under the supervision of Mark Spahr, Senior Manager (water utilities) with the PUD from 1996 to 2002. In a 2003 letter to Ecology Mr. Clair Olivers, PUD Assistant Manager, reiterated that the PUD was committed to utilizing the Blue Spruce Grove water rights to supplement developed district sources and "provide alternate supply in the event of need for peaking or emergency supply".

The present application represents a continuation of the PUD plans for utilizing the Blue Spruce Grove water rights. The proposal here is to serve recent development in an area of the Stillaguamish Basin within which the PUD has a service commitment, but where much of the recent development has been served through construction of shallow permit exempt wells.

Based on the above review, it is determined that GWC 7295 was issued for domestic supply purposes, that the right was diligently developed by the Blue Spruce Water District through GWC 7295 (and through development of G1-24695C), that the PUD has subsequently continued to develop the original project, and to diligently pursue full development of the unperfected quantities associated with GWC 7295.

This investigation finds that the amount of perfected water available for the proposed change to GWC 7295 (G1-*09636C) is 30 gpm and 60 afy out of the 130 gpm and 170 afy certificated. The PUD seeks to transfer 30 gpm and 64.5 afy in its application and public notice.

The documentation provided by the PUD and information reviewed by Ecology from other sources indicates that up to 64afy have been applied to the project for which the water right was issued up the present date. Of this amount no more than 60 acres feet can be attributed to exercise of GWC 7295.

In order to mitigate any potential impacts to regulated water bodies in the proposed new well location, the PUD has proposed that any remaining quantities under GWC 7295 and G1-24695C, and perfected quantities under six other water rights acquired by the PUD in the Granite Falls area, be retired through voluntary relinquishment (see Table 2).

		Table 2: I	Proposed Mit	igation					
System	WR#	Cert#	Qi (Cert)	Qa (Cert)	Qa (est.)*	WR Type†			
Blue Spruce WD	G1-24695C		175	170		Primary/Suppl.			
Jordan Trails	G1-*11179C	7709	150	81	23	Primary			
Cedar Lane	G1-*09299C	7222	35	8		Primary			
Cedar Lane	G1-*09300C	7223	35	8		Suppl.			
Cedar Lane	G1-*09301C	7224	35	8		Suppl.			
Cedar Lane	G1-23680C		150	142	28	Primary/Suppl.			
Rainbow Springs	S1-0029C		45	50	3.3	Primary			
Total			495	303	54.3				
* = Primary Qa available for change based on 200 gpd/connection									

† = Primary mean Qi and Qa are additive; Suppl. Means either Qi or Qa is non-additive

Based upon estimated use of 200 gpd/connection, the annual quantity (Qa) beneficially used under the seven water rights proposed as mitigation is approximately 54.3 afy; an amount roughly equivalent to the amount (60 afy) of perfected water available for transfer under GWC 7295. Pumping rates (Qi) are assumed to have been fully appropriated based on common practice and the submission of proof of appropriation documentation for these rights.

Proposed Use

The present application, while seeking a change in purpose of use from community domestic supply to municipal supply, does not change the purpose of for which the water right has been historically been used. GWC 7295 was issued to serve a community of up to 340 homes. The Blue Spruce Water District was organized as a municipal corporation so its water rights therefore served municipal supply purposes.

¹ The 2002 Snohomish Water System Plan includes Blue Spruce Community Association water right G1-24695C (175 gpm; 130 afy) as a primary (additive) right when it is fact supplemental (non-additive) and tied to GWC 7295 for primary Qa.

When a superseding certificate is issued for GWC 7295 (G1-*09636C), it should be amended to state that right serves municipal supply purposes.

Measuring and Reporting Water Use

RCW 90.03.360 requires that the owner of any water diversion maintain substantial controlling works and a measuring device. It must be constructed and maintained to permit accurate measurement and practical regulation of the flow of water diverted. Technical requirements for the measuring and reporting of water use are described in Chapter 173-173 WAC. The present change decision contains provisions requiring the measuring and reporting of the quantities of water withdrawn or diverted.

Well Tags

Chapter 173-160 WAC contains requirements for well drillers, system operators and/or owners to tag new and existing wells with identification tags supplied by Ecology. The well identification program creates a standard system to identify all newly constructed or existing wells, so that property owners and various agencies can readily share well data. In addition, Ecology field staff use the well tag to identify the well. Accordingly, the present decision contains provisions requiring each well to be tagged with a unique identification number.

Other Rights Appurtenant to the Place of Use

Snohomish County PUD No. 1 holds rights to surface and ground water rights in the Snohomish (WRIA 7) and Stillaguamish (WRIA 5) River Basins (Table 3). The water rights included in Sultan River project are jointly held by the PUD and the City of Everett. Some of the Qa associated with hydro power (PO is the only use code) are non-consumptive and may not therefore be used to serve other uses.

Many of the PUD rights are pre-1970 surface water rights that do not have annual quantities (Qa) specified.

Table 3: Water rights held by Snohomish County PUD

Basin

WRIA 7 - Snohomish Basin

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi _A † (gpm)	Qi _N (gpm)	Qa _A ‡ (afy)	Qa _N (afy)
S1-*07097C	732	SnoPUD/City of Everett	5/3/1946	PO	556.0	249,549.5		250,200.0	1 - N - S - S - S
R1-00733C	7096	SnoPUD/City of Everett	5/3/1946	PO,DM				113,700.0	
S1-23398C	S1-23398C	SnoPUD/City of Everett	6/15/1979	PO,DM	1,500.0	423,695.5	249,549.5	506,800.0	
R1-23397C	R1-23397C	SnoPUD/City of Everett	6/15/1979	PO				39,560.0	113,700.0
				Subtotal	2,056.0	673,245.0	249,549.5	910,260.0	113,700.0

Lake Stevens Regional Supply

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi _A † (gpm)	Qi _N (gpm)	Qa _A ‡ (afy)	Qa _N (afy)
S1-*07584C	4648	SnoPUD	12/28/1946	DM	0.5	224.4		362.0	1.
G1-*00782C	168	SnoPUD	3/23/1948	MU	1. E	1,200.0		700.0	1.
G1-*00783C	169	SnoPUD	3/23/1948	DS	0	1,200.0		700.0	- to the second
				Subtotal	0.5	2.624.4	0.0	1.762.0	0.0

WRIA 5- Stillaguamish Basin

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi _A † (gpm)	Qi _N (gpm)	Qa _A ‡ (afy)	Qa _N (afy)
G1-27418C	G1-27418C	SnoPUD	2/9/1994	DM		100.0		40.5	- 12/15/19
• .				Subtotal	0.0	100.0	0.0	40.5	0.0

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi _A † (gpm)	Qi _N (gpm)	Qa _A ‡ (afy)	Qa _N (afy)
G1-23278C	G1-23278C	Iliad, Inc.	12/20/1978	DM	1.1.1	70.0	1	72.0	
G1-24415C	G1-24415C	David Dorland	12/14/1983	DM		37.0		42.0	
G1-25989C	G1-25989C	Kayak Water Dev. Co.	11/29/1990	DM		300.0		156.0	
				Subtotal	0.0	407.0	0.0	270.0	0.0

Granite Falls Regional Supply

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi _A † (gpm)	Qi _N (gpm)	Qa _A ‡ (afy)	Qa _N (afy)
G1-*09360C	6488	SnoPUD	4/4/1968	DM		300.0		15.0	
G1-20625C	G1-20625C	SnoPUD	5/17/1973	DM		200.0			319.5
G1-26382C	G1-26382C	SnoPUD	11/14/1991	DM		33.0		5.4	
				Cubtotal	0.0	E22 0	0.0	20.4	210 5

File #	Cert #	Name	Priority Dt	Purpose ±	Qi (cfs)	Qi _A † (gpm)	Qi _N (gpm)	Qa _A ‡ (afy)	Qa _N (afy)
S1-00293C	S1-00293C	Rainbow Springs Water Co	3/15/1967	DM ·	0.1	44.9		50.0	
G1-*09299C	7222	BIENDL J (Cedar Lane)	3/13/1968	DM		35.0		8.0	
G1-*09300C	7223	BIENDL J (Cedar Lane)	3/13/1968	DM		35.0			8.0
G1-*09301C	7224	BIENDL J (Cedar Lane)	3/13/1968	DM		35.0			8.0
G1-*09636C	7295	Blue Spruce Grove	8/6/1968	DM		130.0		170.0	
G1-*11179C	7709	Jordan Maintenance	8/24/1970	DM		150.0		81.0	
G1-23680C	G1-23680C	Cedar Lane Water Association	9/16/1980	DM		150.0		134.0	8.0
G1-24695C	G1-24695C	Blue Spruce Grove	8/19/1985	DM		45.0	130.0		170.0
				Subtotal	0.1	624.9	130.0	443.0	194.0
				Total	2,056.5	676,909.4	249,549.5	912,352.9	114,019.5

 \pm PO=Power; DM=Multiple Domestic; DS=Single Domestic: MU=Municipal

Qi_A/Qa_A=Additive Quantity; Qi_N/Qa_N=Non-additive Quantity

† Qi in gpm for surface water rights calculated as CFS x 448.83; ‡ Qa for unquantified SW rights calculated based on continuous diversion

Hydrologic/Hydrogeologic Evaluation

An examination of available well completion reports and hydrogeological studies of the area reveals that the existing PUD well serving the Sunday Lake area is completed in a confined aquifer consisting of sand, gravel and silt of likely glacial origin. Groundwater within the aquifer flows to the west and south of the well location, with water discharging to the Stillaguamish Valley alluvial aquifer and directly to Puget Sound. The Sunday Lake well is separated from surface water bodies by at least one, and in places two, aquitards that limit vertical impacts. A bedrock ridge separates the aquifers of the Sunday Lake area from surface water bodies east of the ridge, including Pilchuck Creek (Figure 1).

Figure 1 provides a schematic SW to NE cross-section from the Stillaguamish River valley the Pilchuck Creek valley, located east of Interstate 5. The cross-section illustrates the flow of groundwater from glacially deposited unconsolidated sediments to the alluvial aquifer beneath the Stillaguamish River valley. Geological unit symbols have the following meanings: Qvr=Vashon Recessional Outwash; Qvt=Vashon Till; Qva=Vashon Advance Outwash; Qtb=Transitional Beds; Qu=Unclassified pre-Vashon deposits; Qal=Stillaguamish Valley alluvial aquifer; Tbr=Tertiary Bedrock (sandstone and shale).



Figure 1: Schematic NE-SW Cross-Section through Sunday Lake area (modified after Thomas et al., 1997).

During a site examination conducted on September 9, 2008, the relationship between the Sunday lake well and surface water bodies was investigated. It was observed that the lake level was at or near maximum levels with wetland vegetation (cattails) growing in shallow near-shore areas around the lake.

Cattails are typically associated with lakeshore and wetland areas where saturated and/or inundated soil conditions are stable. It is therefore likely that the lake is not in direct hydraulic contact with a water table that fluctuates to any significant degree.

The area surrounding Sunday Lake has been mapped as being underlain by recessional glacial outwash deposits (Qvr). Completion logs for wells in the area surrounding the lake indicate that Qvr is underlain by glacial till (Qvt). Underlying the till are the Vashon Outwash deposits (sand and gravel), the Transitional beds (silt, clay with occasional lenses of sand), and unclassified unconsolidated material of varius composition deposited prior to the last glacial advance (older than 17,000 years).

The stream draining the lake (Jackson Gulch Creek) was stagnant in its upper reaches which are underlain by either glacial till (Qvt) or recessional glacial deposits (Qvr). An examination of Jackson Gulch Creek where it has eroded to expose Qva sands reveals little flow (~ 0.1 cfs) immediately below the till and no flow from approximately halfway through the Qva to where Jackson Gulch Creek enters the Stillaguamish alluvial plain. This implies that water levels in the Qva at the time of the examination are below the level where they contribute to stream flows in Jackson Gulch Creek.

The minimal amount of flow observed in the upper reaches of the Qva exposed portion of the creek are consistent with interflow resulting from recent (August) rainfall rather than from intercepting the aquifer. This is supported by a field observation that eroded banks above the creek were dry where flows were observed.

Well logs for the area surrounding Sunday Lake provide evidence that Qva water levels typically are below the level of till during most of the year and particularly during the summer months. The effect of such a gap in water levels would be a decoupling of any upward pumping impacts to perched shallow aquifers and surface water bodies from wells completed in deeper aquifers.

Wells completed in deeper aquifers (Qtb, Qu) have water levels that often exceed those recorded for wells completed in Qva. This is likely a product of the steep gradient in Qva down to the alluvial aquifer in the Stillaguamish River valley, approximately ¼ mile south of Sunday Lake.

The Stillaguamish River alluvial aquifer likely cross-cuts and acts as a sink for groundwaters within the deeper aquifers. Direct evidence of a steep gradient at or near the interface between the deeper aquifer layers and the alluvial aquifer were not found in wells logs. A steep gradient is however likely, since wells within the alluvial aquifer penetrate as deeply or deeper than wells completed within the Qtb and Qu aquifers beneath plateau areas north of the valley.

A requirement under RCW 90.44.100(2) for amendments to groundwater rights is that a new point of withdrawal taps the same body of public groundwater. Ecology Water Resources Program Policy 2010 (Defining and Delineation of Water Source) defines a source of water as follows:

Source of water: Surface waters and/or groundwater in hydraulic connection, meeting the following four conditions:

- They share a common recharge area.
- They are part of a common flow regime.
- They are separable from other water sources by effective barriers to hydraulic flow.
- They are an independent water body for the purpose of water right administration, as determined by Ecology.

The aquifer currently utilized by the Sunday Lake well is a tributary to the Stillaguamish Valley alluvial aquifer, and through it, the Stillaguamish River. The original point of withdrawal was an infiltration trench tapping the alluvial aquifer of the South Fork of the Stillaguamish River. They share the same recharge area, are part of a common flow regime, are not separated by effective barriers to flow, are administered together through Chapter 173-505 WAC as a single independent body of water.

For the purpose of the present change application it is therefore determined that both the original and proposed new point of withdrawal under Certificate 7295 utilize the same body of public ground water.

Impairment Considerations

Impairment of Minimum Instream Flow Water Rights

GWC 7295 was issued prior to the adoption of Stillaguamish Rule (Chapter 173-505 WAC). Thus any impacts to instream flows within the Stillaguamish River of the water as exercised at the original approved point of withdrawal are not affected by the rule.

Any impacts to Stillaguamish River flows that would result from a change must be less than or equal to the impacts that would result from exercise of the right at the original point of withdrawal.

The request here is to transfer only those quantities under GWC 7295 that have been beneficially used at the original point of withdrawal. Since the original point of withdrawal was an infiltration trench adjacent to the channel of the Stillaguamish River and the proposed new point of withdrawal is a well completed in a tributary upland aquifer where aquifer flow contributes directly to the alluvial aquifer (and thus to river flows), impacts of groundwater pumping at the new location are therefore deemed to be equal or less than those impacts associated with the original point of withdrawal.



Figure 2: Public Water Systems in the Sunday Lake area

Impairment of other water rights

There is one public water system well within a one-quarter mile radius of the Sunday Lake well (Figure 2). The short plat 150-73 Water System is a four connection Group B Public Water System (DOH ID 39932). The source is a six-inch well completed at a depth of 89 feet in the Qva aquifer. This well would not likely be affected by existing or proposed additional pumping in the deeper (Qu) aquifer in which the Sunday Lake well is completed.

With the exception of the above Group B well, there are no public water system wells within a ½ mile radius of the Sunday Lake well. Three additional public water system wells are located with a 1 mile radius of the Sunday Lake well (Figure 2). Two of these are completed at depths that indicate they may be completed in the same aquifer as the Sunday Lake well; the Bickford, SP 150-157, and Silver Springs Estates Community Water Systems.

When the PUD drilled the Sunday Lake well in 1994, it tested the impacts of pumping across the approximately 2/3 mile that separated it from the Silver Springs system well (AGI, 1994). The results of this analysis indicated that there would be no measurable impact or interference between the two wells. The addition of 30 gpm to the Sunday Lake well through this change is expected to have a similar impact on wells in the deeper, pre-Qva, aquifer present beneath the Sunday Lake area.

Several private wells within the Sunday Lake area are completed within the Qva aquifer. An increase in pumping capacity of 30 gpm from a deeper aquifer, as proposed in this application, will not likely have a measurable impact on wells completed in the Qva.

Public Interest Considerations

Effects on Fisheries Resources

The proposal to add quantities perfected under GWC 7295 to the Sunday Lake well will result in changes to groundwater flow within the source aquifer and through induced leakage to shallower aquifers present beneath the Sunday Lake area.

Streams in the Sunday Lake area of significant importance to fisheries are Pilchuck Creek and the Stillaguamish River. As discussed above, the proposed mitigation will result in a net positive impact through additional flows within the Stillaguamish River. The additional flows will offset any impact to fisheries resulting from the additional pumping within the source aquifer for the Sunday Lake well. The bedrock separating the Sunday Lake well and Pilchuck Creek will prevent pumping from impacting the creek.

Other Potential Impacts

The most likely impact of a 30 gpm increase in pumping at the Sunday Lake well would be an increase in downward leakage from the Qva aquifer to compensate a decrease in storage associated with 30 gpm of increased pumping in the deeper aquifer.

The decoupling of the Qva aquifer from surface water bodies on the plateau has the consequence of ensuring that all leakage impacts from pumping of the deeper aquifer propagate upward only as far as the Qva aquifer, and from there intersect potential discharge to the Stillaguamish alluvial aquifer.

Exercise of both the original water right and of the proposed change affect flows of the Stillaguamish River through changes to water flow and balance of the alluvial aquifer.

The Ecology well database has records of 37 water wells within Section 26, T32N, R04E, including 18 that were completed within the last 10 years. While these wells typically serve individual homes, some are serving or have been constructed to serve new multiple home developments in the area.

The principal purpose for the proposed change is to allow the PUD to serve some, but not all of the new construction in the Sunday Lake area. This growth cannot be accommodated through more efficient usage of the PUD's existing Sunday Lake water right (G1-27418C; 100 gpm, 40.5 afy), as this right currently is not authorized by the Department of Health to serve any additional homes.

Information supplied by the PUD indicates that the Sunday Lake system currently serves 187 homes. Approval of the present application in the amount of 30 gpm and 60 afy would allow the PUD to serve approximately 448 connections assuming usage of 200 gpd/connection (261 additional homes).

The exempt well reservation for the Stillaguamish Basin (WAC 173-505-090) can easily provide water to the approximately 261 additional connections that would be accommodated through approval of the present application for change. As of the beginning of 2008, approximately 3% of the reservation had been allocated (\sim 94,500 gpd). The reservation allows for up to 5 cfs (3.23 MGD) from the full basin with 2 cfs (1.29 MGD) from the North Fork and 1.5 cfs (0.97 MGD) from the South Fork of the Stillaguamish River, thus leaving 1.5 cfs or 0.97 MGD from the mainstem reach of the river.

Exempt wells, while capable of serving the additional connections, would not however be subject to water use efficiency and public health and safety requirements which are applicable for a public water system.

Given that the proposed change would have no likely impact to closed surface water bodies, no un-mitigated impact to flows of regulated streams in WRIA 5, and that the public health and safety would be better protected by the PUD than through supplying water with unregulated private wells, it is determined that the public interest would better served through approval of the proposed change.

Consideration of Protests and Comments

No protests were filed against this application.

CONCLUSIONS

Ecology's investigation finds that the proposed transfer of perfected quantities under GWC 7295 (G1-*09636C), including mitigation proposed by the applicant, will not impair existing rights, and will not have a negative impact on fisheries resources of the Stillaguamish River or the public interest. The quantities sought are available for change and the proposed use is deemed to be beneficial.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change to G1-*00936C be approved in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2, et seq.

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

- 30 gpm
- 60 acre-feet per year
- Municipal Supply

Point of [Diversion Withdrawal]

NE¼ SW¼, Section 26, Township 30 North, Range 6 E., W.M.

Place of Use

As described on Page 1 of this Report of Examination.

Report by:

Douglas H. Wood, LHG (WA #952) Water Resources Program



If you need this publication in an alternate format, please call Water Resources Program at (360) 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.



Warm Beach Water Rights from Merged Kayak System Snohomish County Public Utility District No. 1 P.O. Box 1107 Everett, WA 98206

201611290685 4 PGS 11/29/2016 11:25am \$76 00 SNOHOMISH COUNTY, WASHINGTON

DOCUMENT TITLE: SUPERSEDING CERTIFICATE

REFERENCE NUMBER: 9507030504

GRANTOR

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY ECOLOGY NORTHWEST REGIONAL OFFICE (ECY NWRO) 3190 - 160TH AVE SE BELLEVUE, WASHINGTON 98008-5452 (425) 649-7000

GRANTEE

Snohomish County Public Utility District No. 1 P.O. Box 1107 Everett, WA 98206

LEGAL DESCRIPTION

Source Name	Parcel	Township	Range	Sec	QQQ
Well 3	00394509900402	31N	04E	29	SW SE

AUTHORIZED PLACE OF USE

The place of use (POU) of this water right is the service area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

PARCELS: 00394509900402

ADDITIONAL LEGAL IS ON PAGE 2 OF ATTACHED DOCUMENT



This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

This certificate supersedes Water Right Certificate G1-25989C issued on June 30, 1995 and is subject to the following provisions.

PRIORITY DATE 11/29/1990	APPLICATION NUMBER G1-25989	PERMIT NUMBER G1-25989P	CERTIFICATE NUMBER
MAILING ADDRESS		SITE ADDRESS	(IF DIFFERENT)
Snohomish Count	y Public Utility District No. 1	44	
P.O. Box 1107			
	-		

Quantity Authorized for Withdrawal or Diversion						
WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)				
300*	gpm	156.0*				

* 57 gpm and 42 acre-feet/year of the above quantities are already covered by water right certificate G1-24425C.

		WITHDRAW	AL OR DIVERS	ION RATE	ANNUAL QU	JANTITY (AF/YR)	
PURPOSE		ADDITIVE	NON- ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Municipal Supply		243	57	gpm	114.0	42.0	01/01 - 12/31
IRRIGA	TED ACRES			Ы	JBLIC WATER	SYSTEM INFORMAT	ION
ADDITIVE	N	NON-ADDITIVE		WATER SYSTEM ID		CON	VECTIONS
NA		NA		#231115			481

SUPERSEDING CERTIFICATE OF WATER RIGHT

Source Location									
COUNTY	WATERBO	WATERBODY		TRIBUTARY TO			WATER RESOURCE INVENTORY AREA		
Snohomish	Groundwa	ater	Puget Sound				WRIA 07		
SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE	
Well 3	00394509900402	BBF-571	31N	04E	29	SW SE	48.140703	122.322511	

Place of Use

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The place of use (POU) of this water right is the service area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

Provisions

The total combined quantity from G1-25989C and G1-24415C shall not exceed 300 gpm, 156 acre feet per year.

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to an access port.

An approved measuring device shall be installed and maintained in accordance with RCW 90.33.360, WAC 508-64-020 through WAC 508-64-040 (Installation, operation and maintenance requirements). Meter readings shall be recorded monthly and this data shall be maintained and be made available to the Department of Ecology upon request.

Static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resource Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year.

Given under my hand and the seal of this office at Bellevue, Washington, this 4^{++} day of November , 2016.



Maia Bellon, Director Department of Ecology

Tom Buroker, Section Manager Northwest Regional Office Water Resources Program

To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341

SUPERSEDING CERTIFICATE OF WATER RIGHT

			STATE OF	WASHINGTON	I Dgy (
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X	Ground W	2101 (Heward in accordance) the Department of Ecci	with the provisions logy.)	oi Chapter 282, Las	e al Washington for 1948, a	nd assundments thereic	, and the rules and regulations of
PROFITY DATE November 29, 1	1990	APPLICATION NUMBER G1-25989		PERMIT NUMBER G1-25989	P	G1-25989	een C
NWE Kayak Water D	evelopmen	t Co. c/o Owen S	Sawyer, Pr	esident			
ADDRESS (STREET)		(CTTV)	·····		(STATE)	(Z	P 020E)
251 Windrose I	Jrive	Port Lud	low		WA	9	8365
SOURCE 2 Wells TREUTARY OF OF BURFACE	WATERS)	PUBLIC	WATERS T	O BE APPR	OPRIATED		
MAXIAUM CUBIC FEET PER SECOND MAXIAUM GALLONS PER MINUTE MAXIAUM ACREFEET PER YEAR 300* 156*							
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	•						
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	LEGAL	DESCRIPTION O	F PROPER	TY ON WHI	CH WATER IS TO	D BE USED	
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CERTIFICATE

The total combined quantity from G1-25989 and G1-24415 C shall not exceed 300 gpm, 156 acre feet year.

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port.

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through WAC 508-64-040 (Installation, operation and maintenance requirements). Meter readings shall be recorded monthly and this data shall be maintained and be made available to the Department of Ecology upon request.

Static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year.

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW² 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at Bellevue, Washington,

this 30th day of June, 1995.

Department of Ecology

Stephen 9. Hirschey, Section Supervisor, Water Resources

FOR COUNTY USE ONLY

.2.

ENGINEERING DATA



Snohomish County Public Utility District No. 1 P.O. Box 1107 Everett, WA 98206

201611290684 3 PGS 11/29/2016 11:25am \$75 00 SNOHOMISH COUNTY, WASHINGTON

DOCUMENT TITLE: SUPERSEDING CERTIFICATE

REFERENCE NUMBER: 8506190193

GRANTOR	GRANTEE
STATE OF WASHINGTON	SNOHOMISH COUNTY PUBLIC UTILITY DISTRICT NO. 1
DEPARTMENT OF ECOLOGY	P.O. BOX 1107
ECOLOGY NORTHWEST REGIONAL OFFICE (ECY	EVERETT, WA 98206
NWRO)	
3190 - 160TH AVE SE	
BELLEVUE, WASHINGTON 98008-5452	
(425) 649-7000	

LEGAL DESCRIPTION

Source Name	Parcel	Township	Range	Sec	QQ Q
WELL 2	00394509900402	31N	04E	29	SW SE

AUTHORIZED PLACE OF USE

THE PLACE OF USE (POU) OF THIS WATER RIGHT IS THE SERVICE AREA DESCRIBED IN THE MOST RECENT WATER SYSTEM PLAN/SMALL WATER SYSTEM MANAGEMENT PROGRAM APPROVED BY THE WASHINGTON STATE DEPARTMENT OF HEALTH, SO LONG AS THE WATER SYSTEM IS AND REMAINS IN COMPLIANCE WITH THE CRITERIA IN RCW 90.03.386(2). RCW 90.03.386 MAY HAVE THE EFFECT OF REVISING THE PLACE OF USE OF THIS WATER RIGHT.

PARCELS: 00394509900402

ADDITIONAL LEGAL IS ON PAGE 2 OF ATTACHED DOCUMENT



This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby confirmed by the Department of Ecology and entered of record as shown, but is limited to an amount actually beneficially used.

This certificate supersedes Water Right Certificate G1-24415C issued on February 6, 1985 and is subject to the following provisions.

	APPLICATION NUMBER	PERMI		CE		R
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SUPERSEDING CERTIFICATE OF WATER RIGHT

G1-24415CWRIS

Source Location					And is				
COUNTY	WATERB	WATERBODY		TRIBUTARY TO			WATER RESOURCE INVENTORY AREA		
Snohomish	Groundwater		water Puget Sound			WRIA ()7		
SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQQ	LATITUDE	LONGITUDE	
Well 2	00394509900402	BBF-570	31N	04E	29	SW SE	48.140703	122.322511	

Place of Use

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

The place of use (POU) of this water right is the service area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as the water system is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

Provisions

Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to an access port.

An approved measuring device shall be installed and maintained in accordance with RCW 90.33.360, WAC 508-64-020 through WAC 508-64-040.

Given under my hand and the seal of this office at Bellevue, Washington, this $\frac{1}{2}$ day of November , 2016.



DATA REVIEW

Maia Bellon, Director Department of Ecology

Tom Buroker, Section Manager Northwest Regional Office Water Resources Program

To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341

SUPERSEDING CERTIFICATE OF WATER RIGHT

2

G1-24415CWRIS

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Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port.

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through WAC 508-64-040.

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at

Redmond

Department of Ecology

ENGINEERING DATA

hv THOMAS, Regional Manager JOAN KA

FOR COUNTY USE ONLY

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An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through WAC 508-64-040 (Installation, operation and maintenance requirements attached hereto).

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in 90.14.180.

Given under my hand and the seal of this office at Redmond, Washington, this

Department of Ecology

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ENGINEERING DATA

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Joan K. Thomas, Regional Manager

FOR COUNTY USE ONLY

Warm Beach Water Rights from Warm Beach Water Association (WBWA)



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000 711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

JUL 09 2019

Snohomish County PUD No. 1 c/o Brant Wood PO Box 1107 Everett, WA 98206-1107

Re: Water Right No. G1-25686

Dear Brant Wood:

In response to your request, you are hereby granted an extension to put the water to full beneficial use for the reason(s) below:

- Transfer of Warm Beach Water Association (WBWA) water system to you took longer due to financial assistance not being available.
- Allow a financially feasible timeline for incorporating the WBWA water system into the Kayak water system.
- Do system upgrades
- Allow time for perfecting water right

The new deadline to submit your *Proof of Appropriation of Water* is **June 30, 2035**.

Reminder you have provisions on your water right. They are as follows:

• An approved measuring device shall be installed and maintained for each diversion/withdrawal of the sources identified by this water right in accordance with rule "Requirement for Measuring and Reporting Water Use", Chapter 173-173 WAC.

Water use data shall be recorded weekly. Data shall be maintained by the property owner and promptly submitted to Ecology upon request. Recording and retention of data by the water right holder are required to inform the water users about how much water is used, when the water is used and to assist users in efficient water management.

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Snohomish County PUD No. 1 G1-25686 Page 2

> Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modification to some requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".

- Department of Ecology personnel, upon presentation of propercedentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.
- Static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well have been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year.
- Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port.
- Permittee or its successor(s) shall submit in writing to the Department of Ecology, Northwest Regional Office, Bellevue, Washington, during the months of April and August each year, the chloride concentration of the water pumped and static water level (pump off) of the well authorized by this permit. Depending on the results of the data collection, the withdrawal of ground water under this permit may be limited, or other appropriate action may be required, by the Department of Ecology Order, to prevent seawater intrusion into the subject aquifer.
- This permit is subject to implantation of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, July 1990.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do the following within 30 days of the date of receipt of the Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order to Ecology in paper form by mail or in person (see addresses below). E-mail is not accepted.

Snohomish County PUD No. 1 G1-25686 Page 3

You must also comply with other applicable requirements in chapter 43.21B RCW and chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology	Department of Ecology
Attn: Appeals Processing Desk	Attn: Appeals Processing Desk
300 Desmond Drive SE	PO Box 47608
Lacey, WA 98503	Olympia, WA 98504-7608
Pollution Control Hearings Board	Pollution Control Hearings Board
1111 Israel RD SW, Ste 301	PO Box 40903
Tumwater, WA 98501	Olympia, WA 98504-0903

For additional information, visit the Environmental Hearings Office Website: http://www.eho.wa.gov. To find laws and agency rules, visit the Washington State Legislature Website: http://wwwl.leg.wa.gov/CodeReviser.

If you have any questions, please contact Michele Curtis at 425-649-7278 or at <u>michele.curtis@ecy.wa.gov</u>.

Sincerely,

Ria Berns Section Manager Water Resources Program

By Certified Mail: 9171 9690 0935 0216 7447 02

Enclosures: Proof of Appropriation of Water Your Right to Be Heard



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000 711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

October 1, 2018

PUD #1 of Snohomish County PO Box 1107 Mail Stop LS Everett WA 98206

Re: Water Right Application No. G1-25686

Dear Sir or Madam:

We have processed your request for assignment. Our records have been changed to reflect the assignment and we will send all future correspondence to you. We have enclosed a copy of the permit for your information and records.

If you have any questions, please contact me by email at <u>arlene.harris@ecy.wa.gov</u> or by phone at 425-649-7020.

Sincerely,

Sene Hour

Arlene Harris Water Resources Program

WR:ah

Enclosure: Copy of Permit

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

SUPERSEDING PERMIT

TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of

X Ground	Water (Issued in accordance with the p the Department of Ecology.)	rovisions of Chapter 263, Laws of Washington for 1945, a	nd amendments thereto, and the rules and regulations
PRIORITY DATE May 30, 1990	APPLICATION NUMBER G1-25686	G1-25686 P	CERTIFICATE NUMBER
NAME Warm Beach Water Asso	ociation	A CONTRACTOR	
ADDRESS (STREET) 18905 92nd Drive NW	Stanwood	(STATE) Washington	(ZIP CODE) 98292

The applicant is, pursuant to the Report of Examination which has been accepted by the applicant, hereby granted a permit to appropriate the following described public waters of the State of Washington, subject to existing rights and to the limitations and provisions set out herein.

	PUBLIC WATERS TO BE APP	ROPRIATED
source Well		
TRIBUTARY OF (IF SURFACE WATERS)		
MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
Community domestic supply *Total annual quantity from G1-24690C) shall not exceed	y n G1-25686 and all other held wate ed 135 acre-feet.	r rights (G1-00718C, G1-24266C &
APPROXIMATE LOCATION OF DIVERSIONWITHDR	LOCATION OF DIVERSION/WI	THDRAWAL
80 feet north and 240 feet y	west of the south quarter corner of	Section 19

SE1/4 S	THIN (SMALLEST LEG $W^{1/4}$	GAL SUBDIVISION)	SECTION 19	TOWNSHIP N. 31	RANGE, (E. OR W.) W.M. 4E	W.R.I.A. 5	Snohomish
	State of the second		RECORDED P	LATTED PRO	DPERTY		
LOT		BLOCK	OF (GIVE NAME OF PLAT	OR ADDITION)		
	10000	LEGAL DESCRIP	TION OF PROPER	TY ON WHI	CH WATER IS TO B	E USED	

Area served by Warm Beach Water Association within Sections 13 and 24 T. 31 N., R. 3 E. and Sections 18 and 19 T. 31 N., R. 4 E. W.M. in Snohomish County.

This superseding permit is issued to amend the annual quantity to the permit issued June 30, 1993.

DESCRIPTION OF PROPOSED WORKS

Well	12"	Х	542'	
SWL	- 2	64.	7'	
Stora	ge			

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Started	June 30, 1994 95	June 30, 1995 96 8305

Static water level (SWL) shall be measured at least once each month. Measurements shall be taken after the pump has been shut off and the water level in the well has been stabilized. The data shall be maintained and made available to Ecology upon request. However, Ecology's Water Resources Section (NWRO) shall be notified if the SWL is determined to be below the level normally recorded at that time of year.

Installation and maintenance of an access port as described in <u>Ground Water Bulletin No. 1</u> is required. An air line and gauge may be installed in addition to the access port.

An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360, WAC 508-64-020 through WAC 508-64-040. Meter readings shall be recorded monthly and this data shall be maintained and be made available to the Department of Ecology upon request. See enclosed form.

Permittee or its successor(s) shall submit in writing to the Department of Ecology, Northwest Regional Office, Bellevue, Washington, during the months of April and August each year, the chloride concentration of the water pumped and static water level (pump off) of the well authorized by this permit. Depending on the results of the data collection, the withdrawal of ground water under this permit may be limited, or other appropriate action may be required, by Department of Ecology Order, to prevent seawater intrusion into the subject aquifer.

This permit is subject to the implementation of the minimum requirements established in the Interim Guidelines for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology and Conservation Programs, July 1990.

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or fail to give notice to the Department of Ecology on forms provided by that Department documenting such compliance.

Given under my hand and the seal of this office at Bellevue, Washington,

this 17th day of February, 1994.

Section ervisor, Water Resources

Department of Ecology



AFTER RECORDING, PLEASE RETURN TO Public Utility District No 1 of Snohomish County Real Estate Services DO Poy 1107 Everett, WA 98206-1107



10 00 4o 10045175 9/12/2018 3 14 PM Thank you for your payment SITINH

Quitclaim Deed

Grantor(s) Warm Beach Water Association

Grantee(s) Public Utility District No 1 of Snohomish County

Abbreviated Legal Lots 5-12, 73-80, Bik 17, in Section 13, T31N, R 3 E.W.M., C. D. Hillman's Birmingham WF Add to Everett, V 8, P 21, Snohomish County

Assessor's Tax Parcel No(s) 003944-017-005-00 and 003944-017-073-00

Water Right Certificate G1-24690C

File No(s)[,] 4221-2993912

FIRST AMERICAN 2019 3012

The GRANTOR, Warm Beach Water Association, a Washington nonprofit corporation, for and in consideration of the sum of One Dollar (\$1.00) and other valuable consideration, receipt of which is hereby acknowledged, hereby conveys and guit claims, without warranty of any kind, express or implied, to Public Utility District No. 1 of Snohomish County, a Washington municipal corporation, GRANTEE, all interest in. Certificated Groundwater Right G1-24690C, situated in the County of Snohomish, State of Washington The water right evidenced by the Water Right Certificate relates to property formerly owned by the GRANTOR acquired by PUBLIC UTILITY DISTRICT NO 1 OF SNOHOMISH COUNTY for use as a municipal water supply source. The water right evidenced by the attached Water Right Certificate relates to the property interest attached hereto and incorporated by this reference

Dated this O day of September, 2018

IN WITNESS WHEREOF, the parties have caused this instrument to be executed

, 2018

1) Stephens Printed Name

Title

Javid Ridgeway Secretary/ Trasser-r Grantor

Acceptance

Grantee

Printed Name Maureen Barnes Title ____Manager. Real Estate Services

(DISTRICT ACKNOWLEDGEMENT)

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that, <u>Maureen Barnes</u> signed this instrument, on oath stated that she was authorized to execute the instrument and acknowledged it as the Manager of Real Estate Services of Public Utility District No 1 of Snohomish County to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument

HEIDIE C. WAXHAM
STATE OF WASHINGTON
NOTARY+ PUBLIC
My Commission Expires 03-27-2021

Dated <u>8-28-6</u>	2018
Signature of	1 117.11
Notary Public	adie C. Winstam
Title	Notary Public
My appointment expires	03-27-2021

(seal)

(Other Party Name ACKNOWLEDGEMENT)

State of Washington County of Snohomish

Paul Stephens

I certify that I know or have satisfactory evidence that Stephen__________ signed this instrument, on oath stated that W/she was authorized to execute the instrument and acknowledged it as the <u>Prevident</u> for the ________ for the ________ (insert Company Name) to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument



Dated Sep	tentor 10,0018
Notary Public <u>C</u> Title	Notary Public
My appointment expire	s 9.9 2019

(seal)

(Other Party Name ACKNOWLEDGEMENT)

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that Dave Pulson signed
this instrument, on oath stated that keyshe was authorized to execute the instrument and
acknowledged it as the Secretary Treasurer for the
(Insert Company Name)
to be the free and voluntary act of such party for the uses and purposes mentioned in the
Instrument

ANGEL M MOSES NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES SEPTEMBER 9, 2019	Dated Septer Signature of Notary Public O	<u>euker 10,2018</u> ugel Moses
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Title	VNotary Public
	My appointment expires _	9.9.2019

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	Ground Wat	er (Issued i amendm	in accordance lents thereto	and the pro	wisions of Chapte i and regulations	er 263 La of the De	aws of Washingto spartment of Eco	an far 194 alegy i	b and	
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VANE	er C~~~									
ADDRESS (STREET)	<u> </u>	<u>, 11C.</u>	- īč	Star	 ז		ISTATE!	יוכ	(2	P CODEN
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PROVISIONS ÷ An approved measuring device shall be installed and maintained in accordance with RCW 90,03,360, MAC 508-64-020 through WAC 508-64-040 (Installation, operation and maintenance requirements attached hereto). # Installation and maintenance of an access port as described in Ground Water Bulletin No. 1 is required. An air line and gauge may be installed in addition to the access port. The total withdrawal from G1-24690 and all other rights held by Warm Beach Water Company Inc. snall not exceed 216 acte feat per year The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90 03 380, 90 03 390, and 90 44 020 This certificate of water right is specifically subject to relanquishment for nonuse of water as provided in RCW 20 14 180 Washington, this 16 .... day Given under my hand and the seal of this office at Redmond, . 19 88 May of Department of Ecology by Hum Nancy Ellison, Regional Manager FOR COUNTY USE ONLY



### DEPARTMENT OF ECOLOGY

DEPT OF ECOLOGY

JUI 2 5 2001

RECEIVED

G1-246900

# Showing of Compliance with RCW 90.44.100(3)

Water Right Certificate or Permit Number: <u>G1-246904C</u>					
Parcel tax identification	on number:	3944-0	017-00	5-0002	
Landowner(s) name: _	WARM	BEACH	WATER	ASSOCIATION	

Part of complying with RCW 90.44.100(3) is for the project proponent to notify the Department of Ecology (Ecology) that the statutory criteria of RCW 90.44.100(3) have been satisfied. Please attach to this document the water well report for the additional or replacement well and any additional information you have to support your affidavit.

### Affidavit:

I, <u>SID</u> LOCKE, do certify that I caused the well described in the attached water well report to be drilled as an additional or replacement well(s) for use under Water Right Number <u>G</u> 1-24(GOP) This notice and attached documents describe and support my assertion that the replacement or additional well(s) complies with RCW 90.44.100(3) (a-g) and RCW 90.44.100(4):

- $\sim$  a. The well is an additional or replacement well(s) that will tap the same body of public ground water as the original well;
- √b. If a replacement well is constructed, the use of the original well(s) shall be discontinued and the original well(s) shall be properly decommissioned;
- ➤c. The combined withdrawal of water from the additional or replacement well(s) and the original well authorized by the water right certificate does not enlarge the water right conveyed by the original water right certificate to the extent the certificate has been developed (perfected) and maintained by use of water;
- ▶d. The construction and use of the additional or replacement well(s) does not interfere with or impair water rights with an earlier priority date;
- $\vee$  e. The additional or replacement well(s) is located no closer than the original well to a well or surface water body it might interfere with;
- $\sim$  f. A specified manner of construction for the additional or replacement well(s) has been complied with, if required, and the new well was constructed in compliance with chapter 18.104 RCW and chapter 173-160 WAC;
- vg.The additional or replacement well(s) is located within the area described as the point of<br/>withdrawal in the public notice published for the original application for water right, or<br/>the most current legal description published for the right. Both the original well and the<br/>additional or replacement well(s) are located in <u>CD HILLMAN'S WATERFRONT ADDITION</u> TO THE<br/>(legal description).(legal description).CITY OF EVERETT, DIV # 1, BLOCK 17, LOTS<br/>5 through 12 and lots 73 Through 80.

Therefore the well is in compliance with the requirements for a statutorily granted amendment to the water right permit or certificate.

ECY 040-74

I understand the acceptance of this affidavit, and any attachments, by the Department of Ecology shall not be construed as affirming the validity of any water right permit or certificate. The responsibility to comply with RCW 90.44.100(3) is with the water right permit or certificate holder asserting an amendment pursuant to RCW 90.44.100(3).

 $\frac{4-4}{200}$ 

Name

### Acknowledgement:

State of Washington County of Snohomist

I certify that I know or have satisfactory evidence that Si's Locke, Manager is the person who appeared before me, and said person acknowledged that (he/she) signed this affidavit and acknowledged it to be (his/her) free and voluntary act for the uses and purposes mentioned in the affidavit.

Dated: 4-4-01

LINDA R. ABELL STATE OF WASHINGTON NOTARY ----- PUBLIC MY COMMISSION EXPIRES 8-29-02

Lunda R. abell (Signature)

Stanupor

Residing in

Abrary

Title My appointment expires: 8-29-02

If you have any questions please contact the Water Resources Section of the closest regional office. Please submit copies of new well logs and decommissioned well logs along with this completed and notarized form to the nearest regional office.

### Northwest Regional Office

3190 - 160th Avenue SE Bellevue, WA 98008-5452 (425) 649-7000; TDD (425) 649-4259

### **Eastern Regional Office**

N. 4601 Monroe, Suite 202 Spokane, WA 99205-1295 (509) 456-2926; TDD (509) 458-2055

### Vancouver Field Office

2108 Grand Boulevard Vancouver, WA 98661-4622 (360) 690-7171; TDD (360) 690-7147

### Southwest Regional Office

P.O. Box 47775 Olympia, WA 98504-7775 (360) 407-6300; TDD (360) 407-6306

### **Central Regional Office**

15 W. Yakima Ave., Suite 200 Yakima, WA 98902-3452 (509) 575-2597; TDD (509) 454-7673

### Nooksack Field Office

1204 Railroad Ave., Suite 200 Bellingham, WA 98225 (360) 738-6250; TDD (425) 649-4259 Well Log ID: 303831 (page 1 of 2) Well 3-Replacement

G1-24690C

er. Tanaique es



Department of Ecology Well Log Image System



000

No 10045179 9/12/2018 3 25 PM Thank you for your payment PHYLLIS



AFTER RECORDING, PLEASE RETURN TO Public Utility District No 1 of Snohomish County Real Estate Services PO Box 1107 Everett, WA 98206-1107

### **Ouitclaim Deed**

Grantor(s) Warm Beach Water Association

Grantee(s) Public Utility District No 1 of Snohomish County

Abbreviated Legal Lots 42-44, Blk 20, in Section 13, T31N, R 3 E.W.M., C. D. Hillman's Birmingham WF Add to Everett, V 8, P 21, Snohomish County

Assessor's Tax Parcel No(s) 003944-020-042-00

Water Right Certificate G1-24266C

File No(s) 4221-2993912

FIRST AMERICAN 20193912

The GRANTOR, Warm Beach Water Association, a Washington nonprofit corporation, for and in consideration of the sum of One Dollar (\$1.00) and other valuable consideration, receipt of which is hereby acknowledged, hereby conveys and quit claims, without warranty of any kind, express or implied, to Public Utility District No. 1 of Snohomish County, a Washington municipal corporation, GRANTEE, all interest in Certificated Groundwater Right G1-24266C, situated in the County of Snohomish, State of Washington The water right evidenced by the Water Right Certificate relates to property formerly owned by the GRANTOR acquired by PUBLIC UTILITY DISTRICT NO 1 OF SNOHOMISH COUNTY for use as a municipal water supply source The water right evidenced by the attached Water Right Certificate relates to the property interest attached hereto and incorporated by this reference

Dated this 10 day of September, 2018

IN WITNESS WHEREOF, the parties have caused this instrument to be executed

. 2018 Dated

Granto gul He Services

Printed Nam Title

Grantor Jung Kidge any David Ridge any Sucretary (tomourn)

Acceptance

Grantee

Printed Name Maureen Barnes Title Manager, Real Estate Services

### (DISTRICT ACKNOWLEDGEMENT)

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that, <u>Maureen Barnes</u> signed this instrument, on oath stated that she was authorized to execute the instrument and acknowledged it as the Manager of Real Estate Services of Public Utility District No 1 of Snohomish Count<u>v</u> to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument

HEIDIE C. WAXHAM STATE OF WASHINGTON NOTARY ----- PUBLIC My Commission Expires 03-27-2021

8/28/2018 Dated Signature of Signature of Notary Public (1) Notary Public Title My appointment expires 02/27/2021

(seal)

t

### (Other Party Name ACKNOWLEDGEMENT)

State of Washington County of Snohomish

Darm Beach Water Association (Insert Company Name)
o be the free and voluntary act of such party for the uses and purposes mentioned in the Instrument of the uses and purposes mentioned in the ANGEL M MOSES NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES SEPTEMBER 9, 2019 Signature of ALA IA (Data)
Notary Public     Interpretation       Title     Interpretation

(seal)

### (Other Party Name ACKNOWLEDGEMENT)

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that Dave Pulgenal signed
this instrument, on oath stated that he/she was authorized to execute the instrument and
acknowledged it as the Secretary ITreasurer for the
_ Usarm Beach Otater Assainter (Insert Company Name)
to be the free and voluntary act of such party for the uses and purposes mentioned in the

to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument



Dated Sep	tenter 192018
Signature of	a maina
Notary Public	angel mase
Title	Notary Public
My appointment expir	res 9.9.2019

(seal)

CERTIFICATE OF WATER RIGHT         Surface Water       Structure of the provinces of Chapter 11, Laws of Wathupton for 1917, and manufactures and regulation of the Department of Ecology         Signature       Ground Water       Investment develop and the provinces of Chapter 23, Laws of Wathupton for 1917, and manufactures of the Department of Ecology         NUMPLY DATE       Appril CATION NUMBER       PERMIT NUMBER       CERTIFICATE NUMBER         Appril 21, 1983       APPLICATION NUMBER       CELTIFICATE OF WATER       CELTIFICATE NUMBER         MORITY DATE       APPLICATION NUMBER       CELTIFICATE OF WATER       CELTIFICATE NUMBER         MORITY DATE       APPLICATION NUMBER       CELTIFICATE OF WATER       CELTIFICATE OF WATER         MARE       MARE       BEADS       Statusood       Washington       98292         NAME       Statusood       Washington as herein defined, and under and specifically subject to its provisions contained in the Permit Issued by the Department of Ecology and that sali right to the use of the public waters of the State of Washington, and is hereby con firmed by the Department of Ecology and thered of record as shown         NUMPLY NWE OF UP SUPACE WATERS       MARENDAR GALLONS FREAMINUTE       MARINUM COLOR-FEET FEE SECON         MARENDAR OF UP SUPACE WATERS       MARINUM GALLONS FREAMINUTE       MARINUM CALLONS FREAMINUTE         MARENDAR OF UP SUPACE WATERS       MARINUM CONCEPENT FOR SECONO       MARENDAR	,		STATE OF WASHINGT EPARTMENT OF ECO	on 🗰 j	5xhioitA
Surface Water (Itsued in accordance with the provision of Chapter 117, Lawr of Wehtheylon for 1817, and antendments threes, and the rules and regulations of the Department of Ecology 1 NORITY DATE April 21, 1983 April 21, 198 April 2		CERTIFIC	ATE OF WA	TER RIGHT	
NUMERTY DATE       APPLICATION NUMBER       PERMIT NUMBER       CERTIFICATE NUMBER         April 21, 1983       G1-24266       G1-24266       G1-24266         AMM       G1-24266       G1-24266       G1-24266C         AMM       Stansod       Usatington       G1-24266C         NAME       Stansod       Usatington       98292         This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as there in defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology and that said right to lik use of said waters has been perfected in accordance with the haves of the State of Washington, and is hereby con firmed by the Department of Ecology and entered of record as shown         RUBLIC WATER TO BE APPROPRIATED       Souther         Souker       FUBLIC WATER TO BE APPROPRIATED         Souker       Souker         Weill       South of the State of Department of Ecology and that said right to lik         BRUTARY OF UP SURFACE WATERSI       South of the State of Washington and the sate of Washington and the s	Surface	Water lissued in secordar emendments there Water lissued in secordar emendments there	nco with the provisions of to, and the rules and reguince we with the provisions of to, and the rules and regul	Chapter 117, Lows of Wash exlons of the Department of Chapter 263, Lows of Washi ations of the Department of	nglan for 1917, and Ecology ) ngton for 1945, and Ecology )
MARE         District         Istate         Istate <thistate< th=""> <thistate< th=""> <thistate< th="" th<=""><th>April 21, 1983</th><th>G1-24266</th><th>ER PERMIT</th><th>NUMBER G1-24266P</th><th>CERTIFICATE NUMBER GI-24266C</th></thistate<></thistate<></thistate<>	April 21, 1983	G1-24266	ER PERMIT	NUMBER G1-24266P	CERTIFICATE NUMBER GI-24266C
Description         Istate         Image: Ima	IAME		<u></u>		
This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the use of state waters has been perfected in accordance with the Department of Ecology, and that stat right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby con firmed by the Department of Ecology and entered of record as shown         REDURCE         PUBLIC WATER TO BE APPROPRIATED         MAXIMUM Cubic FEET PER SECOND         MAXIMUM ACRE-FEET PER VEAR         SO         BUDIC WATERS DE PER MINUTE         MAXIMUM ACRE-FEET PER VEAR         SO         ADAMINUM ACRE-FEET PER VEAR         ADAMINUM CUBIC FEET PER VEAR	ROUTE 1		(city) Stanwood	istate) Washing	ton 98292
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RECORDED PLATTED PROPERTY           OF         GOF (GIVE NAME OF PLAT OR ADDITION)           42-44         20         C. D. H11mans Birmingham Div. #1           LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED         LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED	LOCATED WITHIN (SMALLEST LE	GAL SUBDIVISION)	SECTION TOWNSM 13 3	IPN. RANGE (E ORWIW) 1 3 E	5 Snohomish
42-44 [C. D. H1]mans Birmingham Div. #1 LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED			RECORDED PLATTED	PROPERTY	
LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED	ot 42-44	BLOCK 20	OF (GIV	D. Hillmans Bitt	DITION) Mingham Div. #1
	11. 45		<u>````````````````````````````````</u>		

Area served by Warm Beach Water Co. Inc.

