File NR G4-35607
WR Doc ID 5723133

DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION
FOR WATER RIGHT APPLICATION

PRIORITY DATE
4/11/2013

WATER RIGHT NUMBER
G4-35607

MAILING ADDRESS
GREG VICTOR
10121 SE 226 PLACE
KENT WA 98031-1837

SITE ADDRESS (IF DIFFERENT)
01970 OLD CEDAR ROAD
CLE ELUM, WA 98926

Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
4.48	GPM	0.414

Purpose

	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		
PURPOSE	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Domestic Single	4.48		GPM	0.392		01/01 - 12/31
Irrigation		4.48	GPM	0.022		06/01 - 09/30

REMARKS

A maximum of 4.48 gallons per minute (gpm), 0.414 acre-feet per year (af/yr) for 1 residence (0.392 af/yr for year-round continuous single domestic supply and 0.022 af/yr for irrigation of lawn and garden up to 0.011 acre between June 1 and September 30 annually). The combined instantaneous quantity from the well identified by Ecology's unique Well Tag # AKW-633 shall not exceed 35.84 gallons per minute (gpm) based upon 4.48 gpm for each connection, up to an 8-connection maximum. Final beneficial use calculations for each connection either independently or combined shall be determined during the investigation at the Proof of Appropriation stage.

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
0.011	0	AB626E	8

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
KITTITAS	GROUNDWATER		39-UPPER YAKIMA

SOURCE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
1 Well	952489	AKW-633	20N	14E	19	SWNE	47.21548	-121.14034
							Datum: NAD83/WGS84	

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)

20880

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Lot 20 of that certain survey recorded February 10, 2005, in Book 31 of Surveys, pages 12-15, under AFN 200502160006, records of Kittitas County, State of Washington, being a portion of Section 19, T. 20 N., R. 14 E.W.M., Kittitas County, state of Washington.

Proposed Works

The subject well was drilled in 2005 (Ecology unique Well ID # AKW-633) to a depth of 75 feet with a 6-inch casing. The current water distribution system includes two storage cisterns. The first is a 1200-gallon capacity and the second is a 1700-gallon capacity cistern. There are plans to increase the total capacity from the current 2900-gallon capacity to a 5000-gallon capacity. The pump is 1.5-horsepower at 29 gallons per minute (gpm) at 143-foot head through a 1.5-inch SCH 40 distribution line.

The Talerico Miller Water System is a Department of Health (DOH) - approved Group B community, private water system and will be regulated by DOH. The total number of authorized connections is 8.

Domestic wastewater will be discharged to an on-site septic system, pursuant to the *Declaration of Covenant* signed April 5, 2013, by the applicant.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Begun	August 31, 2028	August 31, 2030

In determining the timeframe of the above Development Schedule, that is the amount of time for the applicant to implement the authorized use of water, a reasonable and just time was considered and allowed under the existing conditions to complete construction of the project. Sufficient time was also awarded in order for the applicant to collect water-use data and to put the water to full beneficial use. The Development Schedule reflects consideration of the cost and magnitude of the project and the potential engineering and physical features typically to be encountered.

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Annually (Jan 31)
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm)

Provisions

A. Wells, Well Logs and Well Construction Standards

1. The subject well and the right to use water from it are restricted to and authorized for the unconsolidated sediment aquifer of the mainstem Yakima River Valley.

2. All wells constructed in the state shall meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction." Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard shall be decommissioned.

3. All wells shall be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag shall remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

4. Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

B. Measurements, Monitoring, Metering and Reporting

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. Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Central Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Regional Office for forms to submit your water use data.

3. 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.

C. Water Level Measurements

1. In order to maintain a sustainable supply of water and ensure that your water source is not impaired by future withdrawals, static water levels **should** be measured and recorded monthly using a consistent methodology. Static water level is defined as the water level in a well when no pumping is occurring and the water level has fully recovered from previous pumping. Static water level data should include the following elements:
   - Unique Well ID Number.
   - Measurement date and time.
   - Measurement method (air line, electric tape, pressure transducer, etc.).
   - Measurement accuracy (to nearest foot, tenth of foot, etc.).
   - Description of the measuring point (top of casing, sounding tube, etc.).
   - Measuring point elevation above or below land surface to the nearest 0.1 foot.
   - Land surface elevation at the well head to the nearest foot.
   - Static water level below measuring point to the nearest 0.1 foot.

