

State of Washington
DRAFT
REPORT OF EXAMINATION
FOR WATER RIGHT APPLICATION

PRIORITY DATE
11/26/2012

WATER RIGHT NUMBER
G1-28743

MAILING ADDRESS
PUGET SOUND ENERGY
10885 NE 4TH STREET
BELLEVUE WA 98004

SITE ADDRESS (IF DIFFERENT)
BAKER RIVER FISH HATCHERY
CONCRETE, WA 98237

Quantities Authorized for Withdrawal

WITHDRAWAL RATE IN GALLONS PER MINUTE (gpm)
1150

ANNUAL QUANTITY (Ac-ft/yr)
Up to 1855 (all non-consumptive)

Purpose

PURPOSE	WITHDRAWAL RATE		UNITS	ANNUAL QUANTITY (Ac-ft/yr)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE		ADDITIVE	NON-ADDITIVE	
Fish propagation	1150		gpm	1855		01/01 - 12/31

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Whatcom	Groundwater	Sulphur Creek	4-Upper Skagit

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Underground drainage tunnel (aka domestic tunnel)	Not platted	NA	37N	8E	36	SE NE	48.65315	-121.69819
								Datum: NAD83/WGS84

Place of Use (See Attachment 1)

LEGAL DESCRIPTION OF THE AUTHORIZED PLACE OF USE

The SW¼ NW¼ of Section 31, Township 37 North, Range 9 East, and the SE¼ NE¼ of Section 36, Township 37 North, Range 8 East, W.M.

Proposed Works

Groundwater is collected from an underground drainage tunnel. This water then travels through an 8-inch diameter iron pipe to the Baker River Fish Hatchery for use within the artificial incubation building. This water is also needed as a backup source for the hatchery's main water supply from Big Springs.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Begun	Complete	July 1, 2018

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Not required. Puget Sound Energy shall maintain these records and provide them to the Department of Ecology upon request.

Provisions

Measurements, Monitoring, Metering, and Reporting

An approved measuring device shall be installed and maintained for the source identified by this water right in accordance with the "Requirements for Measuring and Reporting Water Use", WAC 173-173.

Water Use Efficiency

The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

Proof of Appropriation

The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source, system instantaneous capacity, beneficial use, annual quantity, place of use, and satisfaction of provisions.

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, point of withdrawal, measuring devices, and associated distribution systems for compliance with water law.

Easement and Right-of-Way

The water source and water transmission facilities are not located upon land owned by the applicant. Issuance of a water right by this Department does not convey a right of access to, or other right to use, land which the applicant does not legally possess. Obtaining such a right is a private matter between the applicant and the owner of that land.

Findings of Facts

Upon reviewing the investigator’s report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question, there will be no impairment of existing rights, the purpose of use is beneficial, and there will be no detriment to the public interest.

Therefore, I ORDER approval of Application G1-28743, subject to existing rights and the provisions specified above.

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

Signed at Bellevue, Washington, this _____ day of _____, 2013.

Jacqueline Klug, Section Manager

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>.

INVESTIGATOR'S REPORT

Application for Water Right -- Puget Sound Energy

Water Right Control Number G1-28743

Buck Smith, LG, LHG

BACKGROUND

This report serves as the written findings of fact regarding Water Right Application G1-28743. The applicant, Puget Sound Energy (PSE), is seeking legal authorization to use up to 1,150 gallons per minute (gpm) of groundwater, from an underground drainage tunnel, for fish propagation purposes at the Baker River Fish Hatchery (BRFH), located near the Baker River Hydroelectric Project Upper Baker Dam.

PSE does not own the property containing the BRFH or the requested point of withdrawal. The property owner is the USDA Forest Service. Jennifer Eberlien, Forest Supervisor, Mount Baker – Snoqualmie National Forest signed the subject application, along with Jory Oppenheimer, PSE Water Resources – Licensing section.

Priority Processing

In a letter dated November 21, 2012, Mr. Oppenheimer wrote to Jacqueline Klug, Ecology Northwest Regional Office Water Resources Manager, the following.

