File NR CS4-SWC04324
WR Doc ID 4735419

State of Washington
REPORT OF EXAMINATION
FOR TRUST WATER RIGHT

PRIORITY DATE	WATER RIGHT NUMBER	CHANGE APPLICATION NUMBER	TRUST TERM
March 27, 1948	Okanogan Surface Water Certificate No. 4324	CS4-SWC04324	PERMANENT

WATER RIGHT APPLICANT
WASHINGTON WATER TRUST-ELLENSBURG
103 E 4TH AVE STE 203
WAS: 222 E 4TH AVE STE 109
ELLENSBURG WA 98926-3163

Purpose and Quantity

For the purpose of instream flows, with quantities allocated to primary and second reaches in the following manner.

	Primary Reach		Secondary Reach	
Period	**Flow (cfs)**	**Acre-feet**	**Flow (cfs)**	**Acre-feet**
05/01 -05/31	0.18	8.94	0.15	7.60
06/01 -06/30	0.26	15.65	0.22	13.30
07/01 -07/31	0.33	20.27	0.28	17.23
08/01 -08/31	0.24	14.62	0.2	12.43
09/01 -09/30	0.16	9.50	0.14	8.08
10/01 -10/30	0.04	0.83	0.03	0.71
ANNUAL TOTAL		**69.81**		**59.35**

Trust Water Right Place of Use (See Attachment 1)

WATERBODY	TRIBUTARY TO	COUNTY	WATER RESOURCE INVENTORY AREA
Okanogan River	Columbia River	Okanogan	49-Okanogan

REACH	WATERBODY	RIVER MI	LATITUDE	LONGITUDE
Begin Primary Reach	Okanogan River	44.48	48.55351	-119.48821
End Primary Reach	Okanogan River	44.13	48.54861	-119.48967
Begin Secondary Reach	Okanogan River	44.13	48.54861	-119.48967
End Secondary Reach	Okanogan River	0	48.10041	-119.72363

Latitude/Longitude Coordinates may approximate reach segments. Datum: NAD83/WGS84

The primary reach begins at a point on the Okanogan River located 1,452 ft east and 302 ft south of the NW corner of Sec. 7 to a point located 1,077 ft east and 2,112 ft south of the NW corner of Sec. 7, T.35 N., R. 27 E.W.M. The secondary reach begins at the end of the primary reach and continues to the confluence of the Okanogan and Columbia River.

FILE COPY

Trust Water Right Provisions

Proof of Appropriation
The water right holder must 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 superseding 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.

Schedule and Inspections
Department of Ecology personnel, upon presentation of proper credentials, will 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.

Real Estate Excise Tax
This decision may indicate a Real Estate Excise Tax liability for the seller of water rights. The Department of Revenue has requested notification of potentially taxable water right related actions, and therefore will be given notice of this decision, including document copies. Please contact the state Department of Revenue to obtain specific requirements for your project. The mailing address is:

Department of Revenue	Phone: (360) 570-3265
Real Estate Excise Tax	Internet: http://dor.wa.gov/
PO Box 47477	E-mail: reetsp@dor.wa.gov
Olympia WA 98504-7477	

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

Therefore, I ORDER the requested change of place and purpose of use under Trust Water Right Application No. CS4-SWC04324, be approved 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 Hearings 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 all of 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	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road SW, Suite 301 Tumwater WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia WA 98504-0903

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

Signed at Yakima, Washington, this 10 day of September 2012.

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

INVESTIGATOR'S REPORT

BACKGROUND

Description and Purpose of Proposed Change

Washington Water Trust (WWT) is requesting a transfer (change) of this irrigation water right to instream use on behalf of Stephanie Petersen in perpetuity. This is part of a land and water transaction conducted using funds from the Colville Treaty Fish Accord provided to the Confederated Tribes of the Colville Reservation by the Bonneville Power Administration. WWT, on behalf of Stephanie Petersen, would like to place all of the water associated with certificate number S4-*08331CWRIS into the Trust Water Right Program.