D. Easement of Right-of-Way

1. The water sources and/or water transmission facilities are not wholly located upon land owned by the applicant. Issuance of a water right authorization 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 applicant and owner of that land.

E. Water Use Efficiency

1. 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.

F. Proof of Appropriation

1. 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(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

G. Schedule and Inspections

1. 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.

H. General Conditions

1. This authorization shall in no way excuse the permittee from compliance with any federal, state, or local statutes, ordinances, permits, or regulations including those required and administered by other programs of the Department of Ecology.

2. You (applicant) will pay the sum of $57.02, which represents a proportionate amount of the payment due and owing to the United States for storage and deliver of water under Paragraph 15(a) of the *Water Storage and Exchange Contract No. 09XX101700*, between the Bureau of Reclamation and the State of Washington Department of Ecology, Yakima Project, Washington, dated January 29, 2009.[1] The consumptive use of 0.072 acre-feet (ac-ft) from September 1 through March 1 is subject to the terms and conditions in the *Water Storage and Exchange Contract No. 09XX101700*.
3. You (applicant) will record with the Kittitas County Auditor a property covenant as required under WAC 173-539A-050 that restricts or prohibits trees or shrubs over a septic drain field on Parcel No. 20880.
4. You (applicant) will record with the Kittitas County Auditor an appropriate conveyance instrument under which the applicant obtains an interest in Trust Water Right No. CS4-02255(A)CTCL@2 to offset consumptive use.

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; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G4-35607, 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.

[1] "Long-Term Water Storage and Exchange Agreement between the U.S. and the State of Washington, Department of Ecology" (Contract No. 09XX101700), http://www.ecy.wa.gov/programs/wr/cro/images/pdfs/exchangecontract_012909.pdf, accessed on April 30, 2013.

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

Signed at Yakima, Washington, this 27 day of JUNE 2013.

Mark Kemner, LHG, Section Manager
Water Resources Program/CRO

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.

BACKGROUND

This report serves as the written findings of fact concerning Water Right Application Number G4-35607.

Priority Processing

This application is being priority processed because it qualified under the criteria under which an application may be processed prior to competing applications (WAC 173-152).

On April 11, 2013, the Department of Ecology (DOE) received an application for *Determination of Water Budget Neutrality* from Mr. Victor. Ecology subsequently determined that the proposal did not meet the requirements of a Permit exemption so Ecology converted the existing, *Determination of Water Budget Neutrality* application into an *Application for Water Right Permit*. The following parameters are being proposed:

Table 1: Summary of "Requested" Water Right

Applicant Name	Greg Victor
Date of Application	4/11/2013
Place of Use	Lot 20 of that certain survey recorded February 10, 2005, in Book 31 of Surveys, pages 12-15, under AFN 200502160006, records of Kittitas County, state of Washington, being a portion of Section 19, T. 20 N., R. 14 E.W.M., Kittitas County, state of Washington.

County	Waterbody	Tributary To	WRIA
Kittitas	Groundwater	N/A	39-Upper Yakima

Purpose	Rate	Unit	Ac-ft/yr	Begin Season	End Season
Domestic Single	Undetermined	GPM	0.392	01/01	12/31
Irrigation	Undetermined	GPM	0.022	06/01	09/30

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
1 Well	952489	AKW-633	20N	14E	19	NE NE	N/A	N/A

CFS = Cubic Feet per Second; Ac-ft/yr = Acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; E.W.M. = East of the Willamette Meridian; Datum: NAD83/WGS84.

On May 2, 2013, the representative for the applicant amended the original application to change the quarter quarter location of the proposed source and to provide the requested instantaneous water duty. The corrected parameters follow:

Table 2: Summary of "Amended Requested" Water Right

Date of Amendment	05/02/2013
Amended Point of Withdrawal	The proposed well is located in the SW¼NE¼ of Section 19, T. 20 N., R. 14 E.W.M. (Parcel 952489).
Amended Water Duty	30 gallons per minute (gpm)

Legal Requirements for Approval of Appropriation of Water

RCWs 90.03 and 90.44 authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights. Laws governing the water right permitting process are contained in

RCW 90.03.250 through 90.03.340 and RCW 90.44.050. In accordance with RCW 90.03.290, determinations must be made on the following four criteria in order for an application for water rights to be approved:

- Water must be available.
- There must be no impairment of existing rights.
- The water use must be beneficial.
- The water use must not be detrimental to the public interest.