Puget Sound Energy ("PSE") would like to request that the water right application for the Baker Underground Drainage Tunnel be considered under the Hillis rule, Washington Administrative Code 173-152, specifically 173-152-050(2)(c). This project, "is for a proposed water use that is nonconsumptive and if approved would substantially enhance or protect the quality of the natural environment." The Baker River Fish Hatchery is co-managed by the Washington Department of Fish and Wildlife ("WDFW"), the Sauk-Suiattle Indian Tribe, the Swinomish Indian Tribal Community, and the Upper Skagit Indian Tribe.

The underground drainage tunnel will be primarily used to supply water to the hatchery's artificial incubation building and serve as an emergency backup to the hatchery's primary source water source - Big Springs. Water from the hatchery immediately reenters Sulphur Creek. PSE recently renovated the existing hatchery at a cost of approximately \$25 million as part of its Settlement Agreement process for its Federal Energy Regulatory Commission's ("FERC") License of the Baker River Hydroelectric Facility.

The hatchery currently raises sockeye salmon, coho salmon, and rainbow trout. The new hatchery and refurbished sockeye-spawning beaches are capable of producing 11 million salmon fry annually, with potential future expansion increasing that number to 14 million. Part of the expansion includes adding Spring Chinook and steelhead. The overall goal is a 20,000-pound production program that may be made of any one or any combination of several species.

The hatchery is an important facility for sustaining sockeye salmon in the Baker River system. The project is part of a collaborative, long-range effort by WDFW, the tribes, PSE and other parties to increase the Baker River's fish populations, in particular the native Baker sockeye salmon runs. Contributions from this hatchery have been instrumental in the dramatic increase in sockeye populations in recent years and the underground drainage tunnel water source provides a dependable supply of water that is crucial to the success of the facility.

Ms. Klug approved Mr. Oppenheimer's request. Therefore, the subject application is receiving priority processing. The following table (Table 1) is a summary of PSE's request for water rights.

Table 1: Summary of the Requested Water Right

Applicant Name	Puget Sound Energy
Date of Application	11/26/2012
Place of Use	The SE¼ NE¼ and the NE¼ SE¼ of Section 36, Township 37 North, Range 8 East, W.M. (not correct)

County	Waterbody	Tributary To	WRIA
Whatcom	Groundwater	Sulphur Creek	4-Upper Skagit

Purpose	Rate	Unit	Ac-ft/yr	Begin Season	End Season
Fish propagation	1150	gpm	Not specified	01/01	12/31

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
Underground Drainage Tunnel	Not platted	Not Applicable	37N	8E	36	SE-NE	48.65315	-121.69819

gpm = gallons per minute; Ac-ft/yr = acre-feet per year; Twp = Township; Rng = Range; Sec = Section; QQ Q = quarter-quarter of a section; WRIA = Water Resource Inventory Area; W.M. = Willamette Meridian; Datum: NAD83/WGS84.

Legal Requirements for Approval of Appropriation of Water

Public Notice

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the county or counties where the water is to be stored, withdrawn, and used. Notice of the subject application was published in the *Skagit Valley Herald* on January 22 & 29, 2013.

Consultation with the Department of Fish and Wildlife

The Department of Ecology (Ecology) must give notice to the Washington Department of Fish and Wildlife (WDFW) of applications to divert, withdraw, or store water. WDFW is a co-manager of the BRFH and therefore has no objections to the issuance of the requested water right.

State Environmental Policy Act (SEPA)

A groundwater application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if it is for more than 2,250 gpm. Because this application does not exceed 2,250 gpm it is categorically exempt from SEPA.

INVESTIGATION

The Baker River Hydroelectric Project, PSE's largest hydropower operation, is a 170-megawatt facility in eastern Whatcom County. The Baker River is a major tributary of the Skagit River, one of Washington's most prolific river systems for fish. PSE, in collaboration with resource agencies and local tribes, has been working for many years to support the watershed's fish populations. Over the years advances in technology, greater knowledge of fish biology, and ongoing PSE investments have produced significant gains in the river's fish stocks.