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aler 1 it is anapet و يوديغ رونه واخر ا الدرا الكارد الملا الملاقت ا - -17.0. Sec. 555 C. M. C. S. WALL 2 PROVISIONS Ś इसके The total combined quantity from G1-24266 and all other water rights held by Warm Reach Water Company shall not exceed 216 acre-feet per year. 34.7.8 - 2 -An approved measuring device shall be installed and maintained in accordance with RCM 90.03.360, WAC 503-64-020 through WAC 508-64-040. š, . <u>_____</u> م^رقبه فتي في الم 1. 1. J. W. M. M. S. S. S. Ċ, 20 a.3 ċ ភា 3 24.50 R. Cost -<u>-</u>` ·---11.28 1 alsi The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein 1 described, except as provided in RCW 90 03 380, 90 03 390, and 90 44 020. 7 This certificate of water right is specifically subject to relinquishment for nonuse of water as provided in RCW 90.14.180. Given under my hand and the seal of this office at Redmond Washington, this .15th... day of .... A March ... . 19 84. . . . N Department of Ecology ENGINÉERING DATA Kolert K. McConMick, Regional Manager 1133 榆 by .... FOR COUNTY USE ONLY `

1177565



AFTER RECORDING, PLEASE RETURN TO Public Utility District No 1 of Snohomish County Real Estate Services PO Box 1107 Everett, WA 98206-1107

### **Ouitclaim Deed**

Grantor(s) Warm Beach Water Association

Public Utility District No 1 of Snohomish County Grantee(s)

Abbreviated Legal Lots 42-44, Blk 20, in Section 13, T31N, R 3 E.W.M., C. D. Hillman's Birmingham WF Add to Everett, V 8, P 21, Snohomish County

Assessor's Tax Parcel No(s) 003944-020-042-00

Water Right Certificate G1-00718C

File No(s) 4221-2993912

700120117 FIRST AMERICAN

The GRANTOR, Warm Beach Water Association, a Washington nonprofit corporation, for and in consideration of the sum of One Dollar (\$1.00) and other valuable consideration, receipt of which is hereby acknowledged, hereby conveys and guit claims, without warranty of any kind, express or implied, to Public Utility District No. 1 of Snohomish County, a Washington municipal corporation, GRANTEE, all interest in Certificated Groundwater Right G1-00718C, situated in the County of Snohomish, State of Washington The water right evidenced by the Water Right Certificate relates to property formerly owned by the GRANTOR acquired by PUBLIC UTILITY DISTRICT NO 1 OF SNOHOMISH COUNTY for use as a municipal water supply source The water right evidenced by the attached Water Right Certificate relates to the property interest attached hereto and incorporated by this reference

41 Dated this 10 day of September, 2018

IN WITNESS WHEREOF, the parties have caused this instrument to be executed

Dated Grantor

Printed N Title

Javid K; dgaway Secretury Tornourer Granto

Acceptance

Grantee

Printed Name Maureen Barnes Title Manager, Real Estate Services 10 00 to 10045180 9/12/2018 3 29 PM Fhank you for your payment PHYLLIS

### (DISTRICT ACKNOWLEDGEMENT)

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that, <u>Maureen Barnes</u> signed this instrument, on oath stated that she was authorized to execute the instrument and acknowledged it as the Manager of Real Estate Services of Public Utility District No 1 of Snohomish County to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument

HEIDIE C. WAXHAM
STATE OF WASHINGTON
NOTARY+ PUBLIC
My Commission Expires 03-27-2021

Dated	8-28-2018
Signatu Notary	re of Public Alainia All Valtan
Title	Notary Public
appointme	nt expires 03-27-2021

(seal)

### (Other Party Name ACKNOWLEDGEMENT)

Mv :

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that <u>Paul Slephens</u> signed this instrument, on oath stated that the she was authorized to execute the instrument and acknowledged it as the <u>Presulant</u> for the <u>US arm Beach (U ater Association</u> (Insert Company Name) to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument



Dated Septe	mber 10, 2018
Signature of	
Notary Public	und Mars
Title	Netary Public
ppointment expires	9.9.2019

(seal)

### (Other Party Name ACKNOWLEDGEMENT)

My a

Mγ

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that David Ridge way signed this instrument, on oath stated that bashe was authorized to execute the instrument and acknowledged it as the <u>Secchary Hrodurer</u> for the <u>Ularan Beach Water Honoretican</u> (Insert Company Name) to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument



Dated Sca	Hay barlo 2018
Signature of	
Notary Public 💆	andunos
Title	Netary Public
appointment expire	s <u>9.9.2019</u>

(seal)

EXNIBIT A

### STATE OF WASHINGTON

### CERTIFICATE OF WATER RIGHT

Surface Water (Issued in accordance with the provisions of Chapter 117 Laws of Washington for 1917, and emendments thereto and the fulles and regulations of the Department of Ecology )

Ground Water Issued in recordance with the provisions of Chapter 263 Laws of Wathington for 1945, and

	amendri	tents increto and there	ies and regoration of th	the Oeparation of Ex		
PRIORITY DATE	APPLICAT	ION NUMBER	PERMIT NUMBER		CERTIFICA	TE NUMBER
September 11, 1970	11	230	10401P		G1	-00718C
WARM BEACH WATER COMP	ANY INC.		_			
ADDRESS ISTREET		ICITY		(STATE)		(ZIP CODE)
19012 Soundview Drive	N.W.	Stanwood		Washingto	n	98292
This is to certify that the of a right to the use of the subject to the provisions c use of said waters has been firmed by the Department	herein nam c public wi ontained in n perfected of Ecology	ed applicant has n aters of the State i the Permit issue i in accordance wi and entered of re	ade proof to the of Washington as d by the Departin ith the laws of th cord as shown	salisfaction of herem defined nent of Ecolog, he State of Was	the Depa , and una , and th hungton,	riment of Ecology ler * d specifically at said right to the and is hereby con-
		PUBLIC WATER TO	BE APPROPRIATED	)		
SOURCE Well						
TRICUTARY OF US SURFACE WATERS						
HAXINUH CUBIC FEET PER SECOND		MATIN UM GALLONS P	R MINUTE	MAXIMUM AC	E FEET PER	YEAR
		35		30.0	)	
Community domestic st	pply - c	ontinuously				
<u> </u>		LOOATION OF DIM	DELON (WITHDRAM	(A1		
AND OVINATE LOCATION OF D		LOCATION OF DIV	ENGION BUILDING			
450 feet north and 18	30 feet w	est from SE co	rner Sec. 13			
LOCATED WITHIN ISUALLEST LEGAL	SUSDIVISION	4) SECTION	TO NSHIP IL BAT	NGE LE OR W. ) W M	W R.I.A	COUNTY
		13	31	3 E	5	Snohomish
		RECORDED	PLATTED PROPERT	Y	_	
ют	BLOCK		OF GIVE NAME C	F PLAT OR ADDI	TION	
42, 43 & 44	<u> </u>	.0	Plat of C.D	Hiliman Bi	mungha	m Water Front A
L	GAL DESC	RIPTION OF PROPE	RTY ON WHICH W	ATER IS TO BE	USED	

Area served by Warm Beach Water Company.

Anne .

ECY 0401214++ 477;

Now, male a way worker

(SEE REVENSE SIDE)

CERTIFICATE

35 gallons per minute, 30 acre-fect per year, totally supplemental to Surface Water Certificate 328, Certificate of Change 290 and 374 and Surface Water Certificate 11576.

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herem described, except as provided in RCW 90 03 380, 90 03 390, and 90 44 020

This contificate of mater many is specifically subject to reliablishment for nonuse of water as provided in RCW 90 14.150

Given under my hand and the seal of this office at Redwond

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August

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EERI .G DATA

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of

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Washington, this 15th ... day

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Department of Ecology

Volut 3/ Mulonny b3 ROBERT A. McCORMICK, Regional Manager

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FOR COUNTY USE ONLY

117755-



AFTER RECORDING, PLEASE RETURN TO Public Utility District No 1 of Snohomish County Real Estate Services PO Box 1107 Everett WA 98206-1107

### **Ouitclaim Deed**

Grantor(s) Warm Beach Water Association

Public Utility District No 1 of Spohomish County Grantee(s)

Abbreviated Legal Lot 31, Blk 26, in Section 18, T31N, R 4 E.W.M., C. D. Hillman's Birmingham WF Add to Everett, V 8, P 21, Snohomish County

Assessor's Tax Parcel No(s) 003944-026-031-00

Water Right Certificate SWC 11576

File No(s) 4221-2993912

FIRST AMERICAN 2093012

9120372 3 /2018 3:41pm \$101 00 115H COUNTY, WASHING:

ALL DR HT II DR H H H H H

The GRANTOR, Warm Beach Water Association, a Washington nonprofit corporation, for and in consideration of the sum of One Dollar (\$1.00) and other valuable consideration, receipt of which is hereby acknowledged, hereby conveys and guit claims, without warranty of any kind, express or implied, to Public Utility District No. 1 of Snohomish County, a Washington municipal corporation, GRANTEE, all interest in Certificated Surface Water Right SWC 11576, situated in the County of Snohomish, State of Washington The water right evidenced by the Water Right Certificate relates to property formerly owned by the GRANTOR acquired by PUBLIC UTILITY DISTRICT NO 1 OF SNOHOMISH COUNTY for use as a municipal water supply source The water right evidenced by the attached Water Right Certificate relates to the property interest attached hereto and incorporated by this reference

Dated this 10 day of September, 2018 IN WITNESS WHEREOF, the parties have caused this instrument to be executed

. 2018 Dated

Granto

Printed Nam

Tıtle

Sycertury Treasurer Granto

Acceptance

Grantee

Printed Name Maureen Barnes Title Manager, Real Estate Services 800 Vo 10045173 9/12/2018 3 09 PM hank you for your payment

SHYLLIS

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that, <u>Maureen Barnes</u> signed this instrument, on oath stated that she was authorized to execute the instrument and acknowledged it as the Manager of Real Estate Services of Public Utility District No 1 of Snohomish Count<u>y</u> to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument

HEIDIE C. WAXHAM STATE OF WASHINGTON NOTARY --+-- PUBLIC Wy Commission Expires 03-27-2021

Dated <u>8/28</u>	12018
Signature of	1 1
Notary Public 🕰	Leide Clifton
Title	Notary Public
My appointment expires	03/27/2021

(seal)

#### (Other Party Name ACKNOWLEDGEMENT)

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that <u>Taul</u> <u>Stephens</u> signed this instrument, on oath stated that **G** she was authorized to execute the instrument and acknowledged it as the <u>President</u> for the

to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument



Dated Signature of	La uper 10, 2018 Augel M Nova
Title	Notary Public
ppointment expir	res 9.9.2019

(seal)

### (Other Party Name ACKNOWLEDGEMENT)

My a

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that Druce Rubgerway signed this instrument, on oath stated that 10/she was authorized to execute the instrument and acknowledged it as the <u>Secretary Treasurer</u> for the <u>UGRM Beach</u> Usader Association (insert Company Name) to be the free and voluntary act of such party for the uses and purposes mentioned in the instruments



_	
Dated Septer	wher 10,2018
Signature of	
Notary Public 🖵	mal MMOSA
Title	Alotary Public
My appointment expires	9.9.2019

(seal)

· granning	ExhibitA
	8 F ho 349-(Rev 6-70)
► 1/	CERTIFICATE RECORD NO PAGE NO
	STATE OF WASHINGTON, COUNTY OF BOODE tab
	CERTIFICATE OF SURFACE WATER RIGHT
Service of the	and requisitions of the Department of Ecology i
	THIS IS TO CERVIPY That
	of, has made
	proof to the satisfaction of the Department of Ecology of a right to the use of the public surface waters
	of the State of Washington from. Lake Martha
×	a tributary of, with point of diversion within Lat 31, slock 26 of
·	the plat of C. D. Hillan's Birmingham Vater Frent Addition to the fity of Bearty,
(	Sec. 12. Twp 31. N, R. 4. L., W.M. for the purpose(a) of commity femantic supply
· ·	and fire pretection under and specifically subject
	to provisions contained in appropriation Permit No issued by the
- 1	Department of Ecology, and that said right to the use of said waters hus been perfected in accordance
	with the laws of Washington, and is hereby confirmed by the Department of Ecology and entered of
	record in Volume 24 , at Page 11576 that the priority of the right hereby confirmed dates from
2	September 12, 1970 that the animatic of stars under the right herein confirmed for
-	the descent with some in the set of the set
-	ine aforesata purposes is annuel to an amount actually beneficially used that shall not exceed
	U. 32 CHOIC RAAR par escond, 210 acro-goet par year, during outirs just for community
. 1	consult supply; as used for fire protection.
	A description of the lands to which such surface water right is appurtenant is as follows.
	Hacks 5 through 23, 32 through 39, 41, 43 through 52, and 52 through 55, 57 the plat of C. D. Billam's Birmingham Water Front Addition to the City of Dwaratt, Division No. 1, lying within Sections 13 and 26, 7. 31 2., R. 3 S.W.H., and Sections 18 and 19 of T. 31 N., R. 4 E.W.N.; AMD
-	the plat of Warm Beach Water Front Tracts within said Sec. 13, 7. 31 M., R. 3 S.W.M. and Sections 7 and 18 of maid T. 31 M., R. 4 S.W.M.;
, 6	ALSO: Covernment Lot 2, of said Sec. 13, 7. 31 M., R. 3 R.M.N.; Gevennment Let 4 of said Sec. 7; and Covernment Let 1 of said Sec. 18, of T. 31 M., R. 4 R.M.M.
¢ .	
	The right to the use of the under afonescud hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 9003380 and 9003390 This certificate of surface water right is specifically subject to relinquishment for nonuse of water as new ided to REWN BDA1380.
	Given under my hand and the seal of this office at Olympia, Washington, this 27th
	day of 19_ 71
. *	
	JOHN A BIGGS, Director Department of Ecology
	Engineering Dato 0.0 0.
	or A by Alm D. Fielder
Autor ser . errol	
-18.1	

117755

000

9/12/2018 3 20 PM

your payment

Thank you for y^r PHYLLIS do 10045178





AFTER RECORDING, PLEASE RETURN TO Public Utility District No 1 of Snohomish County Real Estate Services PO Box 1107 Everett, WA 98206-1107

**Ouitclaim Deed** 

FIRST AMERICAN 20193912 Grantor(s) Warm Beach Water Association

Public Utility District No 1 of Snohomish County Grantee(s)

Abbreviated Legal Lot 31, Blk 26, in Section 18, T31N, R 4 E.W.M., C. D. Hillman's Birmingham WF Add to Everett. V 8. P 21. Snohomish County

Assessor's Tax Parcel No(s) 003944-026-031-00

Water Right Certificate SWC 328 together with Certificates of Change 290 and 374

File No(s) 4221-2993912

The GRANTOR, Warm Beach Water Association, a Washington nonprofit corporation, for and in consideration of the sum of One Dollar (\$1.00) and other valuable consideration, receipt of which is hereby acknowledged, hereby conveys and guit claims, without warranty of any kind, express or implied, to Public Utility District No. 1 of Snohomish County, a Washington municipal corporation, GRANTEE, all interest in Certificated Surface Water Right SWC 328 and associated Certificates of Change 290 and 374, situated in the County of Snohomish, State of Washington The water right evidenced by the Water Right Certificate relates to property formerly owned by the GRANTOR acquired by PUBLIC UTILITY DISTRICT NO 1 OF SNOHOMISH COUNTY for use as a municipal water supply source. The water right evidenced by the attached Water Right Certificate relates to the property interest attached hereto and incorporated by this reference

Dated this 10 day of September, 2018

IN WITNESS WHEREOF, the parties have caused this instrument to be executed

Dated 2018 Grantor

Printed Name

Title

Grantó Marid Ridgenay David Ridgenay Gaaratary/Treasurs

Acceptance

Grantee

Printed Name Maureen Barnes Title Manager, Real Estate Services

### (DISTRICT ACKNOWLEDGEMENT)

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that, <u>Maureen Barnes</u> signed this instrument, on oath stated that she was authorized to execute the instrument and acknowledged it as the Manager of Real Estate Services of Public Utility District No 1 of Snohomish County to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument

HEIDIE C WAXHAM
STATE OF WESSINGTON
NOTARY CuBLIC
My Commission Exh to 03-27-2021

Dated	8-28-2018
Signatu	e of 11 . Allel
Notary	ublic White C. Whit Ham
Title	Notary Public
appointme	it expires _03/27/2021

(seal)

### (Other Party Name ACKNOWLEDGEMENT)

Μv

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that <u>Yaul Stephews</u> signed this instrument, on oath stated that **K**ayshe was authorized to execute the instrument and acknowledged it as the <u>President</u> for the

to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument



Dated Septe	mber 10, 2013
Signature of 🏼 🔿	110.
Notary Public	ngel Modes
• Title	Notary Public
appointment expires _	9.9.2019

(seal)

### (Other Party Name ACKNOWLEDGEMENT)

Mγ

My a

State of Washington County of Snohomish

I certify that I know or have satisfactory evidence that Da. ne. Po closury, signed this instrument, on oath stated that icoshe was authorized to execute the instrument and acknowledged it as the Secondary Hreanward for the

to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument



	Hember	<u>10</u> 2013
Signature of	$\sim$ hu	1.
Notary Public 🕻	Jusel	Mar
Title	Notary Put	olic
ppointment expir	es <u>9.9.2</u>	019

(seal)

# Eshibit A

CERTIFICATE RECORD No ____ PAGE No___ 328_

3738. S F No 860-1023 Approved as to rorm by Dent

Q

STATE OF WASHINGTON, COUNTS OF _____ Suphonish _____

### CERTIFICATE OF WATER RIGHT

(For rights perfected under original, inlargement or accondus permits.) In accordance with the providence of Chryler 117, Laws of Washington for 1917, and the regulations of the State Highermalic Engineer thereinder)

A description of the lands under such right, and to which the water hereby confirmed is appurtenant, or if for other purposes, the place where such water is put to beneficial use, is as follows:

Township	Range	Section	Forty-Acre Traci	No, 4ci es Described in Primit	No Acres Actually Irrigated
31 N.	4 S.N.M.	18	Blocks 7, 8, 9, 13, 10, 11	and	
			41 of Hillman's water irent		
	<u> </u>	 	addition to City of Everett		

The right to the use of the water afor esaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in Section 39, Chapter 117, Session Laws 1917

WITNESS the seal and signature of the State Supervisor of Hydraulics affixed this_19th __day

-GINLERING DATA

R.K.

# Appendix 8-3A

Wellhead Protection Program Lake Stevens

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# Appendix K

Wellhead Protection Plan - Overview

# Snohomish County PUD No. 1 Wellhead Protection Plan

All Group A water systems are required to prepare a Wellhead Protection Plan (WHPP) by section 1428 of the 1986 amendments to the Federal Safe Drinking Water Act (SDWQ). The District's WHPP is intended to be proactive and designed to prevent contamination of ground water used for public drinking water. Its objective is to protect human health through the development of management zones around public water supply wells. The U.S. Environmental Protection Agency (EPA) administers the federal program and provides guidelines for state programs. In response to the federal mandate, the Washington State Department of Health (DOH) developed a WHPP that was implemented by revision to the State Drinking Water Code (WAC 246-290) in July 1994. The revised code requires that every Water System Plan include a WHPP that consists, at a minimum of seven components.

These components are:

- 1. A susceptibility assessment;
- 2. A wellhead protection area (WHPA) delineation for each well, well field, or spring with the 1-, 5-, and 10-year time of travel (TOT) boundaries marked or boundaries established using alternate criteria approved by the department in those settings where ground water time of travel is not a reasonable delineation criteria;
- 3. Inventory of potential ground water contaminant sources located within the defined WHPA(s).
- 4. Documentation of purveyor's notification to all owners/operators of potential sources of ground water contamination of their presence within the WHPA boundaries;
- 5. Documentation of purveyor's notification to regulatory agencies and local governments of the WHPA boundaries and the findings of the WHPA inventory;
- 6. A contingency plan to ensure consumers have an adequate supply of potable water in the event that contamination results in the loss of the principle source of supply; and
- 7. Documentation of coordination with local emergency spill responders (including police, fire and health departments), including notification of WHPA boundaries, results of susceptibility assessment, inventory findings, and contingency plan.

Contents of this report are presented in the same sequence as the seven components listed above.

To prepare this report the following reports and data were used:

- Evaluation of Hydrogeology and Alternatives for Additional Ground Water Supply at Sunday Lake, AGI, December 2, 1993
- Sunday Lake Production Well 3 Construction and Testing, AGI, October 20, 1994.
- Snohomish PUD Aquifer tests of May Creek Wells 1 and 1R (a.k.a Well 2) estimated potential stream impairment, AGI, March 31, 1998.
- May Creek Production Well 1 replacement (Well 2) construction and testing report AGI, March 31, 1994.
- The Ground-Water System and Ground Water Quality in Western Snohomish County, Washington, Water Resources Investigations Report 96-4312, U.S.G.S., 1997.
- Record of Ground Water Withdrawal, R.O. Sawyer, July 5, 1962
- Production rates, susceptibility forms, and static water levels obtained from District records.
- The field survey of each WHPA conducted by District personnel as part of the contaminant inventory.

The District owns and operates four Group A water systems which utilize well sources: May Creek, Skylite Tracts, Sunday Lake, Two Twelve Market & Deli (Moa/Holbeck), and in addition is the Lake Stevens system.

Inividual Wellhead Protection Plans were developed for each of the active Group A systems and are included in the following pages:

** Please Note. – A separate WHPP has not been developed for the Lake Stevens system due to its current use as a standby/reserve source of supply only.

# Appendix K

May Creek Wellhead Protection Plan

# APPENDIX K

## MAY CREEK WELLHEAD PROTECTION PLAN

This report completes the technical components of the Snohomish County Public Utility District No. 1 May Creek Water System Wellhead Protection Program (WHPP). The findings are based on a conceptual hydrogeologic (geology and ground water) model used to define the Wellhead Protection Areas (WHPAs) and an inventory of potential contaminant sources. The report also outlines District responsibilities for implementing the WHPP. These findings and recommendations are summarized below:

- The May Creek Water System has two wells, one production well and one standby backup well.
- Well 1, drilled in 1983, is completed between depths of 64 and 137 feet below ground surface. It has a pumping capacity of 277 gpm and is currently used for standby backup purposes only.
- Well 2, drilled in 1995, is completed between depths of 90 and 151 feet below ground surface. It has a pumping capacity of 500 gpm and is used as the primary production well for this system.
- Both Wells 1 and 2 are completed in a sand and gravel aquifer overlain by silty sands and gravels. The wells are approximately 30 feet apart.
- The wellfield is situated in a rural residential neighborhood where lots average approximately five acres. It is located near the City of Gold Bar in the northwest quarter of the southwest quarter of Section 4, Township 27 North, Range 9 East in Snohomish County, Washington. The site is about 300 feet west of May Creek at an elevation of approximately 265 feet above sea level.
- The system currently serves 385 connections predominately in a rural area but also a higher density area and small commercial establishments inside the city limits of Gold Bar. The system is expandable to the limits allowable by its water right.
- Wellhead protection areas with 1-, 5-, and 10-year TOT zones were delineated for District wells using the EPA WHPA Code 2.2 analytical model (GPTRAC). The 10-year TOT is an elongated oval shape, extends over 5,800 feet up gradient (northeast) from the production wells, and is about 1,000 feet wide.
- Upon review of the District's Susceptibility Assessment Survey Form, the DOH determined that the wellfield was "Moderately" susceptible to surface sources of contamination and has a "Low" vulnerability to contamination by pesticides.
- A contaminant inventory was conducted using data in governmental regulatory and permit files and from a field survey. The inventory identified three activities within the May Creek WHPA that have the potential to contaminate ground water. They are: 1) septic systems within the 1-year TOT, 2)

the May Creek Pump Station within the 1 year TOT (where sodium hypochlorite is used for chlorination purposes), and 3) power transmission lines within the 10-year TOT. Due to the low density of housing within the WHPA, septic systems are considered to pose little risk to local ground water quality. Water quality sampling has shown no significant concentration of nitrates in the well water that could indicate potential contamination by these septic systems. The chlorination facility houses containment for the 50-gallon chemical tank and sodium hypochlorite is stored in factory sealed 1-gallon jugs. The power transmission lines are also considered to be very low risk. If a transformer spill should occur, it would take over five years for the contamination to reach the wellhead. During that 5-year period, clean up or containment of the spill would likely be complete.

## **1.0 INTRODUCTION**

This report presents the Wellhead Protection Program (WHPP) for the Snohomish County Public Utility District No.1 (District) **May Creek Water System**. The report delineates Wellhead Protection Areas (WHPAs), identifies potential contaminant sources, analyzes the risks within each WHPA, and provides contingency and emergency response plans in the event contamination occurs.

## 1.1 SUSCEPTIBILITY ASSESSMENT

A Susceptibility Assessment Survey Form is required of public drinking water purveyors for each Group A well it owns and operates as the initial step in the WHPA process. This Susceptibility Assessment form (included as Appendix A of the May Creek Wellhead Protection Program) provides information on well construction and production, local aquifer characteristics, and local potential contamination sources. The DOH responds to the surveys with a susceptibility rating that establishes the level of monitoring requirements for Volatile Organic Compounds (VOCs) and Synthetic Organic Compounds (SOCs). A variety of waivers can be applied for to reduce or eliminate monitoring and sampling requirements.

Based on review of the Susceptibility Assessment Survey Form, in 1995 the DOH issued a Susceptibility Waiver rating of "Moderate" for the May Creek Wellfield (Wells 1 and **1R/2**). Wells with "Moderate" or "High" ratings are also rated for Pesticide Vulnerability. The May Creek wellfield was issued a "Low" Pesticide Vulnerability rating.

# **1.2 WELLHEAD PROTECTION AREAS**

A WHPA is defined as the surface and subsurface area surrounding a well, wellfield, or spring supplying a public water supply through which potential contaminants are likely to pass and eventually reach the well(s). In Washington, WHPAs are defined by the time of travel (TOT) zones, the time needed for ground water to move from its point of infiltration to its point of discharge at the well.

The Washington WHPP requires a WHPA to be subdivided into four zones, which include:

- A sanitary control zone of 100 feet, as required by WAC 246-290-135.
- Three primary zones based on 1-, 5-, and 10-year TOT rates.

An additional buffer zone (if warranted) may extend from the 10-year TOT to the ground water divide. This zone highlights areas where the aquifer may be particularly susceptible or vulnerable to contamination. The 10-year TOT boundary forms the boundary of the WHPA and defines the area to be inventoried and managed to reduce the risk of potential contamination.

The purpose of WHPA delineation is to describe the size and shape of that portion of the aquifer contributing ground water to the well or wellfield. This area is known as the well's zone of contribution. The portion of the zone of contribution contributing water to the well within a specified time period is known as the capture zone. The State's WHPP defines WHPAs as consisting of the 10-

year time of travel capture zone. Data are usually insufficient to completely and accurately define the size and shape of this capture zone. For this reason, a series of approximation methods have been adopted by DOH to delineate a WHPA. These methods, in order of increasing complexity, data requirements, and increasingly good approximation of reality, are:

- Calculated Fixed Radius
- Analytical Models
- Hydrogeologic Mapping
- Numerical Flow/Transport Models

This investigation uses an analytical model to delineate District WHPAs. The analytical model employed here used mathematical methods to describe the idealized shape of each capture zone. The EPA has developed a set of analytical models that utilize aquifer properties to calculate the boundaries of the capture zone for a well or wells based on the annual withdrawal. These models include TOT calculations that allow determination of 1-, 5-, and 10-year capture zones.

The analytical model used in this investigation was the EPA WHPA (Code 2.2) module GPTRAC. GPTRAC is an acronym for "general particle tracking" module. It is capable of delineating time-related capture zones for a system of pumping and injection wells and accounts for the effects of well interference, stream or barrier aquifer boundaries, and aquifer recharge. The technical details and limitations of GPTRAC are described below.

The WHPA delineations are subject to the following assumptions and limitations:

- As indicated in the preceding discussion, the WHPA analytical models require the aquifer to be assigned specific attributes that may not be applicable over the whole aquifer. Moreover, assumptions made because of limited data could affect the size and shape of the WHPA delineations.
- The ground water flow direction in the aquifer is based on assumed hydraulic connections between widely spaced wells. The ground water flow direction could vary several degrees to either side of those selected for the WHPA delineations.
- The transmissivity for each aquifer was estimated from pumping test data within the District's May Creek Wellfield. The transmissivities of the aquifers could differ from those estimated at a well. The transmissivity may change with distance from the data source because of variations in aquifer texture and thickness.
- The well pumping rates used in the analytical models were calculated from annual water rights. They assume the wells pump steadily at a reduced rate for 24 hours a day, 365 days a year. In practice the wells pump at a higher rate with significant periods of non-pumping. The variable pumping rates could result in a more diffuse capture zone than delineated.

# 1.2.1 Setting

The May Creek Wellfield is located in the NW 1/4 of the SW 1/4 of Section 2, Township 27 N, Range 9 E near the City of Gold Bar. It is situated among a rural residential neighborhood where lots average approximately five acres. Much of the surrounding land is forested, either privately or State owned forest. May Creek runs within 300 feet of the well site. The District owns a 100-foot radius of undisturbed land surrounding the wells. Bonneville Power transmission lines pass approximately one-half mile to the north of the well site.

The system currently serves 385 connections predominately in a rural area but also a higher density area within the City of Goldbar and small commercial establishments outside the city limits of Gold Bar. The system is expandable to the limits allowable by its water right.

## 1.2.2 Geology and Hydrogeology

The area is composed of unconsolidated, undifferentiated recessional outwash from the Vashon glaciation. This deposit consists of gravels and silty sands. Transmissivity is 18,000 gpd/ft. The land slopes to the southwest toward the confluence of the Wallace River and May Creek with the Skykomish River.

## 1.2.3 Delineation

A WHPA was delineated for the May Creek wellfield following the procedures described in Section 7.8, (Section 7, Source of Supply). The input data for each well is presented in Table 7-1 (Section 7, Source of Supply). As shown on May Creek WHPP Figure 1, the District has 2 production wells in 1 wellfield. The model was run using the District's full water right amount of 319.5 af/yr. This discharge amount was divided equally between the two wells even though Well 2 is the primary source and Well 1 is used as an emergency source only. Due to the close proximity of the wells (approximately 30 feet), no significant change in the capture zone was noted when running the model with individual wells solitarily pumping the full water right amount.

As shown on May Creek WHPP Figure 1, the WHPA is an elongated oval shape, extends over 5,800 feet up gradient (northeast) from the production wells, and is about 1,000 feet wide. The 1-year time of travel is shown in red, the 5-year in green, and the 10-year in blue.

# 1.3 CONTAMINANT INVENTORY

## 1.3.1 Need for Inventory

Most potential sources of contamination occur on the land surface or in near-surface soils. These potential sources can readily degrade ground water quality in the uppermost, unconfined aquifer. Although the uppermost aquifer is the most vulnerable to contamination, deeper, confined aquifers are susceptible to contamination where they are exposed in deep valleys and excavations or connected to

the upper aquifer through hydrogeologic windows or poorly constructed wells. Preservation of high quality water supplies requires the identification and management of potential contaminant sources.

A contaminant inventory is required for all wellhead protection programs (WHPPs). The purpose of the inventory is to identify past, present, and proposed activities constituting potential sources of ground water contamination and those sources presenting a potential threat to a well or wellfield. For identified potential contaminant sources, the District is required to notify the responsible property owners and federal, state, or local agencies having jurisdiction. The Water System Plan must document inventory procedures and notification of responsible parties.

District personnel conducted the contaminant inventory following the guidelines set forth in Inventory of Potential Contaminant Sources in Washington's Wellhead Protection Areas published by the DOH in December 1993.

## 1.3.2 Procedures

The contaminant inventory was conducted in two phases. In the first phase, the District contracted with EDR (E Data Resources, Inc.) to conduct a search of all governmental databases according to ASTM Standards (E 1527-97) for environmental site assessments. EDR searched 22 databases for potential sources within a one-mile radius area. EDR's report, with a map of the search area, is included as Appendix C of the May Creek WHPP. It describes the potential contaminant sources and locates each potential source activity on a map.

The second phase consisted of a field survey conducted by District personnel. The purpose of the field survey is to verify the locations of activities appearing on the governmental lists and to identify other existing potential contaminant sources. District personnel completed a Field Inventory Form for each site identified within a WHPA. The completed Field Survey Forms are included in Appendix B of the May Creek WHPP.

## 1.3.3 Results

The contaminant inventory and field survey identified three activities within the May Creek WHPA that have the potential to contaminate ground water. The approximate locations of these potential sources are shown on May Creek WHPP Figure 1. Septic systems and onsite sodium hypochlorite storage exist within the 1-year TOT and power transmission lines within the 10-year TOT.

Due to the low density of housing within the WHPA, septic systems are considered to pose little risk to local ground water quality. Water quality sampling has shown no significant concentration of nitrates in the well water that could indicate potential contamination by these septic systems.

Sodium Hypochlorite stored in the May Creek Pump Station / chlorination facility is used as a disinfectant for the water system. This 5 ¼ % strength liquid stored in 1-gallon factory sealed containers and the 50 gallon chemical injection tank are contained and poses little risk to local ground water quality.

The power transmission lines are also considered to be a very low risk. If a transformer spill should occur, it would take over five years for the contamination to reach the wellhead. During that 5-year period, clean up or containment of the spill would likely be complete.

# 1.3.4 Inventory Updating

Since land use practices change over time, the DOH requires inventory data to be updated at least every two years. Documentation of the updating activity should be included in the District's Water System Plan.

# 1.3.5 New Well Requirements

WAC 246-290-130 currently requires that a hydrologic assessment be completed and potential contaminant sources identified before a new or modified public water supply plan receives DOH approval. As part of the vulnerability assessment, the purveyor is required to delineate a Calculated Fixed Radius WHPA based on best available data and water right quantity. A preliminary contaminant inventory must be conducted within the WHPA and the vulnerability of the new source weighted against the costs of selecting an alternate site. Once the new source is approved by DOH, the District must delineate its WHPA and conduct a contaminant inventory/risk analysis of the WHPA.

# 1.4 NOTIFICATION - CONTAMINANT SOURCES/AGENCIES

The State's WHPP requires the District to notify:

- Property owners of all potential contaminant sources of their presence within a WHPA.
- The federal, state, or local regulatory agencies that have jurisdiction over each source.

Model letters from the District to the property owners (potential sources) and agencies are included as Appendix D of the May Creek WHPP along with lists of agencies and businesses notified. Copies of each letter should be retained in District files.

# **1.6 CONTINGENCY PLANS**

The SDWA specifies that State WHPPs require purveyors of drinking water to develop contingency plans "... for the location and provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination...." The contingency plans should identify both short- and long-term alternative drinking water sources. According to the *Washington State Wellhead Protection Program*, the District, when developing these plans, should:

1. Identify maximum water system capacity in relation to source, distribution system, and water right restrictions; assume loss of the largest well/wellfield; and re-evaluate the consequences.

- 2. Evaluate the expansion options of the existing system's capacity to meet current water rights/availability.
- 3. Identify existing or potential interties with other public water systems and evaluate the ability to deliver water, assuming loss of the largest well/wellfield, and include costs associated with the purchase and/or delivery of alternate supplies. (Issues relating to water rights and use of water outside the service area should be considered.)
- 4. Evaluate current procedures and make recommendations on contingency plans for emergency events.
- 5. Identify future potential sources of drinking water and describe quality assurances and control methods to be applied to ensure protection of water quality prior to utilization as a drinking water supply.
- 6. Maintain a current list of appropriate emergency phone numbers.

A copy of the District's Contingency Plan is included as Appendix E in the May Creek WHPP.

## 1.7 SPILL RESPONSE PLAN

The State WHPP requires that the Districts 's WHPP include review and revision of incident and spill response measures within the WHPAs. Such a review is particularly important for WHPAs that are highly susceptible to surface contamination from material transport along main roads. The DOH recommends that the following groups be included in the review and revision:

- Local emergency responders (police, fire department)
- Ecology Spill Operations section
- Washington State Community, Trade and Economic Development Emergency Management Program
- Local health department
- Local emergency planning committees

## 2.0 LIMITATIONS

CDM prepared this report for exclusive use by Snohomish County Public Utility District No. 1. The analyses, conclusions, and recommendations in this report are based on information provided to CDM by the District, published data, reports, articles, data collected during this investigation, and CDM's experience and professional judgment. CDM cannot be responsible for the interpretation by others of the data contained herein. Use of this report for any purpose other than wellhead protection would be inappropriate.

Within the limitations of the scope, schedule, and budget, CDM's work was performed in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the project area. No other warranty, expressed or implied, is made.



Z.

# Ground Water Contamination Susceptibility Assessment Survey Form Version 2.1

IMPORTANT!	Please	complete	one	form	for	each	ground	water source	
	(well,	wellfield,	sprin	ng) us	sed	in yo	ur water	system.	
	Photoc	opy as ne	cessa	ury.			•		

### PART I: System Information

Well owner/manager : SNCHOMISH COU	NTY PUD #1
Water system name : <u>SNOHOMISH</u> COUNT	Y FUD #1 - WATA MECREEK
County: SNOHOM1SH	
Water system number: <u>521050</u>	Source number: <u>SOI</u>
Well depth: (ft.) (From	WFI form)
Source name: MAY CREEK WELL #	±
WA well identification tag number:	- <u></u>
Number of connections: <u>258</u>	Population served: 774
Township: <u>27 N</u>	Range: <u>09 E</u>
Section:04 (357)	1/4 1/4 Section: <u>NW /SW</u>
Latitude/longitude (if available):	/
How was lat./long. determined?	
global positioning device	survey topographic map
* Please refer to Assistance Packet for details	s and explanations of all questions in Parts II th

## PART II: Well Construction and Source Information

1) Date well originally constructed: <u>8</u> /<u>2</u>/<u>8</u>month/day/year

last reconstruction: ___ / ___ month/day/year

information unavailable

Survey Form Ver. 2.1 - page 1
2) Well driller: <u>RAMLO</u> WELL DRILLING	
2617 54 TH AVE - E.	
TACOMA WA 98424	
weil driller unknown	_
3) Type of well:	
✓_Drilled:rotaryboredcable (percussion)Dug	
Other: spring(s) lateral collector (Ranney)	
drivenjettedother:	
Additional comments:	
4) Well report available? $\sqrt{YES}$ (attach copy to form) NO	- 10 - 11
If no well log is available, please attach any other records documenting well constructi logs, "as built" sheets, engineering reports, well reconstruction logs.	on; e.g. horing
5) Average pumping rate:248 (gallons/min) MAXIMUM	WHEN PU
Source of information: WATER SUPERINTENDENT FILLING -	RESERVOIR
If not documented, how was pumping rate determined? MASTER METER	-
Pumping rate unknown	
6) Is this source treated? Yes	
If so, what type of treatment:	
disinfection filtration carbon filter air stripper other	
Purpose of treatment (describe materials to be removed or controlled by treatment):	
· · · · · · · · · · · · · · · · · · ·	
) If source is chlorinated, is a chlorine residual maintained: $\sqrt{YES}$ NO	
Residual level: <u>C.4 FREE</u> (At the point closest to the source.)	
Survey Form Ver. 2.1 page 2	

-

• •

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

< 20 ft _ 20-50 ft _ 50-100 ft _ 100-200 ft _ > 200 ft

____ information unavailable ('<' means less than; '>' means greater than)

2) Depth to ground water (static water level):

 $\sqrt{}$  < 20 ft _____ 20-50 ft _____ 50-100 ft _____ > 100 ft

____ flowing well/spring (artesian)

How was water level determined?

vell log _____ other: ______

____ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) or _____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ____YES ___NO

5) Wellhead elevation (height above mean sea level):  $2\underline{45}$  (ft)

How was elevation determined? _____ topographic map  $\checkmark$  Drilling/Well Log _____ altimeter

____ other: __

_____ information unavailable

6) Contining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

evidence of a confining layer in well log

no evidence of a confining layer in well log

 $\checkmark$ 

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open-interval? ____YES ___NO lowest confining layer. ____information unavailable

### 7) Sanitary setback:

$-$ < 100 ft [*] _ 100-120 ft _ 120-200 ft $\checkmark$ > 200 ft	
* it less than 100 ft describe the site conditions:	
Fumphouse located IV teet from (	well Casing.
Feace Tocated DU feet (typically) +	rom Well Casing.
- FUD owns a door feet radius s	urrounding 2001
well casing of undisturbed land.	•
8) Wellhead construction:	
wellhead enclosed in a wellhouse	
J controlled access (describe): Well Casha	enclosed in a
Vault. Vault + punphouse enc	Jose D in Sence D area.
other uses for wellbouse (describe).	
·	
no wellhead control	. <b>ė</b>
9) Surface seal:	
18 ft	5.4
< 18 ft (no Department of Ecology approval)	('<' means less than)
$_{}$ < 18 ft (Approved by Ecology, include documentation)	('<' means less than)
> 18 ft	('> ' means greater than)
depth of seal unknown	
no surface seal •	a <del>,</del>

10) Annual rainfall (inches per year):

 $_{--}$  < 10 in/yr  $_{--}$  10-25 in/yr  $_{--}$  > 25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 15.49 M(gailons) 15,488,000 gallons	in	1993
How was this determined?		
meter		
estimated:pumping rate ()		
pump capacity ()		
other:		

2) "Calculated Fixed Radius" estimate of ground water movement: (see Instruction Packet)

6 month ground water travel time :	200	(ft)
l year ground water travel time :	280	• (ťt)
5 year ground water travel time:	620	(ft)
10 year ground water travel time:	830	(ft)

Information available on length of screened/open interval?

✓ YES __NO

Length of screened/open interval: _____45

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? ____YES  $\checkmark$  NO (mark and identify on map).

(ft)

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary?  $_$  YES  $\checkmark$  NO (mark and identify on map).

Comments:

# PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	l year	5 year	unknown
likely pesticide application				
stormwater injection wells				
other injection wells			<u> </u>	
abandoned ground water well				
landfills, dumps, disposal areas				
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density > 1 house/acre				<u>.</u>
residences commonly have septic tanks				7 1 1 -7
Wastewater treatment lagoons				- / any De !
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

_____

NONE

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

A. <u>Nitrate</u> : (Nitrate MCL = $10 \text{ mg/l}$ )	YES	<u>NC</u>
Results greater than MCL		$\checkmark$
< 2 mg/liter nitrate	$\checkmark$	
2-5 mg/liter nitrate		$\checkmark$
> 5 mg/liter nitrate		$\checkmark$
Nitrate sampling records unavailable		
B. VOC: (VOC detection level 0.5 ug/l or 0.0005 mg/l)	YES	NO
Besuits greater than MCL or SAL		./
VOCs detected at least once		$\overline{\vee}$
VOCs never detected	$\overline{}$	<u> </u>
VOC sampling records unavailable		
	VES	NO
C. <u>EDB/DBCP</u> :	100	<u>NO</u>
(EDB MCL = 0.05 ug/l or 0.00005 mg/l. DBCP MCL = $0.2$ ug/l or 0.0002 mg/l.)		
EDB/DECP detected below MCL at least once		
EDB/DECP detected above MCC at least once		
EDB/DBC. Never detected		
EDB/DBCP tests not required		
D. Other SOCs (Pesticides):	YES	<u>N0</u>
Other SOCs detected		
(pesticides and other synthetic organic chemicals)		
Other SOC tests performed but none detected		
Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: 525.1, 503 and 515.1 analytes.

-	Deservit	
	DACTATIAL	COntamination
	Ductoria	- unannanon

#### <u>YES NO</u>

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).

Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.

____ Source sampling records for bacteria unavailable

### Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? 7 Loca (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

___YES ___NO

Describe with references to map produced in Part IV:

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

_√ NO YES

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

√ YES NO

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

 $_$  YES  $\checkmark$  NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

			YES	NO	unknown
< 6 month travel time				$\checkmark$	
6 month-1 year travel time				$\overline{\checkmark}$	
1-5 year travel time				$\checkmark$	
5-10 year travel time	a R			$\checkmark$	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

· ·	YES	NO	unknown
< 1 year travel time		$\checkmark$	
1-5 year travel time		$\checkmark$	
5-10 year travel time		$\overline{\checkmark}$	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.



#### Suggestions and Comments

Did you attend one of the susceptibility workshops?	VES	NO
Did you find it useful?	VES	NO
Did you seek outside assistance to complete the assessmer	nt?YE	s <u> </u>

. . . . . . . . . . . .

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

**MAY CREEK SYSTEM** 



1a-3



-

#### FIELD SURVEY FORM WELLHEAD PROTECTION PROGRAM

	May Creek V	WHPP – Appendix B
1. SURVEY DATA Survey Person(s): Ron Moir Survey Date: 11,5102	WHPA (Name/Number):	MAY CREEK
2. ACTIVITY DATA BUSINESS NAME: May CREEK PUMP STA	TION	
BUSINESS ADDRESS: 15826 423 Ave SE Owner's Name: 500 Homist County DUD	PHONE	
Owner's Street Address: P.O. Box 1107 City: EKENETT, WA Phone Number: (Business) 425-783-8614 (Hor	ZIP <b> </b>	

1

40 Incinerator

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

nursery, trees)

#### **3. SITE ACTIVITY**

0

#### AGRICULTURAL (A) 1 Chemical storage/handling

1 Chemical storage/handling	20 Laundromat	41 Landfill
(fertilizer, pesticide)	21 Lumber yard	42 Maintenance
2 Feedlot	22 Lumber mill	43 Recycling center
3 Manure storage	23 Medical facility	44 Road deicing
	24 Paint shop	45 Stormwater ponds
COMMERCIAL (C)	25 Photo finishing	46 Transfer station
4 Airport	26 Printer	47 Wastewater treat
5 Aerial spraving	27 Railroad tracks	48 Highway/Street
6 Auto repair	/vard/maintenance	49 Utility r-o-w X
7 Boat yard	28 Road maintenance	50 Pipeline
8 Bulk petroleum	29 Scarp/junk vard	Kind:
storage/distribution	F.J	51 Power transmission 🗙
9 Bus maintenance	INDUSTRIAL (D	
10 Car wash	30 Asphalt plant	Water well
11 Cemetery	31 Chemical Facility	Abandoned
12 Contractor's vard	32 Electrical plant	Active
13 Dry cleaner		Unused V
14 Eaed/grain store	AL OTHER CHEMICAL	
15 Euroiture	STODACE	AL CHEMICALS ONSITE
stripping/repair	Drume (55 cel)	40. CHEMICALS ONSITE
suppling/repair	Diuliis (55 gai)	51470 Sodium Hypochlorik
A ON SITE SOUDCES		(Blench)
4. UN-SILE SOURCES	(Describe) C 1 . Shows a	
4a. STURAGE TANKS	(Describe) (7AILON-FIASTIC	
Description	Drum/container age <u>1 WEEK</u>	
Number Volume	Chemicals used on-site	
50 Gillon Poly	Transferred on-site	5. COMMENTS ON BACK:
	Site description	PL I WARD P
		DLENCH OSED NOT
Above Ground	4c. OTHER SOURCES	disjuloction Duposes
Bare steel on cradles		A CONTRACTOR OF A STATE OF CONTRACTOR OF A STATE OF
Bare steel at grade	Dry well	
Date steel at grade	Dry well Septic system	
Soil exposed	Dry well Septic system Storm water pond	
Soil exposed Concrete pad	Dry well Septic system Storm water pond Soil-lined	
Soil exposed Concrete pad Below Ground	Dry well Septic system Storm water pond Soil-lined Impermeable liner	
Soil exposed Concrete pad Below Ground Bare steel	Dry well Septic system Storm water pond Soil-lined Impermeable liner	
Soil exposed Concrete pad Below Ground Bare steel Double-walled	Dry well Septic system Storm water pond Soil-lined Impermeable liner 33 Electroplating	
Soil exposed	Dry well Septic system Storm water pond Soil-lined Impermeable liner 33 Electroplating 34 Machine shop	
Soil exposed Concrete pad Below Ground Bare steel Double-walled Cathode-protected Fiber-reinforced	Dry well Septic system Storm water pond Soil-lined Impermeable liner 33 Electroplating 34 Machine shop 35 Metal fabricator	
Soil exposed Concrete pad Below Ground Bare steel Double-walled Cathode-protected Fiber-reinforced In Ground Concrete	Dry well Septic system Storm water pond Soil-lined Impermeable liner 33 Electroplating 34 Machine shop 35 Metal fabricator 36 Mining	
Soil exposed Concrete pad Below Ground Bare steel Double-walled Cathode-protected Fiber-reinforced In Ground Concrete	Dry well Septic system Storm water pond Soil-lined Impermeable liner 33 Electroplating 34 Machine shop 35 Metal fabricator 36 Mining 37 Petroleum facility	
Soil exposed	Dry well Septic system Storm water pond Soil-lined Impermeable liner 33 Electroplating 34 Machine shop 35 Metal fabricator 36 Mining 37 Petroleum facility 38 Wood treatment	
Soil exposed	Dry well	
Soil exposed	Dry well Septic system Storm water pond Soil-lined Impermeable liner 33 Electroplating 34 Machine shop 35 Metal fabricator 36 Mining 37 Petroleum facility 38 Wood treatment	
Soil exposed	Dry well	

### FIELD SURVEY FORM WELLHEAD PROTECTION PROGRAM

	2
SITE	NUMBER

. . .

1. SURVEY DATA	
Survey Date: $115/07$	WHPA (Name/Number): May CREEK
2. ACTIVITY DATA	
BUSINESS NAME: May CREEK VICIN.	+4
BUSINESS ADDRESS:	PHONE
Owner's Name:	
Owner's Street Address:	
City:	7IP
Phone Number: (Business)	(Home)
	()

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

#### **3. SITE ACTIVITY**

6.5.68

# AGRICULTURAL (A)

I Chemical storage/hand	ling	20	) Laundron
(fertilizer, pesticide)		21	Lumber y
2 Feedlot		22	Lumber n
3 Manure storage		23	Medical f
		24	Paint shor
COMMERCIAL (C)		25	Photo fini
4 Airport		26	Printer
5 Aerial spraying		27	Railroad t
6 Auto repair			/yard/mair
7 Boat yard		28	Road main
8 Bulk petroleum		29	Scarp/junk
storage/distribution			
9 Bus maintenance		IN	DUSTRIA
10 Car wash		30	Asphalt pl
11 Cemetery		31	Chemical ]
12 Contractor's yard		32	Electrical
13 Dry cleaner			
14 Feed/grain store		4b.	ОТН
15 Furniture		ST	ORAGE
stripping/repair		Dn	ums (55 gal)
		Nu	mber
4. ON-SITE SOURCES		Oth	ner types of
4a. STORAGE TANKS		(D	escribe)
Description		Dn	im/containe
Number Volume		Che	emicals used
		Tra	nsferred on-
		Site	e description
Above Ground		4c.	OTHER SO
Bare steel on cradles		Dry	well
Bare steel at grade		Sep	tic system
Soil exposed		Stor	m water po
Concrete pad	- <u></u>	Soi	l-lined
Below Ground		Imp	permeable li
Bare steel			
Double-walled		33	Electroplati
Cathode-protected		34	Machine sh
Fiber-reinforced	_	35	Metal fabric
In Ground Concrete		36	Mining
		37	Petroleum f
16 Gas station/store		38	Wood treatr
17 Gas station/repair			
18 Golf course		PUI	BLIC (P)
19 Horticulture (crop,		39	Fire training

	nursery, trees)	
2	0 Laundromat	
2	1 Lumber yard	
2	2 Lumber mill	······
2	3 Medical facility	
2	4 Paint shop	
2	5 Photo finishing	
20	6 Printer	
2'	7 Railroad tracks	
	/yard/maintenance	
28	8 Road maintenance	
29	Scarp/junk vard	
IP	DUSTRIAL (I)	
30	Asphalt plant	
31	Chemical Facility	
32	Electrical plant	
	r	
4b	OTHER	CHEMICAL
ST	ORAGE	
Dr	ums (55 gal)	
Nı	umber	
Ot	her types of container	5
(I	Describe)	
Dr	um/container age	
Ch	emicals used on-site	
Tra	ansferred on-site	
Sit	e description	
4c.	OTHER SOURCES	2
Dr	v well	
Sei	otic system	×
Sto	m water pond	
So	il-lined	
Im	permeable liner	
	permetere inter	
33	Electronlating	
34	Machine shop	
35	Metal fabricator	
36	Mining	
37	Petroleum facility	
38	Wood treatment	
50		
PIT	RLIC (P)	
30	Fire training	
37	rneuannig	

40 41 42 43 44 45 46 47 48 49 50 51	Incinerator Landfill Maintenance Recycling center Road deicing Stormwater ponds Transfer station Wastewater treat Highway/Street Utility r-o-w Pipeline Kind: Power transmission		
Wa Ab Ac Un	ter well pandoned tive pused	<u>×</u>	
4d. 	CHEMICALS ON Ingle funi, household Prepure (	Isite Ly Acm Labouri Hosting	es cals
5. C R	COMMENTS ON I	BACK:	
Nc	Commeter	ia(	
-			



# **The EDR Radius Map** with GeoCheck[®]

May Creek Whpa 15800 423rd Ave SE Goldbar, WA 98251

Inquiry Number: 808916.1s

July 03, 2002

# *The* Source For Environmental Risk Management Data

3530 Post Road Southport, Connecticut 06490

**Nationwide Customer Service** 

 Telephone:
 1-800-352-0050

 Fax:
 1-800-231-6802

 Internet:
 www.edrnet.com

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### **GEOCHECK ADDENDUM**

Physical Setting Source Addendum	<b>A-1</b>
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*Thank you for your business.* Please contact EDR at 1-800-352-0050 with any questions or comments.