Proposed Mitigation

The applicant intends to mitigate for consumptive use under the requested appropriation through the purchase of Upper Kittitas mitigation credits from the Swiftwater Water Exchange. The Swiftwater Water Exchange was established by transferring Court Claim No. 02255 into the Trust Water Right Program (TWRP). Consumptive loss resulting from the applicant's proposed use will be offset with Trust Water Right No. CS4-02255(A)CTCL@2, CS4-02255(B)CTCL@2, or CS4-02255(C)CTCL@2.

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, diverted and used. Notice of this application was published in the Daily Record on May 23 and May 30, 2013. No comments or protests were received by Ecology during the 30-day comment period.

Consultation with the Department of Fish and Wildlife

The Department must give notice to the Department of Fish and Wildlife of applications to divert, withdraw, or store water. Notice was officially provided on June 3, 2013, by Sage Park, Water Resources unit supervisor, during a Yakima Water Transfer Working Group (WTWG) meeting. A positive reaction was communicated in response to this proposal.

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.

(a) It is a surface water right application for more than 1 cubic-foot per second (cfs), unless that project is for agricultural irrigation, in which case the threshold is increased to 50-cfs, so long as that irrigation project will not receive public subsidies.

(b) It is a groundwater right application for more than 2,250 GPM.

(c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above.

(d) 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).

(e) 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 for Water Resources, it is categorically exempt from SEPA and a threshold determination is not required.

INVESTIGATION

Site visit

A site visit was performed by Ecology employees Candis Graff and Anna Hoselton on May 23, 2013. Global Positioning Satellite (GPS) coordinates were taken of the location of the well head. Area geology was also noted.

Proposed Use and Basis of Water Demand

The DOH-approved Group B water system, Talerico Miller Water System, became effective on December 12, 2006, and is approved for 8 connections, with a current residential population of 3 for 4 connections. The source is metered.

Domestic Water Use

The December 2009, Water System Design Manual[2] (WSDM), published by the Washington State Department of Health (DOH), contains guidance for establishing water demands. The suggested methods, in order of preference, include:

1. Metered water-production and use records.
2. Comparable metered water-production and use data from analogous water system. See WAC 246-290-221(3)(a) and Section 5.2.3.
3. The criteria presented in Chapter 5.

According to the WSDM, new systems or existing water systems that have no source meter records, information can be obtained from analogous water systems or from information presented in Appendix D in order to estimate the Average Daily Demand (ADD) and Maximum Daily Demand (MDD) for residential connections (WAC 246-290-221(3)).[3] Analogous water systems are defined in Section 5.2.3 of the WSDM as systems with similar characteristics, such as, but not limited to: demographics, housing size, lot sizes, climate, conservation practices, use restrictions, soils and landscaping, and maintenance practices.

Since there is no water use for the proposed residence to review and records for qualifying analogous systems are not available, the MDD values are set at 350 gpd/Equivalent Residential Unit, which is consistent with the WSDM. Under WAC 173-539A, 30% domestic in-house use on a septic system is assumed to be consumptively used and 90% of outdoor domestic use is assumed to be consumptive.

Monthly and annual use at full build-out of the project were calculated based on the proposed one ERU, DOH's MDD, Ecology's Guidance Document 1210 entitled, Determining Irrigation Efficiency and Consumptive Use, the Washington Irrigation Guide (WIG) for outdoor water use, and the assumptions found in WAC 173-539A. A crop irrigation requirement (CIR) for grass in the Cle Elum area of 18.11 inches was estimated using the WIG. Assuming the outdoor use is 90% consumptive, consistent with WAC 173-539A, and applying the WIGs CIR, the outdoor water requirement for 0.011-acre of grass

[2] Department of Health, "Water System Design Manual," Olympia, Wa., 2009, pp. 27-32, www.doh.wa.gov/ehp/dw/Publications/331-123.pdf, accessed on May 6, 2013.

[3] Ibid., p. 28.

is 0.019 ac-ft/yr. The calculated consumptive use and total calculation considered factors specified in WAC 173-539A and are summarized in **Table 3** below.