The purpose of the water right trust application is to transfer up to 0.33 cfs and 109.8 ac-ft/yr of the water right to be used exclusively for instream flows and enhancement and maintenance of fisheries as allowed under RCW Chapters 90.03, 90.42, and 90.54 (Table 1). Water use changes associated with this application will provide environmental benefits to the Upper Columbia Steelhead ESU by providing critical cool water habitat via side channel and onsite habitat improvements on the property and in the neighboring side channel. The transfer to trust is receiving expedited processing under WAC 173-152-050(2)(b) and (3)(a).

Table 1: Attributes of the Existing Water Right and Proposed Change

Attributes	Existing	Proposed
Name	**Carl C. & Margaret E. Petersen**	**State of Washington**
Priority Date/ Change Application Date	March 27, 1948	May 13, 2011
Instantaneous Quantity	0.33 cfs	Same
Annual Quantity	Not Specified	109.8 ac-ft
Purpose of Use	Okanogan River	Same
Period of Use	Irrigation of 24.5 acres	Instream flow
Place of Use	Lots 7 and 8 of Pfarr Orchard Tracks according to the plat thereof on file and of record in the office of the Auditor of Okanogan County, and North 20 acres of Lot 2, Sec. 7, T. 35 N., R. 27 E.W.M.	Primary reach is the Okanogan River from a point located 1,452 ft east and 302 ft south to a point located 1,077 ft east and 2,112 ft south of the northwest corner of Sec. 7, T.35 N., R. 27 E.W.M. The secondary reach is from a point located 1,077 ft east and 2,112 ft south of the NW corner of Sec. 7, T.35 N., R. 27 E.W.M.to the confluence of the Okanogan and Columbia River.
Point of Diversion	Okanogan River, Parcel No. 6650080000, Lot 8, Section 7, T.35 N., R. 27 E.W.M	Same

Legal Requirements for Proposed Change
The following is a list of requirements that must be met prior to authorizing the proposed change from irrigation to instream flow enhancement in Okanogan River.

Public Notice
A notice of application was duly published in accordance with RCW 90-42.040(5) in the Omak-Okanogan County Chronicle on January 25 and February 1, 2012. No protests or letters of concern were received.

State Environmental Policy Act (SEPA)
This Application is exempt from the provisions of the State Environmental Policy Act (SEPA), Chapter 43.21 RCW, due to the fact that the cumulative quantity of water proposed for trust water constitutes a withdrawal of less than one cubic foot per second.

Water Resources Statutes and Case Law
This Application is subject to legal requirements in statute, administrative rules, and relevant case law, which must be considered prior to issuance of the requested change(s). Among these legal requirements:

- The Washington State Supreme Court has held that Ecology, when processing a Water Right Change Application, is required to make a tentative determination of extent and validity of the Claim or water right. This is necessary to establish whether the Claim or water right is eligible for change. R.D. Merrill v. PCHB and Okanogan Wilderness League v. Town of Twisp.
- RCW 90.03.380(1) allows for a water right that has been put to beneficial use to be changed. The point of diversion, place of use, and purpose of use may be changed if the change would not result in harm or injury to existing water rights.
- RCW 90.14.160 states that any person entitled to divert water through an appropriation authorized through a general adjudication, who abandons or voluntarily fails, without sufficient cause, to divert all or any part of said water right for a period of five successive years after July 1, 1967, shall relinquish such water right or portion thereof, to the state.

INVESTIGATION

History of Water Use

On March 27, 1948, Carl C. Petersen and Margaret E. Petersen applied for a permit to appropriate 1 cfs from the Okanogan River from April 1st to October 1st for irrigation of 24.5 acres of land on Lots 7 and 8 of Pfarr Orchard Tracts in T35N, R37E, Section 7[1] (Application No. 8331). Application No. 8331 identifies the diversion structure as a pipe and flume 2,900 feet long that pumps directly from the Okanogan River at a point located 4 miles north of Riverside in Lot 8 of the Pfarr Orchard tracts to Lot 7 of the Pfarr Orchard Tracts. Construction was identified as complete on the permit application.

[1] The range was incorrectly changed from 27E to 37E on the permit application.

The Report of Examination (ROE) for the permit application was completed on September 22, 1948. The ROE reported that the completed pump and pipe had a capacity of 400 gallons per minute (gpm) and that it was currently completed and in use. The ROE recommended that a total of 0.49 cfs was available for irrigation of 24.5 acres of land. In addition, the ROE records that the Washington Department of Fish and Wildlife requested that the diversion intake be screened with wire mesh no greater than 0.125 (⅛) inch.