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### **EXECUTIVE SUMMARY**

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

#### TARGET PROPERTY INFORMATION

#### ADDRESS

15800 423RD AVE SE GOLDBAR, WA 98251

#### COORDINATES

 Latitude (North):
 47.853449 - 47° 51' 12.4"

 Longitude (West):
 121.667550 - 121° 40' 3.2"

 Universal Tranverse Mercator:
 Zone 10

 UTM X (Meters):
 599678.2

 UTM Y (Meters):
 5300652.5

#### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: Source:

2447121-G6 GOLD BAR, WA USGS 7.5 min quad index

#### TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

#### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

#### FEDERAL ASTM STANDARD

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information
	System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
CORRACTS	Corrective Action Report
RCRIS-TSD	Resource Conservation and Recovery Information System
RCRIS-LQG	Resource Conservation and Recovery Information System
RCRIS-SQG	Resource Conservation and Recovery Information System
ERNS	Emergency Response Notification System

#### STATE ASTM STANDARD

CSCSL	Confirmed & Suspected Contaminated Sites List
HSL	Hazardous Sites List
SWF/LF	Solid Waste Facility Database
LUST	Leaking Underground Storage Tanks Site List

### **EXECUTIVE SUMMARY**

UST..... Underground Storage Tank Database

#### FEDERAL ASTM SUPPLEMENTAL

CONSENT	Superfund (CERCLA) Consent Decrees Records Of Decision
Delisted NPL	National Priority List Deletions
FINDS	Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS	Hazardous Materials Information Reporting System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
NPL Liens	Federal Superfund Liens
PADS	PCB Activity Database System
RAATS	RCRA Administrative Action Tracking System
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, &
	Rodenticide Act)/TSCA (Toxic Substances Control Act)

#### STATE OR LOCAL ASTM SUPPLEMENTAL

CSCSL NFA	Confirmed & Contaminated Sites - No Further Action
WA ICR	Independent Cleanup Reports
SPILLS	Reported Spills
EMI	Washington Emissions Data System

#### EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas..... Former Manufactured Gas (Coal Gas) Sites

#### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

### **EXECUTIVE SUMMARY**

Due to poor or inadequate address information, the following sites were not mapped:

Database(s)
SWF/LF
SWF/LF
SWF/LF
UST
UST
UST, CSCSL NFA
UST
WA ICR
WA ICR
WA ICR

**OVERVIEW MAP - 808916.1s - Snohomish Cnty Public Util.Dis** 



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG:

May Creek Whpa 15800 423rd Ave SE Goldbar WA 98251 47.8534/121.6676

CUSTOMER: Snohomish Cnty Public Util.Dis CONTACT: Brant Wood INQUIRY #: 808916.1s July 03, 2002 9:31 am

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DATE:



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG:

May Creek Whpa 15800 423rd Ave SE Goldbar WA 98251 47.8534/121.6676

CUSTOMER: Snohomish Cnty Public Util.Dis CONTACT: Brant Wood INQUIRY #: 808916.1s July 03, 2002 9:31 am

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DATE:

### **MAP FINDINGS SUMMARY**

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL Proposed NPL CERCLIS CERC-NFRAP CORRACTS RCRIS-TSD RCRIS Lg. Quan. Gen. RCRIS Sm. Quan. Gen. ERNS		1.000 1.000 0.500 0.250 1.000 0.500 0.250 0.250 TP	0 0 0 0 0 0 0 NR	0 0 0 0 0 0 0 0 NR	0 0 NR 0 0 NR NR NR	0 NR NR 0 NR NR NR NR	NR NR NR NR NR NR NR NR	0 0 0 0 0 0 0 0
STATE ASTM STANDARD								
CSCSL HSL State Landfill LUST UST		1.000 1.000 0.500 0.500 0.250	0 0 0 0	0 0 0 0	0 0 0 NR	0 0 NR NR NR	NR NR NR NR	0 0 0 0
FEDERAL ASTM SUPPLEME	NTAL							
CONSENT ROD Delisted NPL FINDS HMIRS MLTS MINES NPL Liens PADS RAATS TRIS TSCA FTTS		1.000 1.000 TP TP TP 0.250 TP TP TP TP TP TP	0 0 NR NR 0 NR NR NR NR NR NR	0 0 NR NR 0 NR NR NR NR NR NR	0 0 NR NR NR NR NR NR NR NR NR NR	0 0 NR NR NR NR NR NR NR NR NR	NR NR NR NR NR NR NR NR NR NR NR	
STATE OR LOCAL ASTM SU	PPLEMENTAI	E						
CSCSL NFA WA ICR SPILLS WA Emissions		TP 0.500 TP TP	NR 0 NR NR	NR 0 NR NR	NR 0 NR NR	NR NR NR NR	NR NR NR NR	0 0 0 0
EDR PROPRIETARY HISTOR	ICAL DATAB	ASES						
Coal Gas AQUIFLOW - see EDR Phy	sical Setting	1.000 Source Adder	0 ndum	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

EDR ID Number Database(s) EPA ID Number

#### Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

#### **ORPHAN SUMMARY**

City	EDR ID	Site Name	Site Address	Zip	Database(s)
GOLD BAR	S104179605	GOLD BAR DROP BOX	42819 HWY 2	98251	SWF/LF
GOLD BAR	S104179606	GOLD BAR SOLID WASTE LANDFILL	42819 HWY 2	98251	SWF/LF
GOLD BAR	S104547140	LOTH LUMBER WOODWASTE LANDFILL	SR 2 AND 415 AVE SE	98251	SWF/LF
GOLD BAR	U001121928	LOTH LUMBER COMPANY INC.	S.R. 2 & PICKLEFARM RD.	98251	UST
GOLD BAR	U003311070	MOUNTAIN DELI MART	601 CROFT AVE	98251	UST
GOLD BAR	S103510142	TIME OIL 01 165	1202 CROFT ST.	98251	WAICR
GOLD BAR	S103510143	TIME OIL 01 165 TWO REPORTS)	1202 CROFT ST.	98251	WAICR
GOLD BAR	S104484914	GOLD BAR MAINTENANCE SHOP	501 E. CROFT	98251	WAICR
GOLD BAR	U001123452	JACKPOT STATION 165	1202 CROFT ST (HWY 2)	98251	UST, CSCSL NFA
GOLD BAR	U001122774	SNOHOMISH CO FIRE DIST #26	1 MILE EAST OF GOLD BAR ON STATE #2	98251	UST

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

#### FEDERAL ASTM STANDARD RECORDS

**NPL:** National Priority List

Source: EPA Telephone: N/A

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/22/02 Date Made Active at EDR: 06/21/02 Database Release Frequency: Semi-Annually

#### **NPL Site Boundaries**

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC) Telephone: 202-564-7333

EPA Region 1 Telephone 617-918-1143

**EPA Region 3** Telephone 215-814-5418

**EPA Region 4** Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Source: EPA Telephone: N/A

> Date of Government Version: 02/26/02 Date Made Active at EDR: 06/21/02 Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 05/06/02 Elapsed ASTM days: 46 Date of Last EDR Contact: 05/06/02

EPA Region 6 Telephone: 214-655-6659

**EPA Region 8** Telephone: 303-312-6774

> Date of Data Arrival at EDR: 05/06/02 Elapsed ASTM days: 46 Date of Last EDR Contact: 05/06/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

Source: EPA

Telephone: 703-413-0223

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/12/02 Date Made Active at EDR: 06/03/02 Database Release Frequency: Quarterly Date of Data Arrival at EDR: 03/25/02 Elapsed ASTM days: 70 Date of Last EDR Contact: 03/25/02

#### CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Source: EPA Telephone: 703-413-0223

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 02/14/02 Date of Data Arrival at EDR: 03/25/02 Date Made Active at EDR: 06/03/02 Elapsed ASTM days: 70 Database Release Frequency: Quarterly Date of Last EDR Contact: 03/25/02 **CORRACTS:** Corrective Action Report Source: EPA Telephone: 800-424-9346 CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. Date of Government Version: 11/14/01 Date of Data Arrival at EDR: 11/14/01 Date Made Active at EDR: 01/14/02 Elapsed ASTM days: 61 Database Release Frequency: Semi-Annually Date of Last EDR Contact: 06/10/02 RCRIS: Resource Conservation and Recovery Information System Source: EPA/NTIS Telephone: 800-424-9346 Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Date of Government Version: 04/01/02 Date of Data Arrival at EDR: 05/20/02 Date Made Active at EDR: 06/21/02 Elapsed ASTM days: 32 Date of Last EDR Contact: 03/04/02 **Database Release Frequency: Varies** ERNS: Emergency Response Notification System Source: EPA/NTIS Telephone: 202-260-2342 Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances. Date of Government Version: 12/31/00 Date of Data Arrival at EDR: 03/05/02 Date Made Active at EDR: 06/03/02 Elapsed ASTM days: 90 Date of Last EDR Contact: 04/29/02 Database Release Frequency: Varies FEDERAL ASTM SUPPLEMENTAL RECORDS BRS: Biennial Reporting System Source: EPA/NTIS Telephone: 800-424-9346 The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities. Date of Government Version: 12/31/99 Date of Last EDR Contact: 06/17/02 Database Release Frequency: Biennially Date of Next Scheduled EDR Contact: 09/16/02 CONSENT: Superfund (CERCLA) Consent Decrees Source: EPA Regional Offices Telephone: Varies Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters. Date of Government Version: N/A Date of Last EDR Contact: N/A Database Release Frequency: Varies Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision

Source: EPA

Telephone: 703-416-0223

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/30/01 Database Release Frequency: Annually	Date of Last EDR Contact: 04/09/02 Date of Next Scheduled EDR Contact: 07/08/02
DELISTED NPL: National Priority List Deletions Source: EPA Telephone: N/A The National Oil and Hazardous Substances Pollution Contingency Plan EPA uses to delete sites from the NPL. In accordance with 40 CFR 30 NPL where no further response is appropriate.	(NCP) establishes the criteria that the 0.425.(e), sites may be deleted from the
Date of Government Version: 04/22/02 Database Release Frequency: Quarterly	Date of Last EDR Contact: 05/06/02 Date of Next Scheduled EDR Contact: 08/05/02
<ul> <li>FINDS: Facility Index System/Facility Identification Initiative Program Summ Source: EPA</li> <li>Telephone: N/A</li> <li>Facility Index System. FINDS contains both facility information and 'point detail. EDR includes the following FINDS databases in this report: PCS Information Retrieval System), DOCKET (Enforcement Docket used to enforcement cases for all environmental statutes), FURS (Federal Unit Docket System used to track criminal enforcement actions for all envir Information System), STATE (State Environmental Laws and Statutes)</li> </ul>	nary Report ers' to other sources that contain more S (Permit Compliance System), AIRS (Aerometric o manage and track information on civil judicial derground Injection Control), C-DOCKET (Criminal onmental statutes), FFIS (Federal Facilities ), and PADS (PCB Activity Data System).
Date of Government Version: 03/21/02 Database Release Frequency: Quarterly	Date of Last EDR Contact: 04/08/02 Date of Next Scheduled EDR Contact: 07/08/02
HMIRS: Hazardous Materials Information Reporting System Source: U.S. Department of Transportation Telephone: 202-366-4555 Hazardous Materials Incident Report System. HMIRS contains hazardous Date of Government Version: 12/31/01 Database Release Frequency: Annually	s material spill incidents reported to DOT. Date of Last EDR Contact: 04/22/02 Date of Next Scheduled EDR Contact: 07/22/02
<ul> <li>MLTS: Material Licensing Tracking System Source: Nuclear Regulatory Commission Telephone: 301-415-7169</li> <li>MLTS is maintained by the Nuclear Regulatory Commission and contains possess or use radioactive materials and which are subject to NRC lice EDR contacts the Agency on a quarterly basis.</li> <li>Date of Government Version: 04/12/02</li> </ul>	s a list of approximately 8,100 sites which ensing requirements. To maintain currency,
Date of Government Version: 04/12/02 Database Release Frequency: Quarterly	Date of Next Scheduled EDR Contact: 07/08/02
MINES: Mines Master Index File Source: Department of Labor, Mine Safety and Health Administration Telephone: 303-231-5959	
Date of Government Version: 12/14/01 Database Release Frequency: Semi-Annually	Date of Last EDR Contact: 04/01/02 Date of Next Scheduled EDR Contact: 07/01/02
<ul> <li>NPL LIENS: Federal Superfund Liens</li> <li>Source: EPA</li> <li>Telephone: 205-564-4267</li> <li>Federal Superfund Liens. Under the authority granted the USEPA by the and Liability Act (CERCLA) of 1980, the USEPA has the authority to fil to recover remedial action expenditures or when the property owner results USEPA compiles a listing of filed notices of Superfund Liens.</li> </ul>	Comprehensive Environmental Response, Compensation le liens against real property in order aceives notification of potential liability.

Date of Government Version: 10/15/91 Database Release Frequency: No Update Planned	Date of Last EDR Contact: 05/28/02 Date of Next Scheduled EDR Contact: 08/26/02
<ul> <li>PADS: PCB Activity Database System</li> <li>Source: EPA</li> <li>Telephone: 202-564-3887</li> <li>PCB Activity Database. PADS Identifies generators, transporters, of PCB's who are required to notify the EPA of such activities.</li> </ul>	commercial storers and/or brokers and disposers
Date of Government Version: 03/01/02 Database Release Frequency: Annually	Date of Last EDR Contact: 05/14/02 Date of Next Scheduled EDR Contact: 08/12/02
<ul> <li>RAATS: RCRA Administrative Action Tracking System Source: EPA</li> <li>Telephone: 202-564-4104</li> <li>RCRA Administration Action Tracking System. RAATS contains red pertaining to major violators and includes administrative and civi actions after September 30, 1995, data entry in the RAATS data the database for historical records. It was necessary to terminate made it impossible to continue to update the information contain</li> </ul>	cords based on enforcement actions issued under RCRA I actions brought by the EPA. For administration base was discontinued. EPA will retain a copy of e RAATS because a decrease in agency resources ed in the database.
Date of Government Version: 04/17/95 Database Release Frequency: No Update Planned	Date of Last EDR Contact: 06/10/02 Date of Next Scheduled EDR Contact: 09/09/02
<ul> <li>TRIS: Toxic Chemical Release Inventory System</li> <li>Source: EPA</li> <li>Telephone: 202-260-1531</li> <li>Toxic Release Inventory System. TRIS identifies facilities which related in reportable quantities under SARA Title III Section 313.</li> </ul>	ease toxic chemicals to the air, water and
Date of Government Version: 12/31/99 Database Release Frequency: Annually	Date of Last EDR Contact: 03/25/02 Date of Next Scheduled EDR Contact: 06/24/02
<ul> <li>TSCA: Toxic Substances Control Act Source: EPA</li> <li>Telephone: 202-260-5521</li> <li>Toxic Substances Control Act. TSCA identifies manufacturers and TSCA Chemical Substance Inventory list. It includes data on the site.</li> </ul>	importers of chemical substances included on the production volume of these substances by plant
Date of Government Version: 12/31/98 Database Release Frequency: Every 4 Years	Date of Last EDR Contact: 06/10/02 Date of Next Scheduled EDR Contact: 09/09/02
FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecti Source: EPA Telephone: 202-564-2501	cide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Date of Government Version: 01/14/02 Database Release Frequency: Quarterly	Date of Last EDR Contact: 03/25/02 Date of Next Scheduled EDR Contact: 06/24/02
<ul> <li>FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, I Source: EPA/Office of Prevention, Pesticides and Toxic Substance Telephone: 202-564-2501</li> <li>FTTS tracks administrative cases and pesticide enforcement action TSCA and EPCRA (Emergency Planning and Community Right- Agency on a quarterly basis.</li> </ul>	Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) es as and compliance activities related to FIFRA, to-Know Act). To maintain currency, EDR contacts the

Date of Government Version: 04/25/02 Database Release Frequency: Quarterly Date of Last EDR Contact: 03/25/02 Date of Next Scheduled EDR Contact: 06/24/02

#### STATE OF WASHINGTON ASTM STANDARD RECORDS

<ul> <li>CSCSL: Confirmed &amp; Suspected Contaminated Sites List Source: Department of Ecology Telephone: 360-407-7200</li> <li>State Hazardous Waste Sites. State hazardous waste site records are the s may or may not already be listed on the federal CERCLIS list. Priority site (state equivalent of Superfund) are identified along with sites where clear responsible parties. Available information varies by state.</li> </ul>	states' equivalent to CERCLIS. These sites es planned for cleanup using state funds nup will be paid for by potentially
Date of Government Version: 11/26/01 Date Made Active at EDR: 01/09/02 Database Release Frequency: Semi-Annually	Date of Data Arrival at EDR: 12/11/01 Elapsed ASTM days: 29 Date of Last EDR Contact: 05/21/02
<ul> <li>HSL: Hazardous Sites List</li> <li>Source: Department of Ecology</li> <li>Telephone: 360-407-7200</li> <li>The Hazardous Sites List is a subset of the CSCSL Report. It includes sites using the Washington Ranking Method (WARM).</li> </ul>	which have been assessed and ranked
Date of Government Version: 02/26/02 Date Made Active at EDR: 04/10/02 Database Release Frequency: Semi-Annually	Date of Data Arrival at EDR: 03/11/02 Elapsed ASTM days: 30 Date of Last EDR Contact: 06/10/02
<ul> <li>SWF/LF: Solid Waste Facility Database</li> <li>Source: Department of Ecology</li> <li>Telephone: 360-407-6132</li> <li>Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain a facilities or landfills in a particular state. Depending on the state, these m or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria sites.</li> </ul>	an inventory of solid waste disposal hay be active or inactive facilities I for solid waste landfills or disposal
Date of Government Version: 12/01/01 Date Made Active at EDR: 12/19/01 Database Release Frequency: Annually	Date of Data Arrival at EDR: 12/04/01 Elapsed ASTM days: 15 Date of Last EDR Contact: 04/09/02
LUST: Leaking Underground Storage Tanks Site List Source: Department of Ecology Telephone: 360-407-7200 Leaking Underground Storage Tank Incident Reports. LUST records contair storage tank incidents. Not all states maintain these records, and the info	n an inventory of reported leaking underground prmation stored varies by state.
Date of Government Version: 03/13/02 Date Made Active at EDR: 03/29/02 Database Release Frequency: Quarterly	Date of Data Arrival at EDR: 03/18/02 Elapsed ASTM days: 11 Date of Last EDR Contact: 06/18/02
<ul> <li>UST: Underground Storage Tank Database</li> <li>Source: Department of Ecology</li> <li>Telephone: 360-407-7170</li> <li>Registered Underground Storage Tanks. UST's are regulated under Subtitle</li> <li>Act (RCRA) and must be registered with the state department responsible</li> <li>information varies by state program.</li> </ul>	e I of the Resource Conservation and Recovery le for administering the UST program. Available
Date of Government Version: 03/13/02 Date Made Active at EDR: 04/08/02 Database Release Frequency: Quarterly	Date of Data Arrival at EDR: 03/18/02 Elapsed ASTM days: 21 Date of Last EDR Contact: 06/18/02
STATE OF WASHINGTON ASTM SUPPLEMENTAL RECORDS	

CSCSL NFA: Confirmed & Contaminated Sites - No Further Action

Source: Department of Ecology

Telephone: 360-407-7170

The data set contains information about sites previously on the Confirmed and Suspected Contaminated Sites list that have received a No Further Action (NFA) determination. Because it is necessary to maintain historical records of sites that have been investigated and cleaned up, sites are not deleted from the database when cleanup activities are completed. Instead, a No Further Action code is entered based upon the type of NFA determination the site received.

Date of Government Version: 11/26/01 Database Release Frequency: Semi-Annually

ICR: Independent Cleanup Reports

Source: Department of Ecology

Telephone: 360-407-7200

These are remedial action reports Ecology has received from either the owner or operator of the sites. These actions have been conducted without department oversight or approval and are not under an order or decree.

Date of Government Version: 10/31/01 Database Release Frequency: Quarterly

SPILLS: Reported Spills Source: Department of Ecology Telephone: 360-407-7450 Spills reported to the Spill Prevention, Preparedness and Response Division.

Date of Government Version: 04/17/02 Database Release Frequency: Semi-Annually

**EMI:** Washington Emissions Data System Source: Department of Ecology Telephone: 360-407-6040

> Date of Government Version: 12/31/99 Database Release Frequency: Annually

#### LOCAL RECORDS

#### KING COUNTY:

#### Abandoned Landfill Study in King County

Source: Seattle-King County Department of Public Health Telephone: 206-296-4785

The King County Abandoned Landfill Survey was conducted from October through December 1984 by the Health Department's Environmental Health Division at the request of the King County Council. The primary objective of the survey was to determine if any public health problems existed at the predetermined 24 sites.

Date of Government Version: 04/30/85 Database Release Frequency: No Update Planned

#### SEATTLE COUNTY:

#### Abandoned Landfill Study in the City of Seattle

Source: Seattle - King County Department of Public Health Telephone: 206-296-4785

The Seattle Abandoned Landfill Survey was conducted in June and July of 1984 by the Health Department's Environmental Health Division at the request of the Mayor's Office. The primary objective of the survey was to determine if any public health problems existed at the predetermined 12 sites.

Date of Government Version: 07/30/84 Database Release Frequency: No Update Planned Date of Last EDR Contact: 10/21/94 Date of Next Scheduled EDR Contact: N/A

#### SEATTLE/KING COUNTY:

#### Seattle - King County Abandoned Landfill Toxicity / Hazard Assessment Project

Source: Department of Public Health

Telephone: 206-296-4785

This report presents the Seattle-King County Health Department's follow-up investigation of two city owned and four county owned abandoned landfills which was conducted from February to December 1986.

Date of Last EDR Contact: 05/21/02 Date of Next Scheduled EDR Contact: 08/19/02

Date of Next Scheduled EDR Contact: 02/18/02

Date of Last EDR Contact: 02/11/02

Date of Last EDR Contact: 04/10/02 Date of Next Scheduled EDR Contact: 07/08/02

Date of Last EDR Contact: 04/22/02 Date of Next Scheduled EDR Contact: 07/22/02

Date of Last EDR Contact: 10/21/94 Date of Next Scheduled EDR Contact: N/A

Date of Government Version: 12/31/86 Database Release Frequency: No Update Planned

#### SNOHOMISH COUNTY:

Solid Waste Sites of Record at Snohomish Health District Source: Snohomish Health District

Telephone: 206-339-5250

Date of Government Version: 01/17/02 Database Release Frequency: Semi-Annually

TACOMA/PIERCE COUNTY:

#### **Closed Landfill Survey**

Source: Tacoma-Pierce County Health Department Telephone: 206-591-6500

Following numerous requests for information about closed dumpsites and landfills in Pierce County, the Tacoma-Pierce County Health Department decided to conduct a study on the matter. The aim of the study was to evaluate public health risks associated with the closed dumpsites and landfills, and to determine the need, if any, for further investigations of a more detailed nature. The sites represent all of the known dumpsites and landfills closed after 1950.

Date of Government Version: 04/15/93 Database Release Frequency: No Update Planned

EDR PROPRIETARY HISTORICAL DATABASES

**Former Manufactured Gas (Coal Gas) Sites:** The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

#### Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

#### **OTHER DATABASE(S)**

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

**Oil/Gas Pipelines/Electrical Transmission Lines:** This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

Date of Last EDR Contact: 08/14/95 Date of Next Scheduled EDR Contact: N/A

Date of Last EDR Contact: 04/24/02 Date of Next Scheduled EDR Contact: 07/22/02

Date of Last EDR Contact: 01/11/95 Date of Next Scheduled EDR Contact: N/A

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

#### STREET AND ADDRESS INFORMATION

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### **GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM**

#### TARGET PROPERTY ADDRESS

MAY CREEK WHPA 15800 423RD AVE SE GOLDBAR, WA 98251

#### TARGET PROPERTY COORDINATES

Latitude (North):	47.853451 - 47° 51' 12.4"
Longitude (West):	121.667549 - 121° 40' 3.2"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	599678.2
UTM Y (Meters):	5300652.5

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

#### **GROUNDWATER FLOW DIRECTION INFORMATION**

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

#### **TOPOGRAPHIC INFORMATION**

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

#### USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2447121-G6 GOLD BAR, WA Source: USGS 7.5 min quad index

#### GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General WSW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

#### HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

#### FEMA FLOOD ZONE

Target Property County SNOHOMISH, WA	FEMA Flood <u>Electronic Data</u> YES - refer to the Overview Map and Detail Map
Flood Plain Panel at Target Property:	5355340530B / CBPP
Additional Panels in search area:	5302850001A / CBPP
NATIONAL WETLAND INVENTORY	NW/ Electropic
NWI Quad at Target Property INDEX SW	<u>Data Coverage</u> YES - refer to the Overview Map and Detail Map

#### HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*: Search Radius: 2.0 miles Status: Not found

#### **AQUIFLOW®**

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

	LOCATION	GENERAL DIRECTION
MAP ID	FROM TP	GROUNDWATER FLOW
3	1 - 2 Miles West	WNW, NW

For additional site information, refer to Physical Setting Source Map Findings.

#### **GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

#### **GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY**

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

#### **ROCK STRATIGRAPHIC UNIT**

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Era:	Mesozoic	Cat
System:	Cretaceous	
Series:	Upper Mesozoic	
Code:	uMze(decoded above as Era, System	a & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

#### DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	PILCHUCK	
Soil Surface Texture:	loamy sand	
Hydrologic Group:	Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.	
Soil Drainage Class:	Somewhat excessive. Soils have high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.	
Hydric Status: Soil does not meet the requirements for a hydric soil.		
Corrosion Potential - Uncoated Steel:	MODERATE	
Depth to Bedrock Min:	> 60 inches	

Depth to Bedrock Max: > 60 inches

Soil Layer Information							
	Boundary		Classification				
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	20 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 6.10
2	20 inches	38 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 5.60
3	38 inches	60 inches	gravelly - sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 20.00	Max: 7.30 Min: 6.10
4	60 inches	70 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 6.50 Min: 5.60

#### OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures:	fine sandy loam silt loam silty clay loam gravelly - loam gravelly - coarse sand muck loam
Surficial Soil Types:	fine sandy loam silt loam silty clay loam gravelly - loam gravelly - coarse sand muck loam
Shallow Soil Types:	fine sandy loam silty clay loam silt loam peaty - silt loam loam sandy loam
Deeper Soil Types:	silt loam silty clay loam very gravelly - coarse sand stratified loamy fine sand very gravelly - sand sapric material sand very gravelly - loamy sand loamy sand

#### ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.
## **GEOCHECK[®] - PHYSICAL SETTING SOURCE SUMMARY**

#### WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS Federal FRDS PWS	1.000 Nearest PWS within 1 mile
State Database	1.000

#### FEDERAL USGS WELL INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP
No Wells Found		

#### FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

#### STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1 2	WAGRP0000003022 WAGRP0000000928	0 - 1/8 Mile NNE 1/2 - 1 Mile NW

#### **PHYSICAL SETTING SOURCE MAP - 808916.1s**



- Water Wells  $\bigotimes$
- Ð Public Water Supply Wells
- ¥ Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location (GT)
- Groundwater Flow Varies at Location (GV)
- Cluster of Multiple Icons

 $\bigcirc$ 

Earthquake epicenter, Richter 5 or greater (HD) Closest Hydrogeological Data

TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG:

May Creek Whpa 15800 423rd Ave SE Goldbar WA 98251 47.8534/121.6676

#### CUSTOMER: CONTACT: INQUIRY #: DATE:

Snohomish Cnty Public Util.Dis Brant Wood 808916.1s July 03, 2002 9:31 am

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#### **GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS**

Map ID Direction Distance Elevation					Database	EDR ID Number
1 NNE 0 - 1/8 Mile Higher					WA WELLS	WAGRP0000003022
Source Name Township: QTR Section: Source Use: SP Y: PWS ID: Key ID:	8: MAY CREEK WE 27 NWSW P 921822 52105 5210501	ELL #1	Range: Section: Source Type: SP X: PWS Name: Source:	09E 04 W 1713 SNC 01	3740 DHOMISH COUNT	'Y PUD 1-MAY CREEK
2 NW 1/2 - 1 Mile Higher					WA WELLS	WAGRP000000928
Source Name Township: QTR Section: Source Use: SP Y: PWS ID: Key ID:	e: WELL #4 27 NESW P 923193 28300 2830004		Range: Section: Source Type: SP X: PWS Name: Source:	09E 05 W 171 ⁷ GOL 04	1080 .D BAR, CITY OF	
3 West 1 - 2 Miles Higher	Site ID: Groundwater Flow: Shallowest Water Table Depth: Deepest Water Table Depth: Average Water Table Depth: Date:	439431 WNW, NW 11.2 13.5 Not Reported 02/12/1998			AQUIFLOW	41780

#### GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

#### AREA RADON INFORMATION

Federal EPA Radon Zone for SNOHOMISH County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 98251

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	Not Reported	Not Reported	Not Reported	Not Reported
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.200 pCi/L	100%	0%	0%

## PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### HYDROLOGIC INFORMATION

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

#### HYDROGEOLOGIC INFORMATION

#### AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

#### **GEOLOGIC INFORMATION**

#### Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

#### STATSGO: State Soil Geographic Database

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

#### ADDITIONAL ENVIRONMENTAL RECORD SOURCES

#### FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

**USGS Water Wells:** In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

## PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### STATE RECORDS

#### Water Wells

Source: Department of Transportation Telephone: 360-705-7444 Group A well location points in Washington State.

#### Kitsap County Water Wells in Washington

Source: Public Utility District No. 1 of Kitsap County Telephone: 206-779-7656

#### RADON

#### Area Radon Information

Source: EPA

Telephone: 303-236-1525

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

#### **EPA Radon Zones**

Source: EPA Telephone: 202-564-9370 Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

#### OTHER

**Epicenters:** World earthquake epicenters, Richter 5 or greater Source: Department of Commerce, National Oceanic and Atmospheric Administration

#### NOTIFICATION OF WELLHEAD PROTECTION AREAS

David Jennings Washington State Department of Health P.O. Box 47822 M/S 7822 Olympia, WA 98504-7822

Tom Niemann Snohomish County Department of Planning and Development Services 3000 Rockefeller, M/S 604 Everett, WA 98201-4046

Thanh Nguyen State Department of Transportation P.O. Box 47300 Olympia, WA 98504-7300

Kevin Plemmel Snohomish County Health District 3020 Rucker Ave. Everett, WA 98201-3971

Snohomish County Department of Emergency Management 3905 – 109th St. S.W. Everett, WA 98201

#### SAMPLE NOTICE OF WHPA BOUNDARY

May, 15, 2002

Tom Niemann Snohomish County Department of Planning and Development Services 3000 Rockefeller, M/S 604 Everett, WA 98201-4046

Subject: Wellhead Protection, XXXX XXXX Water System

As part of the wellhead protection program for the Snohomish County PUD Water Resources Division, we are hereby informing you of the findings of our updated Wellhead Protection Area Delineation. This is in accordance with State regulations (WAC 246-290-135).

The XXXX XXXX system supplies water to XXX connections, with a potential of serving over XXX. This drinking water supply has a high to moderate susceptibility rating.

The enclosed map shows the one, five and ten year time of travel zones for our wellhead protection area. Ground water contamination that occurs within these zones has the potential of reaching the communities' drinking water supply. It is therefore of utmost importance to us that all reasonable steps be taken to ensure that land use activities within this area do not contaminate the groundwater.

Please notify us of actions within this WHPA that come to your attention and might also affect our water supply. Thank you for your support in protecting our drinking water.

Sincerely,

XX Snohomish County PUD

## CUSTOMERS & BUSINESSES WITH ON-SITE SEWAGE SYSTEMS

May 15, 2002

Re: Wellhead Protection - XXXX XXXX Water System

Dear Property Owner:

In order to protect the drinking water supply for customers of the XXXX XXX Water System, we are developing a wellhead protection program in accordance with the State Department of Health requirements. As part of the wellhead protection program, we have mapped the area overlying the short-term recharge zone of the well supplying your water. This is called the Wellhead Protection Area.

Following the mapping of the Wellhead Protection Area, we conducted an inventory of potential sources of ground water contamination within the area. The location of your septic system in relation to the Wellhead Protection Area means that there could be future impacts to the drinking water supply. We have notified the regulatory agencies of this situation.

We realize you are already careful to protect the environment in your daily activities and we hope that informing you of the Wellhead Protection Area will result in increased precautions to ensure your daily activities will not impact drinking water quality.

If you have questions or concerns please contact us at 425-783-8605.

Sincerely,

XXXX Snohomish Co. PUD

#### EMERGENCY RESPONSE AND CONTINGENCY PLAN

As a part of the Comprehensive Water System Plan (Comp Plan), Snohomish County PUD No. 1 (PUD) has incorporated a Wellhead Protection Plan for each of its groundwater systems. The plan includes an emergency response and contingency plan in order to identify the steps that should be taken in the event a contamination or potential contamination should occur. Water operations, engineering and regulatory personnel from the PUD's Water Resources Division are responsible for responding to emergencies related to ground water quality.

## **NOTIFICATION**

Telephone reports of potential emergencies may be received from anyone by phoning any PUD office. All phone numbers are listed in the business section of the Snohomish County phone directory. If another agency is notified, the office receiving the call will contact the PUD and the report is then relayed to the Water Resources Division.

Telephone reports made during non-working hours (hours other than 8:00 a.m. - 6:00 p.m.) may be made by dialing the phone number listed in the business section of the phone directory under "Emergencies - after 6 p.m. - (425) 783-1000". Or Toll Free 1-877-783-1000. This number connects the caller with the PUD's Dispatch Office who then contacts water personnel on 'stand-by'. A record of all customer concerns and the District's actions are recorded and kept on file.

## **ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES**

The Water Operations Manager (WOM) manages the Water Utility's field operations, maintenance activities, establishes work priorities, and assists in development of annual operations and capital budgets. The WOM is the main contact for emergency notification, depending on the severity of the situation; he will contact the appropriate agencies and or other PUD personnel.

The PUD's emergency response plan is designed to provide guidelines for a preliminary assessment of any report of a potential problem or emergency within 30 minutes of receiving notification of an incident. Upon receiving the report, the Senior Manager and appropriate crew members are notified and given the location of the potential problem. The report is immediately investigated, given an initial appraisal and a preliminary report is provided back to the Operations Manager. A detailed action plan is formulated to determine the exact cause and appropriate response. Plans are then made to begin repairs and/or provide alternative water sources.

The District maintains an extensive inventory of pipe, fittings, valves and repair materials for all types of sizes of pipes and appurtenances within the distribution system.

## **COMMUNICATIONS**

The Washington State Department of Health (DOH) requires periodic reports that summarize the results of water quality testing. If any sample exceeds the Maximum Contaminant Level (MCL),

a retest is conducted. If a sample exceeds the MCL for any category, a retest is conducted within 24 hrs, and both DOH and the public are notified in accordance with methods specified in WAC 248-54-255.

District staff utilizes conventional and cellular telephones, personal contact, and fax or mail services to notify customers of emergency conditions in the water system. All water shop personnel utilize the District's 900 MHz radio system and have portable hand-held devices. A personnel roster with assigned radio call numbers is available.

Snohomish County has been provided with the map identifying the May Creek system's Wellhead Time of Travel zones. In the event of a hazardous material spill within any of these zones, the county's Emergency Management Division should immediately contact the PUD for notification. We also communicate with the Department of Ecology, Department of Transportation, private businesses and local authorities about hazardous materials releases.

The District has a general Emergency Response Plan (ERP) that is a guide to responding to overall emergencies related to the PUD's water systems. This plan is outlined in the District's Comp Plan. Although many of these same responses apply to the WHP plan, the Contingency Plans are unique to each system. Some of the possible scenarios associated with the May Creek System are outlined below:

## LOSS OF POWER

Currently the District has a mobile 100 kw diesel generator, which is stationed at the Lake Roesiger Pump Station. In an emergency condition and if required, the generator can be connected within 2 hours.

#### LOSS OF WELL PUMP

Well #1 serves as a standby/back-up source of supply if there is a failure of the pump or motor in Well #2. A replacement motor or pump could be installed in approximately 30 days for Well #2. Similar repairs to Well #1 would take approximately 3 days. The District's customers would not be affected since they receive water from the storage reservoir.

## DIMINISHED ABILITY TO DELIVER WATER

In the event that both wells are inoperable for a significant period of time, the May Creek customers would be notified of mandatory water conservation measures until the problem can be rectified. All non-essential uses of water will be discontinued. Water users will be encouraged to not hoard water but rather to conserve. The message will include a general description of the problem and give a preliminary time table for the completion of repairs with scheduled informational updates to keep the water customers informed.

## LOSS OF DISINFECTION ABILITY

Repairs would be initiated immediately and Snohomish County Health District and DOH would be notified. Monitoring would be increased to provide information regarding potential bacterial contamination and a "boil water" notice would be announced if it were so determined by the Health Department.

The PUD would perform emergency disinfection of water lines through the use of a portable chemical injection pump using sodium hypochlorite. The pump would to inject a hypochlorite solution through a connection made to the water main. The chemical injection pump would draw the solution from a portable tank that can be replenished as needed. Flushing would be done to assure appropriate chlorine residuals are attained all areas of the water system.

#### COMPLETE LOSS OF BOTH WELLS

In the case of complete failure of the main source of supply, the PUD would provide immediate public notification. All non-essential uses of water will be discontinued. The message will include a general description of the problem and give a preliminary time table for the completion of repairs with scheduled informational updates to keep the water customers informed as to the progress of the repairs and the affects of the conservation measures.

The main well will be taken off line and the system locked out immediately.

1. Interie with the City of Gold Bar -

An emergency intertie exists between the May Creek system and the City of Gold Bar (Gold Bar). The Intertie primarily favors Goldbar as the May Creek system can hydraulically meet Goldbar's needs. However, this intertie cannot provide service to the entire May Creek system since Goldbar operates at a hydraulically lower grade line. A temporary booster pump would be installed to provide adequate pressure. The Intertie has never been used to flow water to May Creek but has supplied Goldbar's needs for a short period of time in the past. Even though the Agreement with Goldbar has expired, the Intertie could easily be activated through a negotiated process.

- 2. Intertie with other systems -There is no other system in the vicinity.
- 3. New source of supply -

Drilling a new well in the vicinity would be the most extensive solution, as it requires not only a tremendous amount of research, but also engineering, design, construction, legal and administrative time. Most of these costs are unquantifiable as they are unknown until the task is begun.

#### **PREVENTIVE MAINTENANCE**

#### **MONITORING**

As part of the PUD's effort to ensure that the water quality in the May Creek Community is of excellent quality, we have retained the original well for the purposes of using it as a monitoring well as well as a standby/backup source of supply. The well will be tested on a regular basis to see if there are any trends in water quality developing in the area.

#### **EDUCATION / COMMUNITY INVOLVEMENT**

As a matter of prevention rather than reaction, the PUD has begun educational campaigns from a couple of venues. These programs emphasize awareness of the physical characteristics of groundwater systems and how individual behaviors can protect the aquifer.

The PUD has played a key role as a member of the County's Ground Water Advisory Committee. Staff has been involved in the development of countywide issues and alternatives for groundwater protection. Additionally staff has been instrumental in the development of brochures and an educational display addressing the importance of groundwater protection.

Early in 1997 a mailing was sent to residents of the area discussing the results of the potential contaminant inventory and announcing the development of a Wellhead Protection Program citizen involvement committee. A list of volunteers has been developed and those citizens have been informed about the requirements for the overall program and issues specifically associated with the May Creek area.

#### **SECURITY**

Security must be in place to protect system integrity and to minimize liability that the District might incur from intruders. All major facilities are securely fenced and locked when they are unattended. This includes the wells, main pump station, control equipment, and storage reservoirs. These facilities are included in routine surveillance by District staff, the local fire district, city police and sheriff department personnel.

## **EMERGENCY ROSTER**

Emergency rosters listing District staff and other local/state agency personnel are included as part of the May Creek WHPP. The responsibility for notification and providing direction is outlined below. A copy of these, with telephone numbers, is kept on file by PUD management and Dispatch personnel. Field personnel are assigned standby responsibilities on a rotating basis for after-hour callouts. Additional personnel are advised as necessary regarding the severity of the emergency.

#### **PRIORITIES**

A list of individuals and/or organizations with life-sustaining equipment that is dependent upon an uninterrupted supply of water and/or strict quality requirements is on file with District field staff, management, and Electric System Dispatch.

Where there is damage to District facilities, the Senior Manager will assess damages and prioritize operational efforts, repairs and/or reconstruction: The order of priority includes:

- 1. Preservation of public health and safety: During an emergency a water system serves a dual role of providing water for consumption, sanitation and food preparation (public health), and fire protection (public safety). The District would strive to satisfy both roles, however, the District's primary focus would be to support public health.
- 2. Water quantity and quality: The District strives to provide a high quality product at all times, however, during extreme conditions, "boil water" orders, or purification tablets could be used if water is available but its quality is unreliable. The priority would be to provide the safest possible source of water, which may require supplemental treatment to ensure potability.
- 3. Service delivery: The District would prioritize service delivery to major population centers, hospitals, nursing homes, emergency centers (shelters, control centers), and efforts would then shift to rural residential areas and businesses.

## LOCATION OF ACTIVITIES AND RESPONSIBILITIES

Emergency management activities will be conducted in the District's Main Office located at 2320 California St., Everett, Washington. The AGM of Water Resources (WAGM) will keep the Board of Commissioners and the General Manager apprised of the current status of all emergency situations, and as appropriate would request their presence at the facility where emergency management activities are taking place. The WAGM will also:

- > Analyze the situation and requests for assistance;
- > Establish priorities for District response;
- Provide short-term planning (i.e., employee direction, return to work, restoration of work, media campaign);
- > Receive and evaluate reports and assessments from the Water Operations Manager;
- > Structure requests for outside assistance;
- > Coordinate the District's activities with outside organizations and agencies;
- > Communicate with the media, the public, and with District employees;
- > Provide for the continuation and the resumption of business.

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The Senior Manager reports to the WAGM and will:

- > Assess the emergency;
- > Keep the WAGM informed;
- Direct emergency operations;
- > Oversee repair operations;
- > Work closely with the Water Foreman for allocations of materials, equipment and personnel;
- > Receive and record damage assessments;
- > Coordinate requests for assistance from outside organizations and agencies;
- > Document the use of District resources during the emergency;
- > Provide status summaries, as requested.

Water Engineering reports to the WAGM and will:

- > Assess the emergency;
- > Assess water quality and possible remediation;
- > Assist the Operations Manager in establishing priorities;
- > Direct mitigation, repair, and alternate site selection;
- > Assist in assessing remaining, useable equipment and supplies.

Water Foreman will work closely with the Senior Manager to:

- Assess system damage;
- > Make contact with end users regarding health and safety matters;
- > Direct the water field crew in Implementing and completing repairs and/or reconstruction;
- > Document actions taken by the field crew.

The Water Field Crew will:

- > Assist in assessing system damage and parts/supplies needed to effect repairs;
- > Assess remaining, undamaged equipment and supplies;
- > Execute repairs;
- > Maintain contact with Water Foreman.

The Water Utility Administrator will be available to:

- > Answer the telephone at the Water Shop;
- > Maintain contact with the field.

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The Administrative Services will:

- Provide support and backup to the Water Utility Administrator;
  Maintain contact with staff families;
- Assist in documenting actions. ≻

## **EMERGENCY RESPONSE ROSTER**

## **General PUD Numbers**

Name	Business	Home	Pager
General Manager	Ed Hansen (425) 783-8473		
Asst. General Manager	Clair Olivers (425) 783-8606	(425) 252-4302	(425) 356-8776
Operations Mgr.	Ron Moir(425) 783-8614	(425) 353-7098	(425) 438-7493
Engineering Mgr.	Brant Wood (425) 783-8609	(360) 653-7033	(425) 397-5377

## Water Resources Employees

Name	Home	Pager	Name	Home	Pager
Dale Aschenbrenner	397-6645	(425) 514-9562	Ron Moir	353-7908	(425) 438-7493
Arlee Barker	252-4097	(425) 335-6807			
Matt Coker	474-9062	(425) 438-7982	Ryan Schank	653-6945	(425) 356-8413
Peggy Coker	652-0494	(425) 335-6194	Scott Schuller	659-8674	(425) 335-9756
Jon Grenfell	826-4406	(425) 438-7478	Howard Smith	355-5278	(425) 335-6806
Mark Price	793-1344	(425) 335-9883	Brant Wood	653-7033	.(425) 397-5377
Jim Rose	435-6562	(425) 514-4498	Jamin Udman	258-9104	.(425) 290-0369

# **Regional Emergency Call List**

Snohomish County Sheriff	911 or (425) 338-3393
East Precinct Snohomish Co. Sheriff	(360) 805-6770
Snohomish County Emergency Service	es(425) 258-6461
Duty Officer	1-800-258-5990
City of Stanwood Public Works Depart	tment(360) 629-9781
Snohomish County Public Works	(425) 388-3488
State Department of Health	(253) 395-6766
Snohomish County Health District	(425)339-5210

## **Other Useful Phone Numbers**

# Water Emergency Phone Number after 5:00 PM – (425) 783-1000 1-877-783-1000

## **EMERGENCY RESPONSE AGENCIES**

Washington State	Patrol	(360) 658-2588
Washington State	Department of Health	(253) 395-6766
Washington State	Dept. of Fish & Wildlife	(425) 775-1311
Washington State	Dept. of Ecology	(360) 407-7144
Washington State	Dept. of Ecology	
	Toxics Cleanup	1-800-458-0920
Snohomish Count	ty	
	Health District	(425) 339-5210
	Emergency Management	(425) 258-6461
	DEM Duty Officer	1-800-258-5990
	Sheriff	911 or 425-388-3393
	Water Quality Violations	(425) 649-7229
	(24 hour spill hotline	(425) 649-7000

#### PUD Environmental Affairs

Transformer spills	(425) 783-5556
Water Resources	See Emergency Response Plan

# Appendix K

Two-Twelve Market & Deli Wellhead Protection Plan (Moa Holbeck)

#### **APPENDIX K**

#### TWO-TWELVE MARKET & DELI WELLHEAD PROTECTION PLAN

This report completes the technical components of the Snohomish County Public Utility District No. 1 **Two-Twelve Market & Deli Water System Wellhead Protection Program (WHPP**). The findings are based on a conceptual hydrogeologic (geology and ground water) model used to define the Wellhead Protection Areas (WHPA's) and an inventory of potential contaminant sources. The report also outlines District responsibilities for implementing the WHPP. These findings and recommendations are summarized below:

- The Two-Twelve Market & Deli Group A Water System is a transient, non-community, nonexpandable water system serving the Two-Twelve Market & Deli, which is a gas station/convenience store.
- The Two-Twelve Market & Deli well is completed between depths of 93 and 108 feet below ground surface from an elevation about 250 feet above sea level. The well is currently pumped at the rate of 2.5 gpm.
- The Two-Twelve Market & Deli well is completed in a fine, gray, sand aquifer overlain by approximately 85 feet of fine-grained, silty, clayey sediments, including at least 20 feet of glacial till. These overlying sediments help protect the aquifer from surface sources of contamination.
- The Two-Twelve Market & Deli Water System is located approximately five miles east of the City of Stanwood near the intersection of Interstate 5 and Highway 532. The well is situated approximately 550 feet south of the 212 Market and Deli. It is centrally located on the southern end of the property, which is situated between Interstate 5 and Highway 99. The well has a 100-foot sanitary setback and an 18-foot bentonite surface seal. A detention pond/wetland is located on the property about 120 feet north of the well and a wetland is located 100 feet south of the well. The area is a region of rolling hills no higher than 400 feet that drop off sharply into the Stillaguamish flood plain to the south. The system currently serves and is intended to serve only the gas station/convenience store.
- Wellhead protection areas with 1-, 5-, and 10-year TOT zones were delineated for District wells using the EPA WHPA Code 2.2 analytical model (GPTRAC). The 10-year TOT is circular in shape with a radius of approximately 300 feet.
- Upon review of the District's Susceptibility Assessment Survey Form, the DOH determined that the well has a "Low" susceptibility to surface sources of contamination.

 A contaminant inventory was conducted using data in governmental regulatory and permit files and from a field survey. The inventory identified five activities within or near the Two-Twelve Market & Deli WHPA that have the potential to contaminate ground water. Due to the depth of the well and nearly 90 feet of fine-grained sediments that overlie the aquifer at this location, the possibility of system contamination is low.

#### 1.0 INTRODUCTION

This report presents the Wellhead Protection Program (WHPP) for the Snohomish County Public Utility District No.1 (District) Two-Twelve Market & Deli Water System. The report delineates Wellhead Protection Areas (WHPA's), identifies potential contaminant sources, analyzes the risks within each WHPA, and provides contingency and emergency response plans in the event contamination occurs.

#### 1.1 SUSCEPTIBILITY ASSESSMENT

A Susceptibility Assessment Survey Form is required of public drinking water purveyors for each Group A well it owns and operates as the initial step in the WHPA process. The assessment form (included in Appendix A of the Two-Twelve Market & Deli WHPP) provides information on well construction and production, local aquifer characteristics, and local potential contamination sources. The DOH responds to the surveys with a susceptibility rating that establishes the level of monitoring requirements for Volatile Organic Compounds (VOC's) and Synthetic Organic Compounds (SOC's). A variety of waivers can be applied for to reduce or eliminate monitoring and sampling requirements.

Based on review of the Susceptibility Assessment Survey Form, in 1996 the DOH issued a Susceptibility Waiver rating of "Low" for the Two-Twelve Market & Deli System. Wells with "Moderate" or "High" ratings are also rated for Pesticide Vulnerability. The Two-Twelve Market & Deli System was not issued a Pesticide Vulnerability rating due to its low susceptibility rating.

## **1.2 WELLHEAD PROTECTION AREAS**

A WHPA is defined as the surface and subsurface area surrounding a well, wellfield, or spring supplying a public water supply through which potential contaminants are likely to pass and eventually reach the well(s). In Washington, WHPA's are defined by the time of travel (TOT) zones, the time needed for ground water to move from its point of infiltration to its point of discharge at the well.

The Washington WHPP requires a WHPA to be subdivided into four zones, which include:

- A sanitary control zone of 100 feet, as required by WAC 246-290-135.
- Three primary zones based on 1-, 5-, and 10-year TOT rates.

An additional buffer zone (if warranted) may extend from the 10-year TOT to the ground water divide. This zone highlights areas where the aquifer may be particularly susceptible or vulnerable to contamination. The 10-year TOT boundary forms the boundary of the WHPA and defines the area to be inventoried and managed to reduce the risk of potential contamination.

The purpose of WHPA delineation is to describe the size and shape of that portion of the aquifer contributing ground water to the well or wellfield. This area is known as the well's zone of contribution. The portion of the zone of contribution contributing water to the well within a specified time period is known as the capture zone. The State's WHPP defines WHPA's as consisting of the 10-year time of travel capture zone. Data are usually insufficient to completely and accurately define the size and shape of this capture zone. For this reason, a series of approximation methods have been adopted by DOH to delineate a WHPA. These methods, in order of increasing complexity, data requirements, and increasingly good approximation of reality, are:

- Calculated Fixed Radius
- Analytical Models
- Hydrogeologic Mapping
- Numerical Flow/Transport Models

This investigation uses an analytical model to delineate District WHPA's. The analytical model employed here used mathematical methods to describe the idealized shape of each capture zone. The EPA has developed a set of analytical models that utilize aquifer properties to calculate the boundaries of the capture zone for a well or wells based on the annual withdrawal. These models include TOT calculations that allow determination of 1-, 5-, and 10-year capture zones.