Table 3: *Estimated Total and Consumptive Use

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Use (ac-ft)	.033	.030	.033	.032	.033	.036	.041	.039	.036	.033	.032	.033	**0.414**
Total Consumptive (ac-ft)	.010	.009	.010	.010	.010	.013	.017	.015	.013	.010	.010	.010	**0.137**

*Quantities are rounded.

Other Rights Appurtenant to the Place of Use

Table 4: Other Right Appurtenant to POU

Control Number	Doc. Type	Purpose	Qa	Source
G4-034936CL	Claim-Short[4]	DG	Unspecified	Unspecified
S4-84638-J	CFO	SR	166,846	Yakima River
S4-84639-J	CFO	SR	250,261	Kachees River
S4-84640-J	CFO	SR	446,610	Yakima River
S4-84641-J	CFO	SR	38,768	Bumping River
S4-84642-J	CFO	SR	216,850	Tieton River
S4-84643-J	CFO	SR	5,300	Tieton River
S4-84644-J	CFO	SR	472	Yakima River
S4-84645-J	CFO	SR	2	Tieton River
S4-84646-J	CFO	SR	56	Yakima River
S4-84647-J	CFO	SR	60	Yakima River
S4-84648-J	CFO	SR	408	Yakima River
S4-84649-J	CFO	SR	1,265	Tieton River
S4-84650-J	CFO	SR	5,120	Yakima River

DG=Domestic General, SR=Storage

G4-034936CL specifies no quantities but for domestic use.

Surface Water Right Nos. S4-84638-J through S4-84650-J, which are owned by the United States Bureau of Reclamation, authorize water to be stored for flood control purposes.

[4] The above referenced claims were filed under Claims Registration Act, RCW 90.14. The intent of this act was to document those uses of surface water in existence prior to the adoption of the State Surface Water Code, RCW 90.03, which was adopted in 1917, and those uses of ground water in existence prior to the adoption of the State Ground Water Code, RCW 90.44, which was adopted in 1945. Since each code adoption, the only means of acquiring a water right within the state is by filing for, and receiving, a Permit from Ecology or one of its predecessors or by establishing a right under the "exemption" under the Ground Water Code RCW 90.44.050. Ecology recognizes that the final determination of the validity and extent associated with a claim registered in accordance with RCW 90.14 ultimately lies with the Superior Court through the general adjudication process provided for by RCWs 90.03.110 through 90.03.240. Ecology does, however, recognize that water use may be occurring under these claims.

Impairment Considerations

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that:
  (a) is constructed in compliance with well construction requirements, and
  (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of a surface water right. A surface water right conditioned with instream flows may be impaired if a proposed use or change would cause the flow of the stream to fall to or below the instream flow more frequently or for a longer duration than was previously the case.
- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

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 ground or surface water present in quantities and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested beneficial use or uses. In addition, the following factors are considered:

- Volume of water represented by senior water rights, including federal or tribal reserved rights or claims.
- Water right claims registered under Chapter 90.14 RCW.
- Ground water uses established in accordance with Chapter 90.44 RCW, including those that are exempt from the requirement to obtain a Permit.
- Potential riparian water rights, including non-diversionary stock water.
- Lack of data indicating water usage can also be a consideration in determining water availability, if the department cannot ascertain the extent to which existing rights are consistently utilized and cannot affirmatively find that water is available for further appropriation.

When considering applications for new groundwater right permits, Ecology has a statutory directive to limit appropriations of groundwater to amounts that will maintain and provide a safe sustaining yield to prior appropriations and to avoid aquifer overdraft (RCW 90.44.130, PCHB No. 94-114). Given the hydraulic relationship described below and the acquisition of a portion of Trust Water Right No. CS4-02255(A)CTCL@2, this directive will be satisfied.

Hydrologic/Hydrogeologic Evaluation

The following hydrologic/hydrogeologic technical excerpts were written and prepared and stamped by licensed hydrogeologist, Anna Hoselton, and seeks to address, by way of discussion, analysis, and

evaluation, potential for impairment to existing water users. The entire Technical Memorandum can be reviewed upon request.

