



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
To Appropriate Public Waters of the State of Washington

APPLICATION DATE	APPLICATION NO.
June 14, 2010	G4-35350

NAME		
Cascade View, Inc.		
ADDRESS/STREET	CITY/STATE	ZIP CODE
620 SE Everett Mall Way, Ste 360	Everett, WA	98208-8113

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
1 Well
TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE-FEET PER YEAR
	10	0.392

QUANTITY, TYPE OF USE, PERIOD OF USE
10 gallons per minute, 0.392 acre-feet per year for year-round, continuous single domestic supply.

LOCATION OF WITHDRAWAL

APPROXIMATE LOCATION OF WITHDRAWAL
Final well location to be determined but approximately 200 feet south and 100 feet west from the northeast corner of Section 35, T. 18 N., R. 17 E.W.M.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP	RANGE	WRIA	COUNTY
NE $\frac{1}{4}$ NE $\frac{1}{4}$	35	18 N.	17 E.W.M.	39	Kittitas
PARCEL NUMBER	LATITUDE	LONGITUDE	DATUM		
18-17-35010-0015	N/A	N/A	N/A		

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED
[Attachment 1 shows location of the authorized place of use and point(s) of withdrawal.]

Parcel D as described and/or delineated on that certain Survey as recorded July 26, 1995, in Book 21 of Surveys, pages 68, 69, and 70, under Auditor's File No. 583522, records of Kittitas County, Washington; being a portion of the NE $\frac{1}{4}$ of Section 35, T. 18 N., R. 17 E.W.M., in the County of Kittitas, State of Washington. (Parcel No. 18-17-35010-0015.)

DESCRIPTION OF PROPOSED WORKS

A water supply well has not yet been constructed at the site. One well will be completed in the Grand Ronde CRB/Ellensburg Formation aquifer that underlies the surficial unconsolidated sediments. Water from this well will be used for indoor single domestic supply. Domestic wastewater will be discharged to an onsite, engineered drain field pursuant to county ordinance. Irrigation water for incidental lawn and garden will be provided by Kittitas Reclamation District.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	WATER PUT TO FULL USE BY THIS DATE
October 31, 2013	October 31, 2015	October 31, 2017

PROVISIONS

WELLS, WELL LOGS AND WELL CONSTRUCTION STANDARDS

1. The water supply well shall be drilled and completed in the Grand Ronde CRB/Ellensburg Formation aquifer that underlies the surficial unconsolidated sediments.
2. In accordance with WAC 173-160, wells shall not be located within certain minimum distances of potential sources of contamination. These minimum distances shall comply with local health regulations, as appropriate. In general, wells shall be located at least 100 feet from sources of contamination. Wells shall not be located within 1,000 feet of the boundary of a solid waste landfill.
3. 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.
4. The well shall be cased and sealed in accordance with WAC 173.160.241(3)(a. or b.).
5. The casing shall be driven or seated into competent (consolidated) bedrock of the interbedded basalts and/or sandstones of the Grande Ronde CRB/Ellensburg Formation.
6. The proposed well will be located in Parcel No. 18-17-35010-0015, being within the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 35, T. 18 N., R. 17 E.W.M.
7. Flowing wells shall be constructed and equipped with valves to ensure that the flow of water can be completely stopped when not in use. Likewise, the well shall be continuously maintained to prevent the waste of water through leaky casings, pipes, fittings, valves, or pumps - either above or below land surface.
8. 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.
9. Required installation and maintenance of an access port as described in WAC 173-160- 291(3).
10. 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 bi-annually 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.
11. Static water level data should include the following elements:
 - a) Unique Well ID Number
 - b) Measurement date and time
 - c) Measurement method (air line, electric tape, pressure transducer, etc.)
 - d) Measurement accuracy (to nearest foot, tenth of foot, etc.)
 - e) Description of the measuring point (top of casing, sounding tube, etc.)
 - f) Measuring point elevation above or below land surface to the nearest 0.1 foot
 - g) Land surface elevation at the well head to the nearest foot.
 - h) Static water level below measuring point to the nearest 0.1 foot.