The analytical model used in this investigation was the EPA WHPA (Code 2.2) module GPTRAC. GPTRAC is an acronym for "general particle tracking" module. It is capable of delineating time-related capture zones for a system of pumping and injection wells and accounts for the effects of well interference, stream or barrier aquifer boundaries, and aquifer recharge. The technical details and limitations of GPTRAC are described below.

The WHPA delineation's are subject to the following assumptions and limitations:

- As indicated in the preceding discussion, the WHPA analytical models require the aquifer to be assigned specific attributes that may not be applicable over the whole aquifer. Moreover, assumptions made because of limited data could affect the size and shape of the WHPA delineations.
- The ground water flow direction in the aquifer is based on assumed hydraulic connections between widely spaced wells. The ground water flow direction could vary several degrees to either side of those selected for the WHPA delineations.
- The transmissivity for each aquifer was estimated from the Sunday Lake Well pumping test data. The transmissivities of the aquifers could differ from that estimated at a well. The transmissivity may change with distance from the data source because of variations in aquifer texture and thickness.

• The well pumping rates used in the analytical models were calculated from annual water rights. They assume the wells pump steadily at a reduced rate for 24 hours a day, 365 days a year. In practice the wells pump at a higher rate with significant periods of non-pumping. The variable pumping rates could result in a more diffuse capture zone than delineated.

#### 1.2.1 Setting

The Two-Twelve Market & Deli system is located approximately five miles east of the City of Stanwood near the intersection of Interstate 5 and Highway 532 in the NE 1/4 of the NW 1/4 of Section 25, Township 32 N, Range 4 E.

The well is situated approximately 550 feet south of Two-Twelve Market & Deli, a gas station/convenience store. The well is centrally located on the southern end of the property, which is situated between Interstate 5 and Highway 99.

The well has a 100-foot sanitary setback and an 18-foot bentonite surface seal. A detention pond/wetland is located on the property about 120 feet north of the well, and a wetland is located 100 feet south of the well. The area is a region of rolling hills no higher than 400 feet that drop off sharply into the Stillaguamish flood plain to the south. The system currently serves and is intended to serve only the gas station/convenience store.

## 1.2.2 Geology and Hydrogeology

The Two-Twelve Market & Deli well was drilled in 1994 to a total depth of 120 feet. It is completed between depths of 93 and 108 feet from an elevation of about 250 feet in a fine sand aquifer. Drilling encountered clay and cobbles (probably weathered till) between depths of 3 and 18 feet, glacial till (hardpan) from 18 to 38 feet, and silty clay from 38 to 87 feet. These fine-grained sediments overlie water-bearing fine sands encountered from 87 to 108 feet and help protect it from surface sources of contamination. Sandstone (bedrock) was encountered between 108 and 120 feet just below the water-bearing sands. The aquifer has a transmissivity of about 150 gpd/ft, as calculated from August 2, 1994 pumping test data. The ground water flow direction (south) toward the Stillaguamish and gradient (.004), the same as the Sunday Lake area, were used to delineate WHPA's for the Two-Twelve Market & Deli well because of its proximity and greater amount of available water level information.

#### 1.2.3 Delineation

A WHPA has been delineated for the Two-Twelve Market & Deli system following the procedures described in Section 7.8 (Section 7, Source of Supply). The input data for each well are presented in Table 7-1 (Section 7, Source of Supply). The well location and delineated WHPA are shown on Figure 1 of the Two-Twelve Market & Deli WHPP. The model was run using an annual discharge of 225,000 gallons (700 gallons per day), assuming the well pumped steadily at a reduced rate for 24 hours a day, 365 days a year. In practice the well pumps at about 2.5 gpm with significant periods of non-pumping.

As shown on Figure 1 of the Two-Twelve Market & Deli WHPP, the WHPA is circular in shape with a radius of about 300 feet. The 1-year time of travel is shown in red, the 5-year in green, and the 10-year in blue.

## **1.3 CONTAMINANT INVENTORY**

#### 1.3.1 Need For Inventory

Most potential sources of contamination occur on the land surface or in near-surface soils. These potential sources can readily degrade ground water quality in the uppermost, unconfined aquifer. Although the uppermost aquifer is the most vulnerable to contamination, deeper, confined aquifers are susceptible to contamination where they are exposed in deep valleys and excavations or connected to the upper aquifer through hydrogeologic windows or poorly constructed wells. Preservation of high quality water supplies requires the identification and management of potential contaminant sources.

A contaminant inventory is required for all wellhead protection programs (WHPP's). The purpose of the inventory is to identify past, present, and proposed activities constituting potential sources of ground water contamination and those sources presenting a potential threat to a well or wellfield. For identified potential contaminant sources, the District is required to notify the responsible property owners and federal, state, or local agencies having jurisdiction. The Water System Plan must document inventory procedures and notification of responsible parties.

District personnel conducted the contaminant inventory following the guidelines set forth in Inventory of Potential Contaminant Sources in Washington's Wellhead Protection Areas published by the DOH in December 1993.

## 1.3.2 Procedures

The contaminant inventory was conducted in two phases. In the first phase, the District contracted with EDR (E Data Resources, Inc.) to conduct a search of all governmental databases according to ASTM Standards (E 1527-97) for environmental site assessments. EDR searched 22 databases for potential sources within a one-mile radius area. EDR's report, with a map of the search area, is included in Appendix C of the Two-Twelve Market & Deli WHPP.. It describes the potential contaminant sources and locates each potential source activity on a map.

The second phase consisted of a field survey conducted by District personnel. The purpose of the field survey was to verify the locations of activities appearing on the governmental lists and identify other existing potential contaminant sources. District personnel completed a Field Inventory Form for each site identified within a WHPA. The completed Field Survey Forms are included in Appendix B of the Two-Twelve Market & Deli WHPP.

#### 1.3.3 Results

The contaminant inventory and field survey identified five activities within or near the Two-Twelve Market & Deli WHPA that have the potential to contaminate ground water. The approximate locations of these potential sources are shown on Figure 1 in the Two-Twelve Market & Deli WHPP.

Two gas station /convenience stores with underground fuel storage tanks, a storm water detention pond, and a septic system are potential sources of contamination in the Two-Twelve Market & Deli WHPA. In addition, the site is surrounded on three sides by heavily traveled roads, including Interstate 5, Old Highway 99, and Highway 532. The gas stations and potential spills along the transportation corridors pose the greatest threat to the system's water quality. The underground storage tanks (UST's) identified at the gas stations are made of coated steel and fiber-reinforced steel. Monitoring wells are located down gradient of the tanks and are monitored routinely to ensure early leak detection. With these safeguards in place, the potential of ground water contamination is minimized. County and District Emergency Spill Response plans have been established to minimize effects of any contaminant spill along the transportation corridors. Due to the depth of the well and the nearly 90 feet of finegrained sediments that overlie the aquifer at this location, the possibility of system contamination is low.

## 1.3.4 Inventory Updating

Since land use practices change over time, the DOH requires inventory data to be updated at least every two years. Documentation of the updating activity should be included in the District's Comprehensive Water System Plan.

#### 1.3.5 New Well Requirements

WAC 246-290-130 currently requires that a hydrologic assessment be completed and potential contaminant sources identified before a new or modified public water supply plan receives DOH approval. As part of the vulnerability assessment, the purveyor is required to delineate a Calculated Fixed Radius WHPA based on best available data and water right quantity. A preliminary contaminant inventory must be conducted within the WHPA and the vulnerability of the new source weighted against the costs of selecting an alternate site. Once the new source is approved by DOH, the District must delineate its WHPA and conduct a contaminant inventory/risk analysis of the WHPA.

## 1.4 NOTIFICATION - CONTAMINANT SOURCES/AGENCIES

The State's WHPP requires the District to notify:

- Property owners of all potential contaminant sources of their presence within a WHPA.
- The federal, state, or local regulatory agencies that have jurisdiction over each source.

Model letters from the District to the property owners (potential sources) and agencies are included in Appendix D of the Two-Twelve Market & Deli WHPP along with a list of agencies notified. Copies of each letter should be retained in District files.

## **1.5 CONTINGENCY PLANS**

The SDWA specifies that State Whip's require purveyors of drinking water to develop contingency plans "... for the location and provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination...." The contingency plans should identify both short- and long-term alternative drinking water sources. According to the *Washington State Wellhead Protection Program*, the District, when developing these plans, should:

- 1. Identify maximum water system capacity in relation to source, distribution system, and water right restrictions; assume loss of the largest well/wellfield; and re-evaluate the consequences.
- 2. Evaluate the expansion options of the existing system's capacity to meet current water rights/availability.
- 3. Identify existing or potential interties with other public water systems and evaluate the ability to deliver water, assuming loss of the largest well/wellfield, and include costs associated with the purchase and/or delivery of alternate supplies.
- 4. Evaluate current procedures and make recommendations on contingency plans for emergency events.

- 5. Identify future potential sources of drinking water and describe quality assurances and control methods to be applied to ensure protection of water quality prior to utilization as a drinking water supply.
- 6. Maintain a current list of appropriate emergency phone numbers.

A copy of the District's Emergency Response and Contingency Plan is included in Appendix E of the Two-Twelve Market & Deli WHPP.

#### 1.5 SPILL RESPONSE PLAN

The State WHPP requires that the Districts 's WHPP include review and revision of incident and spill response measures within the WHPA's. Such a review is particularly important for WHPA's that are highly susceptible to surface contamination from material transport along main roads. The DOH recommends that the following groups be included in the review and revision:

- Local emergency responders (police, fire department)
- Ecology Spill Operations section
- Washington State Community, Trade and Economic Development Emergency Management Program
- Local health department
- Local emergency planning committees

## 2.0 LIMITATIONS

CDM prepared this report for exclusive use by Snohomish County Public Utility District No. 1. The analyses, conclusions, and recommendations in this report are based on information provided to CDM by the District, published data, reports, articles, data collected during this investigation, and CDM's experience and professional judgment. CDM cannot be responsible for the interpretation by others of the data contained herein. Use of this report for any purpose other than wellhead protection would be inappropriate.

Within the limitations of the scope, schedule, and budget, CDM's work was performed in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the project area. No other warranty, expressed or implied, is made.



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Two-Twelve Market WHPP-Appendi	хA
Ground Water Contamination Susceptibility Assessment Survey Form 2 M-2 75 Version 2.0	n N
IMPORTANT! Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.	
PART I: System Information	
Well owner/manager : <u>SNOHOMISH</u> CO. PU.D.	
Water system name : <u>MOA /HOLBECK WATER SYSTEM</u>	
County: SNCLOMISH	
Water system number: Source number:	
Well depth: $120'$ (ft.)	
Source name: NOT KNICHIN AT THIS TIME	(
WA well identification tag number: <u>A</u> <u>E</u> <u>C</u> <u>A</u> <u>A</u>	
well not tagged	
Number of connections: Population served:	
Township:30 Range:E	
Section: 7 5 1/4 1/4 Section: NE_ / N/N/	
Latitude/longitude (if available)://	
How was lat./long. determined?	
global positioning device surveymap	
other:	
* Refer to Assistance Packet for details and explanations of all questions in Parts II through V.	
PART II: Well Construction and Source Information	
1) Date well originally constructed: <u>3/3/</u> month/day/year	
last reconstruction:/ / month/day/year	
information unavailable	

.

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Survey Form Ver. 2.0 page 1

-	556 N SUNSET TO CLAUDO
wel	l driller unknown
3) Type of well:	
X_ Dril Du _ł	led: <u>×</u> rotary <u>bored</u> cable (percussion)
Othe	er:spring(s)lateral collector (Ranney)
	driven jetted other:
Addition	al comments:
4) Well report a If no well construct reconstru	vailable? <u>YES</u> (attach copy to form) <u>NO</u> log is available, please attach any other records documenting well ion; e.g. boring logs, "as built" sheets, engineering reports, well
5) Average pump Source of If not doc	information: <u>WATER (gallons/min)</u> umented, how was pumping rate determined?
Pump	ning rate unknown
6) Is this source t	reated? NO
If so, what	type of treatment:
disin	fection filtration carbon filter
air st	ripper other
Purpose of	treatment (describe materials to be removed or controlled by treatment):
) If source is chlc	prinated, is a chlorine residual maintained: YES / NO

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# PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

20 ft 20-50 ft 20-50 ft 20-100 ft 100-200 ft 200 ft 200 ft

____ information unavailable

2) Depth to ground water (static water level):

- < 20 ft  $\geq$  20-50 ft _ 50-100 ft _ >100 ft

____ flowing well/spring (artesian)

How was water level determined?

well log ____ other: _____

____ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:  $N/\Delta$ 

_____ psi (pounds per square inch) or _____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or  $N_{1}$  actionment associated with this source: YES / NO

5) Wellhead elevation (height above mean sea level):  $\underline{-250}$  (ft)

How was elevation determined? 🔀 topographic map

____ altimeter ____ other: _____

_____ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions.)

 $\underline{\times}$  evidence of a confining layer in well log

____ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval?

 $\times$  YES __ NO

____ information unavailable

7) Sanitary setback:

< 100 ft* <u>-</u> 100-120 ft 120-200 ft > 200 ft * if less than 100 ft describe the site conditions:				
8) Wellhead construction:				
wellhead enclosed in a wellhouse				
controlled access (describe):				
other uses for wellhouse (describe):				
No wellhead control				
9) Surface seal: BENTONITE SEAL TO SE				
< 18 ft (no Department of Ecology approval)				
< 18 ft (Ecology approved)				
> 18 ft				
depth of seal unknown				
no surface seal				
10) Annual rainfall:				

____ < 10 in/yr ____ 10-25 in/yr _X > 25 in/yr

. .

# PART IV: Mapping Your Ground Water Resource

1) Ann	ual volume of water pumped: 225.50	⊖ (gallons)				
]	How was this determined?					
-	meter					
-	estimated: pumping rate	( <u> </u>	Sided (Statistics)			
	pump capacity other:	()				
2) "Calc	ulated Fixed Radius" estimate of ground	l water movement: (see Instruction Pa	cket)			
6	month ground water travel time :	<u> </u>	_(ft)			
1	year ground water travel time :		_(ft)			
5	year ground water travel time:	250	_(ft)			
1(	0 year ground water travel time:		_(ft)			
In	formation available on length of screen	ed/open interval?				
	YES NO					
Le	ength of screened/open interval:	(ft)				
3) Is then month tin YE	re a river, lake, pond, stream, or other of ne of travel boundary? ES / NO?(mark and identify on map).	ovious surface water	r body within the 6			
4) Is then located wi YE	re a stormwater and/or wastewater facili ithin the 6 month time of travel boundar LS / NO (mark and identify on map).	ity, treatment lagoo y?	n, or holding pond			
Comments:						
### PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

6 month	1 year 5 year unknown
likely pesticide application	
stormwater injection wells	
other injection wells	
abandoned ground water wells	
landfills, dumps, disposal areas	
known hazardous materials clean-up site	
water system(s) with known quality problems	
population density > 1 house/acre	
residences commonly have septic tanks	<u>X X AFTER MURPHER</u>
Wastewater treatment lagoons	
sites used for land application of waste	

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? NONE

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

ALTINC

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`...**/** ⊂=

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions:

	YES	<u>NO</u>	
A. <u>Nitrate</u> :			
Results greater than MCL	·····	$\underline{\times}$	
	YES	NO	8
< 2 mg/liter nitrate	·····	<u>×</u>	
2-5 mg/liter nitrate	······ <u></u>	<u> </u>	
> 5 mg/liter nitrate	·····		
Nitrate sampling records unavailable			
	YES	<u>NO</u>	
B. <u>VOCs</u> :			
Results greater than MCL or SAL	·····	$\underline{\times}$	
VOCs detected at least once			
VOCs never detected		$\sim$	
VOC sampling records unavailable			
	YES	NO	
C. <u>EDB/DBCP</u> :			
EDB/DBCP detected below MCL at least once			
EDB/DBCP detected above MCL at least once			
EDB/DBCP never detected			
EDB/DBCP tests required but not yet completed			
EDB/DBCP tests not required			
		NO	
	- <u>ILO</u>	<u>NU</u>	
D. <u>Other SOCs (Pesticides)</u> :			
Other SOCs detected.	······	·	
Other SOC tests performed but none detected (list tes	t methods	in comm	ents)
Source sources of performed			
If any SOCs in addition to EDP/DROP were detected places iden	tifu and de	to If oth	202
Soc tests were performed but to Socs detected, please iden	c horo:	.te. II Oti	161
500 tests were performed, but no 500s detected, fist test method	5 mere		
		<u> </u>	

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## E. Bacterial contamination:

Any bacterial detection(s) in the past <u>3</u> years based on source monitoring records (not distribution sampling records)......

Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.....

<u>_____Source</u> sampling records for bacteria unavailable

## Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

Describe with references to map produced in Part IV:

O YELS TONE -THE EXTENCS INTO <u>AREL PORTEMONO</u> SHO ALL DE ELCIDEE

Aquifer Material:

2)

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

_____YES

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

YES .

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

 $_$  YES  $_$  NO

- 4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?
  - a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

YES	NO	unknown
< 6 month travel time	$\mathbf{X}$	
6 month-1 year travel time	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
1-5 year travel time		
5-10 year travel time	~	·
	$\checkmark$	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

YES	NO	unknown
< 1 year travel time	1	
1-5 year travel time	×	
5-10 year travel time	<u> </u>	·
	×	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

<u></u>		INFORMATICK AND LARGE
<u></u>	-5 $N=$	
<u>-</u>		

MOA/HOLBECK TWO TWELVE COPP. K\$A # 11405 6" STEEL (WESCO) WELDED 18 BENTONITE -DEPTH SURFHE SEAL  $\bigcirc$ TOPSOIL 3´ C CLAY & COBBLES 31' 18 HARDPAN 222222 SWL budg - haulun -- STATIC WATER - 31 38 GRAY SILTY CLAY 87 ' 93 SCZEENS 98 GRAY SAND (FINE) -#6 SLOTS #8 5LOT 108 ' GRAY SANDSTONE 120' EXISTING WELL PLAN D.O.E. WELL TAG # ABD-001

	Water Right Parmit No.	
(1) OWNER: Name = EFF Holback	598 1 V	
	Address AIC N AICCO	When Carr
, EUCATION OF WELL: CountyNO	NE NU -7	5 27
a) STREET ADDDRESS OF WELL (or nearest address) 2662	ad tree 99 Streetien	N.R.
(3) PROPOSED USE: Domestic Industrial		a un a
C DeWater Test Well C Other	(10) WELL LOG OF ABANDONMENT PRO	DCEDURE DESCR
(4) TYPE OF WORK. Owner's number of well	Formation: Describe by color, character, size of mi thickness of aquifers and the kind and active size of mi	sterial and structure, a
(Il more than one)	with at least one entry for each ohange of information.	ional in each stratum pe
Deepened Capie Capie Capie	MATERIAL	FROM
Reconditioned Rotary Jetted	I Soil	
(5) DIMENSIONS: Diameter of well	- GUE - OCLE	5 31
Drilled_ 120 test Don't al angle in 118	18. Cokho filed with	1.5
(6) CONSTRUCTION DETAILS	1. The states (1)	213EL
Contraction DETAILS:	and Sinte Have	287/1
Casing installed: Diam. from H. to	n.	1081
Liner installed	n.	
Inreeded Biam. trom H. to	tt.	
Type of perforeion used	-	
Size of perforations in, by in	n.	
perforations from ft. to ft	t.	
perforations from ft. to ft	l.	
Screens: VerM Male	L.	1 1
Manufacturer's Name 11 LESCO		1 1
TYDE SISTEEL	-	
Diam 1/2 Slot are 1/2 ton 31 00	-	
Diam for size G / from GS in 1000		
Gravel packed: You I and the form the form the form		
Size of gravel		1
t. lot.		1
Surface seal: Yes A No Townat depth? 18		
Material used in seal		
Did any strata contain unusable water? Yes No		
Type of weter?		1
Depth of strata		
Method of sealing strate off		
Method of sealing strate off		
Method of seeling strate off  PUMP: Manufacturer's Name  Type: WATER LEVELS: Land-surface elevation		
	· · · · · · · · · · · · · · · · · · ·	
Method of sealing strate off     Depth of strate       PUMP:     Manufacturer's Name       Type:		
Method of sealing strate off     Depth of strate       PUMP:     Manufacturer's Name       Type:		
Method of sealing strate off       Depth of strate         PUMP:       Manufacturer's Name         Type:		
Method of sealing strate off	Work started	
Method of sealing strate off	Work started well CONSTRUCTOR CERTIFICATION	
Method of sealing strate off	Work staned well CONSTRUCTOR CERTIFICATION:	
Method of sealing strate off	Work staned	nstruction of this we
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Method of sealing strate off	Work started	nstruction of this we construction standard re are true to my be
Method of sealing strate off	Work staned Work staned WELL CONSTRUCTOR CERTIFICATION: I constructed and/or accept responsibility for co and its compliance with all Weshington well co Materials used and the information reported abox knowledge and belief. NAME NAME (PERSON, FIRM, CR CORPORATION)	nstruction of this we construction standard re are true to my be individual for the standard (TYRE OR PRINT)
Method of sealing strate off	Work started	nstruction of this we construction standard re are true to my be in the on PRINT) (TYPE OR PRINT)
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Method of seeling strate off	Work started     12 Completed       Work started     12 Completed       WELL CONSTRUCTOR CERTIFICATION:     10 Constructed and/or accept responsibility for co and its compliance with all Washington well co Materials used and the information reported abox knowledge and belief.       NAME     MATELING       Image: Complete and the information reported abox knowledge and belief.       NAME     Image: Complete and the information reported abox knowledge and belief.       NAME     Image: Complete and the information reported abox knowledge and belief.       NAME     Image: Complete and the information reported abox knowledge and belief.       NAME     Image: Complete and the information reported abox knowledge and belief.       NAME     Image: Complete and the information reported abox knowledge and belief.       NAME     Image: Complete and the information reported abox knowledge and belief.       NAME     Image: Complete and the information reported abox (Decision and the	Instruction of this we construction standard re are true to my be instruction standard (TYRE OR PRINT) (TYRE OR PRINT)
Method of sealing strate off	Work started       Image: Completed         Work started       Image: Completed         WELL CONSTRUCTOR CERTIFICATION:       I constructed and/or accept responsibility for completed and its compliance with all Washington well complete and the information reported above knowledge and belief.         NAME       Image: Complete and the information reported above knowledge and belief.         NAME       Image: Complete and the information reported above knowledge and belief.         NAME       Image: Complete and the information reported above knowledge and belief.         NAME       Image: Complete and the information reported above knowledge and belief.         NAME       Image: Complete and the information reported above knowledge and belief.         NAME       Image: Complete and the information reported above knowledge and belief.         NAME       Image: Complete and the information reported above knowledge and belief.         NAME       Image: Complete and the information reported above knowledge and belief.         Address       Image: Complete and the information reported above the information (Method the information reported above the information reported	nstruction of this we construction standard re are true to my be in this of private (TYRE OR PRINT)
Method of asseling strata off	Work started     In Completed       Work started     In Completed       WELL CONSTRUCTOR CERTIFICATION:     I constructed and/or accept responsibility for co and its compliance with all Washington well co Materials used and the information reported abox knowledge and belief.       NAME     Image: Complete the information reported abox knowledge and belief.       NAME     Image: Complete the information reported abox knowledge and belief.       NAME     Image: Complete the information reported abox knowledge and belief.       NAME     Image: Complete the information reported abox knowledge and belief.       NAME     Image: Complete the information reported abox knowledge and belief.       NAME     Image: Complete the information reported abox knowledge and belief.       NAME     Image: Complete the information reported abox knowledge and belief.       NAME     Image: Complete the information reported abox (PERSON, FIRM, OR CORPORATION)       Address     Image: Complete the information reported abox (NetLine the information reported abox (Signed)       Image: Contractor's     Image: Contractor's       Registration     Image: Contractor's       No.     Image: Contractor's	nstruction of this we construction standard re are true to my be (1) (TYPE OR PRINT) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1

FIELD SURV	EY FORM	
WELLHEAD	PROTECTION	PROGRAM

	1	
SIT	E NUMB	ER

	Two-Twelve Market WHPP-Appendix B
1. SURVEY DATA	
Survey Person(s): Kon Moir	WHPA (Name/Number): WIDA / HOISECL
Survey Date: 1110102	
2. ACTIVITY DATA	
BUSINESS NAME: TWO - TWELVE N	ARKET & DELI
BUSINESS ADDRESS: 26623 OLD	+WY 99 PHONE
Owner's Name: Kuung HAN	· · · · · · · · · · · · · · · · · · ·
Owner's Street Address: 1450 6 LAKER	d
City: Lynnwood, WA	ZIP98036
Phone Number: (Business)	(Home) 425-252-7903

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

### 3. SITE ACTIVITY

 $\bigcirc$ 

	AGRICULTURAL (A)		nursery, trees)		40 Incinerator
	1 Chemical storage/handl	ing	20 Laundromat		41 Landfill
	(fertilizer, pesticide)		21 Lumber yard		42 Maintenance
	2 Feedlot		22 Lumber mill		43 Recycling center
	3 Manure storage	· · · · · · · · · · · · · · · · · · ·	23 Medical facility		44 Road deicing
	an analysis and an and a second set Second		24 Paint shop		45 Stormwater ponds
	COMMERCIAL (C)		25 Photo finishing		46 Transfer station
	4 Airport		26 Printer		47 Wastewater treat
	5 Aerial spraving		27 Railroad tracks		47 Wastewater iteat
	6 Auto renair		/vard/maintenance		40 Utility r o w
	7 Boat vard		28 Road maintenance		50 Binalina
s I	8 Bulk petroleum		20 Soom/junk word		
S. S.C.	storage/distribution		29 Scarp/Junk yard _		
	9 Bus maintenance		NOUSTDIAL (D)		51 Power transmission X
	9 Dus maintenance		INDUSTRIAL (I)		77.7
	10 Cal wash		30 Asphalt plant		Water well
	11 Cemetery		31 Chemical Facility		Abandoned
	12 Contractor's yard		32 Electrical plant		Active
	13 Dry cleaner				Unused
	14 Feed/grain store		4b. OTHER C	HEMICAL	
	15 Furniture		STORAGE		4d. CHEMICALS ONSITE
	stripping/repair		Drums (55 gal)		NORMAL HOUSEHOLD ITEMS
			Number		CA THE THE MANY OF
	4. ON-SITE SOURCES		Other types of containers		(O THO THELLE MARCEL)
	4a. STORAGE TANKS		(Describe)		
	Description		Drum/container age		
	Number Volume		Chemicals used on-site		
	3 UNKNOW	G	Transferred on-site		
			Site description		5. COMMENTS ON BACK:
					WATER STORAGE (BUVIED
	Above Ground		4c. OTHER SOURCES		TANIC FOR FIRE PROTECTION
	Bare steel on cradles	2	Dry well		<u></u>
	Bare steel at grade	X (fire	Septic system	×	N
	Soil exposed	PIDTECTION	Storm water pond	_*_ <u>}</u>	Pizometers on Sille
	Concrete pad		Soil-lined	ter	5
	Below Ground		Impermeable liner		
	Bare steel				
	Double-walled		33 Electronlating		
	Cathode-protected		34 Machine shop		
\$	Fiber-reinforced		35 Metal fabricator	<u> </u>	
1 J	In Ground Concrete		36 Mining		
No. of Concession, Name	In Ground Concrete		37 Petroleum facility		
	16 Gas station/store	$\checkmark$	38 Wood treatment		
	17 Cas station/store	A	Jo wood dealment		
	17 Gas station/repair				
	18 Golf course		rublic (r)		
	19 Horticulture (crop.		39 Fire training		

### FIELD SURVEY FORM WELLHEAD PROTECTION PROGRAM

	2	]
SITE	NUMBER	

1. SURVEY DATA	
Survey Person(s): Kon Monk	WHPA (Name/Number): MOA / Holder
Survey Date: 1/10/02	
2. ACTIVITY DATA	<
BUSINESS NAME: STANWOOD BEECK	
BUSINESS ADDRESS: 26901 OLD HW9 99	PHONE
Owner's Name: DAE-HAN CORP.	
Owner's Street Address: SAME	
City:	ZIP
Phone Number: (Business) (Hon	ne) —

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

### 3. SITE ACTIVITY

( )

	AGRICULTURAL (A)	nursery, trees) X	40 Incinerator
	1 Chemical storage/handling	20 Laundromat	41 Landfill
	(fertilizer, pesticide)	21 Lumber yard	42 Maintenance
	2 Feedlot	22 Lumber mill	43 Recycling center
	3 Manure storage	23 Medical facility	44 Road deicing
		24 Paint shop	45 Stormwater ponds
	COMMERCIAL (C)	25 Photo finishing	46 Transfer station
	4 Airport	26 Printer	47 Wastewater treat
	5 Aerial spraving	27 Railroad tracks	48 Highway/Street X
	6 Auto repair	/yard/maintenance	49 Utility r-o-w <u>×</u>
	7 Boat vard	28 Road maintenance	50 Pipeline
1 J	8 Bulk petroleum	29 Scarp/junk yard	Kind:
1999 - P. 1997	storage/distribution		51 Power transmission 🗶
	9 Bus maintenance	INDUSTRIAL (I)	
	10 Car wash	30 Asphalt plant	Water well
	11 Cemetery	31 Chemical Facility	Abandoned
	12 Contractor's vard	32 Electrical plant	Active X
	13 Dry cleaner		Unused
	14 Feed/grain store	4b. OTHER CHEMICAL	
	15 Furniture	STORAGE	4d. CHEMICALS ONSITE
	stripping/repair	Drums (55 gal)	NOPMAL HOUSEHOLD LITEMS
		Number	NO ENDE
	4. ON-SITE SOURCES	Other types of containers	
	4a. STORAGE TANKS	(Describe)	<u></u>
	Description	Drum/container age	
	Number Volume	Chemicals used on-site	
	4 5,000-9,999 GAI	Transferred on-site	5 COMMENTS ON BACK
	10,000 - 19,999 GAI	Site description	
			1130metrs OD SILG
	Above Ground	4c. OTHER SOURCES	
	Bare steel on cradles	Dry well	
	Bare steel at grade	Septic system X	
	Soil exposed	Storm water pond <u>x</u>	
	Concrete pad	Soil-lined X	
	Below Ground	Impermeable liner	
MATE	<b>D</b> -Bare steel X		
Longe	Double-walled	33 Electroplating	
	Cathode-protected	34 Machine shop	
and b	Fiber-reinforced	35 Metal fabricator	
	In Ground Concrete	36 Mining	
		37 Petroleum facility	
	16 Gas station/store	38 Wood treatment	
	17 Gas station/repair		
	18 Golf course	PUBLIC (P)	
	19 Horticulture (crop,	39 Fire training	

### FIELD SURVEY FORM WELLHEAD PROTECTION PROGRAM

1. SURVEY DATA Survey Person(s): Ron Moir Survey Date: 110102	WHPA (Name/Number): moa/Holbeck
2. ACTIVITY DATA	
BUSINESS NAME: $\hat{U}_{1}C_{1}N_{1}TY$	
BUSINESS ADDRESS:	PHONE
Owner's Name:	
Owner's Street Address:	
City:	ZIP
Phone Number: (Business) (	Home)

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

### **3. SITE ACTIVITY**

 $\mathbf{i}$ 

### AGRICULTURAL (A)

18 Golf course

19 Horticulture (crop,

1	Chemical storage/hance	ling	20
(	(fertilizer, pesticide)		21
2	Feedlot		22
3	Manure storage		23
	-		24
CC	OMMERCIAL (C)		25
4	Airport		26
5	Aerial spraying		27
6	Auto repair		
7	Boat yard		28
8	Bulk petroleum		29
	storage/distribution		
9	Bus maintenance		IN
10	Car wash		30
11	Cemetery		31
12	Contractor's yard		32
13	Dry cleaner		
14	Feed/grain store		46
15	Furniture		ST
	stripping/repair		Di
			N
4. (	ON-SITE SOURCES		Ot
4a.	STORAGE TANKS		(I
De	scription		Di
1	Number Volume		Cł
			Tr
			Si
Ab	ove Ground		4c
	Bare steel on cradles		Dı
	Bare steel at grade		Se
	Soil exposed		St
	Concrete pad		S
Be	low Ground		In
	Bare steel		
	Double-walled		33
	Cathode-protected		34
	Fiber-reinforced		35
In	Ground Concrete	7	36
			37
16	Gas station/store		38
0.00.0000			
17	Gas station/repair		

nursery, trees)		
20 Laundromat		
21 Lumber yard		
22 Lumber mill		
23 Medical facility		
24 Paint shop		
25 Photo finishing		
26 Printer		
27 Railroad tracks		
/vard/maintenance		
28 Road maintenance		
29 Scarp/iunk vard		
INDUSTRIAL (D		
30 Asphalt plant		
31 Chemical Facility		
32 Electrical plant		
52 Electrical plan		
AL OTHER CHEMICAL		
STOPACE		
Drume (55 col)		
Number		
Number		
Other types of containers		
(Describe)		
Drum/container age		
Chemicals used on-site		
Transferred on-site		
Site description		
4c. OTHER SOURCES		
Dry well		
Septic system		
Storm water pond		
Soil-lined		
Impermeable liner		
33 Electroplating		
34 Machine shop		
35 Metal fabricator		
36 Mining		
37 Petroleum facility		
38 Wood treatment		
PUBLIC (P)		

39 Fire training

41		
41	Landfill	
42	Maintenance	
43	Recycling center	
44	Road deicing	<u> </u>
45	Stormwater ponds	
46	Transfer station	
47	Wastewater treat	
48	Highway/Street	X
49	Utility r-o-w	×
50	Pipeline	
	Kind:	
51	Power transmission	×
Wa	ter well	
Åŀ	andoned	
Ac	tive	
Hr	used	
4d.	CHEMICALS ON	SITE
4d.	CHEMICALS ON	SITE BACK:
4d.	CHEMICALS ON	SITE 
4d. 5. (	CHEMICALS ON COMMENTS ON I	SITE BACK:
4d. 5. (	CHEMICALS ON COMMENTS ON I	SITE BACK:
4d. 5. €	CHEMICALS ON COMMENTS ON I URAL AR - LIMITED	SACK:
4d. 5. (	CHEMICALS ON COMMENTS ON I URAL AR - LIMITED DJACENT	SITE BACK: EA NEUELOAMENT TO I-5
4d.	CHEMICALS ON COMMENTS ON I DICAL AR - LIMITED DIALENT	SITE BACK: EA DEUELOPTENT YO I-5
4d. 5. ( 2	CHEMICALS ON COMMENTS ON I DIRAL AR - LIMITED DJACENT - GHS STAT	SITE BACK: EA NEUELOPTENT TO I-5
4d.	CHEMICALS ON COMMENTS ON I URAL AR - Limited DJACENT - Gras Stat Staves in U	SITE BACK: EA DEUELOPMENT TO I-5
4d.	CHEMICALS ON COMMENTS ON I DICAL AIR - LIMITED DJACENT - CHS STAT SLOVES IN U	SITE BACK: CEA NEUELOAMENT HO I-S
Id. 5. €	CHEMICALS ON COMMENTS ON I UICAL AIR - LIMITED DJACENT - GHS STAT STOVES IN U	SITE BACK: EA DEUELOAMENT to I-S

3

SITE NUMBER



# **The EDR Radius Map** with GeoCheck[®]

Mole/Hole Beck 26623 Old Hwy 99 Stanwood, WA 98292

Inquiry Number: 715833.3s

**December 18, 2001** 

# *The* Source For Environmental Risk Management Data

3530 Post Road Southport, Connecticut 06490

**Nationwide Customer Service** 

 Telephone:
 1-800-352-0050

 Fax:
 1-800-231-6802

 Internet:
 www.edrnet.com

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Detail Map	3
Map Findings Summary	4
Map Findings	5
Orphan Summary	7
Government Records Searched/Data Currency Tracking	GR-1

### **GEOCHECK ADDENDUM**

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Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
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*Thank you for your business.* Please contact EDR at 1-800-352-0050 with any questions or comments.

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A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

#### TARGET PROPERTY INFORMATION

#### ADDRESS

26623 OLD HWY 99 STANWOOD, WA 98292

#### COORDINATES

Latitude (North): 48.236850 - 48° 14' 12.7" Longitude (West): 122.244400 - 122° 14' 39.8" Universal Tranverse Mercator: Zone 10 UTM X (Meters): 556107.5 UTM Y (Meters): 5342682.5

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: Source:

2448122-B2 ARLINGTON WEST, WA USGS 7.5 min quad index

#### TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 5 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
TWO-TWELVE MARKET & DELI	UST	N/A
STANWOOD, WA 98292		

#### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

#### FEDERAL ASTM STANDARD

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information
	System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
CORRACTS	Corrective Action Report
RCRIS-TSD	Resource Conservation and Recovery Information System
RCRIS-LQG	Resource Conservation and Recovery Information System
RCRIS-SQG	Resource Conservation and Recovery Information System
ERNS.	Emergency Response Notification System

#### STATE ASTM STANDARD

CSCSL...... Confirmed & Suspected Contaminated Sites List

HSL	Hazardous Sites List
SWF/LF	Solid Waste Facility Database
LUST	Leaking Underground Storage Tanks Site List

#### FEDERAL ASTM SUPPLEMENTAL

CONSENT	Superfund (CERCLA) Consent Decrees Records Of Decision
Delisted NPL	National Priority List Deletions
FINDS	Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS	Hazardous Materials Information Reporting System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
NPL Liens	Federal Superfund Liens
PADS	PCB Activity Database System
RAATS	RCRA Administrative Action Tracking System
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, &
	Rodenticide Act)/TSCA (Toxic Substances Control Act)

#### STATE OR LOCAL ASTM SUPPLEMENTAL

WA ICR	Independent Cleanup Reports
CSCSL NFA	Confirmed & Contaminated Sites - No Further Action
EMI	Washington Emissions Data System

#### EDR PROPRIETARY DATABASES

Coal Gas_____ Former Manufactured Gas (Coal Gas) Sites

#### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in *bold italics* are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

#### STATE ASTM STANDARD

**UST:** The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Ecology's Statewide UST Site/Tank Report.

A review of the UST list, as provided by EDR, and dated 09/13/2001 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

Equal/Higher	Elevation

STANWOOD DELI & GAS

Address 26901 OLD 99 N 
 Dist / Dir
 Map ID
 Page

 1/8 - 1/4N
 2
 5

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
RITE AID FACILITY 5235	CSCSL
CHEVRON BULK PLANT COPELAND	CSCSL
SISCO WWLF	SWF/LF
ARLINGTON-MARYS SWLF	SWF/LF
OSO DROP BOX	SWF/LF
OSO SWLF	SWF/LF
POESCHEL AND SCHULTZ	SWF/LF
OSO DROP BOX (MRW)	SWF/LF
WARM BEACH (LK GOODWIN) SWLF	SWF/LF
TWIN CITY AUTO PARTS MRWF	SWF/LF
ARLINGTON SECTION SHED	UST
GTE CAMANO ISLAND C O 2550-B02	UST
LENZ ENTERPRISES, INC.	UST
STANWOOD PRINT472 MP55.6 LS50 2NDS	UST
FOREST LAND SERVICES, INC.	UST
CLIFF ROBERTS	UST
BURLINGTON NORTHERN SANTA FE RR AR	RCRIS-SQG, FINDS
PILCHUCK DRUMS	RCRIS-SQG, FINDS
GTE SMOKEY PT GARAGE	RCRIS-SQG, FINDS
TEXACO STATION 630760101	RCRIS-SQG, FINDS
IMPRESSIONS WORLDWIDE INC	RCRIS-SQG, FINDS
PROPOSED RITE AID (TWO REPORTS)	WAICR
UNOCAL #0016 (THREE REPORTS)	WAICR
UNOCAL #0016	WAICR
FRONTIER BANK	WAICR
JUNGER PROPERTY	WAICR
CAMWOOD PLAZA	WAICR
CHEVRON BULK FACILITY (FORMER) (FO	WAICR
CHEVRON BULK FACILITY (FORMER)	WAICR
NORTHWIND LOG & EXPORT CO.	WAICR
NORTHWEST PIPELINE METER STATIONS	WAICR
UNOCAL #0171	WA ICR

OVERVIEW MAP - 715833.3s - Camp, Dresser, & McKee



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG: Mole/Hole Beck 26623 Old Hwy 99 Stanwood WA 98292 48.2368 / 122.2444 CUSTOMER: CONTACT: INQUIRY #: DATE: Camp, Dresser, & McKee Craig Russell 715833.3s December 18, 2001 12:33 pm



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG: Mole/Hole Beck 26623 Old Hwy 99 Stanwood WA 98292 48.2368 / 122.2444 CUSTOMER: CONTACT: INQUIRY #: DATE: Camp, Dresser, & McKee Craig Russell 715833.3s December 18, 2001 12:33 pm

## **MAP FINDINGS SUMMARY**

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD	2							
NPL Proposed NPL CERCLIS CERC-NFRAP CORRACTS RCRIS-TSD RCRIS Lg. Quan. Gen. RCRIS Sm. Quan. Gen. ERNS		1.000 1.000 0.500 0.250 1.000 0.500 0.250 0.250 TP	0 0 0 0 0 0 0 NR	0 0 0 0 0 0 0 0 NR	0 0 NR 0 NR NR NR	0 NR NR 0 NR NR NR NR	NR NR NR NR NR NR NR NR	0 0 0 0 0 0 0 0
STATE ASTM STANDARD								
CSCSL HSL State Landfill LUST UST	х	1.000 1.000 0.500 0.500 0.250	0 0 0 0	0 0 0 1	0 0 0 NR	0 NR NR NR	NR NR NR NR	0 0 0 1
FEDERAL ASTM SUPPLEME	NTAL							
CONSENT ROD Delisted NPL FINDS HMIRS MLTS MINES NPL Liens PADS RAATS TRIS TSCA FTTS		1.000 1.000 TP TP TP 0.250 TP TP TP TP TP TP TP	0 0 NR NR 0 NR NR NR NR NR NR NR	0 0 NR NR 0 RR NR NR NR NR NR NR	0 0 NR NR NR NR NR NR NR NR NR NR NR	0 0 NR NR NR NR NR NR NR NR NR NR	NR NR NR NR NR NR NR NR NR NR NR	
STATE OR LOCAL ASTM SU	PPLEMENTAI	Ē						
WA ICR CSCSL NFA WA Emissions EDR PROPRIETARY DATABA	ASES	0.500 TP TP	0 NR NR	0 NR NR	0 NR NR	NR NR NR	NR NR NR	0 0 0
Coal Gas		1 000	0	0	0	0	NR	Ο
AQUIFLOW - see EDR Phy	sical Setting	Source Adde	ndum	0	U	U		Ū

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.) Elevation Site

EDR ID Number Database(s) **EPA ID Number** 

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

1 Target Property	TWO-TWELVE MARK 26623 OLD HWY 99 STANWOOD, WA 982	ET & DELI 292	UST	U003132622 N/A
	UST: Facility ID: Install Date: Capacity: Status: Tank Name: Tank Material: Substance: Compartment #: Ecology Region:	317962 5/1/1995 0:00 Not reported OPERATIONAL SUPER/DIESEL Steel Clad with Fiberglass DIESEL 2 North Western		
	Facility ID: Install Date: Capacity: Status: Tank Name: Tank Material: Substance: Compartment #: Ecology Region:	317962 5/1/1995 0:00 Not reported OPERATIONAL UNLEADED Steel Clad with Fiberglass UNLEADED GASOLINE 1 North Western		
	Facility ID: Install Date: Capacity: Status: Tank Name: Tank Material: Substance: Compartment #: Ecology Region:	317962 5/1/1995 0:00 Not reported OPERATIONAL SUPER/DIESEL Steel Clad with Fiberglass UNLEADED GASOLINE 1 North Western		
2	STANWOOD DELI & (	GAS	 UST	U003029101

#### STANWOOD DELI & GAS North 26901 OLD 99 N 1/8-1/4 STANWOOD, WA 98292

1118 Higher

> UST: Facility ID: Install Date: Capacity: Status:

97520 9/15/1987 0:00 5,000 TO 9,999 GALLONS OPERATIONAL Tank Name: 81601 Tank Material: **Coated Steel** Substance: Diesel Compartment #: 1 Ecology Region: North Western

6029101 N/A

Database(s)

EDR ID Number EPA ID Number

U003029101

Facility ID: Install Date: Capacity: Status: Tank Name: Tank Material:	97520 9/15/1987 0:00 5,000 TO 9,999 GALLONS OPERATIONAL 88199 Coated Steel
Substance:	Leaded Gasoline
Compartment #:	1
Ecology Region:	North Western
Facility ID: Install Date: Capacity: Status: Tank Name: Tank Material: Substance: Compartment #: Ecology Region:	97520 9/15/1987 0:00 10,000 TO 19,999 GALLONS OPERATIONAL 88197 Coated Steel Unleaded Gasoline 1 North Western
Facility ID:	97520
Install Date:	9/15/1987 0:00
Capacity:	10,000 TO 19,999 GALLONS
Status:	OPERATIONAL
Tank Name:	93851
Tank Material:	Coated Steel
Substance:	Unleaded Gasoline
Compartment #:	1 North Marchan
Ecology Region:	North Western

#### **ORPHAN SUMMARY**

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
ARLINGTON	S104490923	RITE AID FACILITY 5235	172ND ST NE / NW CORNER OF S	98223	CSCSL	37466747
ARLINGTON	S103504623	PROPOSED RITE AID (TWO REPORTS)	172ND ST. NE AND SMOKEY POINT	98223	WA ICR	
ARLINGTON	S103850595	UNOCAL #0016 (THREE REPORTS)	211TH PLACE NE	98223	WAICR	
ARLINGTON	S103504309	UNOCAL #0016	211TH PLACE NE	98223	WAICR	
ARLINGTON	U003604723	ARLINGTON SECTION SHED	MP 8.0 SOUTH OF 4TH AVE	98223	UST	492870
ARLINGTON	1001121560	BURLINGTON NORTHERN SANTA FE RR AR	MP 8.0 S OF 4TH AVE	98223	RCRIS-SQG, FINDS	
ARLINGTON	S104179637	SISCO WWLF	APPROX 7500 WADE RD	98223	SWF/LF	
ARLINGTON	S104179585	ARLINGTON-MARYS SWLF	ARLINGTON AIRPORT	98223	SWF/LF	
ARLINGTON	S104179625	OSO DROP BOX	30022 203RD AVE NE	98223	SWF/LF	
ARLINGTON	S104179626	OSO SWLF	31705 LK CAVANAUGH RD	98223	SWF/LF	
ARLINGTON	1000199611	PILCHUCK DRUMS	GRANDSTROM 5 MI OFF CAVANAUGH	98223	RCRIS-SQG, FINDS	
ARLINGTON	1000838293	GTE SMOKEY PT GARAGE	3833 168TH NE BAY 5	98223	RCRIS-SQG, FINDS	
ARLINGTON	S104179630	POESCHEL AND SCHULTZ	19203 OLD HWY 99	98223	SWF/LF	
ARLINGTON	S103507532	FRONTIER BANK	525 OLYMPIC AVE.	98223	WAICR	
ARLINGTON	S105038491	OSO DROP BOX (MRW)	30022 RAMSTAD RD	98223	SWF/LF	
ARLINGTON	S103507921	JUNGER PROPERTY	5410 199TH ST. NE	98223	WA ICR	
ARLINGTON	1001490800	TEXACO STATION 630760101	1801 STATE RD	98223	RCRIS-SQG, FINDS	
CAMANO ISLAND	U003025833	GTE CAMANO ISLAND C O 2550-B02	RT 1 STNWD/LT	98292	UST	12317
CAMANO ISLAND	1001600570	IMPRESSIONS WORLDWIDE INC	899 SR 532	98292	RCRIS-SQG, FINDS	
STANWOOD	S103505783	CAMWOOD PLAZA	271ST STREET NW	98292	WA ICR	
STANWOOD	U003025380	LENZ ENTERPRISES, INC.	5410 SR 632	98292	UST	10557
STANWOOD	S104179656	WARM BEACH (LK GOODWIN) SWLF	18520 FARNK WATER RD	98292	SWF/LF	
STANWOOD	S103850721	CHEVRON BULK FACILITY (FORMER) (FO	27010 FLORENCE DR.	98292	WA ICR	
STANWOOD	S103511571	CHEVRON BULK FACILITY (FORMER)	27010 FLORENCE DR.	98292	WA ICR	
STANWOOD	S103084097	CHEVRON BULK PLANT COPELAND	27010 FLORENCE DR	98292	CSCSL	2856
STANWOOD	S103508453	NORTHWIND LOG & EXPORT CO.	MERSEYSIDE LANE/DRY LAKE ROAD/	98292	WA ICR	
STANWOOD	S103508445	NORTHWEST PIPELINE METER STATIONS	250 FT. N. OF CAMANO IS. BRIDG	98292	WA ICR	
STANWOOD	S104179651	TWIN CITY AUTO PARTS MRWF	10410 269TH NW / 10430 SARATOG	98292	SWF/LF	
STANWOOD	S103504083	UNOCAL #0171	8513 271ST NW	98292	WA ICR	
STANWOOD	U003028892	STANWOOD PRINT472 MP55.6 LS50 2NDS	PACIFIC DIVISION		UST	9463
STANWOOD	U003027624	FOREST LAND SERVICES, INC.	26700 PIONEER HWY	98292	UST	6103
STANWOOD	U003026762	CLIFF ROBERTS	30505 STATE RD 5	98292	UST	3824

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

#### FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List

#### Source: EPA Telephone: N/A

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/22/01 Date Made Active at EDR: 12/11/01 Database Release Frequency: Semi-Annually

#### **NPL Site Boundaries**

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC) Telephone: 202-564-7333

EPA Region 1 Telephone 617-918-1143

EPA Region 3 Telephone 215-814-5418

EPA Region 4 Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Source: EPA Telephone: N/A

> Date of Government Version: 10/22/01 Date Made Active at EDR: 12/11/01 Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/05/01 Elapsed ASTM days: 36 Date of Last EDR Contact: 11/05/01

EPA Region 6 Telephone: 214-655-6659

EPA Region 8 Telephone: 303-312-6774

> Date of Data Arrival at EDR: 11/05/01 Elapsed ASTM days: 36 Date of Last EDR Contact: 11/05/01

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

Source: EPA

Telephone: 703-413-0223

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/12/01 Date Made Active at EDR: 10/16/01 Database Release Frequency: Quarterly Date of Data Arrival at EDR: 09/24/01 Elapsed ASTM days: 22 Date of Last EDR Contact: 09/24/01

#### **CERCLIS-NFRAP:** CERCLIS No Further Remedial Action Planned

Source: EPA Telephone: 703-413-0223

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 07/12/01 Date of Data Arrival at EDR: 09/24/01 Date Made Active at EDR: 10/16/01 Elapsed ASTM days: 22 Database Release Frequency: Quarterly Date of Last EDR Contact: 09/24/01 CORRACTS: Corrective Action Report Source: EPA Telephone: 800-424-9346 CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. Date of Government Version: 09/20/01 Date of Data Arrival at EDR: 09/24/01 Date Made Active at EDR: 10/30/01 Elapsed ASTM days: 36 Database Release Frequency: Semi-Annually Date of Last EDR Contact: 09/11/01 RCRIS: Resource Conservation and Recovery Information System Source: EPA/NTIS Telephone: 800-424-9346 Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Date of Government Version: 06/21/00 Date of Data Arrival at EDR: 07/10/00 Date Made Active at EDR: 07/31/00 Elapsed ASTM days: 21 Date of Last EDR Contact: 11/07/01 **Database Release Frequency: Varies** ERNS: Emergency Response Notification System Source: EPA/NTIS Telephone: 202-260-2342 Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances. Date of Government Version: 08/08/00 Date of Data Arrival at EDR: 08/11/00 Date Made Active at EDR: 09/06/00 Elapsed ASTM days: 26 Date of Last EDR Contact: 10/25/01 Database Release Frequency: Varies FEDERAL ASTM SUPPLEMENTAL RECORDS BRS: Biennial Reporting System Source: EPA/NTIS Telephone: 800-424-9346 The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities. Date of Government Version: 12/31/99 Date of Last EDR Contact: 09/18/01 Database Release Frequency: Biennially Date of Next Scheduled EDR Contact: 12/17/01 CONSENT: Superfund (CERCLA) Consent Decrees Source: EPA Regional Offices Telephone: Varies Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters. Date of Government Version: N/A Date of Last EDR Contact: N/A Database Release Frequency: Varies Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision

Source: NTIS

Telephone: 703-416-0223

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/30/00 Database Release Frequency: Annually	Date of Last EDR Contact: 10/09/01 Date of Next Scheduled EDR Contact: 01/07/02
<ul> <li>DELISTED NPL: National Priority List Deletions</li> <li>Source: EPA</li> <li>Telephone: N/A</li> <li>The National Oil and Hazardous Substances Pollution Contingency</li> <li>EPA uses to delete sites from the NPL. In accordance with 40 CF</li> <li>NPL where no further response is appropriate.</li> </ul>	Plan (NCP) establishes the criteria that the R 300.425.(e), sites may be deleted from the
Date of Government Version: 11/13/01 Database Release Frequency: Semi-Annually	Date of Last EDR Contact: 11/05/01 Date of Next Scheduled EDR Contact: 02/04/02
<ul> <li>FINDS: Facility Index System/Facility Identification Initiative Program S Source: EPA</li> <li>Telephone: N/A</li> <li>Facility Index System. FINDS contains both facility information and ' detail. EDR includes the following FINDS databases in this report Information Retrieval System), DOCKET (Enforcement Docket us enforcement cases for all environmental statutes), FURS (Federa Docket System used to track criminal enforcement actions for all Information System), STATE (State Environmental Laws and State)</li> </ul>	Summary Report pointers' to other sources that contain more :: PCS (Permit Compliance System), AIRS (Aerometric sed to manage and track information on civil judicial al Underground Injection Control), C-DOCKET (Criminal environmental statutes), FFIS (Federal Facilities tutes), and PADS (PCB Activity Data System).
Date of Government Version: 10/29/01 Database Release Frequency: Quarterly	Date of Last EDR Contact: 10/08/01 Date of Next Scheduled EDR Contact: 01/07/02
HMIRS: Hazardous Materials Information Reporting System Source: U.S. Department of Transportation Telephone: 202-366-4526 Hazardous Materials Incident Report System. HMIRS contains haza Date of Government Version: 05/31/01 Database Release Frequency: Appually	Irdous material spill incidents reported to DOT. Date of Last EDR Contact: 10/22/01 Date of Next Scheduled EDR Contact: 01/21/02
<ul> <li>MLTS: Material Licensing Tracking System Source: Nuclear Regulatory Commission Telephone: 301-415-7169</li> <li>MLTS is maintained by the Nuclear Regulatory Commission and cor possess or use radioactive materials and which are subject to NR EDR contacts the Agency on a quarterly basis.</li> <li>Date of Government Version: 05/29/01</li> <li>Database Release Frequency: Quarterly</li> </ul>	ntains a list of approximately 8,100 sites which C licensing requirements. To maintain currency, Date of Last EDR Contact: 10/08/01 Date of Next Scheduled EDR Contact: 01/07/02
MINES: Mines Master Index File Source: Department of Labor, Mine Safety and Health Administratic Telephone: 303-231-5959 Date of Government Version: 08/24/01	Date of Last EDR Contact: 10/01/01
<ul> <li>NPL LIENS: Federal Superfund Liens</li> <li>Source: EPA</li> <li>Telephone: 205-564-4267</li> <li>Federal Superfund Liens. Under the authority granted the USEPA by and Liability Act (CERCLA) of 1980, the USEPA has the authority to recover remedial action expenditures or when the property own USEPA compiles a listing of filed notices of Superfund Liens.</li> </ul>	y the Comprehensive Environmental Response, Compensation to file liens against real property in order her receives notification of potential liability.