Hydrogeologic Setting

The subject well and place of use are located south of Easton Ridge, Interstate 90, and the Iron Horse State Park trail about 2¼ miles southeast of the city of Easton on the valley floor of the mainstem Yakima River (Figure 1). In this area, the silver pass member of the Swauk Formation and overlying basalt flows of the Teanaway Formation form the north valley wall of Easton Ridge while low grade Greenschist of the Easton Metamorphic Suite forms the south valley wall. The trace of the regional Straight Creek Fault (SCF) is mapped (Tabor et al., 2000) running northwest-southeast in between the two bedrock units trending approximately coincidental with the valley axis. Another smaller unnamed fault trace is mapped splintering south-southeasterly, off the SCF, east of the subject well site. Both faults cut bedrock units and are buried under the overlying sediments. Unconsolidated sediments in-filling the bedrock basin in the project area are composed of glacial drift and more recent alluvium. The unconsolidated sediments are thinnest near the valley walls with thickness increasing away from the valley walls. For instance, just north of the SCF, in neighboring section 17, bedrock is encountered in well AHK117 located on Kittitas county parcel # 380334 at a depth of 393 ft bgs. Similarly, Ecology well log ID 413278 records a decommissioned well located on the applicant's Kittitas county parcel # 20880, about 1290 feet southeast of the subject well and south of the SCF, that was drilled to a depth of 320 feet but did not encounter bedrock.

The saturated portion of the unconsolidated glacial and alluvial sediments forms the aquifer of interest. The subject aquifer trends from generally unconfined within the upper portion to semi-confined and perhaps confined at depth where silts and clays appear to be predominant. For example, the 320 foot well mentioned above encountered silty sand to a depth of 139 ft, below which the sediments were described as clay, silty clay and silty sand with clay; the well was decommissioned because it did not produce water at the time of construction. Consequently, the majority of area wells are constructed within the most permeable portion of the aquifer which tends to occur in roughly the upper 80 to 100 ft of the unconsolidated sediments.

Area groundwater levels from Sections 17, 18, 19 and 20 of T. 20 N., R. 14 E.W.M. and from Section 13 of T. 20 N., R. 13 E.W.M., were reviewed for static water level trends. Static water levels recorded on area well logs ranged from slight flowing conditions (2 feet above the land surface) to 54 feet below the ground surface (bgs) for wells completed within the upper 100 feet of the unconsolidated sediments with the majority being in the range of 3 to 20 feet bgs. As a result, the 'effective' saturated thickness of the upper 100 feet of the aquifer falls into the range of approximately70 to 97 feet (100 feet of sediment thickness minus most common static water levels = effective saturated thickness). Using a mid-range hydraulic conductivity for silty sand (Freeze & Cherry, 1979) of 50 to 500 gal/day/ft^2 (7 to 67 ft/day) suggests an upper aquifer transmissivity range of 3,500 to 48,500 gal/day/ft^2 (470 to 6,500 ft/day) may be reasonable locally.

Area groundwater yield estimates for wells from the same sections listed above were also reviewed. The 89 records reviewed ranged from dry to 180 gpm with forty falling into the most common estimate range of 30 to 50 gpm. Only three of the 89 wells were recorded as "dry", while eleven fell in the upper range of 70 to 180 gpm. Only one well encountered heaving sediments and although the aquifer characteristics suggest that area well yield could benefit from the use of well screens, few screened wells were noted.

Area groundwater flow within the unconsolidated sediment aquifer is generally easterly with some deflection to the northeast likely along this stretch and sub-parallel to the flow of the Yakima River. Faulting present in the bedrock units mentioned above does not appear to affect groundwater flow within the overlying unconsolidated sediments. Groundwater/surface water recharge/discharge relationships will be controlled by differences in water-level elevations between the aquifer and surface water bodies. When groundwater elevations are greater than the elevation of surface water, groundwater will discharge to surface water. Conversely, if the groundwater elevation is lower than the elevation of surface water, surface water will discharge to the aquifer. This type of exchange between the surface water and the aquifer are dynamic and will vary seasonally in timing and magnitude.

Recharge to the subject aquifer is from local precipitation, area precipitation runoff from the hillslopes to the southwest of the subject well site, and from up gradient aquifer flow paths recharged by regional area precipitation, reservoir leakage, and surface water discharge from the Yakima River, up gradient tributaries and springs where and when surface water elevations are higher than groundwater elevations. Discharge from the subject aquifer is to wells, to down gradient aquifer flow paths and to down gradient regions of the Yakima River, tributaries and springs where and when groundwater elevations may be higher than surface water elevations.