MEASUREMENTS, MONITORING, METERING AND REPORTING

12. An approved measuring device shall be installed and maintained for each of the sources authorized by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use," WAC 173-173. <http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html>.
13. Water use data shall be recorded annually and maintained by the property owner for a minimum of five years, and shall be promptly submitted to the Department of Ecology upon request.
14. Upon request by Ecology, recorded and requested water use shall be submitted via the Internet (see Item Nos. 10, 11, and 13 above for specific data to be submitted). To set up an Internet reporting account, contact the Central Region Office. If you do not have Internet access, you can still submit hard copies by contacting the Central Region Office for forms to submit your water use data.

SCHEDULE AND INSPECTIONS

15. 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.

16. 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 water right. 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.

GENERAL

- 17. 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.
- 18. Consumptive use under this authorization is water budget neutral. Consumptive use quantities (total withdrawal minus return flow) shall be fully offset by debit of an equal consumptive use quantity of seasonal irrigation water rights placed into permanent trust in the Washington State Trust Water Right Program (TWRP) by SC Aggregate Co., Inc.
- 19. In-home water use is one connection, resulting in a consumptive use of 0.118 acre-feet per year water use under this authorization is contingent upon the conveyance of an equal (0.118acre-feet per year) or greater amount of consumptive use from a suitable instream flow right (see Trust Water Right Agreement) to the TWRP.

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 appropriation of water as recommended is physically and legally available, is a beneficial use, will not be detrimental to existing rights, and is not detrimental to the public interest.

Therefore, I ORDER the approval of Application No. G4-35350 subject to existing rights and the provisions specified above.

YOUR RIGHT TO APPEAL

You have a right to appeal this decision to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this decision. 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 this decision:

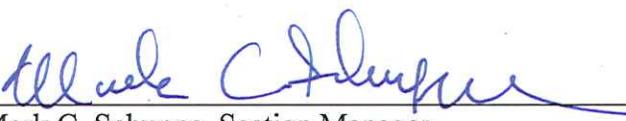
- File your appeal and a copy of this decision with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this decision on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

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

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey WA 98503 Pollution Control Hearings Board 1111 Israel Road 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 15th day of February 2011.


 Mark C. Schuppe, Section Manager
 Water Resources Program/CRO

BACKGROUND

Project Description

On June 14, 2010, Larry Hillis, representative of Cascade View, Inc., submitted an application to the Department of Ecology (Ecology) to appropriate ground water for a single residence in the Lower Kittitas County. The application was accepted and assigned Water Right Application No. G4-35350. The applicant requested authorization for 350 gallons per day (gpd) and an annual withdrawal volume (Qa) of 0.392 acre-feet per year (ac-ft/yr) for a single domestic water system. No incidental irrigation is requested.

The applicant intends to mitigate for consumptive use under the requested appropriation through the creation of a water banking program, referred to as the SC Aggregate Water Exchange. The SC Aggregate Water Exchange specific to this application, was established by transferring Court Claim No. 01274, which authorizes pre-1905 priority dated water to be diverted from the Yakima River basin, into the Trust Water Right Program (TWRP). Consumptive use is proposed to be offset with Trust Water Right No. S4-01724CTCLsb7. The total proposed consumptive use for this project will not exceed the amount of water available under the subject Trust Water Right during the irrigation season.

Table 1
Summary of Application No. G4-35350

<i>Attributes</i>	<i>Proposed</i>
Applicant	Cascade View, Inc.
Date of Application	June 14, 2010
Instantaneous Quantity	350 gallons per day
Annual Quantity	0.392 acre-feet per year
Source	Well
Point of Withdrawal	NE ¹ / ₄ NE ¹ / ₄ of Section 35, T. 18 N., R. 17 E.W.M.
Purpose of Use	Domestic Single
Period of Use	Continuously year around
Place of Use	NE ¹ / ₄ NE ¹ / ₄ of Section 35, T. 18 N., R. 17 E.W.M. (Parcel No. 18-17-35010-0015)

Legal Requirements for Application Processing

The following requirements must be met prior to processing a water right application:

- **Public Notice**
Public notice of the change application was given in the Ellensburg Daily Record of Ellensburg, Washington on July 15 and July 22, 2010. There were no protests during the 30-day protest period.
- **State Environmental Policy Act (SEPA)**
In accordance with WAC 197-11-800(4), WAC 197-11-305, and RCW 43.21C.030(2)(c), this Water Right Application is categorically exempt from environmental review under SEPA.
- **Water Resources Statutes and Case Law**
 1. This application qualifies for expedited processing under the TWRA.
 2. RCW 90.44.060 addresses how the law governs withdrawals of public groundwater.
 3. RCW 90.42.100(2)(c) allows Ecology to use water banking to issue new water rights.
 4. RCW 90.03 describes the process for obtaining water rights.