Overall Baker River Hydroelectric Project Description

Profile of the Baker River Hydroelectric Project

- Two dams, each with its own powerhouse:
 - The 285-foot high Lower Baker Dam (completed in 1925)
 - The 312-foot high Upper Baker Dam (completed in 1959)
- Two reservoirs: Lake Shannon (behind Lower Baker Dam) and Baker Lake (behind Upper Baker Dam)

Fish profile in the Skagit-Baker River Watershed

- The watershed contains a variety of anadromous (migratory) fish species. The Baker River's most abundant stocks are sockeye and coho salmon.
- The Baker River's annual adult-sockeye returns have averaged about 3,500 since the 1920s, but plunged to a low return of just 99 fish in 1985, imperiling the stock.
- Fish-restoration efforts since the mid-1980s have had a dramatic effect in the recovery of Baker River sockeye, with eight of the 10 highest annual returns on record occurring since 1994, including an all-time high of 48,367 in 2012.

New FERC license fish initiatives

- The Federal Energy Regulatory Commission (FERC) in 2008 issued PSE a new 50-year operating license for the Baker River Hydroelectric Project. Eight years of collaborative consultation between PSE and 23 other parties, including government agencies, Indian tribes, and environmental groups, produced the license's conditions.
- The project's license calls for major PSE initiatives to further enhance fish populations in the Skagit-Baker watershed, including installation of new upstream and downstream fish-passage facilities, construction of a new fish hatchery, construction of a second Lower Baker powerhouse for better river-flow control, and riparian-habitat protection.
- Fisheries managers expect PSE's Baker River investments to produce continued increases in the river's salmon runs and expanded recreational, tribal, and commercial fishing opportunities.

New fish hatchery

- In 2010, PSE completed construction of the Baker River Fish Hatchery (BRFH) which will dramatically increase the basin's production of young salmon. The water requirement for the incubation building at this hatchery is the subject of this report. Prior to the new hatchery being constructed, the requested place of use only contained PSE's artificial spawning beaches.

Site Visit

On March 21, 2013, I met with PSE employees Jory Oppenheimer and Douglas Bruland (Fisheries Supervisor) at the PSE Baker River Office in Concrete, WA. We traveled up to the BRFH which is located approximately 10 miles north of the town of Concrete and approximately ¼ mile west of Upper Baker Dam. We visited the underground drainage tunnel (known as the "domestic" tunnel) and accompanying pumphouse (see photo 1).



Photo 1: The pumphouse on the left and the entrance to the "domestic" tunnel on the far right.

The domestic tunnel is secured by a locked door. Mr. Bruland unlocked the door so I could observe the weir and diversion works within the tunnel. The tunnel is sloped (less than 5%) towards the entrance, is approximately 6 feet in diameter, and 500 feet long. It was blasted through bedrock during construction of the Upper Baker Dam in 1958. It is located on the north side of the Sulphur Creek valley, approximately 1000 feet from the hatchery facility. A steady supply of more than 2000 gpm flows through the tunnel year-round. Most likely this was a natural spring prior to the creation of the tunnel.

A metal weir, located inside the tunnel (see photo 2), diverts water into a 4-inch diameter iron pipe that leads into the pumphouse where the water is chlorinated and pumped to a 44,000 gallon storage tank.

This potable water is used at the PSE Kulshan Campground, a lodge, a residential duplex, and the Upper Baker Operations buildings. This water use is the subject of water right application G1-28744. This application was submitted at the same time as the subject application and is being processed concurrently.



Photo 2: Inside the “domestic” tunnel. The weir and potable water supply pipeline are visible.

Most of the water in the domestic tunnel bypasses the weir and flows through a pipe to the “overflow structure” (see photo 3). From there an 8-inch diameter pipe gravity feeds non-potable water to the incubation building at the BRFH. The pipe capacity is 1150 gpm. This is the water requested in the subject application. Water not piped to the incubation building is excess water that leaves the overflow structure through twin 15-inch diameter pipes, where it then cascades to Sulphur Creek.



Photo 3: The overflow structure and pumphouse (top right). Excess water cascades to Sulphur Creek.

During my site visit we also visited Big Springs (see photo 4). This spring is the primary water source for the BRFH (except the incubation building). It is not part of the subject application. It is already an authorized point of diversion under surface water certificate S1-25440C for 40 cfs for fish propagation purposes. However, in the past, the Big Springs collector has been shut down due to landslides from the hillside above. During these shut downs, the domestic tunnel was (and will be) used as an emergency supply for the main BRFH facilities. PSE hopes to eventually stabilize the slope above the Big Springs collector system to prevent future landslides.