Physical Water Availability

Based on the subject well's location within the hydrogeologic setting described above, area well information, and recharge/discharge relationships between the aquifer and surface water, water is physically available from the unconfined alluvial aquifer in the subject area for the above request. Water availability, however, also includes policy, management and legal considerations and is ultimately a permitting/management decision that is, only in part, based on the information provided here.

General Impairment Discussion

The concepts discussed above must be evaluated when impairment is being considered. For example, to claim impairment, a senior groundwater right holder must have a qualifying groundwater withdrawal facility and be able to demonstrate that withdrawals by a junior water user are causing an interruption or interference in the availability of water. The claim must also show that there is a right to protect, and possibly other pertinent factors. Consequently when a proposed withdrawal is evaluated, consideration is given to how the withdrawal may affect other existing groundwater and surface water rights.

To consider potential effects on existing area groundwater users due to the proposed groundwater withdrawal, the Theis non-equilibrium equation, corrected for unconfined conditions, was used to evaluate groundwater drawdown due to pumping at and around the subject well. The known saturated thickness (depth of the well minus the static water level) at the subject well is 65 ft. Theis drawdown was calculated using both the known saturated thickness (b) and a conservative half of the known thickness to simulate water short conditions. Hydraulic conductivity was varied across low, mid, and high range values and specific yield was held constant. Days of continuous pumping were chosen based on how long it would take to exhaust the requested individual or a group maximum annual quantity of 0.414 or 3.312 af/yr, respectively, if pumped continuously although it is recognized that actual pumping will be periodic and possibly at a lower rate. Evaluation parameters and predicted drawdown results are presented in Table 5 below.

Effects for distances greater than 500 feet from the subject well were ignored since under the scenarios chosen, drawdown effects were effectively extinguished beyond 500 feet. In summary, the proposed

withdrawal of 0.414 af/yr (or the eventual withdrawal of a group quantity of 3.312 af/yr from the subject well) requested under application G4-35607 is not anticipated to interfere with the ability of senior groundwater right holders to fully utilize their well(s).

Table 5

Pumping Rate gpm	Continuous Pumping 24 hr days	Hydraulic Conductivity gpd/ft^2	Specific Yield s	Saturated Thicknss b	Distance Between Observation Point and the Subject Well ft	Theis Drawdown at the at the Observation ft
30	5	50	0.15	65	100	1.44
30	5	50	0.15	32.5	100	1.75
30	25	50	0.15	32.5	100	4.95
30	25	50	0.15	32.5	500	0.16
30	5	250	0.15	65	100	0.60
30	5	500	0.15	32.5	100	1.75
30	25	250	0.15	32.5	100	0.94
30	25	500	0.15	32.5	100	4.95
30	25	500	0.15	32.5	500	0.15

Further, it should be noted that the majority of the wells in the subject area and aquifer do not fully penetrate the entire saturated thickness of the unconsolidated aquifer. This is because the domestic quantities of groundwater that area well owners presently require can generally be satisfied by relatively shallow (100 ft deep or less) wells. Consequently, while well interference may occur between groundwater users, it appears unlikely to reach legal characteristics of impairment under current conditions.

The diversion point for nearest existing adjudicated surface water right, S4-83034-J, is located about 1,360 ft to the southwest at an elevation of approximately 2100 ft msl. Given that evaluation of pumping effects evaluated above suggest that drawdown due to pumping at the subject well would be largely extinguished at a distance of 500 ft, adverse affects on existing area surface water rights are not anticipated.

Groundwater withdrawals from the proposed well for use under G4-35576 will, however, capture water that would otherwise discharge to the Yakima River. However, water is available without injury to the Total Water Supply Available by way of mitigation offered through use of CS4-YRB03CC2255 (A) CTCL@2, CS4-YRB03CC2255 (B) CTCL@2, and CS4-YRB03CC2255 (C) CTCL@2 of the SwiftWater Ranch Water Bank in accordance with RCW 90.42 and in accordance with Washington Administrative Code 173-539A-060 and water provided in coordination with the State of Washington Trust Water Program. Legal availability is ultimately a permitting/management decision that is, in part, based on the information provided above.