Date of Government Version: 10/15/91 Database Release Frequency: No Update	Planned	Date of Last EDR Contact: 11/19/01 Date of Next Scheduled EDR Contact: 02/18/02
PADS: PCB Activity Database System Source: EPA Telephone: 202-260-3936 PCB Activity Database. PADS Identifies gener of PCB's who are required to notify the EP/	rators, transporters, commercial storer A of such activities.	s and/or brokers and disposers
Date of Government Version: 09/30/01 Database Release Frequency: Annually		Date of Last EDR Contact: 11/13/01 Date of Next Scheduled EDR Contact: 02/12/02
<ul> <li>RAATS: RCRA Administrative Action Tracking Source: EPA</li> <li>Telephone: 202-564-4104</li> <li>RCRA Administration Action Tracking System pertaining to major violators and includes a actions after September 30, 1995, data ent the database for historical records. It was n made it impossible to continue to update the</li> </ul>	System . RAATS contains records based on end dministrative and civil actions brought ry in the RAATS database was discom ecessary to terminate RAATS becaus e information contained in the database	nforcement actions issued under RCRA by the EPA. For administration tinued. EPA will retain a copy of e a decrease in agency resources se.
Date of Government Version: 04/17/95 Database Release Frequency: No Update	Planned	Date of Last EDR Contact: 09/13/01 Date of Next Scheduled EDR Contact: 12/10/01
<ul> <li>TRIS: Toxic Chemical Release Inventory System Source: EPA</li> <li>Telephone: 202-260-1531</li> <li>Toxic Release Inventory System. TRIS identifier</li> <li>Iand in reportable quantities under SARA T</li> </ul>	n es facilities which release toxic chemic itle III Section 313.	cals to the air, water and
Date of Government Version: 12/31/99 Database Release Frequency: Annually		Date of Last EDR Contact: 09/24/01 Date of Next Scheduled EDR Contact: 12/24/01
TSCA: Toxic Substances Control Act Source: EPA Telephone: 202-260-1444 Toxic Substances Control Act. TSCA identifies TSCA Chemical Substance Inventory list. It site.	s manufacturers and importers of chen includes data on the production volun	nical substances included on the ne of these substances by plant
Date of Government Version: 12/31/98 Database Release Frequency: Every 4 Yea	ars	Date of Last EDR Contact: 10/24/01 Date of Next Scheduled EDR Contact: 01/21/02
FTTS: FIFRA/ TSCA Tracking System - FIFRA ( Source: EPA/Office of Prevention, Pesticides Telephone: 202-564-2501 FTTS tracks administrative cases and pesticic TSCA and EPCRA (Emergency Planning a Agency on a quarterly basis.	Federal Insecticide, Fungicide, & Rode and Toxic Substances le enforcement actions and compliance nd Community Right-to-Know Act). To	enticide Act)/TSCA (Toxic Substances Control Act) e activities related to FIFRA, maintain currency, EDR contacts the
Date of Government Version: 07/19/01 Database Release Frequency: Quarterly		Date of Last EDR Contact: 09/25/01 Date of Next Scheduled EDR Contact: 12/24/01
FTTS INSP: FIFRA/ TSCA Tracking System - FI Source: EPA Telephone: 202-564-2501	FRA (Federal Insecticide, Fungicide, 8	& Rodenticide Act)/TSCA (Toxic Substances Control Act)
Date of Government Version: 07/19/01		Date of Last EDR Contact: 09/25/01

Date of Government Version: 07/19/01 Database Release Frequency: Quarterly Date of Last EDR Contact: 09/25/01 Date of Next Scheduled EDR Contact: 12/24/01

#### STATE OF WASHINGTON ASTM STANDARD RECORDS

<b>CSCSL:</b> Confirmed & Suspected Contaminated Sites List Source: Department of Ecology Telephone: 360-407-7200 State Hazardous Waste Sites. State hazardous waste site records are the states' e may or may not already be listed on the federal CERCLIS list. Priority sites plan (state equivalent of Superfund) are identified along with sites where cleanup wil responsible parties. Available information varies by state.	equivalent to CERCLIS. These sites ned for cleanup using state funds I be paid for by potentially
Date of Government Version: 05/30/01	Date of Data Arrival at EDR: 06/11/01
Date Made Active at EDR: 07/11/01	Elapsed ASTM days: 30
Database Release Frequency: Semi-Annually	Date of Last EDR Contact: 11/20/01
<ul> <li>HSL: Hazardous Sites List</li> <li>Source: Department of Ecology</li> <li>Telephone: 360-407-7200</li> <li>The Hazardous Sites List is a subset of the CSCSL Report. It includes sites which using the Washington Ranking Method (WARM).</li> </ul>	have been assessed and ranked
Date of Government Version: 08/28/01	Date of Data Arrival at EDR: 09/10/01
Date Made Active at EDR: 10/03/01	Elapsed ASTM days: 23
Database Release Frequency: Semi-Annually	Date of Last EDR Contact: 09/10/01
<ul> <li>SWF/LF: Solid Waste Facility Database</li> <li>Source: Department of Ecology</li> <li>Telephone: 360-407-6132</li> <li>Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inve facilities or landfills in a particular state. Depending on the state, these may be a or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for sol sites.</li> </ul>	ntory of solid waste disposal active or inactive facilities id waste landfills or disposal
Date of Government Version: 09/01/00	Date of Data Arrival at EDR: 11/30/00
Date Made Active at EDR: 12/22/00	Elapsed ASTM days: 22
Database Release Frequency: Annually	Date of Last EDR Contact: 10/26/01
LUST: Leaking Underground Storage Tanks Site List Source: Department of Ecology Telephone: 360-407-7200 Leaking Underground Storage Tank Incident Reports. LUST records contain an inv storage tank incidents. Not all states maintain these records, and the informatio	ventory of reported leaking underground n stored varies by state.
Date of Government Version: 09/13/01	Date of Data Arrival at EDR: 09/13/01
Date Made Active at EDR: 09/27/01	Elapsed ASTM days: 14
Database Release Frequency: Quarterly	Date of Last EDR Contact: 09/13/01
<ul> <li>UST: Underground Storage Tank Database</li> <li>Source: Department of Ecology</li> <li>Telephone: 360-407-7170</li> <li>Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the</li> <li>Act (RCRA) and must be registered with the state department responsible for an information varies by state program.</li> </ul>	e Resource Conservation and Recovery dministering the UST program. Available
Date of Government Version: 09/13/01	Date of Data Arrival at EDR: 09/13/01
Date Made Active at EDR: 09/25/01	Elapsed ASTM days: 12
Database Release Frequency: Quarterly	Date of Last EDR Contact: 09/13/01

STATE OF WASHINGTON ASTM SUPPLEMENTAL RECORDS

ICR: Independent Cleanup Reports

Source: Department of Ecology

Telephone: 360-407-7200

These are remedial action reports Ecology has received from either the owner or operator of the sites. These actions have been conducted without department oversight or approval and are not under an order or decree.

Date of Government Version: 10/31/01 Database Release Frequency: Quarterly

CSCSL NFA: Confirmed & Contaminated Sites - No Further Action

Source: Department of Ecology

Telephone: 360-407-7170

The data set contains information about sites previously on the Confirmed and Suspected Contaminated Sites list that have received a No Further Action (NFA) determination. Because it is necessary to maintain historical records of sites that have been investigated and cleaned up, sites are not deleted from the database when cleanup activities are completed. Instead, a No Further Action code is entered based upon the type of NFA determination the site received.

Date of Government Version: 05/30/01 Database Release Frequency: N/A

**EMI:** Washington Emissions Data System Source: Department of Ecology

Telephone: 360-407-6040

Date of Government Version: 12/31/99 Database Release Frequency: Annually

LOCAL RECORDS

KING COUNTY:

#### Abandoned Landfill Study in King County

Source: Seattle-King County Department of Public Health Telephone: 206-296-4785

The King County Abandoned Landfill Survey was conducted from October through December 1984 by the Health Department's Environmental Health Division at the request of the King County Council. The primary objective of the survey was to determine if any public health problems existed at the predetermined 24 sites.

Date of Government Version: 04/30/85 Database Release Frequency: No Update Planned

SEATTLE COUNTY:

#### Abandoned Landfill Study in the City of Seattle

Source: Seattle - King County Department of Public Health Telephone: 206-296-4785

The Seattle Abandoned Landfill Survey was conducted in June and July of 1984 by the Health Department's Environmental Health Division at the request of the Mayor's Office. The primary objective of the survey was to determine if any public health problems existed at the predetermined 12 sites.

Date of Government Version: 07/30/84 Database Release Frequency: No Update Planned Date of Last EDR Contact: 10/21/94 Date of Next Scheduled EDR Contact: N/A

Date of Last EDR Contact: 10/21/94

Date of Next Scheduled EDR Contact: N/A

#### SEATTLE/KING COUNTY:

#### Seattle - King County Abandoned Landfill Toxicity / Hazard Assessment Project

Source: Department of Public Health

Telephone: 206-296-4785

This report presents the Seattle-King County Health Department's follow-up investigation of two city owned and four county owned abandoned landfills which was conducted from February to December 1986.

Date of Last EDR Contact: 11/19/01 Date of Next Scheduled EDR Contact: 02/18/02

Date of Last EDR Contact: 10/24/01 Date of Next Scheduled EDR Contact: 01/21/02

Date of Next Scheduled EDR Contact: 02/18/02

Date of Last EDR Contact: 11/20/01

Date of Government Version: 12/31/86 Database Release Frequency: No Update Planned

#### SNOHOMISH COUNTY:

Solid Waste Sites of Record at Snohomish Health District Source: Snohomish Health District

Telephone: 206-339-5250

Date of Government Version: 01/08/01 Database Release Frequency: Semi-Annually

TACOMA/PIERCE COUNTY:

#### **Closed Landfill Survey**

Source: Tacoma-Pierce County Health Department Telephone: 206-591-6500

Following numerous requests for information about closed dumpsites and landfills in Pierce County, the Tacoma-Pierce County Health Department decided to conduct a study on the matter. The aim of the study was to evaluate public health risks associated with the closed dumpsites and landfills, and to determine the need, if any, for further investigations of a more detailed nature. The sites represent all of the known dumpsites and landfills closed after 1950.

Date of Government Version: 04/15/93 Database Release Frequency: No Update Planned Date of Last EDR Contact: 01/11/95 Date of Next Scheduled EDR Contact: N/A

#### EDR PROPRIETARY DATABASES

**Former Manufactured Gas (Coal Gas) Sites:** The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

#### Disclaimer Provided by Real Property Scan, Inc.

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#### HISTORICAL AND OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

**Oil/Gas Pipelines/Electrical Transmission Lines:** This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

Date of Last EDR Contact: 08/14/95 Date of Next Scheduled EDR Contact: N/A

Date of Last EDR Contact: 10/24/01

Date of Next Scheduled EDR Contact: 01/21/02

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

### **GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM**

#### TARGET PROPERTY ADDRESS

MOLE/HOLE BECK 26623 OLD HWY 99 STANWOOD, WA 98292

#### TARGET PROPERTY COORDINATES

Latitude (North):	48.236851 - 48° 14' 12.7"
Longitude (West):	122.244400 - 122° 14' 39.8"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	556107.5
UTM Y (Meters):	5342682.5

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

#### **GROUNDWATER FLOW DIRECTION INFORMATION**

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

#### **TOPOGRAPHIC INFORMATION**

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

#### USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2448122-B2 ARLINGTON WEST, WA Source: USGS 7.5 min quad index

#### GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General SSW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

#### HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

#### FEMA FLOOD ZONE

Target Property County SNOHOMISH, WA	FEMA Flood <u>Electronic Data</u> YES - refer to the Overview Map and Detail Map
Flood Plain Panel at Target Property:	5355340020B / CBPP
Additional Panels in search area:	5355340010B / CBPP 5355340030B / CBPP 5355340040B / CBPP
NATIONAL WETLAND INVENTORY	
NM/I Qued at Target Broperty	NWI Electronic
ARLINGTON WEST	YES - refer to the Overview Map and Detail Map

#### HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*: Search Radius: 2.0 miles Status: Not found

#### **AQUIFLOW®**

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID Not Reported LOCATION FROM TP GENERAL DIRECTION GROUNDWATER FLOW

#### **GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

#### **GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY**

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

#### **ROCK STRATIGRAPHIC UNIT**

#### **GEOLOGIC AGE IDENTIFICATION**

 Era:
 Cenozoic
 Category:
 Stratifed Sequence

 System:
 Quaternary

 Series:
 Quaternary

 Code:
 Q
 (decoded above as Era, System & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

#### DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	SKIPOPA
Soil Surface Texture:	silt loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Somewhat poorly. Soils commonly have a layer with low hydraulic conductivity, wet state high in profile, etc. Depth to water table is 1 to 3 feet.
Hydric Status: Soil does not meet the r	requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

Soil Layer Information							
	Βοι	indary		Classi	fication		
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	8 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 6.50 Min: 5.60
2	8 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 6.00 Min: 5.10
3	16 inches	60 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.06 Min: 0.00	Max: 7.30 Min: 5.60

#### OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures:	gravelly - loam gravelly - fine sandy loam loam very gravelly - sandy loam unweathered bedrock
Surficial Soil Types:	gravelly - loam gravelly - fine sandy loam loam

	very gravelly - sandy loam unweathered bedrock
Shallow Soil Types:	gravelly - coarse sandy loam very gravelly - loam silt loam very gravelly - sandy loam
Deeper Soil Types:	cemented weathered bedrock unweathered bedrock silt loam very cobbly - loam

#### ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

#### WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)		
Federal USGS Federal FRDS PWS State Database	1.000 Nearest PWS within 1 mile 1.000		

#### FEDERAL USGS WELL INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP
No Wells Found		

#### FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

#### STATE DATABASE WELL INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP

### STATE DATABASE WELL INFORMATION

MAP ID	
1	
2	
3	

WELL ID WAGRP0000002389 WAGRP0000000262 WAGRP0000006915 LOCATION FROM TP

1/4 - 1/2 Mile North 1/4 - 1/2 Mile East 1/2 - 1 Mile WSW

### PHYSICAL SETTING SOURCE MAP - 715833.3s



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG: Mole/Hole Beck 26623 Old Hwy 99 Stanwood WA 98292 48.2368 / 122.2444 CUSTOMER: CONTACT: INQUIRY #: DATE: Camp, Dresser, & McKee Craig Russell 715833.3s December 18, 2001 12:33 pm
#### **GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS**

Map ID Direction Distance Elevation 1 North 1/4 - 1/2 Mile Higher			Database WA WELLS	EDR ID Number WAGRP0000002389
Source Name: Township: QTR Section: Source Use: SP Y: PWS ID: Key ID:	WELL #1 32 SWSW P 1065210 44335 4433501	Range: Section: Source Type: SP X: PWS Name: Source:	04E 24 W 1574860 STANWOOD DELL 01	AND GAS
2 East 1/4 - 1/2 Mile Higher			WA WELLS	WAGRP000000262
Source Name: Township: QTR Section: Source Use: SP Y: PWS ID: Key ID:	WELL #1 32 NENW P 1063770 04515 0451501	Range: Section: Source Type: SP X: PWS Name: Source:	04E 25 W 1577480 SNOHOMISH COUI 01	NTY PUD 1-MOA-HOLBECK
3				

s WSW 1/2 - 1 Mile Higher

WA WELLS WAGRP000006915

#### **GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS**

Source Name: Township: QTR Section: Source Use: SP Y: PWS ID: Key ID: WELL #3 32 NESW P 1062640 85205 8520503 Range: Section: Source Type: SP X: PWS Name: Source: 04E 26 W 1572150 SNOHOMISH COUNTY PUD 1-SUNDAY LAKE 03

#### AREA RADON INFORMATION

Federal EPA Radon Zone for SNOHOMISH County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Zip Code: 98292

Number of sites tested: 3

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.167 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

### PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### HYDROLOGIC INFORMATION

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

#### HYDROGEOLOGIC INFORMATION

#### AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

#### **GEOLOGIC INFORMATION**

#### Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

#### STATSGO: State Soil Geographic Database

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

#### ADDITIONAL ENVIRONMENTAL RECORD SOURCES

#### FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

**USGS Water Wells:** In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

### PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### STATE RECORDS

#### Water Wells

Source: Department of Transportation Telephone: 360-705-7444 Group A well location points in Washington State.

Kitsap County Water Wells in Washington Source: Public Utility District No. 1 of Kitsap County Telephone: 206-779-7656

#### RADON

**Area Radon Information:** The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

**EPA Radon Zones:** Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

#### OTHER

**Epicenters:** World earthquake epicenters, Richter 5 or greater Source: Department of Commerce, National Oceanic and Atmospheric Administration

#### NOTIFICATION OF WELLHEAD PROTECTION AREAS

David Jennings Washington State Department of Health P.O. Box 47822 M/S 7822 Olympia, WA 98504-7822

Tom Niemann Snohomish County Department of Planning and Development Services 3000 Rockefeller, M/S 604 Everett, WA 98201-4046

Thanh Nguyen State Department of Transportation P.O. Box 47300 Olympia, WA 98504-7300

Kevin Plemmel Snohomish County Health District 3020 Rucker Ave. Everett, WA 98201-3971

Snohomish County Department of Emergency Management 3905 – 109th St. S.W. Everett, WA 98201

#### SAMPLE NOTICE OF WHPA BOUNDARY

May, 15, 2002

Tom Niemann Snohomish County Department of Planning and Development Services 3000 Rockefeller, M/S 604 Everett, WA 98201-4046

#### Subject: Wellhead Protection, XXXXXXX Water System

As part of the wellhead protection program for the Snohomish County PUD Water Resources Division, we are hereby informing you of the findings of our updated Wellhead Protection Area Delineation. This is in accordance with State regulations (WAC 246-290-135).

The XXXXXX system supplies water to XXXX connections, with a potential of serving over XXXX. This drinking water supply has a XXXX to XXXX susceptibility rating.

The enclosed map shows the one, five and ten year time of travel zones for our wellhead protection area. Ground water contamination that occurs within these zones has the potential of reaching the communities' drinking water supply. It is therefore of utmost importance to us that all reasonable steps be taken to ensure that land use activities within this area do not contaminate the groundwater.

Please notify us of actions within this WHPA that come to your attention and might also affect our water supply. Thank you for your support in protecting our drinking water.

Sincerely,

XX Snohomish County PUD

### TO BE SENT TO CUSTOMERS & BUSINESSES WITH ON-SITE SEWAGE SYSTEMS

May 15, 2002

Re: Wellhead Protection - XXXXXX Water System

Dear Property Owner:

In order to protect the drinking water supply for customers of the XXXXX Water System, we are developing a wellhead protection program in accordance with the State Department of Health requirements. As part of the wellhead protection program, we have mapped the area overlying the short-term recharge zone of the well supplying your water. This is called the Wellhead Protection Area.

Following the mapping of the Wellhead Protection Area, we conducted an inventory of potential sources of ground water contamination within the area. The location of your septic system in relation to the Wellhead Protection Area means that there could be future impacts to the drinking water supply. We have notified the regulatory agencies of this situation.

We realize you are already careful to protect the environment in your daily activities and we hope that informing you of the Wellhead Protection Area will result in increased precautions to ensure your daily activities will not impact drinking water quality.

If you have questions or concerns concerning your water system, please contact us at 425-783-8605.

Sincerely,

XXXX Snohomish Co. PUD

### EMERGENCY RESPONSE AND CONTINGENCY PLAN

As a part of the Comprehensive Water System Plan (Comp Plan), Snohomish County PUD No. 1 (PUD) has incorporated a Wellhead Protection Plan for each of its groundwater systems. The plan includes an emergency response and contingency plan in order to identify the steps that should be taken in the event a contamination or potential contamination should occur. Water operations, engineering and regulatory personnel from the PUD's Water Resources Division are responsible for responding to emergencies related to ground water quality.

The Two-Twelve Market & Deli system is unique since the only customer is a gas station with a mini-market. Under the State Department of Health's (DOH) classification, this system is a non-community, transient Group A system. However the facility relies solely on the well for its water supply and many people are therefore dependent on it.

### **NOTIFICATION**

Telephone reports of potential emergencies may be received from anyone by phoning any PUD office. All phone numbers are listed in the business section of the Snohomish County phone directory. If another agency is notified, the office receiving the call will contact the PUD and the report is then relayed to the Water Resources Division.

Telephone reports made during non-working hours (hours other than 8:00 a.m. - 6:00 p.m.) may be made by dialing the phone number listed in the business section of the phone directory under "Emergencies - after 6 p.m. - (425) 783-1000." This number connects the caller with the PUD's Dispatch Office who then contacts water personnel on 'stand-by'. A record of all customer concerns and the District's actions are recorded and kept on file.

#### **ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES**

The Notification Responsibility Chart (Figure 1) identifies the order of notification in the case of a severe water quality emergency in one of the PUD's ground water supplies. The Water Operations Manager (WOM) manages the Water Utility's field operations, maintenance activities, establishes work priorities, and assists in development of annual operations and capital budgets. The WOM is the main contact for emergency notification, depending on the severity of the situation; he will contact the appropriate agencies and or other PUD personnel.

#### **RESPONSE**

The PUD's emergency response plan is designed to provide guidelines for a preliminary assessment of any report of a potential problem or emergency within 30 minutes of receiving notification of an incident. Upon receiving the report, the Water Operations Manager and appropriate crew members are notified and given the location of the potential problem. The report is immediately investigated,

given an initial appraisal and a preliminary report is provided back to the Operations Manager. A detailed action plan is formulated to determine the exact cause and appropriate response. Plans are then made to begin repairs and/or provide alternative water sources.

The District maintains an extensive inventory of pipe, fittings, valves and repair materials for all types of sizes of pipes and appurtenances within the distribution system. A complete up to date list of all the materials and quantities is available.

#### **COMMUNICATIONS**

The Washington State Department of Health (DOH) requires periodic reports that summarize the results of water quality testing. If any sample exceeds the Maximum Contaminant Level (MCL), a retest is conducted. If a sample exceeds the MCL for any category, a retest is conducted within 24 hrs, and both DOH and the public are notified in accordance with methods specified in WAC 248-54-255.

District staff utilizes conventional and cellular telephones, personal contact, and fax or mail services to notify customers of emergency conditions in the water system. All water shop personnel have portable radios. A personnel roster with assigned radio call numbers is available.

Snohomish County has been provided with the map identifying the Two-Twelve Market & Deli Communities' Wellhead Time of Travel zones. In the event of a hazardous material spill within any of these zones, the county's Emergency Management Division should immediately contact the PUD for notification. We also communicate with the Department of Ecology, Department of Transportation, private businesses and local authorities about hazardous materials releases.

The District has a general Emergency Response Plan (ERP) that is a guide to responding to overall emergencies related to the PUD's water systems. This plan is outlined in Section 9 of the District's Comp Plan. Although many of these same responses apply to the WHP plan, the Contingency Plans are unique to each system. Some of the possible scenarios associated with the Two-Twelve Market & Deli System are outlined below:

#### LOSS OF POWER

The District has portable/mobile generators which, in an emergency, can be connected within 8 hours.

#### LOSS OF WELL PUMP

The District would have to contract for the pump replacement. The facility would not initially be affected since they have some standby storage. However, in the event that restoration of service takes longer than there is available storage, temporary water would have to be provided.

### DIMINISHED ABILITY TO DELIVER WATER

The Two-Twelve Market & Deli facility would be notified of mandatory water conservation measures until the problem can be rectified. All non-essential uses of water will be discontinued. Water use by customers in the facility will be discouraged. The facility will be provided with message boards for its customers that will include a general description of the problem and give a preliminary time table for the completion of repairs.

### COMPLETE LOSS OF A WELL

In the case of complete failure of the main source of supply, the PUD would provide immediate notification to the Two-Twelve Market & Deli. All non-essential uses of water will be discontinued. The message will be posted and include a general description of the problem and give a preliminary timetable for the completion of repairs. The well will be taken off line and the system locked out immediately.

- 1. Intertie with the Sunday Lake Community: The PUD's Sunday Lake Water System is at maximum capacity and connection to it even in the event of an emergency would be prohibitive.
- New source of supply: Drilling a new well in the vicinity would be the most viable solution.

### PREVENTIVE MAINTENANCE

### **EDUCATION / COMMUNITY INVOLVEMENT**

As a matter of prevention rather than reaction, the PUD has begun educational campaigns from a couple of venues. These programs emphasize awareness of the physical characteristics of groundwater systems and how individual behaviors can protect the aquifer.

The PUD has played a key role as a member of the County's Ground Water Advisory Committee. Staff has been involved in the development of countywide issues and alternatives for groundwater protection. Additionally staff has been instrumental in the development of brochures and an educational display addressing the importance of groundwater protection. Since this well site is not a community system, a citizens advisory committee has not been established. The wellhead protection program will be developed with the input of the owners / managers of the facility.

#### **SECURITY**

Security must be in place to protect system integrity and to minimize liability that the District might incur from intruders. All major facilities are securely fenced and locked when they are unattended. This includes all booster facilities, control equipment and storage reservoirs. These facilities are included in routine surveillance by District staff, the local fire district, city police and sheriff department personnel.

### **EMERGENCY ROSTER**

Emergency rosters listing District staff and other local/state agency personnel are included. The responsibility for notification and providing direction is outlined below. A copy of these, with telephone numbers, is kept on file by PUD management and Dispatch personnel. Field personnel are assigned standby responsibilities on a rotating basis for after-hour call-outs. Additional personnel are advised as necessary regarding the severity of the emergency.

#### **PRIORITIES**

Where there is damage to District facilities, the Senior Manager and Operations Manager will assess damages and prioritize operational efforts, repairs and/or reconstruction:

The order of priority includes:

- 1. Preservation of public health and safety: During an emergency a water system serves a dual role of providing water for consumption, sanitation and food preparation (public health), and fire protection (public safety). The District would strive to satisfy both roles, however, the District's primary focus would be to support public health.
- 2. Water quantity and quality: The District strives to provide a high quality product at all times, however, during extreme conditions, "boil water" orders, or purification tablets could be used if water is available but its quality is unreliable. The priority would be to provide the safest possible source of water, which may require supplemental treatment to ensure potability.

### LOCATION OF ACTIVITIES AND RESPONSIBILITIES

Emergency management activities will be conducted in the District's Electric Headquarters, 2320 California St., Everett, Washington, or at the local office in Arlington at 210 E. Division St.

The AGM of Water Resources (WAGM) will keep the Board of Commissioners and the General Manager apprised of the current status of all emergency situations, and as appropriate will request their presence at the facility where emergency management activities are taking place.

He will also:

- > Analyze the situation and requests for assistance;
- > Establish priorities for District response;

- Provide short-term planning (i.e., employee direction, return to work, restoration of work, media campaign);
- > Receive and evaluate reports and assessments from the Water Operations Manager:
- > Structure requests for outside assistance;
- > Coordinate the District's activities with outside organizations and agencies;
- > Communicate with the media, the public, and with District employees;
- > Provide for the continuation and the resumption of business.

The Water Operations Manager will report to the WAGM and will:

- > Assess the emergency;
- > Keep the WAGM informed;
- Direct emergency operations;
- > Oversee repair operations;
- > Work closely with the Water Foreman for allocations of materials, equipment and personnel;
- > Receive and record damage assessments;
- > Coordinate requests for assistance from outside organizations and agencies;
- > Document the use of District resources during the emergency;
- > Provide status summaries, as requested.

The Water Engineering Group report to the WAGM and will:

- > Assess the emergency;
- > Assess water quality and possible remediation;
- > Assist the Operations Manager in establishing priorities;
- > Direct mitigation, repair, and alternate site selection;
- > Assist in assessing remaining, useable equipment and supplies.

The Water Foreman will work closely with the Operations and Engineering Managers to:

- Assess system damage;
- > Make contact with end users regarding health and safety matters;
- > Direct the water field crew in Implementing and completing repairs and/or reconstruction;
- > Document actions taken by the field crew.

The Water Field Crew will:

- > Assist in assessing system damage and parts/supplies needed to effect repairs;
- > Assess remaining, undamaged equipment and supplies;
- Execute repairs;
- > Maintain contact with Water Foreman.

The Maintenance Coordinator will be available to:

- Answer the telephone at the Water Shop;Maintain contact with the field.

The Water Support Services Group will:

- > Provide support and backup to the Maintenance Coordinator;
- > Maintain contact with staff families;
- > Assist in documenting actions.

### **EMERGENCY RESPONSE ROSTER**

# **General PUD Numbers**

Name	Business	Home	Pager
General Manager	Ed Hansen (425) 783-8473		
Asst. General Manager	Clair Olivers (425) 783-8606	(425) 252-4302	(425) 356-8776
Operations Mgr.	Ron Moir (425) 783-8614	(425) 353-7098	(425) 438-7493
Engineering Mgr.	Brant Wood (425) 783-8609	(360) 653-7033	(425) 397-5377

# Water Resources Employees

Name	Home	Pager	Name	Home	Pager
Dale Aschenbrenner	397-6645	(425) 514-9562	Ron Moir	353-7908	(425) 438-7493
Arlee Barker	252-4097	(425) 335-6807			
Matt Coker	474-9062	(425) 438-7982	Ryan Schank	653-6945	(425) 356-8413
Peggy Coker	652-0494	(425) 335-6194	Scott Schuller	659-8674	(425) 335-9756
Jon Grenfell	826-4406	(425) 438-7478	Howard Smith	355-5278	(425) 335-6806
Mark Price	793-1344	(425) 335-9883	Brant Wood	653-7033	.(425) 397-5377
Jim Rose	435-6562	(425) 514-4498	Jamin Udman	258-9104	.(425) 290-0369

# **Regional Emergency Call List**

Snohomish County Sheriff	911 or (425) 338-3393
East Precinct Snohomish Co. Sheriff	(360) 805-6770
Snohomish County Emergency Service	ces(425) 258-6461
Duty Officer	1-800-258-5990
City of Stanwood Public Works Depar	tment(360) 629-9781
Snohomish County Public Works	(425) 388-3488
State Department of Health	(253) 395-6766
Snohomish County Health District	(425)339-5210

### **Other Useful Phone Numbers**

Wa. State. Dept. Trans	206-440-4000	City of Stanwood Police	360-629-4555
Dispatch Office	(425) 347-5586	City of Stanwood Fire Dept	. 360-629-3008-

# Water Emergency Phone Number after 5:00 PM – (425) 783-1000 1-877-783-1000

### **EMERGENCY RESPONSE AGENCIES**

Washington State	Patrol	(360) 658-2588
Washington State	Department of Health	(253) 395-6766
Washington State	Dept. of Fish & Wildlife	(425) 775-1311
Washington State	Dept. of Ecology	(360) 407-7144
Washington State	Dept. of Ecology	
	Toxics Cleanup	1-800-458-0920
Snohomish Count	у	
	Health District	(425) 339-5210
	Emergency Management	(425) 258-6461
	DEM Duty Officer	1-800-258-5990
	Sheriff	911 or 425-388-3393
	Water Quality Violations	(425) 649-7229
	(24 hour spill hotline	(425) 649-7000
	al Affaira	

Transformer spills	(425) 783-5556
Water Resources	See Emergency Response Plan

# Appendix K

Skylite Tracts Wellhead Protection Plan

#### APPENDIX K

#### SKYLITE TRACTS WELLHEAD PROTECTION PLAN

This report completes the technical components of the Snohomish County Public Utility District No. 1 Skylite Tracts Water System Wellhead Protection Program (WHPP). The findings are based on a conceptual hydrogeologic (geology and groundwater) model used to define the Wellhead Protection Areas (WHPA's) and an inventory of potential contaminant sources. The report also outlines District responsibilities for implementing the WHPP. These findings and recommendations are summarized below:

The Skylite Tracts Water System has one production well situated adjacent to the Skylite Tracts development at an elevation of about 150 feet above sea level.

The well was drilled in 1962 and is completed between depths of 38 and 48 feet below ground surface in a gravel and sand aquifer overlain by approximately 32 feet of glacial till, which helps protect it from surface sources of contamination. No records indicating the presence of a surface seal can be located. The well is currently pumped at the rate of 60 gpm. The well has 2 submersible pumps installed in it – a 5 HP main supply and a 3 HP emergency back-up pump. A stationary emergency generator with 30-days supply of fuel provides an emergency source of power for the 3 HP pump.

The well site is situated in and serves a high density, rural residential community. It is bordered by medium density rural residential and State forest land. The District owns a 1.6-acre area around the well, which is located approximately 1,500 south of the Skykomish River at an elevation about 150 feet above sea level. The Town of Startup lies to the north, while the City of Sultan is to the west and the City of Gold Bar to the east.

The Skylite Tracts system currently serves 132 connections. The system is expandable to the limits allowable by its water right.

Wellhead protection areas with 1-, 5-, and 10-year TOT zones were delineated for District wells using the EPA WHPA Code 2.2 analytical model (GPTRAC). The 10-year TOT is an elongated oval shape, extends over 1,000 feet up gradient (east) from the production well, and is about 700 feet wide.

Upon review of the District's Susceptibility Assessment Survey Form, the DOH determined that the well is "Highly" susceptible to surface sources of contamination and has a "Moderate" vulnerability to contamination by pesticides.

A contaminant inventory was conducted using data in governmental regulatory and permit files and from a field survey. Potential contaminant sources identified within the Skylite Tracts WHPA were the pump station (where disinfection chemicals are stored) and septic systems of nearby housing. These potential contaminate sources may pose a risk to water quality of the Skylite Tracts system due to its relatively shallow completion and lack of surface seal. To date water quality sampling has shown no significant concentration of nitrates in the well water that could indicate potential contamination by these septic systems. The District should continue to monitor nitrates annually paying close attention to any increasing concentration trends. The District may also want to consider retrofitting this well with a bentonite surface seal to reduce the potential of contamination.

### 1.0 INTRODUCTION

This report presents the Wellhead Protection Program (WHPP) for the Snohomish County Public Utility District No. 1 (District) Skylite Tracts Water System. The report delineates Wellhead Protection Areas (WHPA's) identifies potential contaminant sources, analyzes the risks within each WHPA, and provides contingency and emergency response plans in the event contamination occurs.

### 1.1 SUSCEPTIBILITY ASSESSMENT

A Susceptibility Assessment Survey Form is required of public drinking water purveyors for each Group A well it owns and operates as the initial step in the WHPA process. The assessment form (included as Skylite Tracts WHPP Appendix A) provides information on well construction and production, local aquifer characteristics, and local potential contamination sources.

The DOH responds to the surveys with a susceptibility rating that establishes the level of monitoring requirements for Volatile Organic Compounds (VOC's) and Synthetic Organic Compounds (SOC's). A variety of waivers can be applied for to reduce or eliminate monitoring and sampling requirements.

Based on review of the Susceptibility Assessment Survey Form, in 1995 the DOH issued a Susceptibility Waiver rating of "High" for the Skylite Tracts System. Wells with "Moderate" or "High" ratings are also rated for Pesticide Vulnerability. The Skylite Tracts well was issued a "Moderate" Pesticide Vulnerability rating.

### 1.2 WELLHEAD PROTECTION AREAS

A WHPA is defined as the surface and subsurface area surrounding a well, wellfield, or spring supplying a public water supply through which potential contaminants are likely to pass and eventually reach the well(s). In Washington, WHPA's are defined by the time of travel (TOT) zones, the time needed for ground water to move from its point of infiltration to its point of discharge at the well.

The Washington WHPP requires a WHPA to be subdivided into four zones, which include:

- A sanitary control zone of 100 feet, as required by WAC 246-290-135.
- Three primary zones based on 1-, 5-, and 10-year TOT rates.

An additional buffer zone (if warranted) may extend from the 10-year TOT to the ground water divide. This zone highlights areas where the aquifer may be particularly susceptible or vulnerable to contamination. The 10-year TOT boundary forms the boundary of the WHPA and defines the area to be inventoried and managed to reduce the risk of potential contamination.

The purpose of WHPA delineation is to describe the size and shape of that portion of the aquifer contributing ground water to the well or wellfield. This area is known as the well's zone of contribution. The portion of the zone of contribution contributing water to the well within a specified time period is known as the capture zone. The State's WHPP defines WHPA's as consisting of the 10-year time of travel capture zone. Data are usually insufficient to completely and accurately define the size and shape of this capture zone. For this reason, a

series of approximation methods have been adopted by DOH to delineate a WHPA. These methods, in order of increasing complexity, data requirements, and increasingly good approximation of reality, are:

- Calculated Fixed Radius
- Analytical Models
- Hydrogeologic Mapping
- Numerical Flow/Transport Models

This investigation uses an analytical model to delineate District WHPA's. The analytical model employed here used mathematical methods to describe the idealized shape of each capture zone. The EPA has developed a set of analytical models that utilize aquifer properties to calculate the boundaries of the capture zone for a well or wells based on the annual withdrawal. These models include TOT calculations that allow determination of 1-, 5-, and 10-year capture zones.

The analytical model used in this investigation was the EPA WHPA (Code 2.2) module GPTRAC. GPTRAC is an acronym for "general particle tracking" module. It is capable of delineating time-related capture zones for a system of pumping and injection wells and accounts for the effects of well interference, stream or barrier aquifer boundaries, and aquifer recharge. The technical details and limitations of GPTRAC are described below.

The WHPA delineations are subject to the following assumptions and limitations:

- As indicated in the preceding discussion, the WHPA analytical models require the aquifer to be assigned specific attributes that may not be applicable over the whole aquifer. Moreover, assumptions made because of limited data could affect the size and shape of the WHPA delineations.
- The ground water flow direction in the aquifer is based on assumed hydraulic connections between widely spaced wells. The ground water flow direction could vary several degrees to either side of those selected for the WHPA delineations.
- The transmissivity for each aquifer was estimated from the Skylite Tracts Well pumping test data. The transmissivities of the aquifers could differ from that estimated at a well. The transmissivity may change with distance from the data source because of variations in aquifer texture and thickness.
- The well pumping rates used in the analytical models were calculated from annual water rights. They assume the wells pump steadily at a reduced rate for 24 hours a day, 365 days a year. In practice the wells pump at a higher rate with significant periods of non-pumping. The variable pumping rates could result in a more diffuse capture zone than delineated.

### 1.2.1 Setting

The Skylite Tracts system is located in the SW 1/4 of the SW 1/4 of Section 2, Township 27 N, Range 8 E. It serves a community in the Skykomish River valley. The well site is situated approximately 1,500 south of the River at an elevation of about 150 feet. To the south hills rise to elevations of over 900 feet. The Town of Startup is to the north, while the City of Sultan lies to the west and the City of Gold Bar to the east.

The Skylite Tracts system currently serves 132 connections. The system is expandable to the limits allowable by its water right. The system serves a high density, rural residential community and is bordered by medium density rural residential and State forest land. The District owns a 1.6-acre area around the well.

#### 1.2.2 Geology and Hydrogeology

The Skylite Tracts well, drilled in 1962, is completed in a gravel and sand formation between depths of 38 and 48 feet in what is believed to be recessional outwash. The sediments have a transmissivity of about 11,000 gpd/ft. These sediments are overlain by approximately 32 feet of glacial till and 5 feet of silty sand (probably recent alluvial deposits) that help protect the well from surface sources of contamination. The shallow ground water flow direction in the area is believed to be generally from east to west, mimicking Skykomish River flow.

#### 1.2.3 Delineation

A WHPA was delineated for the Skylite Tracts system following the procedures described in Section 7.8 (Section 7, Source of Supply). The input data for each well are presented in Table 7-1 (Section 7, Source of Supply). The well location and delineated WHPA are shown on Skylite Tracts WHPP Figure 1. The model was run using the District's full water right amount of 29.7 af/yr, assuming the well pumped steadily at a reduced rate for 24 hours a day, 365 days a year. In practice the well pumps at about 60 gpm with significant periods of non-pumping.

As shown on Skylite Tracts WHPP Figure 1, the WHPA is an elongated oval shape, extends over 1,000 feet up gradient (east) from the production wells, and is about 700 feet wide. The 1-year time of travel is shown in red, the 5-year in green, and the 10-year in blue.

#### 1.3 CONTAMINANT INVENTORY

#### 1.3.1 Need For Inventory

Most potential sources of contamination occur on the land surface or in near-surface soils. These potential sources can readily degrade ground water quality in the uppermost, unconfined aquifer. Although the uppermost aquifer is the most vulnerable to contamination, deeper, confined aquifers are susceptible to contamination where they are exposed in deep valleys and excavations or connected to the upper aquifer through hydrogeologic windows or poorly constructed wells. Preservation of high quality water supplies requires the identification and management of potential contaminant sources.

A contaminant inventory is required for all wellhead protection programs (WHPP's). The purpose of the inventory is to identify past, present, and proposed activities constituting potential sources of ground water contamination and those sources presenting a potential threat to a well or wellfield. For identified potential contaminant sources, the District is required to notify the responsible property owners and federal, state, or local agencies having jurisdiction. The Water System Plan must document inventory procedures and notification of responsible parties.

District personnel conducted the contaminant inventory following the guidelines set forth in Inventory of Potential Contaminant Sources in Washington's Wellhead Protection Areas published by the DOH in December 1993.

#### 1.3.2 Procedures

The contaminant inventory was conducted in two phases. In the first phase, the District contracted with EDR (E Data Resources, Inc.) to conduct a search of all governmental databases according to ASTM Standards (E 1527-97) for environmental site assessments. EDR searched 22 databases for potential sources within a one-mile radius area. EDR's report, with a map of the search area, is included in Skylite Tracts WHPP Appendix C. It describes the potential contaminant sources and locates each potential source activity on a map.

The second phase consisted of a field survey conducted by District personnel. The purposes of the field survey was to verify the locations of activities appearing on the governmental lists and identify other existing potential contaminant sources. District personnel completed a Field Inventory Form for each site identified within a WHPA. The completed Field Survey Forms are included in Skylite Tracts WHPP Appendix B.

#### 1.3.3 Results

Potential contaminant sources identified within the Skylite Tracts WHPA include Sodium Hypochlorite stored in the Skylite Tracts Pump Station / chlorination facility and septic systems of nearby housing.

Sodium Hypochlorite stored Skylite Tracts Pump Station / chlorination facility is used as a disinfectant for the water system. This 5 ¼ % strength liquid is stored in 1-gallon factory sealed containers and the onsite chemical injection tank is contained. This liquid may pose some degree of risk to local ground water quality.

Local septic systems may also pose some degree of risk to water quality of the Skylite Tracts system due to the relatively shallow completion of the well and lack of a surface seal. To date water quality sampling has shown no significant concentration of nitrates in the well water that could indicate potential contamination by the septic systems. The District should continue to monitor nitrates annually paying close attention to any increasing concentration trends. The District may want to consider retrofitting this well with a bentonite surface seal to reduce the potential of contamination.

#### 1.3.4 Inventory Updating

Since land use practices change over time, the DOH requires inventory data to be updated at least every two years. Documentation of the updating activity should be included in the District's Comprehensive Water System Plan.

#### 1.3.5 New Well Requirements

WAC 246-290-130 currently requires that a hydrologic assessment be completed and potential contaminant sources identified before a new or modified public water supply plan receives DOH approval. As part of the

vulnerability assessment, the purveyor is required to delineate a Calculated Fixed Radius WHPA based on best available data and water right quantity. A preliminary contaminant inventory must be conducted within the WHPA and the vulnerability of the new source weighted against the costs of selecting an alternate site. Once the new source is approved by DOH, the District must delineate its WHPA and conduct a contaminant inventory/risk analysis of the WHPA.

### 1.4 NOTIFICATION - CONTAMINANT SOURCES/AGENCIES

The State's WHPP requires the District to notify:

- Property owners of all potential contaminant sources of their presence within a WHPA.
- The federal, state, or local regulatory agencies that have jurisdiction over each source.

Model letters from the District to the property owners (potential sources) and agencies are included in the Skylite Tracts WHPP Appendix D along with a list of agencies notified. Copies of each letter should be retained in District files.

#### **1.5 CONTINGENCY PLANS**

The SDWA specifies that State WHPP's require purveyors of drinking water to develop contingency plans "... for the location and provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination...." The contingency plans should identify both short and long-term alternative drinking water sources. According to the *Washington State Wellhead Protection Program*, the District, when developing these plans, should:

- 1. Identify maximum water system capacity in relation to source, distribution system, and water right restrictions; assume loss of the largest well/wellfield; and re-evaluate the consequences.
- 2. Evaluate the expansion options of the existing system's capacity to meet current water rights/availability.
- 3. Identify existing or potential interties with other public water systems and evaluate the ability to deliver water, assuming loss of the largest well/wellfield, and include costs associated with the purchase and/or delivery of alternate supplies. (Issues relating to water rights and use of water outside the service area should be considered.)
- 4. Evaluate current procedures and make recommendations on contingency plans for emergency events.
- 5. Identify future potential sources of drinking water and describe quality assurances and control methods to be applied to ensure protection of water quality prior to utilization as a drinking water supply.
- 6. Maintain a current list of appropriate emergency phone numbers.

A copy of the District's Emergency Response and Contingency Plan is included in Skylite Tracts WHPP Appendix E.

### 1.5 SPILL RESPONSE PLAN

The State WHPP requires that the Districts 's WHPP include review and revision of incident and spill response measures within the WHPA's. Such a review is particularly important for WHPA's that are highly susceptible to surface contamination from material transport along main roads. The DOH recommends that the following groups be included in the review and revision:

- Local emergency responders (police, fire department)
- Ecology Spill Operations section
- Washington State Community, Trade and Economic Development Emergency Management Program
- Local health department
- Local emergency planning committees

### 2.0 LIMITATIONS

CDM prepared this report for exclusive use by Snohomish County Public Utility District No. 1. The analyses, conclusions, and recommendations in this report are based on information provided to CDM by the District, published data, reports, articles, data collected during this investigation, and CDM's experience and professional judgment. CDM cannot be responsible for the interpretation by others of the data contained herein. Use of this report for any purpose other than wellhead protection would be inappropriate.

Within the limitations of the scope, schedule, and budget, CDM's work was performed in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the project area. No other warranty, expressed or implied, is made.



	Ground W Susceptibility A	ater Contaminat Assessment Surve Version 2.1	ion y Form	
IMPORTANT!	Please complete one form (well, wellfield, spring) us Photocopy as necessary.	for each ground water sed in your water syste	source em.	
PART I: Syst	tem Information			
Well owner/manage	T: SNCHOMISH C	CUNTY PUD	#1	
Water system name	: SNCHOMISH COL	INTY PUD-	SKYLITE TR	ACTS
County: SNC4	CMISH			
Water system numb	er: <u>\$02201</u>	Source number:	501	
Well depth:	<u>48</u> (ft.) (Fro	om WFI form)		
Source name:				
WA well identificat	ion tag number: <u>A</u> A_ <u>A</u>	<u>+-901</u>		
we	ll not tagged		а. 	
Number of connecti	опs:О	Population serve	d: <u>330</u>	
Township: <u>27</u>	' N	Range:	8E	
Section: <u>62</u>		1/4 1/4 Section:	SW1/4, SV	<u>1/4</u>
Latitude/longitude (	if available):	//		
How was lat./long.	determined?			Ti -
glo other:	obal positioning device	Survey	topographic map	
* Please ref	er to Assistance Packet for det	tails and explanations of	of all questions in Pa	rts II through V.
PART II: Wel	l Construction and Source In	nformation		
1) Date weil origina	illy constructed: <u>7</u> / <u>2</u> /	62 month/day/year		

last reconstruction: ___ / ___ month/day/year

information unavailable

1

2) Well driller: E. F. AXELSEN
11301 23RD AVE N.E.
SEATTLE, WA
well driller unknown
3) Type of well:
Drilled: rotary bored cable (percussion) Dug Other: spring(s) lateral collector (Ranney)
driven etted other:
Additional comments:
4) Well report available?  YES (attach copy to form) NO If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.
5) Average pumping rate:(gallons/min)
Source of information:
If not documented, how was pumping rate determined?
<ul> <li>Pumping rate unknown</li> <li>6) Is this source treated?</li> </ul>
If so, what type of more
disinfereis
disinfection filtration carbon filter air stripper other
Pulpose of treatment (describe materials to be removed or controlled by treatment):
7) If source is chlorinated, is a chlorine residual maintained:YESNO
Residual level: (At the point closest to the source.)
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#### PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

< 20 ft  $\frac{1}{20-50}$  ft _ 50-100 ft _ 100-200 ft _ > 200 ft

____ information unavailable ('<' means less than; '>' means greater than)

2) Depth to ground water (static water level):

 $\sqrt{}$  < 20 ft _____ 20-50 ft _____ 50-100 ft _____ > 100 ft

____ flowing well/spring (artesian)

How was water level determined?

vell log other:

____ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) or _____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ____YES ___NO

5) Wellhead elevation (height above mean sea level): 150 (ft)

How was elevation determined? / topographic map ___ Drilling/Well Log ____ altimeter

____ other: ____

)

information unavailable

6) Contining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

_____evidence of a confining layer in well log

no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval?  $\underline{\checkmark}$  YES  $\underline{\checkmark}$  NO

____ information unavailable J

7) Sanitary setback:

 $- < 100 \text{ ft}^* \sqrt{100-120 \text{ ft}} = 120-200 \text{ ft} > 200 \text{ ft}$ * if less than 100 ft describe the site conditions: 8) Wellhead construction: wellhead enclosed in a wellhouse  $\checkmark$ controlled access (describe): Fenced area around wellhouse. PUD owns I. le acrès well is located on. other uses for wellhouse (describe): no wellhead control 9) Surface seal: ____ 18 ft ____ < 18 ft (no Department of Ecology approval)</p> ('<' means less than) ____ < 18 ft (Approved by Ecology, include documentation) ('<' means less than)  $_{--}$  > 18 ft ('> ' means greater than) √ depth of seal unknown ____ no surface seal 10) Annual rainfall (inches per year):

 $_{--}$  < 10 in/yr _____ 10-25 in/yr ____ > 25 in/yr

#### PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: <u>7.37M</u> (gallons)

How was this determined?