Photo 4: Big Springs - the collector can be seen at the bottom left, the landslide chute at the top right.

After visiting the domestic tunnel and Big Springs, we toured the BRFH (see photo 5). The subject water (from the domestic tunnel) is used within the incubation building. This water flows over the egg trays and then into a wastewater system where it is directed to a settling pond. From there the water is routed to Sulphur Creek (its watershed of origin). The subject water use is therefore non-consumptive to the Sulphur Creek watershed, the Baker River watershed, and the overall Skagit River watershed.



Photo 5: Baker River Fish Hatchery and Upper Baker Dam

Proposed Use and Basis of Water Demand

PSE is requesting 1150 gpm from the domestic tunnel for non-potable supply at the BRFH. Typically, this water will be used between May and October in the artificial incubation building. However, PSE has also

requested this water supply be made available throughout the year as a backup water supply to the hatchery's main water supply from Big Springs in case of emergencies. This is a reasonable and necessary request due to the historical nature of landslides causing shutdowns of the Big Springs collection system.

Other Rights Appurtenant to the Place of Use

As mentioned previously, PSE holds water right certificate S1-25440C. This certificate has a priority date of May 10, 1989. It authorizes PSE to divert up to 40 cubic feet per second (no annual volume was specified) from Big Springs (located approximately 750 feet northwest of the domestic tunnel), for fish propagation purposes at the Big Springs/Sulphur Creek spawning beach facility. This facility was the predecessor project to the current BRFH. The diversion works now supplies the new BRFH. This diversion has been in use each year since at least 1990. Therefore, this certificate appears to be in good standing.

PSE also currently holds water right permit G1-27798. This permit has a priority date of March 19, 1997. It authorizes PSE to withdraw up to 75 gallons per minute and 40 acre-feet per year, for multiple domestic supply, from a well located in the SW¼ NW¼ of Section 31, Township 37 North, Range 9 East (approximately 900 feet southeast of the domestic tunnel). PSE had been using this well to serve the facilities covered by accompanying application G1-28744. However, due to excessive H₂S in the water PSE has discontinued using the well and has now switched over to using water from the domestic tunnel. Permit G1-27798 is currently in good standing. However, upon approval of accompanying application G1-28744 (if approved) the permit will no longer be needed and will be canceled. The permitted well and the domestic tunnel are in close proximity to each other and are both hydraulically connected to the Baker River Watershed.

In addition, PSE holds water right claim 160818. Ecology received this claim from PSE (then known as Puget Sound Power & Light Company) on June 27, 1974. PSE claimed 4.5 cubic feet per second and 3,258 acre-feet per year from the subject (domestic) drainage tunnel. The claimed date of first use is 1958. The claimed purposes of use are domestic, air condenser cooling, trailer park, and irrigation. The place of use is within the place of use of the subject application and application G1-28744. Whether or not this claim represents a vested (pre-1917) right has not been determined by a superior court action nor has Ecology made a tentative determination of its validity. Due to the claim's questionable validity as a vested right (the date of first use is post-1917), PSE (through Mr. Oppenheimer) made a decision to not attempt to exercise it and instead has submitted a signed and notarized "Voluntary Relinquishment of Water Right" form to Ecology. This form was received by Ecology on April 12, 2013. PSE has requested a full voluntary relinquishment of the claim. This form will be processed upon approval of application G1-28744 (if approved).

Impairment Considerations

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. Impairment can also be the degradation of water quality to the point that the water is unsuitable for beneficial use by existing users.

In the case of the subject request, no impairment is anticipated for the following reasons:

1. PSE is the only user of the domestic tunnel.
2. There are no surface water users of Sulphur Creek between the domestic tunnel overflow and the point of return of water to Sulphur Creek.
3. The water use is totally non-consumptive to the Baker River and Skagit River systems. New non-consumptive uses which are compatible with the intent of WAC 173-503 may be approved (see WAC 173-503-070(2)) and are not subject to minimum instream flows.
4. The return flow water from the hatchery building has been settled and clarified. Therefore, no water quality issues are anticipated.