Legal Availability

To determine whether water to be legally available for appropriation, the following factors are considered:

- Regional water management plans – which may specifically close certain water bodies to further appropriation.

- Existing rights – which may already appropriate physically available water.
- Fisheries and other instream uses (e.g., recreation and navigation). Instream needs, including instream and base flows set by regulation. Water is not available for out of stream uses where further reducing the flow level of surface water would be detrimental to existing fishery resources.
- The Department may deny an application for a new appropriation in a drainage where adjudicated rights exceed the average low flow supply, even if the prior rights are not presently being exercised. Water would not become available for appropriation until existing rights are relinquished for non-use by state proceedings.

When evaluating legal availability regarding applications for new groundwater permits, Ecology must statutorily limit appropriations of groundwater to:

1. Uses for a structure for which a building permit is granted and the building permit application vested prior to July 6, 2009.
2. Uses determined to be water-budget-neutral pursuant to WAC 173-539A-050.

Given that this proposal has acquired a portion of Trust Water Right No. CS4-02255(A)CTCL@2, CS4-02255(B)CTCL@2, or CS4-02255(C)CTCL@2, in the amount of 0.161 acre-feet, this directive will be met. This trust water right is dedicated to in-stream flow for water banking mitigation purposes for as long as the right remains in the TWRP. Such Trust Water Right has an equal or greater contribution to flow during irrigation season as measured on the Yakima River at Parker that would serve to mitigate the proposed use for impacts to total water supply available.

Beneficial Use

The proposed uses of water for single domestic and irrigation are defined in statute as beneficial uses (RCW 90.54.020(1).

Public Interest Considerations

When investigating a water right application, Ecology is required to consider whether the proposal is detrimental to the public interest. Ecology must consider how the proposal will affect an array of factors, such as wildlife habitat, recreation, water quality, and human health. The environmental resources and other natural values associated with the area were taken into account during the consideration of this proposal.

Consideration of Protests and Comments
No protests were filed against this application.

Conclusions

In conclusion,

- Water is physically available at the quantities sufficient to meet project demand. When combined with the proposed mitigation measures, water is legally available under the provisions of WAC 173-539A.
- RCW 90.54.020 recognizes single domestic use and irrigation as beneficial uses of water.
- Approval of the proposed appropriation will not result in impairment of existing water rights.
- Approval of the proposed appropriation is not detrimental to the public interest.

RECOMMENDATIONS

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

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:

- 4.48 gallons per minute.
- 0.414 acre-feet per year.
- Continuous, year-round indoor single domestic supply.
- Seasonal (June 1 through September 30 annually) irrigation of lawn and garden supply.

Point of Withdrawal

Approximately 1840 ft west and 1507 ft south from the northeast corner of Section 19, T. 20 N., R. 14 E.W.M.

Place of Use

As described on Page 2 of this Report of Examination.