___ meter

estimated:	pum	ping rate (		)
	pum	p capacity (		)
$$ other: $\underline{S}$	um c	f service	meters	for 1993.

2) "Calculated Fixed Radius" estimate of ground water movement: (see Instruction Packet)

6 month ground water travel time :	310	(ft)
l year ground water travel time :	440	(ťt)
5 year ground water travel time:	930	(ťt)
10 year ground water travel time:	1390	(ťt)

Information available on length of screened/open interval?

¥YES _NO

Length of screened/open interval: _____(ft)

3) Is there a river, lake, pond, stream, or other obvious surface water body within the 6 month time of travel boundary? ____YES  $\checkmark$  NO (mark and identify on map).

4) Is there a stormwater and/or wastewater facility, treatment lagoon, or holding pond located within the 6 month time of travel boundary? ____YES  $\checkmark$  NO (mark and identify on map).

Comments:

# PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

6 month	l year	5 year	unknown
		2	
	<del></del>		
<u>-</u>			
		-	
$\overline{\checkmark}$	$\overline{\checkmark}$	$\overline{}$	
$\overline{\checkmark}$	$\overline{}$		
		······	
	6 month	6 month 1 year	6 month 1 year 5 year $$

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

.

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

A. <u>Nitrate</u> : (Nitrate MCL = $10 \text{ mg/l}$ )	YES	<u>NO</u>
Results greater than MCL	<del></del>	$\checkmark$
< 2 mg/liter nitrate	$\overline{\checkmark}$	
2-5 mg/liter nitrate		<u> </u>
> 5 mg/liter nitrate		$\checkmark$
Nitrate sampling records unavailable		
B. <u>VOCs</u> : (VOC detection level 0.5 ug/l or 0.0005 mg/l.)	YES	<u>NO</u>
Results greater than MCL or SAL		$\checkmark$
VOCs detected at least once		$\overline{\checkmark}$
VOCs never detected	1	
VOC sampling records unavailable		
C. <u>EDB/DBCP</u> :	YES	<u>N0</u>
(EDB MCL = $0.05 \text{ ug/l or } 0.00005 \text{ mg/l}$ . DBCP MCL = $0.2 \text{ ug/l or } 0.0002 \text{ mg/l}$ .)		
EDB/DBCP detected below MCL at least once	×	$\checkmark$
EDB/DBCP detected above MCL at least once		$\checkmark$
EDB/DBCP never detected	$\overline{\checkmark}$	
EDB/DBCP tests required but not yet completed		
EDB/DBCP tests not required		
D. Other SOCs (Pesticides):	YES	NO
Other SOCs detected		
(pesticides and other synthetic organic chemicals)		
Other SOC tests performed but none detected		
(list test methods in semi-set)		
(list test methods in comments		
$\underline{\checkmark}$ Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:

.

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#### E. Bacterial contamination:

<u>YES NO</u>

Any bacterial detection(s) in the past 3 years in samples taken from the	1
source (not distribution sampling records). NONE SINCE 4/1992	$\cdot$
WHEN SYSTEM ACQUIRED. DO NOT KNOW PRIOR.	
Has source (in past 3 years) had a bacteriological contamination problem	
found in distribution samples that was attributed to the source.	$\checkmark$
CINCE 4/1992 WHEN SYSTEM ACQUIRED	

____ Source sampling records for bacteria unavailable

#### Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

___YES ___NO

Describe with references to map produced in Part IV:

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

V NO YES

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

√ YES NO

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

__ YES __ NO T

· ,

DO NOT KNOW

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES	NO	unknown
< 6 month travel time			
6 month-1 year travel time			<u></u>
1-5 year travel time			
5-10 year travel time			<del></del>

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time			
1-5 year travel time			
5-10 year travel time			

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.


# SKYLITE TRACTS SYSTEM



Ation #0jtu		
No. 7326-05-8-39-3M. 58314.		
RECORD BY WELL DRILLER OR OTHE FOR WITHDRAWAL OF	ER CONSTRUCTOR OF WORKS GROUND WATER	
ider Permit No. G. W		
("The well driller or other constructor of works for the withd h the permittee a certified record of the factual information t tion." Sec. 8, Chap. 263, Laws of 1945.)	irawal of public ground waters shall be obligated to f necessary to show compliance with the provisions of	ur- this
R. O. SAWIER, 15727 88th N.E., Bothell, We (Name and address of owner of well or othe	ashington r works for withdrawal of water)	
. Type; name or number of works where water is tak	Cen Well (Well, tunnel or infiltration trench)	
. Date on which work on well or other structure was s	tarted July 2, 1962	
. Date on which work was completed July 5,	1962	
. If work on well or other structure was abandoned, gi	ive date	
and reason for abandonment		
Description of Works:		
(a) WELL: Depth <u>43</u> ft. Diameter <u>8</u>	in. or ft. Dug or drilledDrilled	
Flowing or pump well Water	. Temp	
In PUTCH WHIL! Type and size of pump is 3"	<u>centrifugal</u>	
The second size of motor or angine is	15 hp gas 1-1-1-11	
Type and size of motor of engine include b	pefore pumping18	feet
Depth from ground sarries for 4	hours, the measured discharge of the pur	p is
After continuous operation for (At least four	r) down of water level is6	feet
g.p.m., and the draw	(Pumping level minus static water (Pumping level minus static water	ned
Recovery data (taken after pump has been	shut off) (time taken as zero when pump ta	
off) (water level measured from well top	to water level)	ι
Time Water Level	Time Walk Leve	
when pump was shut down water	recovered in 15 seconds	
	·	
	t	
Date of test		
IF FLOWING WELL: Measured discharge	g.p.m. on (Date)	
Shut-in pressure at ground surface	lbs. per sq. in. on (Date)	
	APPENDI	(2
Water is controlled by	(Cap, valve, etc.)	

CASING: (Give diameter, commercial specifications and depth below ground surface of each casing size.) in diameter _____Steel casing _____ from _____ to ______ft. 8 _____ in. diameter ______ from _____ to_____ ft. _____ in. diameter ______ from ______ to ______ ft. in. diameter ______ ft. Describe and show depth of shoe, plug, adapter, liner or other details: bottom of shoe 37 feet rated casing or screens: (Number per foot and size of perforations, or describe sereen) 10 ft. screen .030 mesh _____ from _____ to _____ ft. LOG OF WELL OR TUNNEL: (Describe each stratum or formation clearly, indicate if water bearing. and give thickness and depth as indicated.) Thickness (Feet) Depth to bottom (Feet) MATERIAL surface soil 5 5 27 32 hard pan 37 5 gravel, sand, clay 11 48 gravel, sand, water-bearing formation

(b) INFILTRATION TRENCH OR TUNNEL: Type

Dimensions: (Tunnel—length, course, and cross-sectional size) (Trench—minimum and maximum depths) Bottom width ______ ft. Discharge ______ g.p.m. Date of test ______

Position of water bearing stratum with reference to portal of tunnel





### FIELD SURVEY FORM WELLHEAD PROTECTION PROGRAM

1. SURVEY DATA
Survey Person(s): Kon Moil WHPA (Name/Number): SKylite TRACTS
Survey Date: $1/22/02$
2. ACTIVITY DATA
BUSINESS NAME: SKylile TENCTS FUND STATION
BUSINESS ADDRESS: 16312 357th Avese PHONE -
Owner's Name: SNOMOMISH County PUB HI
Owner's Street Address: P.O. Box 1107
City: EXECT, WA ZIP 98206
Phone Number: (Business) <u>425-783-8614</u> (Home)

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

### 3. SITE ACTIVITY

Signal

AGRICULTURAL (A)	nursery, trees)	40 Incinerator
1 Chemical storage/handling	20 Laundromat	41 Landfill
(fertilizer, pesticide)	21 Lumber yard	42 Maintenance
2 Feedlot	22 Lumber mill	43 Recycling center
3 Manure storage	23 Medical facility	44 Road deicing
	24 Paint shop	45 Stormwater ponds
COMMERCIAL (C)	25 Photo finishing	46 Transfer station
4 Airport	26 Printer	47 Wastewater treat
5 Aerial spraying	27 Railroad tracks	48 Highway/Street X
6 Auto repair	/yard/maintenance	49 Utility r-o-w X
7 Boat yard	28 Road maintenance	50 Pipeline
8 Bulk petroleum	29 Scarp/junk yard	Kind:
storage/distribution		51 Power transmission X
9 Bus maintenance	INDUSTRIAL (I)	<u></u>
10 Car wash	30 Asphalt plant	Water well
11 Cemetery	31 Chemical Facility	Abandoned
12 Contractor's yard	32 Electrical plant	Active
13 Dry cleaner	n n secondoran Tracasa	Unused
14 Feed/grain store	4b. OTHER CHEMICAL	
15 Furniture	STORAGE	4d. CHEMICALS ONSITE
stripping/repair	Drums (55 gal)	Stug S 1
	Number	JIA DO JOGIUM
4. ON-SITE SOURCES	Other types of containers	- Hypochlorite
4a. STORAGE TANKS	(Describe) GALLON - PLASTIC	(Bleach)
Description	Drum/container age 1 MERK	
Number Volume	Chemicals used on-site	
1 359Alby (Toly)	Transferred on-site	
1 405 GALLON (stee)	Site description	5. COMMENTS ON BACK:
	r	Blench USED for
Above Ground	4c. OTHER SOURCES	DICINDECTION DURDOSE
Bare steel on cradles	Dry well	ETSTREECTION PEVEDOSES
Bare steel at grade	Septic system	0
Soil exposed	Storm water pond	trophne USED for
Concrete pad	Soil-lined	Emergency GenEDATOR
Below Ground	Impermeable liner	
Bare steel		
Double-walled	33 Electroplating	No commercial
Cathode-protected	34 Machine shop	
Fiber-reinforced	35 Metal fabricator	
In Ground Concrete	36 Mining	
	37 Petroleum facility	
16 Gas station/store	38 Wood treatment	
17 Gas station/repair		
18 Golf course	PUBLIC (P)	
19 Horticulture (crop,	39 Fire training	
2 A 2	<u> </u>	

### FIELD SURVEY FORM WELLHEAD PROTECTION PROGRAM

## 2 SITE NUMBER

1. SURVEY DATA Survey Person(s): Roy Moik Survey Date: 1/27/02	WHPA (Name/Number): Sky lite Trends
BUSINESS NAME: Survounding Ulcinity BUSINESS ADDRESS:	PHONE
Owner's Street Address:	ZIP
Phone Number: (Business) (Hor	me)

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

# 3. SITE ACTIVITY - SUBURBAN & RUNA AVER

# AGRICULTURAL (A)

Said

· ......

AGRICULTURAL (A)			nursery trees)		
1 Chemical storage/handl	ing	20	Laundromat		
(fertilizer, nesticide)		21	Lumber yard		
2 Feedlot		22	Lumber mill		
3 Manure storage		23	Medical facility		
	- <u></u>	24	Paint shon		_
COMMERCIAL (C)		25	Photo finishing		
4 Airport		26	Printer		
5 Aerial spraving	·	27	Railroad tracks		
6 Auto repair		~ /	/vard/maintenance		
7 Boat vard		28	Road maintenance		
8 Bulk petroleum		29	Scarp/junk vard		
storage/distribution		~/	Sou pijunk yard	0	-
9 Bus maintenance		INI	DUSTRIAL		
10 Car wash	······	30	Asphalt plant		
11 Cemetery	·	31	Chemical Facility		
12 Contractor's vard		32	Electrical plant		
13 Dry cleaner			Bioduliai plait		
14 Feed/grain store		4h	OTHER	СНЕ	MICAL
15 Furniture		ST	ORACE	CIIL	MICAL
stripping/repair	1	Dn	ums (55 gal)		
FF		Niu	mber		
4. ON-SITE SOURCES	Î	Oth	er types of container	~	
4a. STORAGE TANKS		(D	escribe)	3	
Description	I	Dn	m/container age		
Number Volume	Ĩ	Che	micals used on-site		-
		Tra	nsferred on-site		
······································		Site	description		<u></u>
			description		-
Above Ground		4c.	OTHER SOURCE	S	
Bare steel on cradles	Ĩ	Drv	well	0	
Bare steel at grade		Sen	tic system		X
Soil exposed		Stor	m water pond	1	
Concrete pad	`	Soi	I-lined		
Below Ground		Im	permeable liner		
Bare steel					
Double-walled		33	Electroplating		
Cathode-protected		34	Machine shop		
Fiber-reinforced	3	35	Metal fabricator	-	<u> </u>
In Ground Concrete		36	Mining		-
		37	Petroleum facility	-	
16 Gas station/store	3	38	Wood treatment	-	<u></u>
17 Gas station/repair		.0	n oou ireament		-
18 Golf course	I	PIN	RUIC (P)		
19 Horticulture (crop	1	20	Fire training		
	J		ine naming		

40	Incinerator		
41	Londfill		
41	Landini		
42	Namenance Desusting		
43	Recycling center	<del></del>	
44	Road delcing		
45	Stormwater ponds		
40	I ransier station		
4/	Wastewater treat		
40	Highway/Street	<u>×</u>	
49	Dimity r-o-w	<u></u>	
20	Vind		
51			
51	Power transmission		
Wa	ter well		
vv a	andoned		
AD	tive		
AC	uve	<u> </u>	
4d. S	CHEMICALS ON	SITE Hom	es
4d. <u>S</u>	CHEMICALS OF ingle from - house	Lotd cho	es mical
4d. S	- house - Proper	isite Hom Lold cho ne- (Heating	es mical ng
4d. 5. ( 5. (	CHEMICALS OF Loge Lan - house - Propa COMMENTS ON DICH SUS AUFA.	BACK:	es mical ng



# **The EDR Radius Map** with GeoCheck[®]

Skylite Tracts Skylite Tracts Sultan, WA 98294

Inquiry Number: 715833.2s

**December 18, 2001** 

# *The* Source For Environmental Risk Management Data

3530 Post Road Southport, Connecticut 06490

**Nationwide Customer Service** 

 Telephone:
 1-800-352-0050

 Fax:
 1-800-231-6802

 Internet:
 www.edrnet.com

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### **GEOCHECK ADDENDUM**

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*Thank you for your business.* Please contact EDR at 1-800-352-0050 with any questions or comments.

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### **EXECUTIVE SUMMARY**

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

### TARGET PROPERTY INFORMATION

#### ADDRESS

SKYLITE TRACTS SULTAN, WA 98294

### COORDINATES

 Latitude (North):
 47.850280 - 47° 51' 1.0"

 Longitude (West):
 121.753980 - 121° 45' 14.3"

 Universal Tranverse Mercator:
 Zone 10

 UTM X (Meters):
 593218.3

 UTM Y (Meters):
 5300192.5

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: Source:

2447121-G7 SULTAN, WA USGS 7.5 min quad index

### TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

### FEDERAL ASTM STANDARD

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information
	System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
CORRACTS	Corrective Action Report
RCRIS-TSD	Resource Conservation and Recovery Information System
RCRIS-LQG	Resource Conservation and Recovery Information System
RCRIS-SQG	Resource Conservation and Recovery Information System
ERNS	Emergency Response Notification System

#### STATE ASTM STANDARD

CSCSL	Confirmed & Suspected Contaminated Sites List
HSL	Hazardous Sites List
SWF/LF	Solid Waste Facility Database
LUST	Leaking Underground Storage Tanks Site List

### **EXECUTIVE SUMMARY**

UST..... Underground Storage Tank Database

### FEDERAL ASTM SUPPLEMENTAL

CONSENT	Superfund (CERCLA) Consent Decrees Records Of Decision
Delisted NPL	National Priority List Deletions
FINDS	Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS	Hazardous Materials Information Reporting System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
NPL Liens	Federal Superfund Liens
PADS	PCB Activity Database System
RAATS	RCRA Administrative Action Tracking System
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, &
	Rodenticide Act)/TSCA (Toxic Substances Control Act)

### STATE OR LOCAL ASTM SUPPLEMENTAL

WA ICR	Independent Cleanup Reports
CSCSL NFA	Confirmed & Contaminated Sites - No Further Action
EMI	Washington Emissions Data System

### EDR PROPRIETARY DATABASES

Coal Gas_____ Former Manufactured Gas (Coal Gas) Sites

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

### **EXECUTIVE SUMMARY**

Due to poor or inadequate address information, the following sites were not mapped:

Site Name

AMOUR FIBER CORP SULTAN SWLF EVERETT CITY FILTRATION PLANT ROMAC INERT AND DEMOLITION WASTE LF FORD CEDAR WWLF PACIFIC PRIDE CARDLOCK F. A. KOENIG & SONS PETROCARD SYSTENS, INC. 95081 FA KOENIG & SONS WA DOT SULTAN RIVER BRG 2 26 CULMBACK DAM OUTLET TOWER SULTAN AUTO CENTER Database(s) CERCLIS SWF/LF RCRIS-SQG, FINDS, SWF/LF SWF/LF UST UST UST UST RCRIS-SQG, FINDS RCRIS-SQG, FINDS WA ICR WA ICR



TARGET PROPERTY:

CITY/STATE/ZIP:

ADDRESS:

LAT/LONG:

Skylite Tracts Skylite Tracts Sultan WA 98294 47.8503/121.7540

CUSTOMER: CONTACT: INQUIRY #: DATE:

Camp, Dresser, & McKee Craig Russell 715833.2s December 18, 2001 12:43 pm

### OVERVIEW MAP - 715833.2s - Camp, Dresser, & McKee



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG: Skylite Tracts Skylite Tracts Sultan WA 98294 47.8503 / 121.7540 CUSTOMER: CONTACT: INQUIRY #: DATE: Camp, Dresser, & McKee Craig Russell 715833.2s December 18, 2001 12:43 pm

### **MAP FINDINGS SUMMARY**

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD	<u>)</u>							
NPL Proposed NPL CERCLIS CERC-NFRAP CORRACTS RCRIS-TSD RCRIS Lg. Quan. Gen. RCRIS Sm. Quan. Gen. ERNS		1.000 1.000 0.500 0.250 1.000 0.500 0.250 0.250 TP	0 0 0 0 0 0 0 NR	0 0 0 0 0 0 0 NR	0 0 NR 0 NR NR NR	0 NR NR 0 NR NR NR NR	NR NR NR NR NR NR NR NR	
CSCSL HSL State Landfill LUST UST		1.000 1.000 0.500 0.500 0.250	0 0 0 0	0 0 0 0	0 0 0 NR	0 0 NR NR NR	NR NR NR NR NR	0 0 0 0
FEDERAL ASTM SUPPLEME	NTAL							
CONSENT ROD Delisted NPL FINDS HMIRS MLTS MINES NPL Liens PADS RAATS TRIS TSCA FTTS		1.000 1.000 TP TP TP 0.250 TP TP TP TP TP TP	0 0 NR NR 0 NR NR NR NR NR NR	0 0 NR NR 0 NR NR NR NR NR NR NR	0 0 NR NR NR NR NR NR NR NR NR NR	0 0 NR NR NR NR NR NR NR NR NR NR	NR NR NR NR NR NR NR NR NR NR NR NR	
STATE OR LOCAL ASTM SU	PPLEMENTA	Ē						
WA ICR CSCSL NFA WA Emissions	ASES	0.500 TP TP	0 NR NR	0 NR NR	0 NR NR	NR NR NR	NR NR NR	0 0 0
	<u>HJEJ</u>							
Coal Gas AQUIFLOW - see EDR Phy	sical Setting	1.000 Source Adder	0 ndum	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

EDR ID Number Database(s) EPA ID Number

### Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

#### **ORPHAN SUMMARY**

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
SULTAN	1000315824	FA KOENIG & SONS	HWY 2	98294	RCRIS-SQG, FINDS	
SULTAN	1001969739	WA DOT SULTAN RIVER BRG 2 26	SR 2 MP 22.04 TO MP 22.15	98294	RCRIS-SQG, FINDS	
SULTAN	U000597004	PACIFIC PRIDE CARDLOCK	301 SR 2	98294	UST	97732
SULTAN	U001122630	F. A. KOENIG & SONS	33523 SR 2	98294	UST	2161
SULTAN	U003378457	PETROCARD SYSTENS, INC.	33902 SR 2	98294	UST	464265
SULTAN	S104223578	CULMBACK DAM OUTLET TOWER	MP 26 SULTAN BASIN ROAD	98294	WAICR	
SULTAN	S104179647	SULTAN SWLF	33000 CEMETERY RD	98294	SWF/LF	
SULTAN	1000660240	EVERETT CITY FILTRATION PLANT	6133 LAKE CHAPLAIN RD	98294	RCRIS-SQG, FINDS, SWF/LF	
SULTAN	S103509702	SULTAN AUTO CENTER	MAIN / 6TH ST.	98294	WAICR	
SULTAN	S104547144	ROMAC INERT AND DEMOLITION WASTE LF	S SIDE OF 149TH ST SE APPROX 750 E OF	98294	SWF/LF	
			125 FOUNDRY			
SULTAN	1003862217	AMOUR FIBER CORP	1120 E STEVENS	98294	CERCLIS	
SULTAN	U000921160	95081	301 STEVENS PASS HWY (US RT 2)	98294	UST	5183
SULTAN	S104179602	FORD CEDAR WWLF	14801 SULTAN BASIN RD	98294	SWF/LF	

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

### FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List

#### Source: EPA Telephone: N/A

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/22/01 Date Made Active at EDR: 12/11/01 Database Release Frequency: Semi-Annually

#### **NPL Site Boundaries**

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC) Telephone: 202-564-7333

EPA Region 1 Telephone 617-918-1143

EPA Region 3 Telephone 215-814-5418

EPA Region 4 Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Source: EPA Telephone: N/A

> Date of Government Version: 10/22/01 Date Made Active at EDR: 12/11/01 Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/05/01 Elapsed ASTM days: 36 Date of Last EDR Contact: 11/05/01

EPA Region 6 Telephone: 214-655-6659

EPA Region 8 Telephone: 303-312-6774

> Date of Data Arrival at EDR: 11/05/01 Elapsed ASTM days: 36 Date of Last EDR Contact: 11/05/01

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

Source: EPA

Telephone: 703-413-0223

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/12/01 Date Made Active at EDR: 10/16/01 Database Release Frequency: Quarterly Date of Data Arrival at EDR: 09/24/01 Elapsed ASTM days: 22 Date of Last EDR Contact: 09/24/01

#### **CERCLIS-NFRAP:** CERCLIS No Further Remedial Action Planned

Source: EPA Telephone: 703-413-0223

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 07/12/01 Date of Data Arrival at EDR: 09/24/01 Date Made Active at EDR: 10/16/01 Elapsed ASTM days: 22 Database Release Frequency: Quarterly Date of Last EDR Contact: 09/24/01 CORRACTS: Corrective Action Report Source: EPA Telephone: 800-424-9346 CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. Date of Government Version: 09/20/01 Date of Data Arrival at EDR: 09/24/01 Date Made Active at EDR: 10/30/01 Elapsed ASTM days: 36 Database Release Frequency: Semi-Annually Date of Last EDR Contact: 09/11/01 RCRIS: Resource Conservation and Recovery Information System Source: EPA/NTIS Telephone: 800-424-9346 Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Date of Government Version: 06/21/00 Date of Data Arrival at EDR: 07/10/00 Date Made Active at EDR: 07/31/00 Elapsed ASTM days: 21 Date of Last EDR Contact: 11/07/01 **Database Release Frequency: Varies** ERNS: Emergency Response Notification System Source: EPA/NTIS Telephone: 202-260-2342 Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances. Date of Government Version: 08/08/00 Date of Data Arrival at EDR: 08/11/00 Date Made Active at EDR: 09/06/00 Elapsed ASTM days: 26 Date of Last EDR Contact: 10/25/01 Database Release Frequency: Varies FEDERAL ASTM SUPPLEMENTAL RECORDS BRS: Biennial Reporting System Source: EPA/NTIS Telephone: 800-424-9346 The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities. Date of Government Version: 12/31/99 Date of Last EDR Contact: 09/18/01 Database Release Frequency: Biennially Date of Next Scheduled EDR Contact: 12/17/01 CONSENT: Superfund (CERCLA) Consent Decrees Source: EPA Regional Offices Telephone: Varies Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters. Date of Government Version: N/A Date of Last EDR Contact: N/A Database Release Frequency: Varies Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision

Source: NTIS

Telephone: 703-416-0223

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/30/00 Database Release Frequency: Annually	Date of Last EDR Contact: 10/09/01 Date of Next Scheduled EDR Contact: 01/07/02
<ul> <li>DELISTED NPL: National Priority List Deletions</li> <li>Source: EPA</li> <li>Telephone: N/A</li> <li>The National Oil and Hazardous Substances Pollution Contingency</li> <li>EPA uses to delete sites from the NPL. In accordance with 40 CF</li> <li>NPL where no further response is appropriate.</li> </ul>	Plan (NCP) establishes the criteria that the R 300.425.(e), sites may be deleted from the
Date of Government Version: 11/13/01 Database Release Frequency: Semi-Annually	Date of Last EDR Contact: 11/05/01 Date of Next Scheduled EDR Contact: 02/04/02
<ul> <li>FINDS: Facility Index System/Facility Identification Initiative Program S Source: EPA</li> <li>Telephone: N/A</li> <li>Facility Index System. FINDS contains both facility information and ' detail. EDR includes the following FINDS databases in this report Information Retrieval System), DOCKET (Enforcement Docket us enforcement cases for all environmental statutes), FURS (Federa Docket System used to track criminal enforcement actions for all Information System), STATE (State Environmental Laws and State)</li> </ul>	Summary Report pointers' to other sources that contain more :: PCS (Permit Compliance System), AIRS (Aerometric sed to manage and track information on civil judicial al Underground Injection Control), C-DOCKET (Criminal environmental statutes), FFIS (Federal Facilities tutes), and PADS (PCB Activity Data System).
Date of Government Version: 10/29/01 Database Release Frequency: Quarterly	Date of Last EDR Contact: 10/08/01 Date of Next Scheduled EDR Contact: 01/07/02
HMIRS: Hazardous Materials Information Reporting System Source: U.S. Department of Transportation Telephone: 202-366-4526 Hazardous Materials Incident Report System. HMIRS contains haza Date of Government Version: 05/31/01 Database Release Frequency: Appually	Irdous material spill incidents reported to DOT. Date of Last EDR Contact: 10/22/01 Date of Next Scheduled EDR Contact: 01/21/02
<ul> <li>MLTS: Material Licensing Tracking System Source: Nuclear Regulatory Commission Telephone: 301-415-7169</li> <li>MLTS is maintained by the Nuclear Regulatory Commission and cor possess or use radioactive materials and which are subject to NR EDR contacts the Agency on a quarterly basis.</li> <li>Date of Government Version: 05/29/01</li> <li>Database Release Frequency: Quarterly</li> </ul>	ntains a list of approximately 8,100 sites which C licensing requirements. To maintain currency, Date of Last EDR Contact: 10/08/01 Date of Next Scheduled EDR Contact: 01/07/02
MINES: Mines Master Index File Source: Department of Labor, Mine Safety and Health Administratic Telephone: 303-231-5959 Date of Government Version: 08/24/01	Date of Last EDR Contact: 10/01/01
<ul> <li>NPL LIENS: Federal Superfund Liens</li> <li>Source: EPA</li> <li>Telephone: 205-564-4267</li> <li>Federal Superfund Liens. Under the authority granted the USEPA by and Liability Act (CERCLA) of 1980, the USEPA has the authority to recover remedial action expenditures or when the property owr USEPA compiles a listing of filed notices of Superfund Liens.</li> </ul>	y the Comprehensive Environmental Response, Compensation to file liens against real property in order her receives notification of potential liability.

Date of Government Version: 10/15/91 Database Release Frequency: No Update	Planned	Date of Last EDR Contact: 11/19/01 Date of Next Scheduled EDR Contact: 02/18/02
PADS: PCB Activity Database System Source: EPA Telephone: 202-260-3936 PCB Activity Database. PADS Identifies gener of PCB's who are required to notify the EP/	rators, transporters, commercial storer A of such activities.	s and/or brokers and disposers
Date of Government Version: 09/30/01 Database Release Frequency: Annually		Date of Last EDR Contact: 11/13/01 Date of Next Scheduled EDR Contact: 02/12/02
<ul> <li>RAATS: RCRA Administrative Action Tracking Source: EPA</li> <li>Telephone: 202-564-4104</li> <li>RCRA Administration Action Tracking System pertaining to major violators and includes a actions after September 30, 1995, data ent the database for historical records. It was n made it impossible to continue to update the</li> </ul>	System . RAATS contains records based on end dministrative and civil actions brought ry in the RAATS database was discom ecessary to terminate RAATS becaus e information contained in the database	nforcement actions issued under RCRA by the EPA. For administration tinued. EPA will retain a copy of e a decrease in agency resources se.
Date of Government Version: 04/17/95 Database Release Frequency: No Update	Planned	Date of Last EDR Contact: 09/13/01 Date of Next Scheduled EDR Contact: 12/10/01
<ul> <li>TRIS: Toxic Chemical Release Inventory System Source: EPA</li> <li>Telephone: 202-260-1531</li> <li>Toxic Release Inventory System. TRIS identifier</li> <li>Iand in reportable quantities under SARA T</li> </ul>	n es facilities which release toxic chemic itle III Section 313.	cals to the air, water and
Date of Government Version: 12/31/99 Database Release Frequency: Annually		Date of Last EDR Contact: 09/24/01 Date of Next Scheduled EDR Contact: 12/24/01
TSCA: Toxic Substances Control Act Source: EPA Telephone: 202-260-1444 Toxic Substances Control Act. TSCA identifies TSCA Chemical Substance Inventory list. It site.	s manufacturers and importers of chen includes data on the production volun	nical substances included on the ne of these substances by plant
Date of Government Version: 12/31/98 Database Release Frequency: Every 4 Yea	ars	Date of Last EDR Contact: 10/24/01 Date of Next Scheduled EDR Contact: 01/21/02
FTTS: FIFRA/ TSCA Tracking System - FIFRA ( Source: EPA/Office of Prevention, Pesticides Telephone: 202-564-2501 FTTS tracks administrative cases and pesticic TSCA and EPCRA (Emergency Planning a Agency on a quarterly basis.	Federal Insecticide, Fungicide, & Rode and Toxic Substances le enforcement actions and compliance nd Community Right-to-Know Act). To	enticide Act)/TSCA (Toxic Substances Control Act) e activities related to FIFRA, maintain currency, EDR contacts the
Date of Government Version: 07/19/01 Database Release Frequency: Quarterly		Date of Last EDR Contact: 09/25/01 Date of Next Scheduled EDR Contact: 12/24/01
FTTS INSP: FIFRA/ TSCA Tracking System - FI Source: EPA Telephone: 202-564-2501	FRA (Federal Insecticide, Fungicide, 8	& Rodenticide Act)/TSCA (Toxic Substances Control Act)
Date of Government Version: 07/19/01		Date of Last EDR Contact: 09/25/01

Date of Government Version: 07/19/01 Database Release Frequency: Quarterly Date of Last EDR Contact: 09/25/01 Date of Next Scheduled EDR Contact: 12/24/01

### STATE OF WASHINGTON ASTM STANDARD RECORDS

<ul> <li>CSCSL: Confirmed &amp; Suspected Contaminated Sites List Source: Department of Ecology Telephone: 360-407-7200</li> <li>State Hazardous Waste Sites. State hazardous waste site records are the may or may not already be listed on the federal CERCLIS list. Priority is (state equivalent of Superfund) are identified along with sites where clar responsible parties. Available information varies by state.</li> </ul>	e states' equivalent to CERCLIS. These sites sites planned for cleanup using state funds eanup will be paid for by potentially
Date of Government Version: 05/30/01 Date Made Active at EDR: 07/11/01 Database Release Frequency: Semi-Annually	Date of Data Arrival at EDR: 06/11/01 Elapsed ASTM days: 30 Date of Last EDR Contact: 11/20/01
<ul> <li>HSL: Hazardous Sites List</li> <li>Source: Department of Ecology</li> <li>Telephone: 360-407-7200</li> <li>The Hazardous Sites List is a subset of the CSCSL Report. It includes sit</li> <li>using the Washington Ranking Method (WARM).</li> </ul>	es which have been assessed and ranked
Date of Government Version: 08/28/01 Date Made Active at EDR: 10/03/01 Database Release Frequency: Semi-Annually	Date of Data Arrival at EDR: 09/10/01 Elapsed ASTM days: 23 Date of Last EDR Contact: 09/10/01
<ul> <li>SWF/LF: Solid Waste Facility Database Source: Department of Ecology Telephone: 360-407-6132</li> <li>Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain facilities or landfills in a particular state. Depending on the state, these or open dumps that failed to meet RCRA Subtitle D Section 4004 crite sites.</li> </ul>	in an inventory of solid waste disposal may be active or inactive facilities ria for solid waste landfills or disposal
Date of Government Version: 09/01/00 Date Made Active at EDR: 12/22/00 Database Release Frequency: Annually	Date of Data Arrival at EDR: 11/30/00 Elapsed ASTM days: 22 Date of Last EDR Contact: 10/26/01
LUST: Leaking Underground Storage Tanks Site List Source: Department of Ecology Telephone: 360-407-7200 Leaking Underground Storage Tank Incident Reports. LUST records cont storage tank incidents. Not all states maintain these records, and the in	tain an inventory of reported leaking underground nformation stored varies by state.
Date of Government Version: 09/13/01 Date Made Active at EDR: 09/27/01 Database Release Frequency: Quarterly	Date of Data Arrival at EDR: 09/13/01 Elapsed ASTM days: 14 Date of Last EDR Contact: 09/13/01
<ul> <li>UST: Underground Storage Tank Database</li> <li>Source: Department of Ecology</li> <li>Telephone: 360-407-7170</li> <li>Registered Underground Storage Tanks. UST's are regulated under Subt Act (RCRA) and must be registered with the state department response</li> <li>information varies by state program.</li> </ul>	title I of the Resource Conservation and Recovery sible for administering the UST program. Available
Date of Government Version: 09/13/01 Date Made Active at EDR: 09/25/01 Database Release Frequency: Quarterly	Date of Data Arrival at EDR: 09/13/01 Elapsed ASTM days: 12 Date of Last EDR Contact: 09/13/01

STATE OF WASHINGTON ASTM SUPPLEMENTAL RECORDS

ICR: Independent Cleanup Reports

Source: Department of Ecology

Telephone: 360-407-7200

These are remedial action reports Ecology has received from either the owner or operator of the sites. These actions have been conducted without department oversight or approval and are not under an order or decree.

Date of Government Version: 10/31/01 Database Release Frequency: Quarterly

CSCSL NFA: Confirmed & Contaminated Sites - No Further Action

Source: Department of Ecology

Telephone: 360-407-7170

The data set contains information about sites previously on the Confirmed and Suspected Contaminated Sites list that have received a No Further Action (NFA) determination. Because it is necessary to maintain historical records of sites that have been investigated and cleaned up, sites are not deleted from the database when cleanup activities are completed. Instead, a No Further Action code is entered based upon the type of NFA determination the site received.

Date of Government Version: 05/30/01 Database Release Frequency: N/A

**EMI:** Washington Emissions Data System Source: Department of Ecology

Telephone: 360-407-6040

Date of Government Version: 12/31/99 Database Release Frequency: Annually

LOCAL RECORDS

KING COUNTY:

#### Abandoned Landfill Study in King County

Source: Seattle-King County Department of Public Health Telephone: 206-296-4785

The King County Abandoned Landfill Survey was conducted from October through December 1984 by the Health Department's Environmental Health Division at the request of the King County Council. The primary objective of the survey was to determine if any public health problems existed at the predetermined 24 sites.

Date of Government Version: 04/30/85 Database Release Frequency: No Update Planned

SEATTLE COUNTY:

#### Abandoned Landfill Study in the City of Seattle

Source: Seattle - King County Department of Public Health Telephone: 206-296-4785

The Seattle Abandoned Landfill Survey was conducted in June and July of 1984 by the Health Department's Environmental Health Division at the request of the Mayor's Office. The primary objective of the survey was to determine if any public health problems existed at the predetermined 12 sites.

Date of Government Version: 07/30/84 Database Release Frequency: No Update Planned Date of Last EDR Contact: 10/21/94 Date of Next Scheduled EDR Contact: N/A

Date of Last EDR Contact: 10/21/94

Date of Next Scheduled EDR Contact: N/A

### SEATTLE/KING COUNTY:

### Seattle - King County Abandoned Landfill Toxicity / Hazard Assessment Project

Source: Department of Public Health

Telephone: 206-296-4785

This report presents the Seattle-King County Health Department's follow-up investigation of two city owned and four county owned abandoned landfills which was conducted from February to December 1986.

Date of Last EDR Contact: 11/19/01 Date of Next Scheduled EDR Contact: 02/18/02

Date of Last EDR Contact: 10/24/01 Date of Next Scheduled EDR Contact: 01/21/02

Date of Next Scheduled EDR Contact: 02/18/02

Date of Last EDR Contact: 11/20/01

Date of Government Version: 12/31/86 Database Release Frequency: No Update Planned

#### SNOHOMISH COUNTY:

Solid Waste Sites of Record at Snohomish Health District Source: Snohomish Health District

Telephone: 206-339-5250

Date of Government Version: 01/08/01 Database Release Frequency: Semi-Annually

TACOMA/PIERCE COUNTY:

#### **Closed Landfill Survey**

Source: Tacoma-Pierce County Health Department Telephone: 206-591-6500

Following numerous requests for information about closed dumpsites and landfills in Pierce County, the Tacoma-Pierce County Health Department decided to conduct a study on the matter. The aim of the study was to evaluate public health risks associated with the closed dumpsites and landfills, and to determine the need, if any, for further investigations of a more detailed nature. The sites represent all of the known dumpsites and landfills closed after 1950.

Date of Government Version: 04/15/93 Database Release Frequency: No Update Planned Date of Last EDR Contact: 01/11/95 Date of Next Scheduled EDR Contact: N/A

#### EDR PROPRIETARY DATABASES

**Former Manufactured Gas (Coal Gas) Sites:** The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

#### Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

#### HISTORICAL AND OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

**Oil/Gas Pipelines/Electrical Transmission Lines:** This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

Date of Last EDR Contact: 08/14/95 Date of Next Scheduled EDR Contact: N/A

Date of Last EDR Contact: 10/24/01

Date of Next Scheduled EDR Contact: 01/21/02

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

### **GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM**

### TARGET PROPERTY ADDRESS

SKYLITE TRACTS SKYLITE TRACTS SULTAN, WA 98294

### TARGET PROPERTY COORDINATES

Latitude (North):	47.850281 - 47° 51' 1.0"
Longitude (West):	121.753983 - 121° 45' 14.3"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	593218.3
UTM Y (Meters):	5300192.5

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

### **GROUNDWATER FLOW DIRECTION INFORMATION**

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

### **TOPOGRAPHIC INFORMATION**

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2447121-G7 SULTAN, WA Source: USGS 7.5 min quad index

#### GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General North

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

### HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

#### FEMA FLOOD ZONE

Target Property County SNOHOMISH, WA	FEMA Flood <u>Electronic Data</u> YES - refer to the Overview Map and Detail Map
Flood Plain Panel at Target Property:	5355340510B / CBPP
Additional Panels in search area:	Not Reported
NATIONAL WETLAND INVENTORY	NWI Electronic
NWI Quad at Target Property SULTAN	<u>Data Coverage</u> YES - refer to the Overview Map and Detail Map

### HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*: Search Radius: 2.0 miles Status: Not found

### **AQUIFLOW®**

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

	LOCATION	GENERAL DIRECTION
MAP ID	FROM TP	GROUNDWATER FLOW
2	1 - 2 Miles NNE	Not Reported
3	1 - 2 Miles NW	Not Reported

For additional site information, refer to Physical Setting Source Map Findings.

### **GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

#### **GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY**

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

### **ROCK STRATIGRAPHIC UNIT**

**GEOLOGIC AGE IDENTIFICATION** 

Era:	Mesozoic	Category:	Eugeosynclinal Deposits
System:	Cretaceous	0.1	
Series:	Upper Mesozoic		
Code:	uMz/elecoded above as Era, System & Serie	es)	

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

### DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	PILCHUCK	
Soil Surface Texture:	loamy sand	
Hydrologic Group:	Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.	
Soil Drainage Class:	Somewhat excessive. Soils have high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.	
Hydric Status: Soil does not meet the requirements for a hydric soil.		
Corrosion Potential - Uncoated Steel:	MODERATE	
Depth to Bedrock Min:	> 60 inches	

Depth to Bedrock Max: > 60 inches

Soil Layer Information							
	Boundary		Classification				
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	20 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 6.10
2	20 inches	38 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 5.60
3	38 inches	60 inches	gravelly - sand	Granular materials (35 pct. or less passing No. 200), Stone Fragments, Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 20.00	Max: 7.30 Min: 6.10
4	60 inches	70 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 6.50 Min: 5.60

### OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures:	fine sandy loam silt loam silty clay loam gravelly - loam gravelly - coarse sand muck loam
Surficial Soil Types:	fine sandy loam silt loam silty clay loam gravelly - loam gravelly - coarse sand muck loam
Shallow Soil Types:	fine sandy loam silty clay loam silt loam peaty - silt loam loam sandy loam
Deeper Soil Types:	silt loam silty clay loam very gravelly - coarse sand stratified loamy fine sand very gravelly - sand sapric material sand very gravelly - loamy sand loamy sand

### ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

### WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS Federal FRDS PWS	1.000 Nearest PWS within 1 mile
State Database	1.000

### FEDERAL USGS WELL INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP
No Wells Found		

#### FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

### STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	WAGRP0000003026	0 - 1/8 Mile NNE

### PHYSICAL SETTING SOURCE MAP - 715833.2s



Cluster of Multiple Icons

TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG: Skylite Tracts Skylite Tracts Sultan WA 98294 47.8503 / 121.7540

CUSTOMER:
CONTACT:
INQUIRY #:
DATE:

Camp, Dresser, & McKee Craig Russell 715833.2s December 18, 2001 12:43 pm

### **GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS**

Map ID Direction Distance Elevation					Database	EDR ID Number
1 NNE 0 - 1/8 Mile Higher					WA WELLS	WAGRP0000003026
Source Name Township: QTR Section: Source Use: SP Y: PWS ID: Key ID:	e: WELL 27 : SWSW P 920837 80220 8022001		Range: Section: Source Type: SP X: PWS Name: Source:	08E 02 W 1692 SNC 01	: 12510 OHOMISH COUNTY PUD 1-SKYLITE TF	
2 NNE 1 - 2 Miles Higher	Site ID: Groundwater Flow: Shallowest Water Table Depth: Deepest Water Table Depth: Average Water Table Depth: Date:	Not Reported Not Reported 10.91 11.61 Not Reported 09/18/1995			AQUIFLOW	41846
3 NW 1 - 2 Miles Higher	Site ID: Groundwater Flow: Shallowest Water Table Depth: Deepest Water Table Depth: Average Water Table Depth: Date:	1773 Not Reported 7 12 Not Reported 07/31/1990			AQUIFLOW	41736

### AREA RADON INFORMATION

Federal EPA Radon Zone for SNOHOMISH County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Zip Code: 98294

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.100 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

### PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### HYDROLOGIC INFORMATION

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

### HYDROGEOLOGIC INFORMATION

### AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

#### **GEOLOGIC INFORMATION**

#### Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

#### STATSGO: State Soil Geographic Database

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

### ADDITIONAL ENVIRONMENTAL RECORD SOURCES

### FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

**USGS Water Wells:** In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

### PHYSICAL SETTING SOURCE RECORDS SEARCHED

### STATE RECORDS

#### Water Wells

Source: Department of Transportation Telephone: 360-705-7444 Group A well location points in Washington State.

Kitsap County Water Wells in Washington Source: Public Utility District No. 1 of Kitsap County Telephone: 206-779-7656

### RADON

**Area Radon Information:** The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

**EPA Radon Zones:** Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

### OTHER

**Epicenters:** World earthquake epicenters, Richter 5 or greater Source: Department of Commerce, National Oceanic and Atmospheric Administration

### NOTIFICATION OF WELLHEAD PROTECTION AREAS

David Jennings State Department of Health P.O. Box 47822 M/S 7822 Olympia, WA 98504-7822

Tom Niemann Snohomish County Department of Planning and Development Services 3000 Rockefeller, M/S 604 Everett, WA 98201-4046

Thanh Nguyen State Department of Transportation P.O. Box 47300 Olympia, WA 98504-7300

Kevin Plemmel Snohomish County Health District 3020 Rucker Ave. Everett, WA 98201-3971

Snohomish County Department of Emergency Management 3905 – 109th St. SW Everett WA 98204
### SAMPLE NOTICE OF WHPA BOUNDARY

May 15, 2002

Tom Niemann Snohomish County Department of Planning and Development Services 3000 Rockefeller, M/S 604 Everett, WA 98201-4046

Subject: Wellhead Protection, XXXX XXX Water System

As part of the wellhead protection program for the Snohomish County PUD Water Resources Division, we are hereby informing you of the findings of our updated Wellhead Protection Area Delineation. This is in accordance with State regulations (WAC 246-290-135).

The XXXX XXXX system supplies water to XXX connections, with a potential of serving over XXX This drinking water supply has a high susceptibility rating.

The enclosed map shows the one, five and ten year time of travel zones for our wellhead protection area. Ground water contamination that occurs within these zones has the potential of reaching the communities' drinking water supply. It is therefore of utmost importance to us that all reasonable steps be taken to ensure that land use activities within this area do not contaminate the groundwater.

Please notify us of actions within this WHPA that come to your attention and might also affect our water supply. Thank you for your support in protecting our drinking water.

Sincerely,

XXXXX Snohomish Co. PUD

#### TO BE MAILED TO CUSTOMERS WITH ON-SITE SEWAGE SYSTEMS

May 15, 2002

Re: Wellhead Protection-XXXXX XXXX Water System

Dear Property Owner:

In order to protect the drinking water supply for customers of the XXXX XXX Water System, we are developing a wellhead protection program in accordance with the State Department of Health requirements. As part of the wellhead protection program, we have mapped the area overlying the short term recharge zone of the well supplying your water. This is called the Wellhead Protection Area.

Following the mapping of the Wellhead Protection Area, we conducted an inventory of potential sources of ground water contamination within the area. The location of your septic system in relation to the Wellhead Protection Area means that there could be future impacts to the drinking water supply. We have notified the regulatory agencies of this situation.

We realize you are already careful to protect the environment in your daily activities and we hope that informing you of the Wellhead Protection Area will result in increased precautions to ensure your daily activities will not impact drinking water quality.

If you have questions or concern please contact us at (425) 783-8605.

Sincerely,

XXXXXX Snohomish Co. PUD

#### EMERGENCY RESPONSE AND CONTINGENCY PLAN

As a part of the Comprehensive Water System Plan (Comp Plan), Snohomish County PUD No. 1 (PUD) has incorporated a Wellhead Protection Plan for each of its groundwater systems. The plan includes an emergency response and contingency plan in order to identify the steps that should be taken in the event a contamination or potential contamination should occur. Water operations, engineering and regulatory personnel from the PUD's Water Resources Division are responsible for responding to emergencies related to ground water quality.

### **NOTIFICATION**

Telephone reports of potential emergencies may be received from anyone by phoning any PUD office. All phone numbers are listed in the business section of the Snohomish County phone directory. If another agency is notified, the office receiving the call will contact the PUD and the report is then relayed to the Water Resources Division.

Telephone reports made during non-working hours (hours other than 8:00 a.m. - 6:00 p.m.) may be made by dialing the phone number listed in the business section of the phone directory under "Emergencies - after 6 p.m. - (425) 783-1000 or 1-877-783-1000. This number connects the caller with the PUD's Dispatch Office who then contacts water personnel on 'stand-by'. A record of all customer concerns and the District's actions are recorded and kept on file.

### **ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES**

The Water Operations Manager (WOM) manages the Water Utility's field operations, maintenance activities, establishes work priorities, and assists in development of annual operations and capital budgets. The WOM is the main contact for emergency notification, depending on the severity of the situation; he will contact the appropriate agencies and or other PUD personnel.

The PUD's emergency response plan is designed to provide guidelines for a preliminary assessment of any report of a potential problem or emergency within 30 minutes of receiving notification of an incident. Upon receiving the report, the Water Operations Manager and appropriate crewmembers are notified and given the location of the potential problem. The report is immediately investigated, given an initial appraisal and a preliminary report is provided back to the Operations Manager. A detailed action plan is formulated to determine the exact cause and appropriate response. Plans are then made to begin repairs and/or provide alternative water sources.

The District maintains an extensive inventory of pipe, fittings, valves and repair materials for all types of sizes of pipes and appurtenances within the distribution system. A complete up to date list of all the materials and quantities is available.

### **COMMUNICATIONS**

The Washington State Department of Health (DOH) requires periodic reports that summarize the results of water quality testing. If any sample exceeds the Maximum Contaminant Level (MCL), a retest is conducted. If a sample exceeds the MCL for any category, a retest is conducted within 24 hrs, and both DOH and the public are notified in accordance with methods specified in WAC 248-54-255.

District staff utilizes conventional and cellular telephones, personal contact, and fax or mail services to notify customers of emergency conditions in the water system. All water shop personnel have portable radios. A personnel roster with assigned radio call numbers is available.

Snohomish County has been provided with the map identifying the Skylite Tracts Communities' Wellhead Time of Travel zones. In the event of a hazardous material spill within any of these zones, the county's Emergency Management Division should immediately contact the PUD for notification. We also communicate with the Department of Ecology, Department of Transportation, private businesses and local authorities about hazardous materials releases.

The District has a general Emergency Response Plan (ERP) that is a guide to responding to overall emergencies related to the PUD's water systems. This plan is outlined in Section 6.8 of the District's Comp Plan. Although many of these same responses apply to the WHP plan, the Contingency Plans are unique to each system. Some of the possible scenarios associated with the Skylite Tracts System are outlined below:

#### LOSS OF POWER

Currently the District has a 10 kw stationary propane-fueled generator that supplies emergency power to a 3 HP back-up submersible pump. The generator has sufficient fuel to operate for 30 days. In the event that a failure occurs with this generator and the system requires additional water, the District would provide a temporary portable generator within 8 hours.

#### LOSS OF WELL PUMP

The Skylite Tracts well has 2 submersible pumps installed – a 3 HP emergency back-up pump and a 5 HP main supply pump. If in the event that the main supply pump fails, the back-up pump will operate automatically. A proposed automatic control system will signal an alarm and the District will respond with appropriate measures. A replacement submersible pump can be installed in approximately 3 weeks. Water supply to the Skylite Tracts community would not be curtailed due having 2 source of supply pumps and the 100,000 gallon storage reservoir.

### DIMINISHED ABILITY TO DELIVER WATER

The Skylite Tracts customers would be notified of mandatory water conservation measures until the problem can be rectified. All non-essential uses of water will be discontinued. Water users will be encouraged to not hoard water but rather to conserve. The message will include a general description of the problem and give a preliminary timetable for the completion of repairs with scheduled informational updates to keep the water customers informed.

## COMPLETE LOSS OF A WELL

In the case of complete failure of the main source of supply, the PUD would provide immediate public notification. All non-essential uses of water will be discontinued. The message will include a general description of the problem and give a preliminary time table for the completion of repairs with scheduled informational updates to keep the water customers informed as to the progress of the repairs and the affects of the conservation measures.

The well will be taken off line and the system locked out immediately. An extensive review / analysis of the condition of the well would be accomplished. If it is determined that the well is not salvageable, the following alternatives would be evaluated:

1. Intertie with the City of Sultan:

This alternative would involve a pipeline from the City of Sultan. Such facilities would be cost prohibitive due to distance and environmental issues involved.

2. Intertie with other systems:

There are no other systems in the vicinity that are able to provide adequate supply. Research to determine whether any other supplies of adequate quality and quantity are available would need to be made.

3. New source of supply

Drilling a new replacement well in the vicinity would be the only viable solution.

### **PREVENTIVE MAINTENANCE**

### **MONITORING**

As part of the PUD's effort to ensure that the water quality in the Skylite Tracts Community is of excellent quality, we have retained the two older wells for the purposes of using them as monitoring wells. These wells will be tested on a regular basis to see if there are any trends in water quality developing in the area.

### **EDUCATION / COMMUNITY INVOLVEMENT**

As a matter of prevention rather than reaction, the PUD has begun educational campaigns from a couple of venues. These programs emphasize awareness of the physical characteristics of groundwater systems and how individual behaviors can protect the aquifer.

The PUD has played a key role as a member of the County's Ground Water Advisory Committee. Staff has been involved in the development of countywide issues and alternatives for groundwater protection.

Additionally staff has been instrumental in the development of brochures and an educational display addressing the importance of groundwater protection.