Water Availability

For water to be available for appropriation, it must be both physically and legally available.

Physical availability

For water to be physically available for appropriation there must be water present in quantity and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested beneficial use.

According to Doug Bruland, the domestic tunnel has a constant year-round flow of high quality water for use within the BRFH facility. Physical availability should not be an issue.

Legal availability

In order to approve an application for new water rights, water must be legally available for the requested purpose of use. In this case, Sulphur Creek and all downstream tributary waters (Baker River and Skagit River) are not closed to new appropriations. The Skagit River is subject to minimum instream flow levels per WAC 173-503, but it is not legally closed to new appropriations. Regardless, the subject request is non-consumptive and will have no effect on instream flow levels in the Skagit River.

Beneficial Use

The proposed use of water is defined in statute as a beneficial use (RCW 90.54.020(1)). PSE's 1150 gpm request is the capacity of the pipeline carrying water to the incubation building, therefore the request is reasonable. The annual volume of water (1855 ac-ft/yr) is based on continuous year-round operation (if needed).

Public Interest Considerations

In accordance with WAC 173-505-061, Ecology acknowledges that the project releases submitted to the Federal Energy Regulatory Commission for relicense of Puget Sound Energy's Baker River project are a necessary component to adequately mitigate for the ongoing impacts of Baker River project operations. Therefore, in order to prevent detriment to the public interest, new permits for withdrawals or diversions that would impact the portion of the Skagit River basin between Sedro Woolley up to and including the Baker River, will only be issued if the applicant can demonstrate that there will be no measurable reduction in the mitigation benefits associated with the flow release provisions associated with the Baker River relicense. In this case, the water use will be totally non-consumptive and will not affect the Skagit River.

No other potential for detriment to the public interest could be identified during the processing of the subject application.

Consideration of Protests and Comments

No protests or comments were filed against the subject application.

Conclusions

I conclude from my investigation that water is available from the requested source, there will be no impairment of existing rights, the purpose of use is beneficial, and there will be no detriment to the public interest.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend the subject request for a water right be approved in the amounts and within the limitations listed below and subject to the provisions listed on page 2.

Water Right Attributes

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.

1150 gallons per minute, 1855 acre-feet per year (non-consumptive), for fish propagation purposes

Point of Withdrawal

SE¼ NE¼ of Section 36, Township 37 North, Range 8 East, W.M.