Candace Kinney — June 27, 2013

Report Writer *Date*

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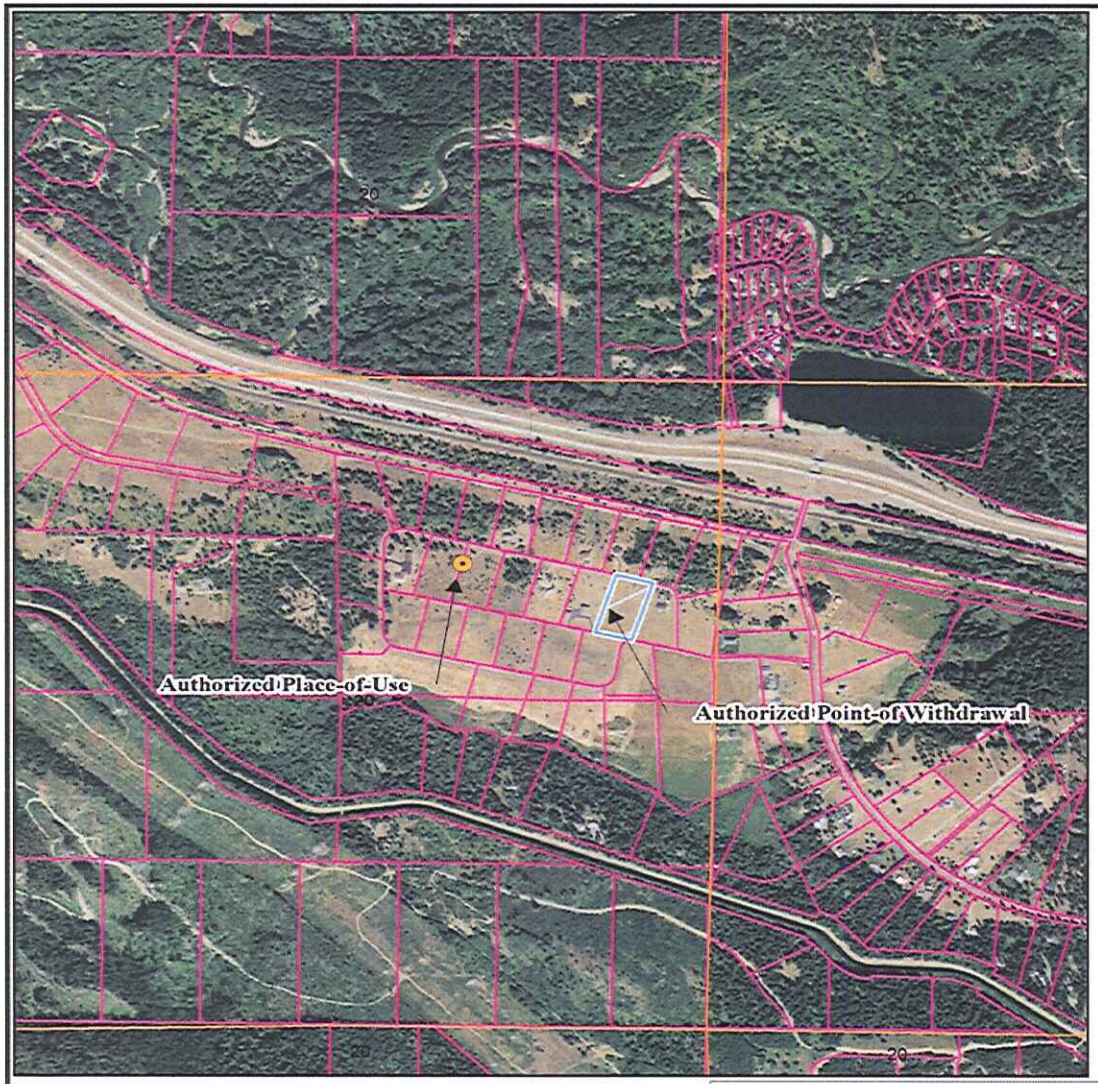
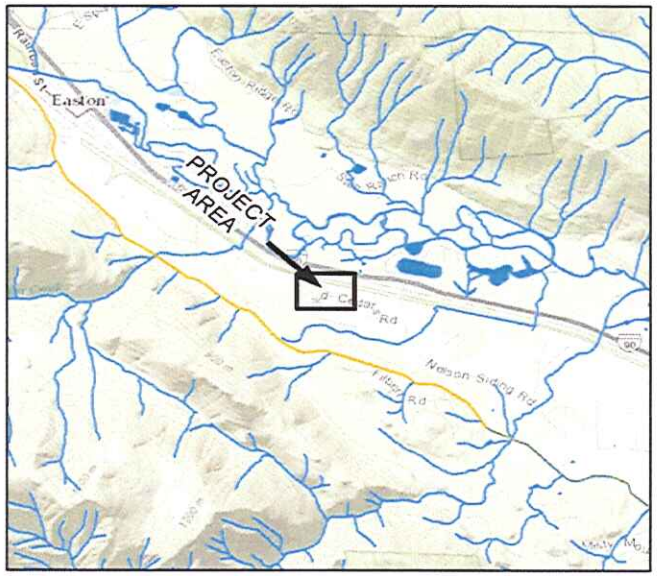
ATTACHMENT 1

GREG VICTOR
G4-35607
Sec. 19 T20N/R14E
WRIA 39 - Kittitas County





Basemap - ESRI US Topographic Map

Legend

- Authorized Place of Use
- Authorized Point of Withdrawal
- Water Bodies
- Townships
- Sections
- Highway
- Parcels

0 500 1,000 2,000 3,000 4,000 Feet

Basemap - ESRI Streets

Map Date: 5/23/2013

Comment:
Place of use and source locations are as defined within the Report of Examination cover sheet for the document identfied in the header above.