Early in 1997 a mailing was sent to residents of the area discussing the results of the potential contaminant inventory and announcing the development of a Wellhead Protection Program citizen involvement committee. A list of volunteers has been developed and each person has been informed has to what the requirements for the overall program are and what issues are specific to the Skylite Tracts well system.

#### **SECURITY**

Security is in place to protect system integrity and to minimize liability that the District might incur from intruders. All major facilities are securely fenced and locked when they are unattended. This includes all booster facilities, control equipment and storage reservoirs. These facilities are included in routine surveillance by District staff.

#### EMERGENCY ROSTER

Emergency rosters listing District staff and other local/state agency personnel are included. The responsibility for notification and providing direction is outlined below. A copy of these, with telephone numbers, is kept on file by PUD management and Dispatch personnel. Field personnel are assigned standby responsibilities on a rotating basis for after-hour callouts. Additional personnel are advised as necessary regarding the severity of the emergency.

#### **PRIORITIES**

A list of individuals and/or organizations with life-sustaining equipment that is dependent upon an uninterrupted supply of water and/or strict quality requirements is on file with District field staff, management, and Electric System Dispatch. A copy is in the District's O&M manual.

Where there is damage to District facilities, the Senior Manager and Operations Manager will assess damages and prioritize operational efforts, repairs and/or reconstruction. The order of priority includes:

- 1. Preservation of public health and safety: During an emergency a water system serves a dual role of providing water for consumption, sanitation and food preparation (public health), and fire protection (public safety). The District would strive to satisfy both roles, however, the District's primary focus would be to support public health.
- 2. Water quantity and quality: The District strives to provide a high quality product at all times, however, during extreme conditions, "boil water" orders, or purification tablets could be used if water is available but its quality is unreliable. The priority would be to provide the safest possible source of water, which may require supplemental treatment to ensure potability.

## LOCATION OF ACTIVITIES AND RESPONSIBILITIES

Emergency management activities will be conducted in the District's Electric Headquarters, 2320 California St., Everett, Washington, or at the local office in Arlington at 210 E. Division St.

The AGM of Water Resources (WAGM) will keep the Board of Commissioners and the General Manager apprised of the current status of all emergency situations, and as appropriate will request their presence at the facility where emergency management activities are taking place. He will also:

- > Analyze the situation and requests for assistance;
- Establish priorities for District response;
- Provide short-term planning (i.e., employee direction, return to work, restoration of work, media campaign);
- > Receive and evaluate reports and assessments from the Water Operations Manager;
- > Structure requests for outside assistance;
- > Coordinate the District's activities with outside organizations and agencies;
- > Communicate with the media, the public, and with District employees;
- > Provide for the continuation and the resumption of business.

The Water Operations Manager will report to the WAGM and will:

- > Assess the emergency;
- > Keep the WAGM informed;
- Direct emergency operations;
- > Oversee repair operations;
- > Work closely with the Water Foreman for allocations of materials, equipment and personnel;
- > Receive and record damage assessments;
- > Coordinate requests for assistance from outside organizations and agencies;
- > Document the use of District resources during the emergency;
- > Provide status summaries, as requested.

The Water Engineering Group report to the WAGM and will:

- > Assess the emergency;
- > Assess water quality and possible remediation;
- > Assist the Operations Manager in establishing priorities.
- > Direct mitigation, repair, and alternate site selection;
- > Assist in assessing remaining, useable equipment and supplies.

The Water Foreman will work closely with the Operations and Engineering Managers to:

- Assess system damage;
- > Make contact with end users regarding health and safety matters;
- > Direct the water field crew in Implementing and completing repairs and/or reconstruction;
- > Document actions taken by the field crew.

The Water Field Crew will:

- > Assist in assessing system damage and parts/supplies needed to effect repairs;
- > Assess remaining, undamaged equipment and supplies;
- > Execute repairs;
- > Maintain contact with Water Foreman.

The Maintenance Coordinator will be available to:

- > Answer the telephone at the Water Shop;
- > Maintain contact with the field.

The Water Support Services Group will:

- > Provide support and backup to the Maintenance Coordinator;
- > Maintain contact with staff families;
- > Assist in documenting actions.

## **EMERGENCY RESPONSE ROSTER**

## **General PUD Numbers**

Name	Business	Home	Pager
General Manager	Ed Hansen (425) 783-8473		
Asst. General Manager	Clair Olivers (425) 783-8606	(425) 252-4302	(425) 356-8776
Operations Mgr.	Ron Moir (425) 783-8614	(425) 353-7098	(425) 438-7493
Engineering Mgr.	Brant Wood (425) 783-8609	(360) 653-7033	(425) 397-5377

## Water Resources Employees

Name	Home	Pager	Name	Home	Pager
Dale Aschenbrenner.	397-6645	(425) 514-9562	Ron Moir	353-7908	(425) 438-7493
Arlee Barker	252-4097	(425) 335-6807			
Matt Coker	474-9062	(425) 438-7982	Ryan Schank	653-6945	(425) 356-8413
Peggy Coker	652-0494	(425) 335-6194	Scott Schuller	659-8674	(425) 335-9756
Jon Grenfell	826-4406	(425) 438-7478	Howard Smith	355-5278	. (425) 335-6806
Mark Price	793-1344	(425) 335-9883	Brant Wood	653-7033	(425) 397-5377
Jim Rose	435-6562	(425) 514-4498	Jamin Udman	258-9104	(425) 290-0369

## **Regional Emergency Call List**

Snohomish County Sheriff	911 or (425) 338-3393
East Precinct Snohomish Co. Sheriff	(360) 805-6770
Snohomish County Emergency Servic	es(425) 258-6461
Duty Officer	1-800-258-5990
City of Stanwood Public Works Depart	tment(360) 629-9781
Snohomish County Public Works	(425) 388-3488
State Department of Health	(253) 395-6766
Snohomish County Health District	(425)339-5210

## **Other Useful Phone Numbers**

#### Water Emergency Phone Number after 5:00 PM - (425) 783-1000

#### 1-877-783-1000

## **EMERGENCY RESPONSE AGENCIES**

Washington State	Patrol	(360) 658-2588
Washington State	Department of Health	(253) 395-6766
Washington State	Dept. of Fish & Wildlife	(425) 775-1311
Washington State	Dept. of Ecology	(360) 407-7144
Washington State	Dept. of Ecology	
	Toxics Cleanup	1-800-458-0920
Snohomish County		
	Health District	(425) 339-5210
	Emergency Management	(425) 258-6461
	DEM Duty Officer	1-800-258-5990
	Sheriff	911 or 425-388-3393
	Water Quality Violations	(425) 649-7229
	(24 hour spill hotline	(425) 649-7000

#### PUD Environmental Affairs

Transformer spills Water Resources (425) 783-5556 See Emergency Response Plan

# Appendix K

Sunday Lake Wellhead Protection Plan

#### APPENDIX K

#### SUNDAY LAKE WELLHEAD PROTECTION PLAN

This report completes the technical components of the Snohomish County Public Utility District No. 1 **Sunday Lake Water System Wellhead Protection Program (WHPP)**. The findings are based on a conceptual hydrogeologic (geology and ground water) model used to define the Wellhead Protection Areas (WHPA's) and an inventory of potential contaminant sources. The report also outlines District responsibilities for implementing the WHPP. These findings and recommendations are summarized below:

- The Sunday Lake Water System has one production well (Well 3). It was drilled in 1994 and is completed between depths of 364 and 431 feet below ground surface from an elevation about 210 feet above sea level. The well is currently pumped at the rate of 100 gpm.
- Well 3 is completed in a fine silty-sand aquifer overlain fine-grained silty, clayey sediments including 21 feet of glacial till. These overlying sediments help protect the aquifer from surface sources of contamination.
- The Sunday Lake system is located east of the City of Stanwood. Well 3 is situated within a flat, grass-covered community park at the west end of Sunday Lake. Local zoning is high density (1-2 DU/acre), rural residential and is bordered by medium density (1 DU/5acre). The area is a region of rolling hills no higher than 400 feet that drop off sharply into the Stillaguamish flood plain to the south. The system currently serves 105 connections and is not expandable without additional water rights. The District owns a 1.6-acre area around the well.
- Wellhead protection areas with 1-, 5-, and 10-year TOT zones were delineated for District wells using the EPA WHPA Code 2.2 analytical model (GPTRAC). The 10-year TOT is an elongated oval shape, extends over 1,450 feet up gradient (north) from the production well, and is about 700 feet wide.
- Upon review of the District's Susceptibility Assessment Survey Form, the DOH determined that the well has a "Low" susceptibility to surface sources of contamination.
- A contaminant inventory was conducted using data in governmental regulatory and permit files and from a field survey. The only potential contaminant source identified within the Sunday Lake WHPA was septic systems of nearby housing. These septic systems pose little risk to Sunday Well
   3, which is completed at a considerable depth and overlain by fine-grained sediments that protect it from surface sources of contamination. Water quality sampling has shown no significant concentration of nitrates in the well water that could indicate potential contamination by these septic systems.

### 1.0 INTRODUCTION

This report presents the Wellhead Protection Program (WHPP) for the Snohomish County Public Utility District No. 1 (District) Sunday Lake Water System. The report delineates Wellhead Protection Areas (WHPA's), identifies potential contaminant sources, analyses the risks within each WHPA, and provides contingency and emergency response plans in the event contamination occurs.

#### 1.1 SUSCEPTIBILITY ASSESSMENT

A Susceptibility Assessment Survey Form is required of public drinking water purveyors for each Group A well it owns and operates as the initial step in the WHPA process. The assessment form (included in Appendix A of the Sunday Lake WHPP provides information on well construction and production, local aquifer characteristics, and local potential contamination sources. The DOH responds to the surveys with a susceptibility rating that establishes the level of monitoring requirements for Volatile Organic Compounds (VOC's) and Synthetic Organic Compounds (SOC's). A variety of waivers can be applied for to reduce or eliminate monitoring and sampling requirements.

Based on review of the Susceptibility Assessment Survey Form, in 1996 the DOH issued a Susceptibility Waiver rating of "Low" for the Sunday Lake system. Wells with "Moderate" or "High" ratings are also rated for Pesticide Vulnerability. Sunday Lake Well 3 did receive Pesticide Vulnerability Waiver rating due to its low susceptibility rating.

### **1.2 WELLHEAD PROTECTION AREAS**

A WHPA is defined as the surface and subsurface area surrounding a well, wellfield, or spring supplying a public water supply through which potential contaminants are likely to pass and eventually reach the well(s). In Washington, WHPA's are defined by the time of travel (TOT) zones, the time needed for ground water to move from its point of infiltration to its point of discharge at the well.

The Washington WHPP requires a WHPA to be subdivided into four zones, which include:

- A sanitary control zone of 100 feet as required by WAC 246-290-135.
- Three primary zones based on 1-, 5-, and 10-year TOT rates.

An additional buffer zone (if warranted) may extend from the 10-year TOT to the ground water divide. This zone highlights areas where the aquifer may be particularly susceptible or vulnerable to contamination. The 10-year TOT boundary forms the boundary of the WHPA and defines the area to be inventoried and managed to reduce the risk of potential contamination.

The purpose of WHPA delineation is to describe the size and shape of that portion of the aquifer contributing ground water to the well or wellfield. This area is known as the well's zone of contribution. The portion of the zone of contribution contributing water to the well within a specified time period is known as the capture zone. The State's WHPP defines WHPA's as consisting of the 10-year time of travel capture zone. Data are usually insufficient to completely and accurately define the size and shape of this capture zone. For this reason, a series of approximation methods have been adopted by DOH to delineate a WHPA. These methods, in order of increasing complexity, data requirements, and increasingly good approximation of reality, are:

- Calculated Fixed Radius
- Analytical Models
- Hydrogeologic Mapping
- Numerical Flow/Transport Models

This investigation uses an analytical model to delineate District WHPA's. The analytical model employed here used mathematical methods to describe the idealized shape of each capture zone. The EPA has developed a set of analytical models that utilize aquifer properties to calculate the boundaries of the capture zone for a well or wells based on the annual withdrawal. These models include TOT calculations that allow determination of 1-, 5-, and 10-year capture zones.

The analytical model used in this investigation was the EPA WHPA (Code 2.2) module GPTRAC. GPTRAC is an acronym for "general particle tracking" module. It is capable of delineating time-related capture zones for a system of pumping and injection wells and accounts for the effects of well interference, stream or barrier aquifer boundaries, and aquifer recharge. The technical details and limitations of GPTRAC are described below.

The WHPA delineations are subject to the following assumptions and limitations:

- As indicated in the preceding discussion, the WHPA analytical models require the aquifer to be assigned specific attributes that may not be applicable over the whole aquifer. Moreover, assumptions made because of limited data could affect the size and shape of the WHPA delineations.
- The ground water flow direction in the aquifer is based on assumed hydraulic connections between widely spaced wells. The ground water flow direction could vary several degrees to either side of those selected for the WHPA delineations.
- The transmissivity for each aquifer was estimated from the Sunday Lake Well pumping test data. The transmissivities of the aquifers could differ from that estimated at a well. The transmissivity may change with distance from the data source because of variations in aquifer texture and thickness.

• The well pumping rates used in the analytical models were calculated from annual water rights. They assume the wells pump steadily at a reduced rate for 24 hours a day, 365 days a year. In practice the wells pump at a higher rate with significant periods of non-pumping. The variable pumping rates could result in a more diffuse capture zone than delineated.

#### 1.2.1 Setting

The Sunday Lake system has three well sites located east of the City of Stanwood in the NE 1/4 of the SW 1/4 of Section 26, Township 32 N, Range 4 E. Well 1 was drilled in 1965 to a depth of 203 feet and was the original Sunday Lake Production Well. It was discontinued due to deterioration. It is currently retained as a monitoring well.

Well 2 was intended as a replacement for the original well, but failed to produce the necessary quantity of water and was not put into service. It has been retained as a monitoring well and is located within thirty feet of Well 3.

Well 3 is situated within a flat, grass-covered community park at the west end of Sunday Lake. Local zoning is high density (1-2 DU/acre), rural residential and is bordered by medium density (1 DU/5acre). The area is a region of rolling hills no higher than 400 feet that drop off sharply into the Stillaguamish flood plain to the south. The system currently serves 105 connections and is not expandable without additional water rights.

### 1.2.2 Geology and Hydrogeology

Sunday Lake Well 3 was drilled in 1994 to a total depth of 443 feet. It is completed between depths of 364 and 431 feet from an elevation of about 210 feet in a fine silty-sand aquifer. Drilling encountered 21 feet of glacial till near the surface as well as other fine-grained silty, clayey sediments that overlie the aquifer and help protect it from surface sources of contamination. The aquifer has a transmissivity of about 11,000 gpd/ft. The ground water flow direction is to the south, as determined from local well water levels and the topography, which slopes to the south toward the Stillaguamish River.

#### 1.2.3 Delineation

A WHPA was delineated for The Sunday Lake system following the procedures described in Section 7.8 (Section 7, Source of Supply). The input data for each well are presented in Table 7-1 (Section 7, Source of Supply). The well location and delineated WHPA are shown on Figure 1 of the Sunday Lake WHPP. The model was run using the District's full water right amount of 40.5 af/yr, assuming the well pumped steadily at a reduced rate for 24 hours a day, 365 days a year. In practice the well pumps at about 100 gpm with significant periods of non-pumping.

As shown on Figure 1 of the Sunday Lake WHPP, the WHPA is an elongated oval shape, extends about 1,450 feet up gradient (north) from the production wells, and is about 700 feet wide. The 1-year time of travel is shown in red, the 5-year in green, and the 10-year in blue.

## 1.3 CONTAMINANT INVENTORY

#### 1.3.1 Need For Inventory

Most potential sources of contamination occur on the land surface or in near-surface soils. These potential sources can readily degrade ground water quality in the uppermost, unconfined aquifer. Although the uppermost aquifer is the most vulnerable to contamination, deeper, confined aquifers are susceptible to contamination where they are exposed in deep valleys and excavations or connected to the upper aquifer through hydrogeologic windows or poorly constructed wells. Preservation of high quality water supplies requires the identification and management of potential contaminant sources.

A contaminant inventory is required for all wellhead protection programs (WHPP's). The purpose of the inventory is to identify past, present, and proposed activities constituting potential sources of ground water contamination and those sources presenting a potential threat to a well or wellfield. For identified potential contaminant sources, the District is required to notify the responsible property owners and federal, state, or local agencies having jurisdiction. The Water System Plan must document inventory procedures and notification of responsible parties.

District personnel conducted the contaminant inventory following the guidelines set forth in Inventory of Potential Contaminant Sources in Washington's Wellhead Protection Areas published by the DOH in December 1993.

#### 1.3.2 Procedures

The contaminant inventory was conducted in two phases. In the first phase, the District contracted with EDR (E Data Resources, Inc.) to conduct a search of all governmental databases according to ASTM Standards (E 1527-97) for environmental site assessments. EDR searched 22 databases for potential sources within a one-mile radius area. EDR's report, with a map of the search area, is included in Appendix C of the Sunday Lake WHPP. It describes the potential contaminant sources and locates each potential source activity on a map.

The second phase consisted of a field survey conducted by District personnel. The purposes of the field survey was to verify the locations of activities appearing on the governmental lists and identify other existing potential contaminant sources. District personnel completed a Field Inventory Form for each site identified within a WHPA. The completed Field Survey Forms are included in Appendix B of the Sunday Lake WHPP.

### 1.3.3 Results

Potential contaminant sources identified within the Sunday Lake WHPA include the Sunday Lake Water Treatment Plant and septic systems of nearby housing. The water treatment plant utilizes potassium permanganate and sodium hypochlorite as oxidizers for iron/manganese removal. These chemicals are stored in manufactured containers and factory sealed jugs. Chemical testing reagents are also used for water quality testing purposes and are stored in manufactured containers. The septic systems pose little risk to Sunday Well 3, which is completed between the depths of 364 and 431 feet below ground surface and overlain by a considerable thickness of fine-grained silty, clayey sediments and 21 feet of glacial till that protect it from surface sources of contamination. Water quality sampling has shown no significant concentration of nitrates in the well water that could indicate potential contamination by these septic systems.

### 1.3.4 Inventory Updating

Since land use practices change over time, the DOH requires inventory data to be updated at least every two years. Documentation of the updating activity should be included in the District's Comprehensive Water System Plan.

#### 1.3.5 New Well Requirements

WAC 246-290-130 currently requires that a hydrologic assessment be completed and potential contaminant sources identified before a new or modified public water supply plan receives DOH approval. As part of the vulnerability assessment, the purveyor is required to delineate a Calculated Fixed Radius WHPA based on best available data and water right quantity. A preliminary contaminant inventory must be conducted within the WHPA and the vulnerability of the new source weighted against the costs of selecting an alternate site. Once the new source is approved by DOH, the District must delineate its WHPA and conduct a contaminant inventory/risk analysis of the WHPA.

### 1.4 NOTIFICATION - CONTAMINANT SOURCES/AGENCIES

The State's WHPP requires the District to notify:

- Property owners of all potential contaminant sources of their presence within a WHPA.
- The federal, state, or local regulatory agencies that have jurisdiction over each source.

Model letters from the District to the property owners (potential sources) and agencies are included in Appendix D of the Sunday Lake WHPP along with a list of agencies notified. Copies of each letter should be retained in District files.

## **1.5 CONTINGENCY PLANS**

The SDWA specifies that State WHPP's require purveyors of drinking water to develop contingency plans "... for the location and provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination...." The contingency plans should identify both short- and long-term alternative drinking water sources. According to the *Washington State Wellhead Protection Program*, the District, when developing these plans, should:

- 1. Identify maximum water system capacity in relation to source, distribution system, and water right restrictions; assume loss of the largest well/wellfield; and re-evaluate the consequences.
- 2. Evaluate the expansion options of the existing system's capacity to meet current water rights/availability.
- 3. Identify existing or potential interties with other public water systems and evaluate the ability to deliver water, assuming loss of the largest well/wellfield, and include costs associated with the purchase and/or delivery of alternate supplies. (Issues relating to water rights and use of water outside the service area should be considered.)
- 4. Evaluate current procedures and make recommendations on contingency plans for emergency events.
- 5. Identify future potential sources of drinking water and describe quality assurances and control methods to be applied to ensure protection of water quality prior to utilization as a drinking water supply.
- 6. Maintain a current list of appropriate emergency phone numbers.

A copy of the District's Emergency Response and Contingency Plan is included in Appendix E of the Sunday Lake WHPP.

#### 1.6 SPILL RESPONSE PLAN

The State WHPP requires that the District's WHPP include review and revision of incident and spill response measures within the WHPA's. Such a review is particularly important for WHPA's that are highly susceptible to surface contamination from material transport along main roads. The DOH recommends that the following groups be included in the review and revision:

- Local emergency responders (police, fire department)
- Ecology Spill Operations section

- Washington State Community, Trade and Economic Development Emergency Management Program
- Local health department
- Local emergency planning committees

## 2.0 LIMITATIONS

CDM prepared this report for exclusive use by Snohomish County Public Utility District No. 1. The analyses, conclusions, and recommendations in this report are based on information provided to CDM by the District, published data, reports, articles, data collected during this investigation, and CDM's experience and professional judgment. CDM cannot be responsible for the interpretation by others of the data contained herein. Use of this report for any purpose other than wellhead protection would be inappropriate.

Within the limitations of the scope, schedule, and budget, CDM's work was performed in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the project area. No other warranty, expressed or implied, is made.



#### Ground Water Contamination Susceptibility Assessment Survey Form Version 2.1

IMPORTANT!	Please complete one form for each ground water source
	(well, wellfield, spring) used in your water system.
	Photocopy as necessary.

#### PART I: System Information

Well owner/manager : <u>SNCHOMISH</u> Cour	NTY PUD NO.1
Water system name : SNO40MISH COUN	TY PUD - SUNDAY LAKE
County: SNOHCMISH	
Water system number: <u>35205D</u>	Source number: <u>SO3</u>
Well depth:436 (ft.) (From W	VFI form)
Source name: WELL # 3	· · · · · · · · · · · · · · · · · · ·
WA well identification tag number: <u>A</u> <u>B</u> <u>G</u>	<u>638</u>
Number of connections: 76 /135	Population served: 228 / 405 at build out
Township: <u>32 N</u>	Range:4
Section:26	1/4 1/4 Section: <u>NE 1/4</u> , SW 1/4
Latitude/longitude (if available):	/
How was lat./long. determined?	
global positioning device	_ survey topographic map

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

#### PART II: Well Construction and Source Information

1) Date well originally constructed:	7 / <u>29</u> / <u>94</u> month/day/year
last reconstruction:	/ / month/day/year
information unavaila	ble

10621 TODD ROAD EAST
PUYALLUP WA 98372
well driller unknown
B) Type of well:
Drilled: rotary bored $$ cable (percussion) Dug
Other: spring(s) lateral collector (Ranney)
drivenjettedother:
Additional comments:
4) Well report available? 🔨 YES (attach copy to form) NO
If no well log is available, please attach any other records documenting well construction; e.g. boring logs, "as built" sheets, engineering reports, well reconstruction logs.
5) Average pumping rate:(O)(gallons/min)
Source of information: <u>PUMP CURVE</u>
If not documented, how was pumping rate determined?
INTEND TO PUMP AT 100 gpm.
Pumping rate unknown
b) Is this source treated?
If so, what type of treatment:
disinfection filtration carbon filter air stripper other
Purpose of treatment (describe materials to be removed or controlled by treatment):
THIS WELL WILL BE TREATED FOR IRON + MANGANELE.
NOT YET DESIGNED OR CONSTRUCTED
) If source is chlorinated, is a chlorine residual maintained: YES NO
Residual level: (At the point closest to the source.)
Survey Form Ver. 2.1

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page 2

#### PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

$$_{-}$$
 < 20 ft ____ 20-50 ft ____ 50-100 ft ____ 100-200 ft  $_{-}$  > 200 ft 340 feet

____ information unavailable ('<' means less than; '> ' means greater than)

2) Depth to ground water (static water level):

___ < 20 ft ___ 20-50 ft ___ 50-100 ft 1 > 100 ft 177.2 Feet

____ flowing well/spring (artesian)

How was water level determined?

___ well log ___ other: ___ PUMPING TEST

____ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) or feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: <u>YES</u>  $\checkmark$  NO

×

5) Wellhead elevation (height above mean sea level):  $\partial 2Q$  (ft) APPIRCX.

How was elevation determined?  $\checkmark$  topographic map  $\checkmark$  Drilling/Well Log ____ altimeter

____ other: ____

_____ information unavailable

6) Contining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

evidence of a confining layer in well log

no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? ✓ YES ___ NO lowest confirming layer.

## 7) Sanitary setback:

< 100 ft* 100-120 ft 120-200 ft > 200 ft * if less than 100 ft describe the site conditions:	ì
RESTRICTIVE COVENANT ATTACHED.	
8) Wellhead construction:	
wellhead enclosed in a wellhouse	
controlled access (describe): WELL HEAD LO	DCATED INSIDE
A LOCKED VALLET.	
other uses for wellhouse (describe):	
no wellhead control	74
9) Surface seal: 18 ft	
— < 18 ft (no Department of Ecology approval)	('<' means less than)
$_{}$ < 18 ft (Approved by Ecology, include documentation)	('<' means less than)
$\sqrt{>18}$ ft 24 feet	('> ' means greater than)
depth of seal unknown	
no surface seal	
10) Annual rainfall (inches per year):	

____ 10-25 in/yr

____ < 10 in/yr

.

2.224

(

Survey Form Ver. 2.1 page 4

 $\sqrt{}$  > 25 in/yr

#### PART IV- Munning Your Ground Water Resource

	when the indext (11.1 MG at present)
1) Annual volume of water pumped: <u>ZOMG</u> (gallo	ns) ou pour a chu chun a co pour a co
How was this determined?	
meter	
estimated:pumping rate (	)
pump capacity (	)
V other: NUMIRER OF SERVICE C	ENNERTICIES 400 gal/Day x 365 Days/year
2) "Calculated Fixed Radius" estimate of ground wate (see Instruction Packet)	BUILD CUT PRESENT
6 month ground water travel time :	<u>(ft)</u> (40 +c
1 year ground water travel time :	_ <u>250</u> (ft) 200
5 year ground water travel time:	<u>(, 20</u> (ft) 440
10 year ground water travel time:	<u>\$30</u> (ft) 620
Information available on length of screened/	open interval?
VES NO	
Length of screened/open interval:57	(ft)
3) Is there a river, lake, pond, stream, or other obv boundary? / YES NO (mark and	ious surface water body within the 6 month time of travel identify on map). SEASCNAL STREAM
4) Is there a stormwater and/or wastewater facility, month time of travel boundary? YES	treatment lagoon, or holding pond located within the 6 $\sqrt{-1000}$ NO (mark and identify on map).
Comments:	
: 	
Survey	y Form Ver. 2.1
	page

## PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	l vear	5 year	unknown
likely pesticide application		<u> </u>	o jour	unknown
stormwater injection wells				
other injection wells				
abandoned ground water well				
landfills, dumps, disposal areas			<u> </u>	
known hazardous materials clean-up site				
water system(s) with known quality problems				
population density $> 1$ house/acre	$\overline{\checkmark}$	$\overline{\checkmark}$		
residences commonly have septic tanks			<u></u>	
Wastewater treatment lagoons				
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.)

(inter

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

+ West of the wellsite, property owners North lave Acress

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

A. <u>Nitrate</u> : (Nitrate MCL = 10 mg/l) Results greater than MCL	<u>YES</u>	<u>NO</u>	
< 2 mg/liter nitrate 2-5 mg/liter nitrate	<u></u>	<u></u>	
Nitrate sampling records unavailable			
<ul> <li>B. <u>VOCs</u>: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)</li> <li>Results greater than MCL or SAL</li> <li>VOCs detected at least once</li> <li>VOCs never detected</li> <li> VOC sampling records unavailable</li> </ul>	YES		
C. <u>EDB/DBCP</u> : (EDB MCL = $0.05 \text{ ug/l or } 0.00005 \text{ mg/l}$ DBCP MCL = $0.2 \text{ ug/l or } 0.0002 \text{ cm/l}$ )	<u>YES</u>	<u>N0</u>	#
EDB/DBCP detected below MCL at least once EDB/DBCP detected above MCL at least once EDB/DBCP never detected EDB/DBCP tests required but not yet completed EDB/DBCP tests not required			
D. <u>Other SOCs (Pesticides)</u> : Other SOCs detected (pesticides and other synthetic organic chemicals)	<u>YES</u>	<u>NO</u>	
Other SOC tests performed but none detected (list test methods in comments V Other SOC tests not performed			

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:

#### E. Bacterial contamination:

#### <u>YES NO</u>

NH.

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).

Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.

____ Source sampling records for bacteria unavailable

#### Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for these sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

 $\sqrt{\text{YES}}$  NO

Describe with references to map produced in Part IV:-

East and Northeast of the mellhead is a Shallow lake.

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

√ NO YES

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

√ NO YES

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

			YES	NO	unknown
< 6 month travel time				<u>.</u>	
6 month-1 year travel time				<u></u>	
1–5 year travel time	2			$\frac{}{}$	
5-10 year travel time				$\underline{\checkmark}$	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	YES	NO	unknown
< 1 year travel time		$\overline{\checkmark}$	
1-5 year travel time		$\frac{}{}$	
5-10 year travel time		$\checkmark$	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

FOR F	URTHUR	IN FORM	1A TICK	) <u>see</u> "	SUNDAY	LAKE
PRODU	LETTEN h	IELL 3	CONS	STRUCTION	V AND T	ETING
REPOR	T" PRE	PARED	BY	AGI.	OCTOBER	20, 1994
CN FI	LE WITH	Det	FCR	WATER	RIGHT	APPLICATION.
<u></u>						<u></u>

Suggestions and Comments

Did you attend one of the susceptibility workshops?	$\overline{\checkmark}$	(ES	NO
Did you find it useful?	_√ \	'ES	NO
Did you seek outside assistance to complete the assessmer	it?	<u> </u>	NO

. . . . . . . . . . . . . . . . . . . .

,

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.



1"=2000'





## 14-3

NATURAL GAMMA LOG

#### LITHOLOGIC LOG



Snohomish County PUD

Sunday Lake Well 3

AGI

TECHNOLOCIES

50

0

HYDROGEOLOGIC LOG

25

COUNTS / MINUTE

FIGURE 3

75

#### FIELD SURVEY FORM WELLHEAD PROTECTION PROGRAM

Sunday Lake WHPP – Appendix B

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1. SURVEY DATA	
Survey Person(s): Kon Moir WHPA (Name/Number): Sund	Lay Lake
Survey Date: 11002	9
2. ACTIVITY DATA	
BUSINESS NAME: Suchanish Confy POD #1	
BUSINESS ADDRESS: 25700 25 MANON PHONE	
Owner's Name: SAME	
Owner's Street Address:	
City: P.O. Bax 1107, EVENEIT, WA ZIP 98206	
Phone Number: (Business) 425-783-8614 (Home)	

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

#### **3. SITE ACTIVITY**

AGRICULTURAL (A)	nursery trees)	40 Incinerator
1 Chemical storage/handling	20 Laundromat	41 Landfill
(fertilizer, pesticide)	21 Lumber vard	42 Maintenance
2 Feedlot	22 Lumber mill	42 Maintenance
3 Manure storage	23 Medical facility	44 Road deising
	24 Paint shop	45 Stormwater pondo
COMMERCIAL (C)	25 Photo finishing	45 Stoffiwater policis
4 Airport	26 Printer	40 Transfer Station
5 Aerial spraving	27 Railroad tracks	47 Wastewater Ireat
6 Auto repair	/vard/maintenance	40 Highway/Street $\underline{\mathbf{x}}$
7 Boat vard	28 Road maintenance	49 Outry r-o-w <u>x</u>
8 Bulk petroleum	29 Scarp/junk ward	Vind.
storage/distribution	29 Searp/Julik yald	S1 Dourse tennession X
9 Bus maintenance	INDUSTRIAL (D	51 Power transmission <u>X</u>
10 Car wash	30 Asphalt plant	Water
11 Cemetery	31 Chemical Eacility	water well
12 Contractor's yard	22 Electrical plant	Abandoned
13 Dry cleaner	52 Electrical plant	Active <u>X</u>
14 Feed/grain store		Unused <u>X</u>
15 Euroiture	4D. UTHER CHEMICAL	
15 Tullilling	SIUKAGE	4d. CHEMICALS ONSITE
	Drums (55 gai)	Potassium Parmangunate
A ON SITE SOUDCES	Number S	146Sodim Humablante
4. ON-SITE SOURCES	Other types of containers	Anna Anna
4a. STORAGE TANKS	(Describe) GALON - PLASTIC	ASCOUBIC ACIN
Description	Drum/container age <u>1</u> wFCK	IESTING Rengents to IRUN
Number Volume	Chemicals used on-site	\$ Mangx where \$ E blovine Testing
1 10,000 q (ouclette	Transferred on-site	5 COMMENTS ON BACK
1 35 g Poly (Nada)	Site description	Steenheltis on BACK.
1 359 Poly (MUCH)		01-5175 20,000 gtaskis tor
Above Ground	4c. OTHER SOURCES	WATER TREATMENT PLANT BACKWASH
Bare steel on cradles	Dry well	Recycle.
Bare steel at grade	Septic system	
Soil exposed	Storm water pond	P IC I I AAA
Concrete pad	Soil-lined	EUVAL/SUBUVBAY ARDA
Below Ground	Impermeable liner	
Bare steel		
Double-walled	33 Electroplating	
Cathode-protected	34 Machine shop	
Fiber-reinforced	35 Metal fabricator	
In Ground Concrete	36 Mining	
( TAKTIAL)	37 Petroleum facility	
16 Gas station/store	38 Wood treatment	
17 Gas station/repair		
18 Golf course	PUBLIC (P)	
19 Horticulture (crop,	39 Fire training	

#### FIELD SURVEY FORM WELLHEAD PROTECTION PROGRAM

WELLHEAD PROTECTION PROGRAM	SITE NUMBER
1. SURVEY DATA Survey Person(s): Ron Moik Survey Date: 110002 2. ACTIVITY DATA BUSINESS NAME: Supplementation of the VE Vicinii + 4	WHPA (Name/Number): Sunday LANE
BUSINESS ADDRESS: Owner's Name:	PHONE
Owner's Street Address:	
City:	ZIP
Phone Number: (Business) (Hor	me)
("here each activity accurring at the site to sate it is	

2

ls

Check each activity occurring at the site. An activity may have several contamination sources, such as underground tanks, dry well or septic system, or chemicals in drums. Check the appropriate on-site source(s) in section 4 below.

#### 3. SITE ACTIVITY

-----

#### AGRICULTURAL (A)

AGRICULTURAL (A)	nursery, trees)	40 Incinerator
1 Chemical storage/handling	20 Laundromat	40 Incinctator
(fertilizer, pesticide)	21 Lumber vard	41 Lalionna
2 Feedlot	22 Lumber mill	42 Maintenance
3 Manure storage	23 Medical facility	43 Recycling center
	24 Paint shop	44 Road delcing
COMMERCIAL (C)	25 Photo finishing	45 Stornwater ponds
4 Airport	26 Printer	40 Transfer station
5 Aerial spraying	27 Railroad tracks	47 wastewater treat
6 Auto repair	/vard/maintenance	48 Highway/Street
7 Boat yard	28 Road maintenance	49 Utility r-o-w
8 Bulk petroleum	29 Scarp/junk vard	50 Pipeline
storage/distribution		Kind:
9 Bus maintenance	INDUSTRIAL	51 Power transmission $\checkmark$
10 Car wash	30 Asphalt plant	<b>W F</b>
11 Cemetery	31 Chemical Engility	Water well
12 Contractor's vard	32 Electrical plant	Abandoned
13 Dry cleaner	52 Electrical plant	Active
14 Feed/grain store	the OTHER ( OTHER CAR	Unused
15 Furniture	40. OTHER CHEMICAL	· · · · · · · · · · · · · · · · · · ·
stripping/repair	Drume (55 and)	4d. CHEMICALS ONSITE
empping repair	Drums (55 gai)	Normal Wousehold Chemic
4 ON-SITE SOURCES	Number	
4a STORAGE TANKS	(Derective)	
Description		
Number Volume	Drum/container age	
i vulliber v olulile	Chemicals used on-site	
	I ransferred on-site	5 COMMENTS ON DACK
	Site description	S. COMMENTS ON BACKS
Above Cround		Dunde tamily Nume
Bare steel on gradier	4c. OTHER SOURCES	
Date steel of craules	Dry well	RWALL SUDDAN MOTA
Sail surgers d	Septic system	
Concerts and	Storm water pond	
Below Grand	Soil-lined	NO COMMERCIAL [Industrial
Delow Ground	Impermeable liner	•
Double-walled	33 Electroplating	
Cathode-protected	34 Machine shop	
Fiber-reinforced	35 Metal fabricator	
In Ground Concrete	36 Mining	
	37 Petroleum facility	
16 Gas station/store	38 Wood treatment	
1 / Gas station/repair		
18 Golf course	PUBLIC (P)	
19 Horticulture (crop,	39 Fire training	



## The EDR Radius Map with GeoCheck[®]

Sunday Lake Sunday Lake Stanwood, WA 98292

Inquiry Number: 715833.1s

**December 18, 2001** 

## *The* Source For Environmental Risk Management Data

3530 Post Road Southport, Connecticut 06490

**Nationwide Customer Service** 

 Telephone:
 1-800-352-0050

 Fax:
 1-800-231-6802

 Internet:
 www.edrnet.com
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### **GEOCHECK ADDENDUM**

Physical Setting Source Addendum	<b>A-1</b>
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Physical Setting Source Records Searched	A-10

*Thank you for your business.* Please contact EDR at 1-800-352-0050 with any questions or comments.

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### **EXECUTIVE SUMMARY**

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

#### TARGET PROPERTY INFORMATION

#### ADDRESS

SUNDAY LAKE STANWOOD, WA 98292

#### COORDINATES

Latitude (North): 48.229500 - 48° 13' 46.2" Longitude (West): 122.262970 - 122° 15' 46.7" Universal Tranverse Mercator: Zone 10 UTM X (Meters): 554736.4 UTM Y (Meters): 5341852.5

#### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: Source:

2448122-B3 STANWOOD, WA USGS 7.5 min quad index

#### TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

#### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

#### FEDERAL ASTM STANDARD

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information
	System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
CORRACTS	Corrective Action Report
RCRIS-TSD	Resource Conservation and Recovery Information System
RCRIS-LQG	Resource Conservation and Recovery Information System
RCRIS-SQG	Resource Conservation and Recovery Information System
ERNS	Emergency Response Notification System

#### STATE ASTM STANDARD

CSCSL	Confirmed & Suspected Contaminated Sites List
HSL	Hazardous Sites List
SWF/LF	Solid Waste Facility Database
LUST	Leaking Underground Storage Tanks Site List

# **EXECUTIVE SUMMARY**

UST..... Underground Storage Tank Database

### FEDERAL ASTM SUPPLEMENTAL

CONSENT	Superfund (CERCLA) Consent Decrees Records Of Decision
Delisted NPL	National Priority List Deletions
FINDS	Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS	Hazardous Materials Information Reporting System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
NPL Liens	Federal Superfund Liens
PADS	PCB Activity Database System
RAATS	RCRA Administrative Action Tracking System
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, &
	Rodenticide Act)/TSCA (Toxic Substances Control Act)

### STATE OR LOCAL ASTM SUPPLEMENTAL

WA ICR	Independent Cleanup Reports
CSCSL NFA	Confirmed & Contaminated Sites - No Further Action
EMI	Washington Emissions Data System

### EDR PROPRIETARY DATABASES

Coal Gas_____ Former Manufactured Gas (Coal Gas) Sites

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

# **EXECUTIVE SUMMARY**

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CHEVRON BULK PLANT COPELAND	CSCSL
WARM BEACH (LK GOODWIN) SWLF	SWF/LF
TWIN CITY AUTO PARTS MRWF	SWF/LF
GTE CAMANO ISLAND C O 2550-B02	UST
1302 STANWOOD EXXON	UST
LENZ ENTERPRISES, INC.	UST
FOREST LAND SERVICES, INC.	UST
CLIFF ROBERTS	UST
IMPRESSIONS WORLDWIDE INC	RCRIS-SQG, FINDS
WA DOT STILLAGUAMISH RIVER BRG 5322	RCRIS-SQG, FINDS
LAKE GOODWIN RV PARK	ERNS
CAMWOOD PLAZA	WA ICR
TIME OIL #01 162	WA ICR
TIME OIL #01 162	WA ICR
CHEVRON BULK FACILITY (FORMER)	WA ICR
CHEVRON BULK FACILITY (FORMER) (FOUR REPORTS)	WA ICR
NORTHWIND LOG & EXPORT CO.	WA ICR
NORTHWEST PIPELINE METER STATIONS - OAK HARBOR STN	WA ICR
UNOCAL #0171	WA ICR



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG: Sunday Lake Sunday Lake Stanwood WA 98292 48.2295 / 122.2630 CUSTOMER: CONTACT: INQUIRY #: DATE: Camp, Dresser, & McKee Craig Russell 715833.1s December 18, 2001 12:43 pm



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG: Sunday Lake Sunday Lake Stanwood WA 98292 48.2295 / 122.2630 CUSTOMER: CONTACT: INQUIRY #: DATE: Camp, Dresser, & McKee Craig Russell 715833.1s December 18, 2001 12:43 pm

# **MAP FINDINGS SUMMARY**

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD	<u>)</u>							
NPL Proposed NPL CERCLIS CERC-NFRAP CORRACTS RCRIS-TSD RCRIS Lg. Quan. Gen. RCRIS Sm. Quan. Gen. ERNS		1.000 1.000 0.500 0.250 1.000 0.500 0.250 0.250 TP	0 0 0 0 0 0 NR	0 0 0 0 0 0 0 NR	0 0 NR 0 0 NR NR NR	0 NR NR 0 NR NR NR NR	NR NR NR NR NR NR NR NR	
CSCSI		1 000	0	0	0	0	NR	0
HSL State Landfill LUST UST		1.000 0.500 0.500 0.250	0 0 0 0	0 0 0 0	0 0 0 NR	0 NR NR NR	NR NR NR NR	0 0 0 0
FEDERAL ASTM SUPPLEME	NTAL							
CONSENT ROD Delisted NPL FINDS HMIRS MLTS MINES NPL Liens PADS RAATS TRIS TSCA FTTS		1.000 1.000 TP TP TP 0.250 TP TP TP TP TP TP	0 0 NR NR 0 NR NR NR NR NR NR	0 0 NR NR 0 NR NR NR NR NR NR NR	0 0 NR NR NR NR NR NR NR NR NR NR	0 0 NR NR NR NR NR NR NR NR NR NR	NR NR NR NR NR NR NR NR NR NR NR	
STATE OR LOCAL ASTM SU	PPLEMENTAL	=						
WA ICR CSCSL NFA WA Emissions	ASES	0.500 TP TP	0 NR NR	0 NR NR	0 NR NR	NR NR NR	NR NR NR	0 0 0
EDR PROPRIETART DATAB	A3E3							
Coal Gas AQUIFLOW - see EDR Phy	sical Setting	1.000 Source Adder	0 ndum	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

EDR ID Number Database(s) EPA ID Number

#### Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

**ORPHAN SUMMARY** 

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
CAMANO ISLAND	U003025833	GTE CAMANO ISLAND C O 2550-B02	RT 1 STNWD/LT	98292	UST	12317
CAMANO ISLAND	1001600570	IMPRESSIONS WORLDWIDE INC	899 SR 532	98292	RCRIS-SQG, FINDS	
STANWOOD	S103505783	CAMWOOD PLAZA	271ST STREET NW	98292	WAICR	
STANWOOD	1001969732	WA DOT STILLAGUAMISH RIVER BRG 5322	SR 532 MP 3.39 TO MP 3.48	98292	RCRIS-SQG, FINDS	
STANWOOD	S103850761	TIME OIL #01 162	10315 SR 532	98292	WAICR	
STANWOOD	S103850955	TIME OIL #01 162	40315 HWY 532	98292	WAICR	
STANWOOD	U000921645	1302 STANWOOD EXXON	9810 HWY 532	98292	UST	6247
STANWOOD	U003025380	LENZ ENTERPRISES, INC.	5410 SR 632	98292	UST	10557
STANWOOD	S104179656	WARM BEACH (LK GOODWIN) SWLF	18520 FARNK WATER RD	98292	SWF/LF	
STANWOOD	S103084097	CHEVRON BULK PLANT COPELAND	27010 FLORENCE DR	98292	CSCSL	2856
STANWOOD	S103511571	CHEVRON BULK FACILITY (FORMER)	27010 FLORENCE DR.	98292	WAICR	
STANWOOD	S103850721	CHEVRON BULK FACILITY (FORMER) (FOUR REPORTS)	27010 FLORENCE DR.	98292	WA ICR	
STANWOOD	8858209	LAKE GOODWIN RV PARK	LAKE GOODWIN RV PARK		ERNS	
STANWOOD	S103508453	NORTHWIND LOG & EXPORT CO.	MERSEYSIDE LANE/DRY LAKE ROAD/ELGER B ROAD	98292	WAICR	
STANWOOD	S103508445	NORTHWEST PIPELINE METER STATIONS - OAK HARBOR STN	250 FT. N. OF CAMANO IS. BRIDGE APPROACH	98292	WAICR	
STANWOOD	S103504083	UNOCAL #0171	8513 271ST NW	98292	WAICR	
STANWOOD	S104179651	TWIN CITY AUTO PARTS MRWF	10410 269TH NW / 10430 SARATOGA DR	98292	SWF/LF	
STANWOOD	U003027624	FOREST LAND SERVICES, INC.	26700 PIONEER HWY	98292	UST	6103
STANWOOD	U003026762	CLIFF ROBERTS	30505 STATE RD 5	98292	UST	3824

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

#### FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List

#### Source: EPA Telephone: N/A

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/22/01 Date Made Active at EDR: 12/11/01 Database Release Frequency: Semi-Annually

#### **NPL Site Boundaries**

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC) Telephone: 202-564-7333

EPA Region 1 Telephone 617-918-1143

EPA Region 3 Telephone 215-814-5418

EPA Region 4 Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Source: EPA Telephone: N/A

> Date of Government Version: 10/22/01 Date Made Active at EDR: 12/11/01 Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 11/05/01 Elapsed ASTM days: 36 Date of Last EDR Contact: 11/05/01

EPA Region 6 Telephone: 214-655-6659

EPA Region 8 Telephone: 303-312-6774

> Date of Data Arrival at EDR: 11/05/01 Elapsed ASTM days: 36 Date of Last EDR Contact: 11/05/01

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

Source: EPA

Telephone: 703-413-0223

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/12/01 Date Made Active at EDR: 10/16/01 Database Release Frequency: Quarterly Date of Data Arrival at EDR: 09/24/01 Elapsed ASTM days: 22 Date of Last EDR Contact: 09/24/01

#### **CERCLIS-NFRAP:** CERCLIS No Further Remedial Action Planned

Source: EPA Telephone: 703-413-0223

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 07/12/01 Date of Data Arrival at EDR: 09/24/01 Date Made Active at EDR: 10/16/01 Elapsed ASTM days: 22 Database Release Frequency: Quarterly Date of Last EDR Contact: 09/24/01 CORRACTS: Corrective Action Report Source: EPA Telephone: 800-424-9346 CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. Date of Government Version: 09/20/01 Date of Data Arrival at EDR: 09/24/01 Date Made Active at EDR: 10/30/01 Elapsed ASTM days: 36 Database Release Frequency: Semi-Annually Date of Last EDR Contact: 09/11/01 RCRIS: Resource Conservation and Recovery Information System Source: EPA/NTIS Telephone: 800-424-9346 Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Date of Government Version: 06/21/00 Date of Data Arrival at EDR: 07/10/00 Date Made Active at EDR: 07/31/00 Elapsed ASTM days: 21 Date of Last EDR Contact: 11/07/01 **Database Release Frequency: Varies** ERNS: Emergency Response Notification System Source: EPA/NTIS Telephone: 202-260-2342 Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances. Date of Government Version: 08/08/00 Date of Data Arrival at EDR: 08/11/00 Date Made Active at EDR: 09/06/00 Elapsed ASTM days: 26 Date of Last EDR Contact: 10/25/01 Database Release Frequency: Varies FEDERAL ASTM SUPPLEMENTAL RECORDS BRS: Biennial Reporting System Source: EPA/NTIS Telephone: 800-424-9346 The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities. Date of Government Version: 12/31/99 Date of Last EDR Contact: 09/18/01 Database Release Frequency: Biennially Date of Next Scheduled EDR Contact: 12/17/01 CONSENT: Superfund (CERCLA) Consent Decrees Source: EPA Regional Offices Telephone: Varies Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters. Date of Government Version: N/A Date of Last EDR Contact: N/A Database Release Frequency: Varies Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision

Source: NTIS

Telephone: 703-416-0223

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/30/00 Database Release Frequency: Annually	Date of Last EDR Contact: 10/09/01 Date of Next Scheduled EDR Contact: 01/07/02
<ul> <li>DELISTED NPL: National Priority List Deletions</li> <li>Source: EPA</li> <li>Telephone: N/A</li> <li>The National Oil and Hazardous Substances Pollution Contingency</li> <li>EPA uses to delete sites from the NPL. In accordance with 40 CF</li> <li>NPL where no further response is appropriate.</li> </ul>	Plan (NCP) establishes the criteria that the R 300.425.(e), sites may be deleted from the
Date of Government Version: 11/13/01 Database Release Frequency: Semi-Annually	Date of Last EDR Contact: 11/05/01 Date of Next Scheduled EDR Contact: 02/04/02
<ul> <li>FINDS: Facility Index System/Facility Identification Initiative Program S Source: EPA</li> <li>Telephone: N/A</li> <li>Facility Index System. FINDS contains both facility information and ' detail. EDR includes the following FINDS databases in this report Information Retrieval System), DOCKET (Enforcement Docket us enforcement cases for all environmental statutes), FURS (Federa Docket System used to track criminal enforcement actions for all Information System), STATE (State Environmental Laws and State)</li> </ul>	Summary Report pointers' to other sources that contain more :: PCS (Permit Compliance System), AIRS (Aerometric sed to manage and track information on civil judicial al Underground Injection Control), C-DOCKET (Criminal environmental statutes), FFIS (Federal Facilities tutes), and PADS (PCB Activity Data System).
Date of Government Version: 10/29/01 Database Release Frequency: Quarterly	Date of Last EDR Contact: 10/08/01 Date of Next Scheduled EDR Contact: 01/07/02
HMIRS: Hazardous Materials Information Reporting System Source: U.S. Department of Transportation Telephone: 202-366-4526 Hazardous Materials Incident Report System. HMIRS contains haza Date of Government Version: 05/31/01 Database Release Frequency: Appually	Irdous material spill incidents reported to DOT. Date of Last EDR Contact: 10/22/01 Date of Next Scheduled EDR Contact: 01/21/02
<ul> <li>MLTS: Material Licensing Tracking System Source: Nuclear Regulatory Commission Telephone: 301-415-7169</li> <li>MLTS is maintained by the Nuclear Regulatory Commission and cor possess or use radioactive materials and which are subject to NR EDR contacts the Agency on a quarterly basis.</li> <li>Date of Government Version: 05/29/01</li> <li>Database Release Frequency: Quarterly</li> </ul>	ntains a list of approximately 8,100 sites which C licensing requirements. To maintain currency, Date of Last EDR Contact: 10/08/01 Date of Next Scheduled EDR Contact: 01/07/02
MINES: Mines Master Index File Source: Department of Labor, Mine Safety and Health Administratic Telephone: 303-231-5959 Date of Government Version: 08/24/01	Date of Last EDR Contact: 10/01/01
<ul> <li>NPL LIENS: Federal Superfund Liens</li> <li>Source: EPA</li> <li>Telephone: 205-564-4267</li> <li>Federal Superfund Liens. Under the authority granted the USEPA by and Liability Act (CERCLA) of 1980, the USEPA has the authority to recover remedial action expenditures or when the property owr USEPA compiles a listing of filed notices of Superfund Liens.</li> </ul>	y the Comprehensive Environmental Response, Compensation to file liens against real property in order her receives notification of potential liability.