INVESTIGATION

Site Visit

Ecology personnel, Candis Graff and Erin Gutierrez, visited the site September 20, 2010, to take photographs of the proposed site.

Existing Water Rights

No existing ground water rights were found appurtenant to the authorized place of use (POU). Water rights in the immediate vicinity of Section 35, T. 18 N., R. 17 E.W.M. are summarized as follows:

Table 1:
Other Water Rights' POU in the Vicinity

<i>Court Claim Number</i>	<i>Purpose</i>	<i>Authorized/Claimed Annual Quantity in ac-ft/yr</i>	<i>Section Number/Source</i>
00411	ST, IR, IF	9620	Multiple/Wells
0465	IR, ST, DG, PO	361,000	Multiple/Yakima Rvr.
1705	IR	267.3	26/Robinson Crk.
1705	IR	29.75	26/Robinson Crk.
1074	IR, ST	2	26/Robinson Crk.

The above-referenced water rights use surface water for the purposes of irrigation, stock watering, irrigation, instream flow, and power. Control No. S3-KITT-J services multiple users in multiple sections for the purposes of irrigation, domestic, stock, and power. Purpose Definitions: ST=Stockwater, IR=Irrigation, IF=Instream Flow, DG=Domestic General, PO=Power.

Domestic Water Use

The December 2009, *Water System Design Manual*¹ (WSDM) 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 systems.
See WAC 246-290-2321(3)(a) and Section 5.2.3.
3. The criteria presented in Chapter 5.

According to the WSDM, "For new water systems with no source meter records, the design engineer can use information from analogous water systems or the information in Appendix D to estimate ADD and MDD for residential connections (WAC 246-290-221(3))."² 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. As such, "...a reasonable level for a Maximum Daily Residential Demand for internal uses can be established at 350 gpd/ERU..."³

Since there is no water use for the proposed residence to review and records for qualifying analogous systems are not available, the Maximum Daily Demand (MDD) value is set at 350 gpd/equivalent residential unit (for developments without irrigation or with restrictions on the external use of water). Monthly and annual indoor total consumptive use for domestic water use at full build-out of the project were calculated based on DOH's MDD and the assumptions found in WAC 173-539A and are summarized in Table 2.

Table 2
Estimated Total Indoor Consumptive Use

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total (ac-ft)	.0333	.0301	.0333	.0322	.0333	.0322	.0333	.0333	.0322	.0333	.0322	.0333	0.392
Consumptive (ac-ft)	.0100	.0090	.0100	.0097	.0100	.0097	.0100	.0100	.0097	.0100	.0097	.0100	.118

Hydrologic/Hydrogeologic Discussion and Evaluation

The following hydrologic/hydrogeologic technical sections were prepared by Anna Hoselton, licensed hydrogeologist, and reviewed by Thomas Mackie, supervisor and licensed hydrogeologist, and seek to address by way of discussion, analysis, and evaluation, potential for impairment to existing water users.

¹ DOH, "*Water System Design Manual*," Olympia, Wa., 2009, pp. 27-32, www.doh.wa.gov/ehp/dw/Publications/331-123.pdf, accessed on January 4, 2011.

² Ibid. p. 28.

³ Ibid, p. 224.

Project Area Geologic/Hydrogeologic Discussion

Geologic maps indicate the subject parcel is located within an area of Pleistocene alpine glacial outwash sediments largely composed of cobbles, gravels and clays that overlay Miocene age marginal Columbia River Basalts (CRB) of the Grande Ronde Formation, which are interbedded with sediments of the Ellensburg Formation (Tabor, et. al, 1982). The trace of a regional, concealed, NW-SE trending, left lateral strike slip fault (Golder, 2006) passes within approximately a ½ mile SW of the subject parcel and generally parallels the basin's NW-SE trending, e-se plunging, synclinal axis.

Aquifers, which may exist, in the glacial sediments are recharged by local precipitation, imported irrigation water and by surface water interaction with local creeks where and when surface water head elevations may be higher than groundwater elevations. Discharge from the glacial unit is to wells and to surface water where and when groundwater head elevations may be higher than surface water head elevations. Aquifers within the marginal Grande Ronde CRB/Ellensburg Formation are recharged by infiltration of precipitation where the Formations outcrop at the land surface, by surface water and by leakage from overlying sediments where the Formation's permeabilities and head elevations facilitate. Discharge from the marginal Grande Ronde CRB/Ellensburg Formation is to wells and to surface water where head elevations facilitate.