Water Right Permit No.6301 was issued on March 17, 1950 for Carl C. Petersen and Margaret E. Petersen to divert 0.49 cfs of water from the Okanogan River during the irrigation season for irrigation of 24.5 acres with a priority date of March 27, 1948. The point of diversion was identified as due east from northwest corner of Sec. 7, to Okanogan River; thence south 480 ft. along bank of river to point of diversion, being 4 miles North of Riverside being within Lot 8, Pfarr Orchard Tracts Sec. 7, T. 35 N., R. 37 E.W.M.[1] The permit was issued with the provision that the diversion intake be screened with wire mesh no greater than 0.125 (⅛) inch. The place of use was identified as Lots 7 and 8 of Pfarr Orchard Tracts and North 20 acres of Lot 2, Sec.7, T. 35 N., R. 37 E.W.M.[1]

On October 24, 1950, Carl C. Petersen and Margaret E. Petersen submitted their proof of appropriation of water, stating that they had been using water from the Okanogan River since 1931 to irrigate 24.5 acres of land on Lots 7 and 8 Pfarr Orchard Tracts in Section 7, T. 35 N., R. 37 E.W.M.[1] They also note that they installed a sprinkler system on the land after the 1948 flood, but that there was no change to the point and amount of diversion.

Surface Water Certificate No. 4324 was issued on October 30, 1951. The certificate authorizes the use of 0.33 cfs of water from the Okanogan River to irrigate 24.5 acres of land with a priority date of March 27, 1948. The place of use for Certificate No. 4324 (File No. S4-*08331CWRIS) is: "Lots 7 and 8 of Pfarr Orchard Tracks according to the plat thereof on file and of record in the office of the Auditor of Okanogan County, and North 20 acres of Lot 2, Sec. 7, T. 35 N., R. 37 E.W.M." [1]

A review of the Okanogan County Assessors online database indicated that the place of use description for Certificate No. 4324 includes parcels 3527074006, 6650070000, and 6650080000, which are currently owned by the Colville Confederated Tribes (Table 2). The total area of these parcels is 44.42 acres. These parcels were part of the Petersen property which included a total of seven parcels (72.86 acres) (Table 2). The Colville Confederated Tribes purchased the seven parcels that comprise the Petersen property on September 29, 2010.

Table 2. Petersen Property Parcels Owned by the Colville Confederated Tribes

Water Right	Parcel Number	TRS	Description	Use Code	Total Acres
Certificate No. 4324	3527074006	T35W, R27E, S07	N20 AC LOT 2	91 - Undeveloped Land	20
	6650070000	T35W, R27E, S07	LOT 7 PFARR ORCHARD TRACTS #1	91 - Undeveloped Land	12.24
	6650080000	T35W, R27E, S07	LOT 8 PFARR ORCHARD TRACTS #1	91 - Undeveloped Land	12.28
G4-126453CL	6650100001	T35W, R27E, S06	TAX 1 LOT 10 PFARR ORCHARD TRACTS #1	91 - Undeveloped Land	1.01
	6650110000	T35W, R27E, S06	LOT 11 PFARR ORCHARD TRACTS #1	91 - Undeveloped Land	10.25
	6650120001	T35W, R27E, S06	TAX 1 LOT 12 PFARR ORCHARD TRACTS #1 MH TITLE ELIMINATION 10/08-10-M8983-2006 40X68 MANSI TPO# +443869	11 - Residential - Single Family	7.96
	6650130000	T35W, R27E, S06	LOT 13 PFARR ORCHARD TRACTS #1	11 - Residential - Single Family	9.12

Source: Okanogan County (2011)

A review of Ecology's online WRTS database (Ecology 2011a) indicated that there are two active water rights appurtenant to the Petersen property (Table 3). However, Certificate No. 4324 is the only water right appurtenant to the three parcels within its place of use (Table 2).