Place of Use

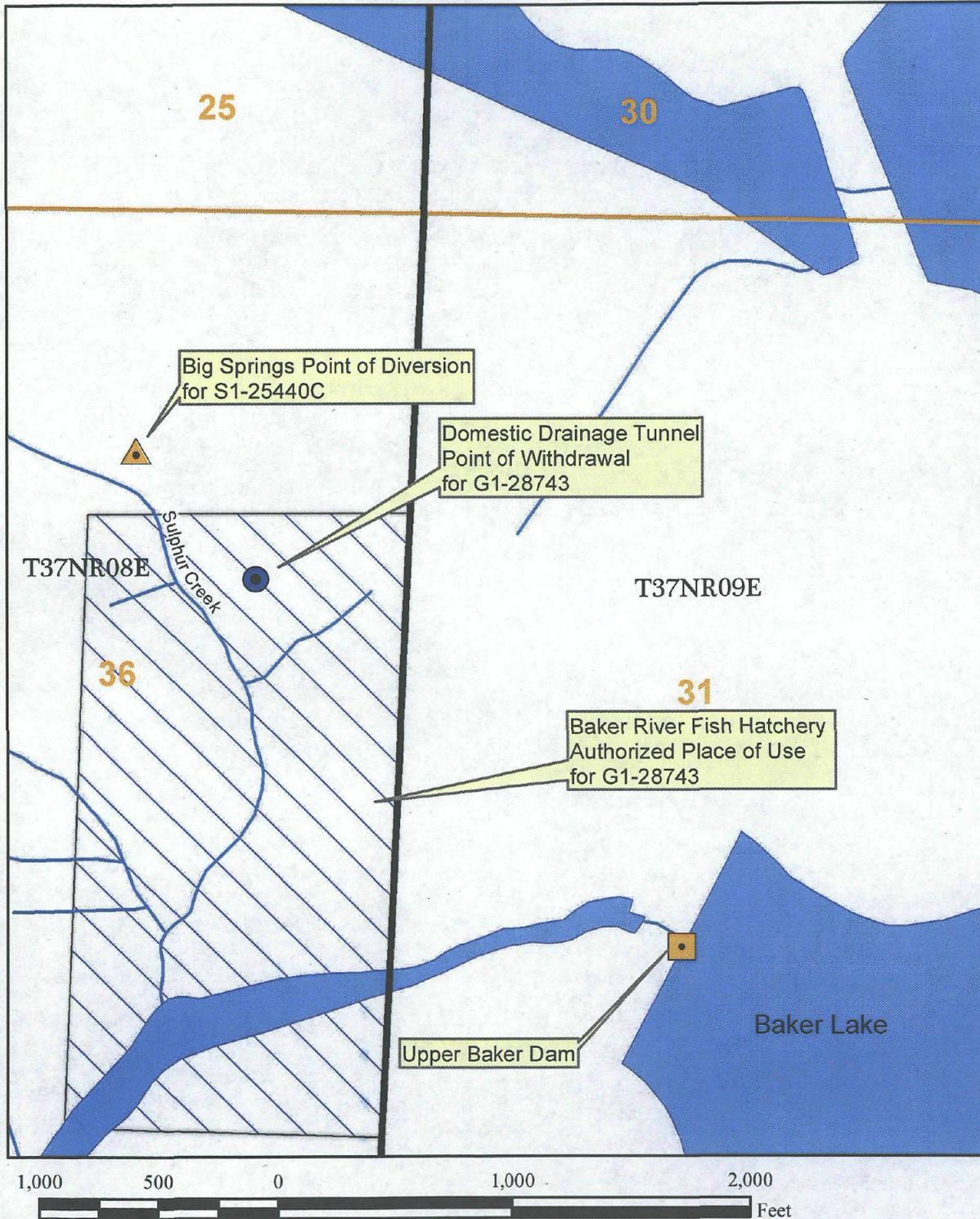
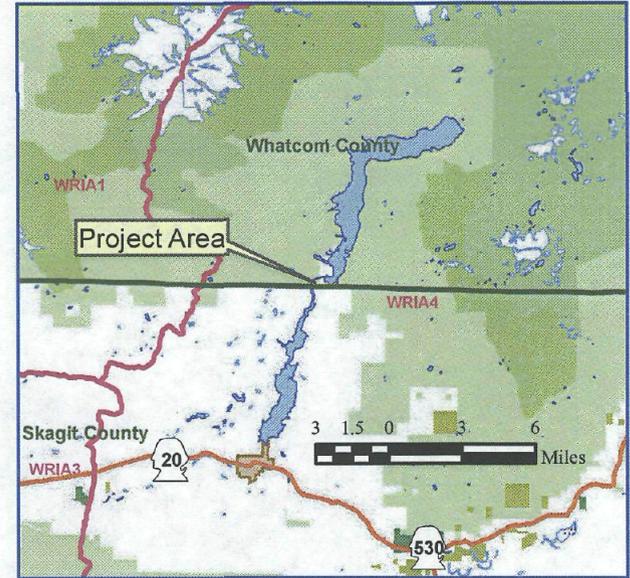
The SW¼ NW¼ of Section 31, Township 37 North, Range 9 East, and the SE¼ NE¼ of Section 36, Township 37 North, Range 8 East, W.M.

Buck Smith, Licensed Hydrogeologist (WA License #1479)

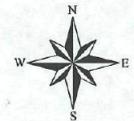
Date

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.

Puget Sound Energy
 Water Right Number G1-28743
 Sec. 36 T 37N R 08E W.M.
 WRIA 4 - Whatcom County



- State Highway
- WRIA
- Water Courses
- Water Bodies
- Township
- Section
- Authorized Place of Use
- Groundwater Collector
- Surface Water Diversion
- Dam



5/2/2013

Place of use and point(s) of diversion/withdrawal are as defined on the cover sheet under the headings, 'LOCATION OF DIVERSION/WITHDRAWAL' and 'LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED.'