Water Availability

Water availability includes legal availability (e.g. closure of basins to further appropriation) and physical availability (e.g., productivity of the aquifer). The appropriation proposed under the subject application will be water budget neutral by dedicating 0.118 ac-ft/yr of mitigation available from the SC Aggregate Exchange. During the course of a 12-month year, mitigation is offered to account for the project's indoor use. The amount of 0.118 ac-ft/yr represents the calculated maximum consumptive use total for each 1 year period. The 0.118 ac-ft/yr, however, will be added to in stream flows during the irrigation season only. Total year round use (consumptive + non-consumptive) is expected to be 0.392 ac-ft/yr.

Although the mitigation water will be discharged to the main stem Yakima only during the irrigation season, groundwater use and the resulting pumping effects are expected to occur on a year round basis. The overall parameters and the issue of potential non-irrigation season effects were brought before the Yakima Water Transfer Work Group on August 30th and October 4th, 2010 for the subject application and were considered to be fully mitigated for the entire year.

Impairment, Qualifying Works and Well Interference

There are three concepts that are important when considering whether a withdrawal of water from a well would impair another existing water right. The concepts are defined as follows:

- Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection.
- Qualifying ground water withdrawal facilities are defined as those wells which in the opinion of the Department are adequately constructed. An adequately constructed well is one that (a) is constructed in compliance with well construction requirements; (b) fully penetrates the saturated thickness of an aquifer or withdraws water from a reasonable and feasible pumping lift (WAC 173-150); (c) has withdrawal facilities capable of accommodating a reasonable variation in seasonal pumping water levels; and (d) the withdrawal facilities and pumping facilities are properly sized to match the ability of the aquifer to produce water.
- Well interference is the overlap of the cones of depression for two or more wells. Well interference reduces the water available to the individual wells and may occur when several wells penetrate and withdraw groundwater from the same aquifer. Each pumping well creates a drawdown cone. When several wells pump from the same aquifer, well density, aquifer characteristics, and pumping demand may result in individual drawdown cones that intersect and form a composite drawdown cone.

Impairment Discussion

Ecology's well database currently holds 25 water well reports that represent wells drilled within the four adjacent ¼ sections that contain and surround the subject parcel. Of those well logs, only 5 clearly withdraw groundwater from the surficial glacial sediments. Three logs could be interpreted as withdrawing groundwater from the surficial glacial sediment aquifer and/or from the uppermost portion of the underlying Ellensburg Formation sandstone. Wells developed into the surficial glacial sediments and/or the uppermost portion of the Ellensburg Formation tend to have relatively shallow groundwater levels. The remaining 17 logs represent wells that have been clearly developed into the interbedded marginal Grande Ronde CRB/Ellensburg Formation aquifer.

Potential for impairment, as a result of a new right being authorized, appears to be greatest within the overlying glacial sediments because of its limited saturated thickness, the somewhat limited upslope extent of the aquifer, current area well densities and potential effects on the nearby Kittitas Reclamation District, South Branch, Ride #1, turnout 9.9. Groundwater levels in this unit(s) tend to be shallow with well yield estimates ranging from about 10 to 20 gallons per minute (gpm) by air and bailer test methods.

While potential impairment concerns appear to be less likely between wells developed into the underlying Grande Ronde CRB/Ellensburg Formation aquifer(s) because of its greater saturated thickness, the concealed fault mentioned above may function as a groundwater boundary and limit groundwater recharge originating from west of the subject well site. The type of fault, strike slip, is less likely to impede groundwater flow since water bearing units are less likely to be severely offset, however, a zone of fault gouge generally forms along the fault plane that may impede flow, discharge flow into the overlying glacial sediments or, redirect flow elsewhere. As a result, wells located close to the fault boundary may experience steeper drawdown that would otherwise be expected. Wells completed into this unit tend to only partially penetrate the unit, have generally deeper static water levels, and estimated yields in the range of 20 to 60 gpm.