Historical water use data based on the water source under Certificate No. 4324 is limited and uncertain for the following reasons:

- The water source listed on the water right certificate is the Okanogan River, but there was no surface water diversion located during an October 2011 site visit, and it appears that irrigation was conducted using near river wells as a water source.
- A total of five wells were identified on the Petersen property parcels during the October 2011 site visit. Three of these wells were located within the place of use for Certificate No. 4324. There were no pumps identified in the wells, but one of the wells showed indications of having possibly had a pump installed in the recent past. This well is also located just east of the historic point of diversion from the Okanogan River.
- A review of Ecology's well log database identified six well logs within T35W, R27E, Sections 6 and 7 (Ecology 2011b). The location information provided on the well logs indicated that one of the well logs was for a well drilled on the Petersen property (well log ID No.331309). However, a review of the groundwater rights in the WRTS database indicates that this well is associated with Water Right G4-*05838PWRIS, which is identified as inactive in the WRTS database. The well was drilled in Tracks 11 and 13 Pfarr Orchard Tracks, T35 N, R 27E, Section 6, which is most likely the well located in the pump house.

- Stephanie Petersen provided PUD power records to Greg McLaughlin (WWT) from 2005 to 2010. A PUD meter was identified at the pump house during the October 2011 site visit, which makes it likely that the power records are for the pump in the pump house.

Given the lack of water use information available for Water Right SWC-4324 (S4-*08331CWRIS), historical water use was estimated during preparation of this report by identifying the irrigated area within the place of use.

Site Visit

On October 10, 2011, Alyssa Neir of Golder met with Greg McLaughlin of WWT to view the diversion structures and place of use for Certificate No. 4324. At the beginning of the visit, Greg mentioned that he had visited the property once before with Stephanie Petersen, but that the property and water rights now belonged to the Colville Tribe. Information that Greg obtained from Stephanie during his site visit included:

- The water source for the property was from two groundwater wells and pumps. They had not been diverting water directly from the Okanogan River.
- They used flood irrigation on the property to grow alfalfa and pasture.

The site visit included walking the property to view the pump house, looking for indications of the historic surface water diversion from the Okanogan River, identification of any other sources of water on the property, and evaluation of the information that Stephanie Petersen provided to Greg McLauglin.

Extent and Validity

Landsat Evaluation

Landsat satellite data was used to indicate the existence of crops through infrared imagery. For the period from 2005 through 2011, these images suggest water use as described below in Table 3. Review of Landsat images over the period 2005 through 2011 suggests that irrigation use may have been limited in 2010 and 2011 but there was good evidence of water use from 2005 through 2009 (in excess of the allowed 24.5 acres) demonstrating recent use of the water right (Table 3).

Table 3. Estimated Historical Irrigated Acres within the Place of Use of Certificate No. 4324

Year	Estimated Irrigated Area (acres)	Date
2005	43.79	6/20/2005
2006	40.41	8/26/2006
2007	30.09	7/05/2007
2008	41.33	7/07/2008
2009	43.83	5/30/2009
2010	20.26	7/29/2010
2011	19.46	7/23/2011

Notes: Parcel Numbers 3527074006, 6650070000, 6650080000,
Source: WWT (2012a and 2012b)

Estimated Water Use

Water use under Certificate No. 4324 is limited to 0.33 cfs to irrigate 24.5 acres of land. Discussions with WWT staff indicated that the water right has historically been used to grow pasture and alfalfa, and that this is supported by Okanogan Country Parcel Records (McLaughlin 2011). Water use data are not available, so the water use was estimated using information from the Washington Irrigation Guide (WIG) to estimate the application efficiency. The application efficiency can be calculated by dividing the crop irrigation requirement by the total water use (subject to the extent and validity of the water right).

Application Efficiency = Crop Irrigation Requirement / Total Water Use

The WIG provides methods for estimating the net crop irrigation requirement based on the type of crop that is grown (USDA NRCS 2007). The application efficiency used to develop the water right limitations was calculated using the maximum instantaneous water right limit of 0.33 cfs, the irrigated area of 24.5 acres, and the average of the maximum monthly net irrigation requirements for alfalfa and pasture/turf, which occurs in July (Table 4).

$$\textit{Application Efficiency \%} = 24.5\ acres * 100 * \frac{7.445\ inches}{month} * \frac{1\ month}{31\ days} * \frac{1\ foot}{12\ inches} * \frac{1\ cfs}{1.98\ acre-feet} * \frac{1}{0.33\ cfs}$$

Application Efficiency = 75%

An application efficiency of 75% is consistent with the average application efficiency for periodic move (handline) and side roll (wheelline) sprinkler systems and the maximum application efficiency for moving big guns (Ecology 2005). This indicates that the instantaneous limitation for the water right was calculated using the application efficiency of the sprinkler system installed on the property after the 1948 flood.