Date of Government Version: 10/15/91 Database Release Frequency: No Update	Planned	Date of Last EDR Contact: 11/19/01 Date of Next Scheduled EDR Contact: 02/18/02
PADS: PCB Activity Database System Source: EPA Telephone: 202-260-3936 PCB Activity Database. PADS Identifies gener of PCB's who are required to notify the EP/	rators, transporters, commercial storer A of such activities.	s and/or brokers and disposers
Date of Government Version: 09/30/01 Database Release Frequency: Annually		Date of Last EDR Contact: 11/13/01 Date of Next Scheduled EDR Contact: 02/12/02
<ul> <li>RAATS: RCRA Administrative Action Tracking Source: EPA</li> <li>Telephone: 202-564-4104</li> <li>RCRA Administration Action Tracking System pertaining to major violators and includes a actions after September 30, 1995, data ent the database for historical records. It was n made it impossible to continue to update the</li> </ul>	System . RAATS contains records based on end dministrative and civil actions brought ry in the RAATS database was discom ecessary to terminate RAATS becaus e information contained in the database	nforcement actions issued under RCRA by the EPA. For administration tinued. EPA will retain a copy of e a decrease in agency resources se.
Date of Government Version: 04/17/95 Database Release Frequency: No Update	Planned	Date of Last EDR Contact: 09/13/01 Date of Next Scheduled EDR Contact: 12/10/01
<ul> <li>TRIS: Toxic Chemical Release Inventory System Source: EPA</li> <li>Telephone: 202-260-1531</li> <li>Toxic Release Inventory System. TRIS identifier</li> <li>Iand in reportable quantities under SARA T</li> </ul>	n es facilities which release toxic chemic itle III Section 313.	cals to the air, water and
Date of Government Version: 12/31/99 Database Release Frequency: Annually		Date of Last EDR Contact: 09/24/01 Date of Next Scheduled EDR Contact: 12/24/01
TSCA: Toxic Substances Control Act Source: EPA Telephone: 202-260-1444 Toxic Substances Control Act. TSCA identifies TSCA Chemical Substance Inventory list. It site.	s manufacturers and importers of chen includes data on the production volun	nical substances included on the ne of these substances by plant
Date of Government Version: 12/31/98 Database Release Frequency: Every 4 Yea	ars	Date of Last EDR Contact: 10/24/01 Date of Next Scheduled EDR Contact: 01/21/02
FTTS: FIFRA/ TSCA Tracking System - FIFRA ( Source: EPA/Office of Prevention, Pesticides Telephone: 202-564-2501 FTTS tracks administrative cases and pesticic TSCA and EPCRA (Emergency Planning a Agency on a quarterly basis.	Federal Insecticide, Fungicide, & Rode and Toxic Substances le enforcement actions and compliance nd Community Right-to-Know Act). To	enticide Act)/TSCA (Toxic Substances Control Act) e activities related to FIFRA, maintain currency, EDR contacts the
Date of Government Version: 07/19/01 Database Release Frequency: Quarterly		Date of Last EDR Contact: 09/25/01 Date of Next Scheduled EDR Contact: 12/24/01
FTTS INSP: FIFRA/ TSCA Tracking System - FI Source: EPA Telephone: 202-564-2501	FRA (Federal Insecticide, Fungicide, 8	& Rodenticide Act)/TSCA (Toxic Substances Control Act)
Date of Government Version: 07/19/01		Date of Last EDR Contact: 09/25/01

Date of Government Version: 07/19/01 Database Release Frequency: Quarterly Date of Last EDR Contact: 09/25/01 Date of Next Scheduled EDR Contact: 12/24/01

#### STATE OF WASHINGTON ASTM STANDARD RECORDS

quivalent to CERCLIS. These sites ed for cleanup using state funds be paid for by potentially
Date of Data Arrival at EDR: 06/11/01 Elapsed ASTM days: 30 Date of Last EDR Contact: 11/20/01
ave been assessed and ranked
Date of Data Arrival at EDR: 09/10/01 Elapsed ASTM days: 23 Date of Last EDR Contact: 09/10/01
tory of solid waste disposal ctive or inactive facilities I waste landfills or disposal
Date of Data Arrival at EDR: 11/30/00 Elapsed ASTM days: 22 Date of Last EDR Contact: 10/26/01
entory of reported leaking underground stored varies by state.
Date of Data Arrival at EDR: 09/13/01 Elapsed ASTM days: 14 Date of Last EDR Contact: 09/13/01
Resource Conservation and Recovery ministering the UST program. Available
Date of Data Arrival at EDR: 09/13/01 Elapsed ASTM days: 12 Date of Last EDR Contact: 09/13/01

STATE OF WASHINGTON ASTM SUPPLEMENTAL RECORDS

ICR: Independent Cleanup Reports

Source: Department of Ecology

Telephone: 360-407-7200

These are remedial action reports Ecology has received from either the owner or operator of the sites. These actions have been conducted without department oversight or approval and are not under an order or decree.

TC715833.1s Page GR-5

Date of Government Version: 10/31/01 Database Release Frequency: Quarterly

CSCSL NFA: Confirmed & Contaminated Sites - No Further Action

Source: Department of Ecology

Telephone: 360-407-7170

The data set contains information about sites previously on the Confirmed and Suspected Contaminated Sites list that have received a No Further Action (NFA) determination. Because it is necessary to maintain historical records of sites that have been investigated and cleaned up, sites are not deleted from the database when cleanup activities are completed. Instead, a No Further Action code is entered based upon the type of NFA determination the site received.

Date of Government Version: 05/30/01 Database Release Frequency: N/A

**EMI:** Washington Emissions Data System Source: Department of Ecology

Telephone: 360-407-6040

Date of Government Version: 12/31/99 Database Release Frequency: Annually

LOCAL RECORDS

KING COUNTY:

#### Abandoned Landfill Study in King County

Source: Seattle-King County Department of Public Health Telephone: 206-296-4785

The King County Abandoned Landfill Survey was conducted from October through December 1984 by the Health Department's Environmental Health Division at the request of the King County Council. The primary objective of the survey was to determine if any public health problems existed at the predetermined 24 sites.

Date of Government Version: 04/30/85 Database Release Frequency: No Update Planned

SEATTLE COUNTY:

#### Abandoned Landfill Study in the City of Seattle

Source: Seattle - King County Department of Public Health Telephone: 206-296-4785

The Seattle Abandoned Landfill Survey was conducted in June and July of 1984 by the Health Department's Environmental Health Division at the request of the Mayor's Office. The primary objective of the survey was to determine if any public health problems existed at the predetermined 12 sites.

Date of Government Version: 07/30/84 Database Release Frequency: No Update Planned Date of Last EDR Contact: 10/21/94 Date of Next Scheduled EDR Contact: N/A

#### SEATTLE/KING COUNTY:

### Seattle - King County Abandoned Landfill Toxicity / Hazard Assessment Project

Source: Department of Public Health

Telephone: 206-296-4785

This report presents the Seattle-King County Health Department's follow-up investigation of two city owned and four county owned abandoned landfills which was conducted from February to December 1986.

Date of Last EDR Contact: 11/19/01 Date of Next Scheduled EDR Contact: 02/18/02

Date of Next Scheduled EDR Contact: 01/21/02

Date of Next Scheduled EDR Contact: 02/18/02

Date of Last EDR Contact: 11/20/01

Date of Last EDR Contact: 10/24/01

Date of Last EDR Contact: 10/21/94

Date of Next Scheduled EDR Contact: N/A

Date of Government Version: 12/31/86 Database Release Frequency: No Update Planned

#### SNOHOMISH COUNTY:

Solid Waste Sites of Record at Snohomish Health District Source: Snohomish Health District

Telephone: 206-339-5250

Date of Government Version: 01/08/01 Database Release Frequency: Semi-Annually

TACOMA/PIERCE COUNTY:

#### **Closed Landfill Survey**

Source: Tacoma-Pierce County Health Department Telephone: 206-591-6500

Following numerous requests for information about closed dumpsites and landfills in Pierce County, the Tacoma-Pierce County Health Department decided to conduct a study on the matter. The aim of the study was to evaluate public health risks associated with the closed dumpsites and landfills, and to determine the need, if any, for further investigations of a more detailed nature. The sites represent all of the known dumpsites and landfills closed after 1950.

Date of Government Version: 04/15/93 Database Release Frequency: No Update Planned Date of Last EDR Contact: 01/11/95 Date of Next Scheduled EDR Contact: N/A

#### EDR PROPRIETARY DATABASES

**Former Manufactured Gas (Coal Gas) Sites:** The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

#### Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

#### HISTORICAL AND OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

**Oil/Gas Pipelines/Electrical Transmission Lines:** This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

Date of Last EDR Contact: 08/14/95 Date of Next Scheduled EDR Contact: N/A

Date of Last EDR Contact: 10/24/01

Date of Next Scheduled EDR Contact: 01/21/02

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

### **GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM**

#### TARGET PROPERTY ADDRESS

SUNDAY LAKE SUNDAY LAKE STANWOOD, WA 98292

#### TARGET PROPERTY COORDINATES

Latitude (North):	48.229500 - 48° 13' 46.2''
Longitude (West):	122.262970 - 122° 15' 46.7"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	554736.4
UTM Y (Meters):	5341852.5

EDR's GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

#### **GROUNDWATER FLOW DIRECTION INFORMATION**

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

#### **TOPOGRAPHIC INFORMATION**

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

#### USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2448122-B3 STANWOOD, WA Source: USGS 7.5 min quad index

#### GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General SSW

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

#### HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

#### FEMA FLOOD ZONE

Target Property County SNOHOMISH, WA	FEMA Flood <u>Electronic Data</u> YES - refer to the Overview Map and Detail Map
Flood Plain Panel at Target Property:	5355340020B / CBPP
Additional Panels in search area:	5355340010B / CBPP 5355340040B / CBPP
NATIONAL WETLAND INVENTORY	
NWI Quad at Target Property STANWOOD	NWI Electronic <u>Data Coverage</u> YES - refer to the Overview Map and Detail Map

#### HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*: Search Radius: 2.0 miles Status: Not found

#### **AQUIFLOW®**

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

> MAP ID Not Reported

LOCATION FROM TP

GENERAL DIRECTION **GROUNDWATER FLOW** 

#### **GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

#### **GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY**

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

#### **ROCK STRATIGRAPHIC UNIT**

Е

#### **GEOLOGIC AGE IDENTIFICATION**

Era:	Cenozoic Category:	Stratifed Sequence
System:	Quaternary	
Series:	Quaternary	
Code:	Q (decoded above as Era, System & Series)	

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

### DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	SKIPOPA
Soil Surface Texture:	silt loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Somewhat poorly. Soils commonly have a layer with low hydraulic conductivity, wet state high in profile, etc. Depth to water table is 1 to 3 feet.
Hydric Status: Soil does not meet the r	requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

	Soil Layer Information						
	Βοι	indary		Classi	fication		
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	8 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 6.50 Min: 5.60
2	8 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 6.00 Min: 5.10
3	16 inches	60 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.06 Min: 0.00	Max: 7.30 Min: 5.60

#### OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures:	gravelly - loam gravelly - fine sandy loam loam very gravelly - sandy loam unweathered bedrock
Surficial Soil Types:	gravelly - loam gravelly - fine sandy loam loam

	very gravelly - sandy loam unweathered bedrock
Shallow Soil Types:	gravelly - coarse sandy loam very gravelly - loam silt loam very gravelly - sandy loam
Deeper Soil Types:	cemented weathered bedrock unweathered bedrock silt loam very cobbly - loam

#### ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

#### WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS Federal FRDS PWS State Database	1.000 Nearest PWS within 1 mile 1.000

### FEDERAL USGS WELL INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP
No Wells Found		

#### FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

#### STATE DATABASE WELL INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP

### STATE DATABASE WELL INFORMATION

MAP ID 1 2 WELL ID WAGRP0000006915 WAGRP0000002420 LOCATION FROM TP 1/4 - 1/2 Mile NE 1/2 - 1 Mile SE

### PHYSICAL SETTING SOURCE MAP - 715833.1s



TARGET PROPERTY: ADDRESS: CITY/STATE/ZIP: LAT/LONG: Sunday Lake Sunday Lake Stanwood WA 98292 48.2295 / 122.2630 CUSTOMER: CONTACT: INQUIRY #: DATE: Camp, Dresser, & McKee Craig Russell 715833.1s December 18, 2001 12:43 pm

### **GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS**

Map ID Direction Distance Elevation 1 NE 1/4 - 1/2 Mile Higher			Database WA WELLS	EDR ID Number WAGRP000006915
Source Name: Township: QTR Section: Source Use: SP Y: PWS ID: Key ID:	WELL #3 32 NESW P 1062640 85205 8520503	Range: Section: Source Type: SP X: PWS Name: Source:	04E 26 W 1572150 SNOHOMISH COU 03	NTY PUD 1-SUNDAY LAKE
2 SE 1/2 - 1 Mile Lower			WA WELLS	WAGRP0000002420
Source Name: Township: QTR Section: Source Use: SP Y: PWS ID: Key ID:	WELL # 1 32 NENE P 1058620 79276 7927601	Range: Section: Source Type: SP X: PWS Name: Source:	04E 35 W 1573380 SILVER SPRINGS 01	ESTATES COMM ASSN

### AREA RADON INFORMATION

Federal EPA Radon Zone for SNOHOMISH County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Zip Code: 98292

Number of sites tested: 3

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.167 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### HYDROLOGIC INFORMATION

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 1999 from the U.S. Fish and Wildlife Service.

#### HYDROGEOLOGIC INFORMATION

### AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

#### **GEOLOGIC INFORMATION**

#### Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

#### STATSGO: State Soil Geographic Database

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

#### ADDITIONAL ENVIRONMENTAL RECORD SOURCES

#### FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

**USGS Water Wells:** In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### STATE RECORDS

#### Water Wells

Source: Department of Transportation Telephone: 360-705-7444 Group A well location points in Washington State.

Kitsap County Water Wells in Washington Source: Public Utility District No. 1 of Kitsap County Telephone: 206-779-7656

### RADON

**Area Radon Information:** The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

**EPA Radon Zones:** Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

#### OTHER

**Epicenters:** World earthquake epicenters, Richter 5 or greater Source: Department of Commerce, National Oceanic and Atmospheric Administration

### NOTIFICATION OF WELLHEAD PROTECTION AREAS

David Jennings State Department of Health P.O. Box 47822 M/S 7822 Olympia, WA 98504-7822

Tom Niemann Snohomish County Department of Planning and Development Services 3000 Rockefeller, M/S 604 Everett, WA 98201-4046

Thanh Nguyen State Department of Transportation P.O. Box 47300 Olympia, WA 98504-7300

Kevin Plemmel Snohomish County Health District 3020 Rucker Ave. Everett, WA 98201-3971

Snohomish County Department of Emergency Management 3905 – 109th St. SW Everett, WA 98204

### SAMPLE NOTICE OF WHPA BOUNDARY

May 15, 2002

Tom Niemann Snohomish County Department of Planning and Development Services 3000 Rockefeller, M/S 604 Everett, WA 98201-4046

Subject: Wellhead Protection, XXXXX XXXX Water System

As part of the wellhead protection program for the Snohomish County PUD Water Resources Division, we are hereby informing you of the findings of our updated Wellhead Protection Area Delineation. This is in accordance with State regulations (WAC 246-290-135).

The XXXX XXXX system supplies water to XXXX connections, with a potential of serving over XXXX. This drinking water supply has a low susceptibility rating.

The enclosed map shows the one, five and ten year time of travel zones for our wellhead protection area. Ground water contamination that occurs within these zones has the potential of reaching the communities' drinking water supply. It is therefore of utmost importance to us that all reasonable steps be taken to ensure that land use activities within this area do not contaminate the groundwater.

Please notify us of actions within this WHPA that come to your attention and might also affect our water supply. Thank you for your support in protecting our drinking water.

Sincerely,

XXXXX Snohomish County PUD

# TO BE SENT TO CUSTOMERS & BUSINESSES WITH ON-SITE SEWAGE SYSTEMS

May 15, 2002

Re: Wellhead Protection - XXXX XXXX Water System

Dear Property Owner:

In order to protect the drinking water supply for customers of the XXXX XXXX Water System, we are developing a wellhead protection program in accordance with the State Department of Health requirements. As part of the wellhead protection program, we have mapped the area overlying the short-term recharge zone of the well supplying your water. This is called the Wellhead Protection Area.

Following the mapping of the Wellhead Protection Area, we conducted an inventory of potential sources of ground water contamination within the area. The location of your septic system in relation to the Wellhead Protection Area means that there could be future impacts to the drinking water supply. We have notified the regulatory agencies of this situation.

We realize you are already careful to protect the environment in your daily activities and we hope that informing you of the Wellhead Protection Area will result in increased precautions to ensure your daily activities will not impact drinking water quality.

If you have questions or concerns please contact us at 425-783-8605.

Sincerely,

XXXX Snohomish Co. PUD

# EMERGENCY RESPONSE AND CONTINGENCY PLAN

As a part of the Comprehensive Water System Plan (Comp Plan), Snohomish County PUD No. 1 (PUD) has incorporated a Wellhead Protection Plan for each of its groundwater systems. The plan includes an emergency response and contingency plan in order to identify the steps that should be taken in the event a contamination or potential contamination should occur. Water operations, engineering and regulatory personnel from the PUD's Water Resources Division are responsible for responding to emergencies related to ground water quality.

# **NOTIFICATION**

Telephone reports of potential emergencies may be received from anyone by phoning any PUD office. All phone numbers are listed in the business section of the Snohomish County phone directory. If another agency is notified, the office receiving the call will contact the PUD and the report is then relayed to the Water Resources Division.

Telephone reports made during non-working hours (hours other than 8:00 a.m. - 6:00 p.m.) may be made by dialing the phone number listed in the business section of the phone directory under "Emergencies - after 6 p.m. - (425) 783-1000 or 1-877-783-1000." This number connects the caller with the PUD's Dispatch Office who then contacts water personnel on 'stand-by'. A record of all customer concerns and the District's actions are recorded and kept on file.

# **ORGANIZATIONAL STRUCTURE/RESPONSIBILITIES**

The Water Operations Manager (WOM) manages the Water Utility's field operations, maintenance activities, establishes work priorities, and assists in development of annual operations and capital budgets. The WOM is the main contact for emergency notification, depending on the severity of the situation; he will contact the appropriate agencies and or other PUD personnel.

The PUD's emergency response plan is designed to provide guidelines for a preliminary assessment of any report of a potential problem or emergency within 30 minutes of receiving notification of an incident. Upon receiving the report, the Water Operations Manager and appropriate crewmembers are notified and given the location of the potential problem. The report is immediately investigated, given an initial appraisal and a preliminary report is provided back to the Operations Manager. A detailed action plan is formulated to determine the exact cause and appropriate response. Plans are then made to begin repairs and/or provide alternative water sources.

The District maintains an extensive inventory of pipe, fittings, valves and repair materials for all types of sizes of pipes and appurtenances within the distribution system. A complete up to date list of all the materials and quantities is available.

# **COMMUNICATIONS**

The Washington State Department of Health (DOH) requires periodic reports that summarize the results of water quality testing. If any sample exceeds the Maximum Contaminant Level (MCL), a retest is conducted. If a sample exceeds the MCL for any category, a retest is conducted within 24 hrs, and both DOH and the public are notified in accordance with methods specified in WAC 248-54-255.

District staff utilizes conventional and cellular telephones, personal contact, and fax or mail services to notify customers of emergency conditions in the water system. All water shop personnel have portable radios. A personnel roster with assigned radio call numbers is available.

Snohomish County has been provided with the map identifying the Sunday Lake Communities' Wellhead Time of Travel zones. In the event of a hazardous material spill within any of these zones, the county's Emergency Management Division should immediately contact the PUD for notification. We also communicate with the Department of Ecology, Department of Transportation, private businesses and local authorities about hazardous materials releases.

The District has a general Emergency Response Plan (ERP) that is a guide to responding to overall emergencies related to the PUD's water systems. This plan is outlined in Section 9 of the District's Comp Plan. Although many of these same responses apply to the WHP plan, the Contingency Plans are unique to each system. Some of the possible scenarios associated with the Sunday lake System are outlined below:

# LOSS OF POWER

Currently the District does not have emergency power available to the Sunday Lake facility. The water treatment plant and the well are separate facilities and operate on different electrical supplies. The Sunday Lake system has a 200,000 gallon reservoir and the main power supply is usually restored within 24 hours – well in advance of the system requiring additional water. In an emergency condition, a temporary generator can be connected within 8 hours if the system needs additional supply.

# Loss of Well Pump

The District can replace the existing well pump with a spare pump/motor assembly in 24 hours. A permanent replacement would take approximately 30 days. The homeowners would not be affected since they would receive water from the storage reservoir.

# DIMINISHED ABILITY TO DELIVER WATER

The Sunday Lake customers would be notified of mandatory water conservation measures until the

problem can be rectified. All non-essential uses of water will be discontinued. Water users will be encouraged to not hoard water but rather to conserve. The message will include a general description of the problem and give a preliminary time table for the completion of repairs with scheduled informational updates to keep the water customers informed.

# LOSS OF DISINFECTION ABILITY

The ground water is chlorinated to oxidize the naturally occurring hydrogen sulfide and to aid in the oxidation of iron and manganese present in the ground water. A detectable residual is maintained in the system and is monitored by a continuously operating device that records the chlorine residual level. Since the Sunday Lake system is monitored by the District's SCADA system, failure of critical devices causes an alarm that in turn is sent to appropriate personnel. Repairs would be initiated immediately. If in the event that bacteriological purity is lost, additional disinfection would be done and monitoring would be increased to provide information regarding potential bacterial contamination and a "boil water" notice would be announced if it was so determined by the Health Department.

The PUD has the ability to perform emergency disinfection of water lines through the use of a temporary disinfection assembly similar to that used in the water treatment plant. The pressure pump would set up to inject a sodium hypochlorite solution through a connection made to the main line in question.

# COMPLETE LOSS OF A WELL

In the case of complete failure of the main source of supply, the PUD would provide immediate public notification. All non-essential uses of water will be discontinued. The message will include a general description of the problem and give a preliminary time table for the completion of repairs with scheduled informational updates to keep the water customers informed as to the progress of the repairs and the affects of the conservation measures. The basic procedure for initiating the use of the PUD backup wells will involve coordination between the PUD and DOH.

The main well will be taken off line and the system locked out immediately.

1. The first alternative would be to engage the use of either or both of the old well sites. Each of these wells is currently being used for monitoring purposes and are located in close proximity to the main well.

The backup wells would be tested for proper water quality. Once the well has been satisfactorily tested, a temporary distribution line will be connected and it will be brought online. A more permanent distribution line will be installed later if it is determined that this will be the long-term solution.

If none of the backup wells meets water quality standards or provides the necessary capacity to supply the community, alternative 2 can be evaluated.

2. Intertie with the City of Stanwood -

A second alternative would be to begin discussions with the City of Stanwood (Stanwood) for the possibility of receiving water from their source of supply. In the interim, bottled water, for the purposes of drinking and cooking, would be provided.

3. Intertie with other systems -

The PUD's Two-Twelve Market and Deli System is within 5 miles of the Sunday lake Community and would be able to provide a limited supply. There may also be other systems in the vicinity that are able to provide adequate supply.

4. New source of supply -Drilling a new replacement well in the immediate vicinity may be the only viable supply solution.

# PREVENTIVE MAINTENANCE

### **MONITORING**

As part of the PUD's effort to ensure that the water quality in the Sunday Lake Community is of excellent quality, we have retained the two older wells for the purposes of using them as monitoring wells. These wells will be tested on a regular basis to see if there are any trends in water quality developing in the area.

# **EDUCATION / COMMUNITY INVOLVEMENT**

As a matter of prevention rather than reaction, the PUD has begun educational campaigns from a couple of venues. These programs emphasize awareness of the physical characteristics of groundwater systems and how individual behaviors can protect the aquifer.

The PUD has played a key role as a member of the County's Ground Water Advisory Committee. Staff has been involved in the development of countywide issues and alternatives for groundwater protection. Additionally staff has been instrumental in the development of brochures and an educational display addressing the importance of groundwater protection.

Early in 1997 a mailing was sent to residents of the area discussing the results of the potential contaminant inventory and announcing the development of a Wellhead Protection Program citizen involvement committee. Later, after a list of volunteers was developed a meeting was held to discuss the requirements for the overall program and issues specifically associated with Sunday Lake. Residents were told that they would be providing input on the development of the program and on implementation of protection measures once identified.

### **CRITICAL COMPONENTS FOR EMERGENCIES**

### **SECURITY**

Security must be in place to protect system integrity and to minimize liability that the District might incur from intruders. All major facilities are securely fenced and locked when they are unattended. This includes all booster facilities, control equipment and storage reservoirs. These facilities are included in routine surveillance by District staff, the local fire district, city police and sheriff department personnel.

### **EMERGENCY ROSTER**

Emergency rosters listing District staff and other local/state agency personnel are included.. The responsibility for notification and providing direction is outlined below. A copy of these, with telephone numbers, is kept on file by PUD management and Dispatch personnel. Field personnel are assigned standby responsibilities on a rotating basis for after-hour callouts. Additional personnel are advised as necessary regarding the severity of the emergency.

# **PRIORITIES**

A list of individuals and/or organizations with life-sustaining equipment that is dependent upon an uninterrupted supply of water and/or strict quality requirements is on file with District field staff, management, and Electric System Dispatch. A copy is in the District's O&M manual.

Where there is damage to District facilities, the Senior Manager and Operations Manager will assess damages and prioritize operational efforts, repairs and/or reconstruction:

The order of priority includes:

- 1. Preservation of public health and safety: During an emergency a water system serves a dual role of providing water for consumption, sanitation and food preparation (public health), and fire protection (public safety). The District would strive to satisfy both roles, however, the District's primary focus would be to support public health.
- 2. Water quantity and quality: The District strives to provide a high quality product at all times, however, during extreme conditions, "boil water" orders, or purification tablets could be used if water is available but its quality is unreliable. The priority would be to provide the safest possible source of water, which may require supplemental treatment to ensure potability.
## LOCATION OF ACTIVITIES AND RESPONSIBILITIES

Emergency management activities will be conducted in the District's Electric Headquarters, 2320 California St., Everett, Washington, or at the local office in Arlington at 210 E. Division St. The AGM of Water Resources (WAGM) will keep the Board of Commissioners and the General Manager apprised of the current status of all emergency situations, and as appropriate will request their presence at the facility where emergency management activities are taking place. He will also:

- > Analyze the situation and requests for assistance;
- > Establish priorities for District response;
- Provide short-term planning (i.e., employee direction, return to work, restoration of work, media campaign);
- > Receive and evaluate reports and assessments from the Water Operations Manager;
- > Structure requests for outside assistance;
- > Coordinate the District's activities with outside organizations and agencies;
- > Communicate with the media, the public, and with District employees;
- > Provide for the continuation and the resumption of business
- ۶

The Water Operations Manager will report to the WAGM and will:

- > Assess the emergency;
- > Keep the WAGM informed;
- Direct emergency operations;
- > Oversee repair operations;
- > Work closely with the Water Foreman for allocations of materials, equipment and personnel;
- > Receive and record damage assessments;
- > Coordinate requests for assistance from outside organizations and agencies;
- > Document the use of District resources during the emergency;
- > Provide status summaries, as requested.

The Water Engineering Group report to the WAGM and will:

- > Assess the emergency;
- > Assess water quality and possible remediation;
- > Assist the Operations Manager in establishing priorities;
- > Direct mitigation, repair, and alternate site selection;
- > Assist in assessing remaining, useable equipment and supplies.

The Water Foreman will work closely with the Operations and Engineering Managers to:

- > Assess system damage;
- > Make contact with end users regarding health and safety matters;
- > Direct the water field crew in Implementing and completing repairs and/or reconstruction;
- > Document actions taken by the field crew.

The Water Field Crew will:

- > Assist in assessing system damage and parts/supplies needed to effect repairs;
- > Assess remaining, undamaged equipment and supplies;
- Execute repairs;
- > Maintain contact with Water Foreman.

The Maintenance Coordinator will be available to:

- > Answer the telephone at the Water Shop;
- > Maintain contact with the field.

The Water Support Services Group will:

- > Provide support and backup to the Maintenance Coordinator;
- > Maintain contact with staff families;
- > Assist in documenting actions.

## **EMERGENCY RESPONSE ROSTER**

## **General PUD Numbers**

Name	Business	Home	Pager
General Manager	Ed Hansen (425) 783-8473		
Asst. General Manager	Clair Olivers (425) 783-8606	(425) 252-4302	(425) 356-8776
Operations Mgr.	Ron Moir (425) 783-8614	(425) 353-7098	(425) 438-7493
Engineering Mgr.	Brant Wood (425) 783-8609	(360) 653-7033	(425) 397-5377

## Water Resources Employees

Name	Home	Pager	Name	Home	Pager
Dale Aschenbrenner	397-6645	(425) 514-9562	Ron Moir	353-7908	(425) 438-7493
Arlee Barker	252-4097	(425) 335-6807			
Matt Coker	474-9062	(425) 438-7982	Ryan Schank	653-6945	(425) 356-8413
Peggy Coker	652-0494	(425) 335-6194	Scott Schuller	659-8674	(425) 335-9756
Jon Grenfell	826-4406	(425) 438-7478	Howard Smith	355-5278	(425) 335-6806
Mark Price	793-1344	(425) 335-9883	Brant Wood	653-7033	.(425) 397-5377
Jim Rose	435-6562	(425) 514-4498	Jamin Udman	258-9104	.(425) 290-0369

## **Regional Emergency Call List**

Snohomish County Sheriff	911 or (425) 338-3393
East Precinct Snohomish Co. Sheriff	(360) 805-6770
Snohomish County Emergency Service	es(425) 258-6461
Duty Officer	1-800-258-5990
City of Stanwood Public Works Depart	tment(360) 629-9781
Snohomish County Public Works	(425) 388-3488
State Department of Health	(253) 395-6766

-

## Other Useful Phone Numbers

Wa. State. Dept. Trans	206-440-4000	City of Stanwood Police	360-629-4555
Dispatch Office	(425) 347-5586	City of Stanwood Fire Dept.	360-629-3008-

## Water Emergency Phone Number after 5:00 PM – (425) 783-1000 1-877-783-1000

### **EMERGENCY RESPONSE AGENCIES**

Washington State	Patrol	(360) 658-2588
Washington State	Department of Health	(253) 395-6766
Washington State	Dept. of Fish & Wildlife	(425) 775-1311
Washington State	Dept. of Ecology	(360) 407-7144
Washington State	Dept. of Ecology	
	Toxics Cleanup	1-800-458-0920
Snohomish Count	ty	
	Health District	(425) 339-5210
	Emergency Management	(425) 258-6461
	DEM Duty Officer	1-800-258-5990
	Sheriff	911 or 425-388-3393
	Water Quality Violations	(425) 649-7229
	(24 hour spill hotline	(425) 649-7000

## PUD Environmental Affairs

Transformer spills	(425) 783-5556
Water Resources	See Emergency Response Plan

# Appendix 8-3B

Kayak Wellhead Protection Plan

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## V. Source Water Protection

#### A. Wellhead Protection Program

Section 1428 of the 1986 Amendments to the Federal Safe Drinking Water Act mandates that every state develop a wellhead protection program. The Washington Department of Health is designated lead agency for wellhead protection program development and administration. The Safe Drinking Water Act requires that all federally defined public water systems (Group A systems) using ground water as their source implement a wellhead protection program. The minimum elements of a program required by the Washington Department of Health are:

- A delineated wellhead protection area for each well, well field, or spring;
- An inventory within the wellhead protection area of all potential sources of ground water contamination;
- A management plan to reduce the likelihood that potential contaminant sources will pollute the drinking water supply;
- Contingency plans for providing alternate sources of drinking water in the event that contamination does occur;
- Inclusion of public participation while the program is developing.

#### 1. Inventory of Wells

As mentioned in Section III.C Kayak has two wells. Well 3 is the primary source, and Well 2 is currently configured as a back up source only. Because of their proximity and similarities, the two wells will be treated as one for the purpose of calculating the wellhead protection area.

#### 2. Wellhead Protection Area

The fixed Radius Method was used to delineate the protection areas. At maximum, the System is forecasted to use 156 acre-feet of water annually. See Section II. The screened interval of each well is 5 feet. The depth to the first screened interval in both wells is approximately 370 feet.

The fixed radii were calculated based on these numbers, and using the method mentioned above. These are given in Table V-1, along with the number of lots within the area.

	6-month (ft)	1-year (ft)	5-year (ft)	10-year (ft)
Radius (ft)	536	758	1694	2396
Number of Lots in Area	8	14	34	52

Table V-1:	Wellhead	Protection	Area
------------	----------	------------	------

The location of these time-of-travel zones is also depicted graphically in Figure V-1. The area surrounding the wells is mostly flat to slightly rolling hills.

#### 3. Inventory of Potential Contamination Sources

The following are known potential sources of contamination within the 10-year time-of-travel radius.

#### a. <u>Septic systems</u>

All the area within, and immediately surrounding, the 10-year time-of-travel radius is zoned "Rural 5". This limits the number of new houses to 1 house per 5 acres. Some areas have been "grandfathered: to allow higher density than the area is currently zoned for. It is also possible that property owners may, in the future, receive permission to build high density housing than the area is presently zoned to allow.

Not all the existing lots are currently occupied. However, it is assumed that all occupied lots have septic tanks on them, since public sewers are not available in this area. Table V-1 shows approximately the total number of lots within each Time-of-Travel zone. This number is based on the County's parcel data.

#### b. <u>Roads</u>

Several roads run through the zones protection. Possible contamination from the roads include pollution from cars, litter from cars, chemical spills from trucks, and herbicide sprayed on the roadside.

All the roads within the 10-year time-of-travel zone are residential access roads.

#### 4. Susceptibility and Vulnerability

As mentioned in Section III.B, the Department of Health rates Wells 2 and 3 as having LOW susceptibility to contamination. The completed Ground Water Susceptibility and Vulnerability Assessment Form for Well 3 is included in Appendix G.

#### 5. Access Control

Currently, there is no control over access to the wells.

#### 6. Notification

In accordance with State regulation WAC 246-290-135, the following authorities are to be notified of the wellhead protection program:

Sheriff's Department 3000 Rockefeller Marysville, WA Phone (425) 388-3393

(.....

Fire Marshall 3000 Rockefeller Marysville, WA Phone (425) 388-3557

Washington State Department of Health Northwest Region, Office of Drinking Water 1511 Third Avenue, Suite 305 Seattle, WA 98101 (206) 587-5619

Washington State Department of Ecology Northwest Regional Office 3190 160th Avenue SE Bellevue, WA 98008 (206) 649-7000

A recommended notification letter is provided in the Appendix L. A copy of the map showing wellhead protection area should be included with the letter. See Figure V-1.



# **Appendix G:**

Well 2 and 3 Ground Water Contamination Susceptibility Assessment Survey Form

KAYAK POINT WATER CO. INC. 251 WINDROSE DRIVE PORT LUDLOW, WA 98365

Water Right Self-Assessment Form

KAYAK POINT WATER CO. INC. 251 WINDROSE DRIVE PORT LUDLOW, WA 98365

Permit Certificate or Claim #	Name of Rightholder or Claimant	Priority Date	Source Number	Primary or Supplemental	Existing Syste Based on Wate	em Capacity - r Right Limits	Projected Consur Project Approv	nption with New ed and On-Line	Projected System (Excess/Defici Rigi	t Capacity Status iency of Water hts)
					Maximum Instantaneous Flow Rate (Qì)	Maximum Annual Volume (Qa)	Maximum Instantancous Flow Rate (Qi)	Maximum Annual Volume (Qa)	Maximum Instantaneous Flow Rate (Qi)	Maximum Annual Volume (Qa)
Part 1 Permits/ Certificates 1. G. 1. 29587-0	Kanne vua Dev é.c.	11   Zel Ao	HE ZIH 3.	יצוואאניא	Joc 6 PM	1564657	ටියෙ <i>සි</i> වින	IFT AC PT	3000 h	139 AC FT
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Part 2 Claims 1.										
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3. / *										
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5.	-									
6.										
7.										
TOTAL	********	*	***	****						
Will new water nooce	E		•							

°Z Yes "Suctam Mananar nr Onaratin

6-8-94

## Ground Water Contamination Susceptibility Assessment Survey Form Version 2.1

IMPORTANT!

Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

## PART I: System Information

	AT CARCINA
Well owner/manager : KAYAK POINT WAT	EK CO. LUC. / U.C. SAWYER
Water system name : KAUKE POINT	WATER Co. Inc.
County: SNOHOMISH	
Water system number: 231115	Source number: <u>ARCOT.W.#</u> 2
Well depth: <u>541</u> (ft.) (From W	FLFOFM) KELLOG
Source name: Tw. # 2	
WA well identification tag number:	
<u> </u>	
Number of connections: 135	Population served: <u>338</u>
Township: <u>31N</u>	Range: O 4 £
Section: <u>-29</u>	1/4 1/4 Section: <u>Sw/SE</u>
Latitude/longitude (if available):	/
How was lat./long. determined?	
global positioning device	_ survey topographic map

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

#### PART II: Well Construction and Source Information

1) Date well originally constructed:  $O_2 / O_2 / \frac{O_2}{2} / \frac{O$ 

last reconstruction: __/ __/ __ month/day/year

information unavailable

Survey Form Ver. 2.1 page 1

#### PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

20 ft 20-50 ft 50-100 ft 100-200 ft X > 200 ft

____ information unavailable ('<' means less than; '>' means greater than)

2) Depth to ground water (static water level):

20 ft 20-50 ft 50-100 ft X > 100 ft

____ flowing well/spring (artesian)

How was water level determined?

_ well log Kother: STATIC LEVEL MONITOR

____ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch)

feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ____YES ____NO

5) Wellhead elevation (height above mean sea level): 32/ (ft)

How was elevation determined? X topographic map X Drilling/Well Log ____ altimeter

_ other: _____

_____ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

 $\times$  evidence of a confining layer in well log

_ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the top of the open interval? <u>XYES</u> NO LOWEST CONFININGLAYER information unavailable

> Survey Form Ver. 2.1 page 3

			· · _			•	· · · ·
РАК	CTIV: Mapping	Your Ground V	Vater Resou	rce			
1) A	nnual volume of wate	r pumped: $\frac{77,00}{2}$	gallon	s)			
	How was this dete	rmined?	•			•	
	<u> </u>					-	
	estimated:	_ pumping rate (	(	)	· ·		•
		_ pump capacity	(	)			
	other:		2	•			
		•		•	• .		
2) "C	Calculated Fixed Radii (see Instruction Pa	us" estimate of g cket)	round water	movement:			
	6 month ground w	ater travel time :	•	280	<u>≯(ft)</u>		
	1 year ground wat	er travel time :		390	<u>&gt;(ft)</u>	· · · · · · · · · · · · · · · · · · ·	
	5 year ground wate	er travel time:		88	≥(ft)		
	10 year ground wa	ter travel time:	•	1240	≥(ft)		
	Information availal	ole on length of s	screened/ope	n interval?	••••	•	
	<u> </u>	NO					
	Length of screened	/open interval: _	2	(ft)			
<ul><li>3) Is</li><li>bound</li><li>4) Is</li></ul>	there a river, lake, po dary?YES there a stormwater an	ond, stream, or o <u>X</u> NO (m d/or wastewater	other obvious bark and iden facility, trea	s surface water bo tify on map). tment lagoon, or	bdy within the	ne 6 month in the formation of the forma	ime of trave ithin the 6
monti	h time of travel bound	lary?	YES	X NO (mark a	nd identify c	on map).	•
	Comments:	•					
_ <del></del>		•					
						•	
-						······································	
			1				•
			Survey For	m Ver. 2.1		e e sue	

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

	A. <u>Nitrate</u> : (Nitrate MCL = $10 \text{ mg/l}$ )	YES	<u>NO</u>
	Results greater than MCL	,	ĸ
	< 2 mg/liter nitrate	<u>×</u>	
	2-5 mg/liter nitrate		<u></u>
	> 5 mg/liter nitrate	T	<u>×</u>
	Nitrate sampling records unavailable		
	B. VOCe: (VOC detection level 0.5 ug/l or 0.0005 mg/l)	VEC	NO
	B. <u>vocs</u> . (voc detection level 0.5 ug/l of 0.0005 llig/l.)	<u>1 ES</u>	NU
	Nesults greater than MCL or SAL		· <u> </u>
	VOCs detected at least once		<u> </u>
		<u> </u>	
	voc sampling records unavailable	•	
	C. <u>EDB/DBCP</u> :	YES.	NO
	(EDB MCL = $0.05 \text{ ug/l or } 0.00005 \text{ mg/l}$ , DBCP MCL = $0.2 \text{ ug/l or } 0.0002 \text{ mg/l}$ .)		
•	EDB/DBCP detected below MCL at least once		
	EDB/DBCP detected above MCL at least once		
	EDB/DBCP never detected	X	
	EDB/DBCP tests required but not yet completed		
	EDB/DBCP tests not required		
	D. Other SOCs (Pesticides):	<u>YES</u>	<u>NO</u>
	Other SOCs detected		產
	(pesticides and other synthetic organic chemicals)		
		•	
	Other SOC tests performed but none detected	-	1. 
	(list test methods in comments	-	-
	A Other SOC tests not performed		
	<u></u>		
		1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:



Survey Form Ver. 2.1 page 7 3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

 $\underline{X}$  YES ____ NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

		YES	NO	unknown
< 6 month travel time			X	
6 month-1 year travel time			K	· ·
1-5 year travel time			X	·
5-10 year travel time	• •		X	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

		YES NO	unknown
< 1 year travel time		<u> </u>	
1-5 year travel time	•	X	
5-10 year travel time	• •	<u>×</u>	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

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8-2-95

## Ground Water Contamination Susceptibility Assessment Survey Form Version 2.2

IMPORTANT!

Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: S	ystem Information
Well owner/mana	Iger: KANANE POINT WATER G. INC. /O.C. SAWIER
Water system nam	ne: KANGE POINT WATER CO. IUC.
County:]	UDHEMILIT
Water system nun	nber: 231115 Source number: WELL #3
Well depth:	404 (ft.) (From WFI form) WELLCG.
Source name:	WELL #3 - 50-2
WA well identific	ation tag number:
X_ w	ell not tagged (DOE HAS BEEN ASKED TO TAG.)
Number of connec	tions: <u>157</u> Population served: <u>395</u>
Township:	31N Range: 04.6
Section:	29 1/4 1/4 Section: <u>Sw/se</u>
Latitude/longitude	(if available)://
How was lat./long	. determined?
globa other	l positioning device survey topographic map

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

## PART II: Well Construction and Source Information

1) Date well originally constructed: <u>106193</u>month/day/year
 last reconstruction: <u>197</u>month/day/year
 ______ information unavailable

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		-
	· · ·	<b>-</b> .
well driller unknown		-
3) Type of well:		
Drilled: rotary	bored <u>X</u> cable (percussion) Dug	
Other: spring(s)	_ lateral collector (Ranney)	
driven	_ jetted other:	
Additional comments:		•
	i .,	•
4) Well report available? $\underline{X}$ YES (a	attach copy to form) NO	•
5) Average pumping rate:	200 (gallons/min)	
5) Average pumping rate:	<u>TUAL PERFORMANCE</u>	•
5) Average pumping rate: Source of information:A c If not documented, how was pump	300       (gallons/min)	•
5) Average pumping rate: Source of information:A c If not documented, how was pump Pumping rate unknown	<u>TOAL</u> (gallons/min) <u>TOAL</u> <u>TEEFORMAICE</u> ing rate determined?	
<ul> <li>5) Average pumping rate:</li></ul>	<u>(gallons/min)</u> <u></u>	
<ul> <li>5) Average pumping rate:</li></ul>	<u></u>	
<ul> <li>5) Average pumping rate:</li></ul>	<u></u>	
<ul> <li>5) Average pumping rate:</li></ul>	<u></u>	
<ul> <li>5) Average pumping rate:</li></ul>	<u></u>	
<ul> <li>5) Average pumping rate:</li></ul>	<u></u>	
<ul> <li>5) Average pumping rate:</li></ul>	<u></u>	
<ul> <li>5) Average pumping rate:</li></ul>		

!

## PART III: Hydrogeologic Information

1) Depth to top of open interval: [check	
-	one
(less than) 20 ft 20-5	50 ft 50-10 ft 100-200 ft(greater than) 200 f
information unavailable	
2) Depth to ground water (static water le	evel):
(less than) 20 ft 20-5	0 ft 50-100 ft X (greater than) 100 ft
flowing well/spring (artesian	)
How was water level determined	?
<u> </u>	•
depth to ground water unkno	wn
3) If source is a flowing well or spring	what is the confining program.
nsi (nounds per source	instal
4) If source is a flowing well or spring, i	s there a surface impoundment reservoir or catchment associ
with this source:YESNO	a succession of the second sec
i) Wellbead elevation (height above more	a num lumity 37 7 (as
5) Wellhead elevation (height above mean How was elevation dataseties data	n sea level): $377$ (ft)
with this source:YESNO 5) Wellhead elevation (height above mean How was elevation determined?	n sea level): (ft) X topographic map Drilling/Well Log altimeter
with this source:YESNO 5) Wellhead elevation (height above mean How was elevation determined? other:	n sea level): (ft)
with this source:YESNO 5) Wellhead elevation (height above mean How was elevation determined? other:	n sea level): (ft)
with this source:YESNO 5) Wellhead elevation (height above mean How was elevation determined? other: information unavailable	n sea level): (ft)
<ul> <li>with this source:YESNO</li> <li>5) Wellhead elevation (height above mean How was elevation determined? other: other:</li></ul>	n sea level): (ft) X topographic map Drilling/Well Log altimeter
<ul> <li>with this source:YESNO</li> <li>5) Wellhead elevation (height above mean How was elevation determined? other:</li> <li>information unavailable</li> <li>confining layers: (This can be complete eport describing subsurface conditions.)</li> </ul>	topographic map Drilling/Well Log altimeter teted only for those sources with a drilling log, well log or geol Please refer to assistance package for example.)
<ul> <li>with this source:YESNO</li> <li>5) Wellhead elevation (height above mean How was elevation determined?Other:</li></ul>	topographic map Drilling/Well Log altimeter ted only for those sources with a drilling log, well log or geol Please refer to assistance package for example.) yer in well log
<ul> <li>with this source:YESNO</li> <li>5) Wellhead elevation (height above mean How was elevation determined? other: other:</li></ul>	topographic map Drilling/Well Log altimeter ted only for those sources with a drilling log, well log or geol Please refer to assistance package for example.) yer in well log
<ul> <li>with this source:YESNO</li> <li>5) Wellhead elevation (height above mean How was elevation determined?Other:</li></ul>	topographic map Drilling/Well Log altimeter ted only for those sources with a drilling log, well log or geol Please refer to assistance package for example.) yer in well log g layer in well log layer, is the depth to ground water more than 20 feet above th yer? YES NO
<ul> <li>with this source:YESNO</li> <li>5) Wellhead elevation (height above mean How was elevation determined?</li></ul>	the sea level): $327$ (ft) topographic map Drilling/Well Log altimeter ted only for those sources with a drilling log, well log or geol Please refer to assistance package for example.) yer in well log g layer in well log layer, is the depth to ground water more than 20 feet above the yer? YES NO

7) Sanitary setback:

____ (less than) 100 ft* X 100-120 ft ____ 120-200 ft ____ (greater than) 200 ft * if less than 100 ft describe the site conditions: . : 8) Wellhead construction: X wellhead enclosed in a wellhouse controlled access (describe): ______Lockes <u>X</u> Doo re other uses for wellhouse (describe): no wellhead control 9) Surface seal: ____ (less than) 18 ft (no Department of Ecology approval) ____ (less than) 18 ft (Approved by Ecology, include documentation)  $\underline{X}$  (greater than) 18 it ____ depth of seal unknown ____ no surface seal 10) Annual rainfall (inches per year): ŶĮ ____ (less than) 10 in/yr K (greater than) 25 in/yr 48 _ 10-25 in/yr

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 17.	<u> රිලට,                                    </u>
How was this determined?	
meter	
estimated: pumping rate (	
pump capacity (	)
X other: Est, USA CAR	
2) "Calculated Fixed Radius" estimate of ground v (see Instruction Packet)	vater movement:
6 month ground water travel time :	<u>Z80 (ft</u> )
l year ground water travel time :	(ft)
5 year ground water travel time:	<u>880 (ft</u> )
10 year ground water travel time:	( <u>2</u> (ft)
Information available on length of screened	l/open interval?
<u> </u>	
Length of screened/open interval:	(ft)
<ul> <li>3) Is there a river, lake, pond, stream, or other obvoundary? YES X NO (mark and</li> <li>4) Is there a stormwater and/or wastewater facility,</li> </ul>	vious surface water body within the 6 month time of travel identify on map). treatment lagoon, or holding pond located within the 6
month time of travel boundary? YES YES	$\underline{\times}$ NO (mark and identify on map).
•	
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## PART V: Assessment of Water Quality

## 1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

	6 month	l year	5 year	unknown
likely pesticide application				
stormwater injection wells				
other injection wells		· ·	میں حد حد خد ک	
abandoned ground water well		<del></del>		
landfills, dumps, disposal areas				
known hazardous materials clean-up site	·			· · ·
water system(s) with known quality problems			· .i	·
population density (greater than) I house/acre			· · · ·	
residences commonly have septic tanks	<u>.</u>		X	
Wastewater treatment lagoons				
sites used for land application of waste				· · · ·

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (*Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.*)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

RESDENCE ACa

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

A. <u>Nitrate</u> : (Nitrate MCL = $10 \text{ mg/l}$ )			YES
Results greater than MCL			
(less than) 2 mg/liter nitrate			>
2-5 mg/liter nitrate			
(greater than) 5 mg/liter nitrate			
Nitrate sampling records unavailable		•	
B. <u>VOCs</u> : (VOC detection level 0.5 ug/l or 0.0005 mg/l.)	· · .		YES
Results greater than MCL or SAL		· · ·	<u>_</u>
VOCs detected at least once			
VOC test performed but never detected	• •		· ×
VOC sampling records unavailable			
	•		
C. <u>EDB/DBCP</u> :			YES
(EDB MCL = $0.05 \text{ ug/l or } 0.00005 \text{ mg/l}$ . DBCP MCL = $0.2 \text{ ug/l}$		mg/l.)	
EDB/DBCP detected below MCL at least once			
EDB/DBCP detected above MCL at least once			
EDB/DBCP never detected	· .		X
EDB/DBCP tests required but not yet completed			
EDB/DBCP. tests not required	•		
D. Other SOCs (pesticides and other synthetic organic chen	nigale);		· VES
Other SOCs detected	incais).	1. A. A.	IES
Other SOC tests performed but none dataset *			<del></del>
Other SOC tests performed but none detected *		·	
other soc tests not performed			×

*If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here: _____

.

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#### E. Bacterial contamination:

Any bacterial detection(s) in the past <u>3</u> years in samples taken from the source (not distribution sampling records).

Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.

Source sampling records for bacteria unavailable

#### Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1)Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

 $\underline{X}$  YES ____ NO

Describe with references to map produced in Part IV:

LAKE ROWLAND DOWNSTREAM TO L

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

__ YES

NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

🗡 YES 🔄

____

YES

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

_X YES ___ NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

		YES	NO	unknown
6 month travel time	•		×	
6 month-1 year travel time			X	·
1–5 year travel time			×	
5-10 year travel time	•		×	

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

			YES	NO	unknown
1 year travel time				X	•
1-5 year travel time	•			X	
5-10 year travel time				×	
				<u> </u>	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

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#### Suggestions and Comments

Did you attend one of the susceptibility workshops?	<u> </u>	NO
Did you find it useful?	<u> </u>	NO
Did you seek outside assistance to complete the assessment?	YES	NO

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

•

# Appendix J:

# Letter of Notification for Wellhead Protection Program

Recommended Letter of Notification of Wellhead Protection:

## Dear (Agency):

As part of the wellhead program for Kayak Estates Water System, we are hereby informing you of the findings of our wellhead protection area delineation. This is in accordance with State regulations (WAC 246-290-135).

Our water system serves 359 residential lots. The State Department of Health has given our well a rating of "low". This means that our system has a low vulnerability to contamination.

Enclosed is a map showing the 6-month, 1-year, 5-year and 10-year time of travel boundaries for our wellhead protection area. Any groundwater contamination that occurs with this wellhead protection area has the potential to reach our well. No action is required on your part, but please be aware that it is important to us that all reasonable steps be taken to ensure that land use activities with this area do not contaminate our drinking water supplies.

Thank you, in advance, for your support and cooperation in this matter.

Sincerely

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# Appendix 8-3C

Lake Stevens Aquifer Study – Figure 1

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## **Monitoring Well Location Plan**





### High Yield Zone

WARD

5.5

9N10

Monitoring Well Location Owner

Observed Drawdown in Feet (0=No drawdown observed) (*= Drawdown observed but not quantified)

Approximate Well Location and Number providing geologic information but not monitored during test.

Geologic Cross Section Location and Designation

#### Note:

Drawdown measured during 32-day pump test of PUD Lake Stevens Well. Pumping rate of 1483 gpm.

0

2000

4000

Scale in Feet

J-1551 1985 October HART-CROWSER & associates inc. Figure 1

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1102 BROADWAY PLAZA, SUITE #401 TACOMA, WA 98402 www.murraysmith.us