Withdrawal of the requested maximum of 350 gpd for in-house domestic purposes and its effects on the main stem Yakima River will be or has been mitigated as noted above. Additionally, withdrawal of the requested maximum of 350 gpd for in-house domestic purposes is not anticipated to result in impairment of existing local area rights if the groundwater source is restricted to the interbedded basalts and/or sandstones of the Grande Ronde CRB/Ellensburg Formation.

Public Interest Considerations

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

Consideration of Protests and Comments

No protests or comments were received during the 30-day comment period following publication of the public notice.

CONCLUSIONS

- Water is physically available at the quantities authorized.
- Water is legally available when combined with the proposed mitigation measures.
- According to RCW 90.54.020, single domestic use is considered a beneficial use.
- Approval of the proposed appropriation, when combined with the proposed mitigation measures, will not result in impairment of existing water right holders.
- Approval of the proposed appropriation, when combined with the proposed mitigation measures, is not detrimental to the public interest.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that Application No. G4-35350 to be approved and a permit issued, in the amounts and within the limitations listed below and subject to the provisions beginning on Page 2.

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.

- 10 gallons per minute.
- 0.392 acre-feet per year.
- Year-round, continuous indoor single domestic supply for 1 residence.

Point of Withdrawal

Well to be located within the NE¼NE¼, Section 35, Township 18 North, Range 17 E.W.M., Kittitas County, Washington.

Place of Use

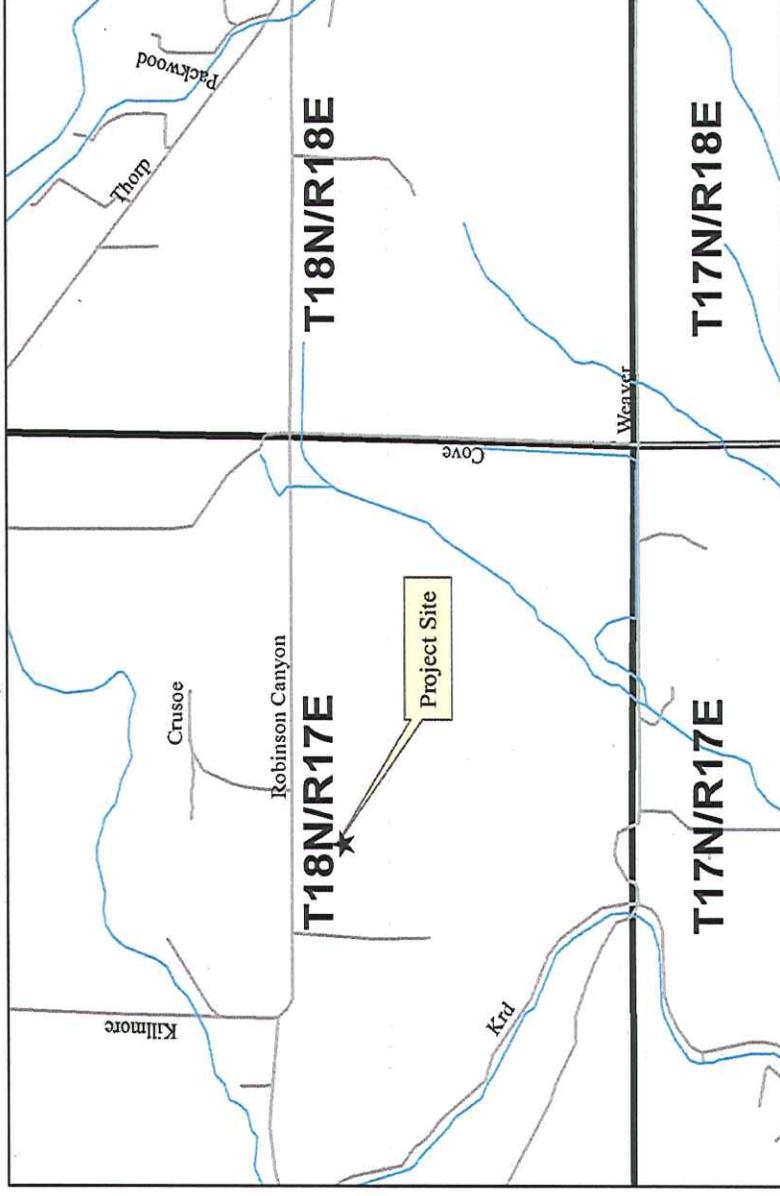
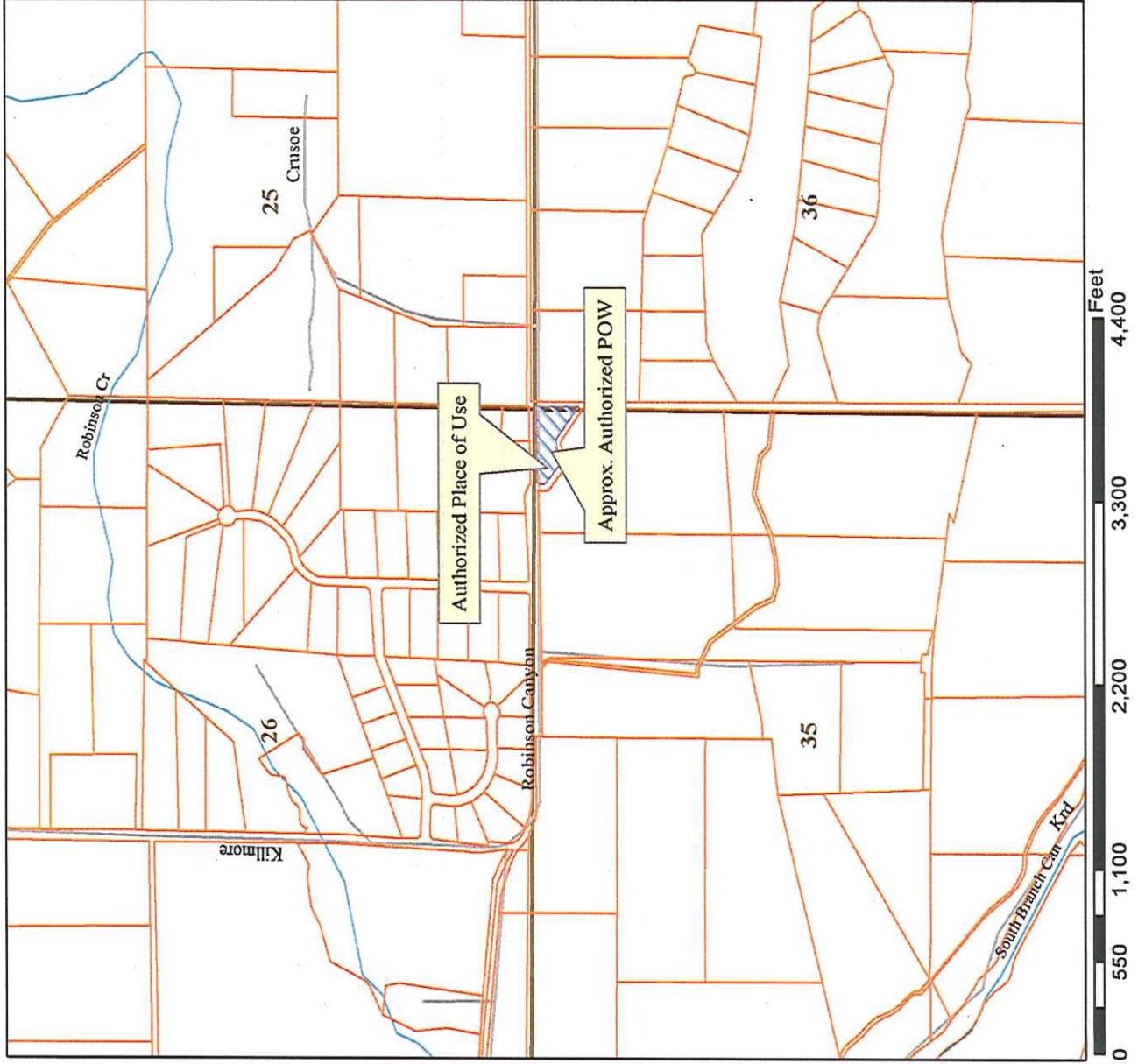
As described on Page 1 of this Report of Examination.

Report by: Candis L. Graff February 14, 2011
 Candis L. Graff, Water Resources Program 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.



Cascade View Inc./Larry O. Hillis
 G4-35350
 Sec. 35, T. 18 N., R. 17 E. W.M.
 Kittitas County - WRIA 39



Legend

- Authorized Place of Use
- Parcels
- Township
- Local Roads
- Water Bodies
- Sections

Comments:

Place of use is as described on the cover sheet under the heading, "LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED."

Attachment 1