The total irrigation requirement can be calculated by dividing the net irrigation requirement by the application efficiency. The annual net irrigation requirement of 25.645 inches/acre/year (Table 4) is equivalent to 52.36 acre-feet/year for the irrigated 24.5 acres. Applying the estimated application efficiency of 75% to this quantity results in a total irrigation requirement of 69.81 acre-feet/year. This is less than the 109.8 acre-feet per year requested by WWT for the trust water right.

Table 4. Estimated Total Crop Irrigation Requirement

Month	Number of Irrigation Days[1]	Net Irrigation Requirement (inches/acre/month)			Total Irrigation Requirement for 24.5 acres (with an application efficiency of 75%)[2]	
		Alfalfa	Pasture/Turf	Average	acre-feet/month	cfs/day
Apr	**0**	0	0	0	0	0
May	**25**	3.18	3.39	3.285	8.94	0.18
June	**30**	6.07	5.43	5.75	15.65	0.26
July	**31**	7.24	7.65	7.445	20.27	0.33
Aug	**31**	5.22	5.52	5.37	14.62	0.24
Sept	**30**	3.39	3.59	3.49	9.5	0.16
Oct	**10**	0.29	0.32	0.305	0.83	0.04
Season	**157**	**25.39**	**26.89**	**25.645**	**69.81**	**0.33**

Notes: 1. The irrigation season begins on May 7 and ends on October 10 (USDA NRCS 2007).

2. The Total Irrigation Requirement = Net Irrigation Requirement/Application Efficiency (Ecology 2005). The total irrigation requirement is based on the average net irrigation requirement for alfalfa and pasture/turf, a 75% application efficiency, and irrigating 24.5 acres.

3. The annual net irrigation requirement of 25.645 inches/acre/year is equivalent to 52.36 acre-feet/year for the irrigated 24.5 acres (25.645 inches/acre/year x 1 foot/12 inches x 24.5 acres = 52.36 acre-feet/year). The total irrigation requirement of 69.81 acre-feet/year accounts for the 75% application efficiency (52.36 acre-feet/year x 0.75 = 69.81 acre-feet/year).

4. Annual peak monthly Qi required to meet total irrigation requirement.

Annual Consumptive Quantity

The annual consumptive quantity can be estimated using the application efficiency and the percent evaporation. The three sprinkler methods with the 75% application efficiency have a 10% total evaporation rate, which results in an 85% total consumptive use and 15% total return flow (Ecology 2005). Applying the 85% consumptive use rate to the total irrigation requirement results in an estimated 59.35 acre-feet of water per year being used consumptively (Table 5).

Table 5. Estimated Annual Consumptive Quantity

Month	Primary Reach: Total Irrigation Requirement for 24.5 acres (with an application efficiency of 75%)		Secondary Reach: Consumptive Use (85% of the Total Irrigation Requirement)	
	acre-feet/month	cfs/day	acre-feet/month	cfs/day
Apr	0	0	0	0
May	8.94	0.18	7.6	0.15
June	15.65	0.26	13.3	0.22
July	20.27	0.33	17.23	0.28
Aug	14.62	0.24	12.43	0.2
Sept	9.5	0.16	8.08	0.14
Oct	0.83	0.04	0.71	0.03
Season	**69.81**	**0.33**	**59.35**	**0.28**

Proposed Use
WWT has proposed to permanently transfer 109.8 acre-feet per year for instream flow exclusively for fish and wildlife maintenance and enhancement in Okanogan River. This transfer would provide instream flow benefits during the former period of irrigation in the approximate quantities determined in the above analysis.

Other Rights Appurtenant to the Place of Use
A review of the WRTS online database indicated that there are no other water rights appurtenant to the place of use.

Trust Water Right Calculations
The annual and instantaneous quantities for a trust water right apply to both a primary reach and a secondary reach. The primary reach is the portion of the waterbody that benefits from both the former consumptive use and former return flows of the water right. The secondary reach is the portion of the waterbody that benefits only from the former consumptive use portion of the water right.
The consumptive use and return flow can be estimated using the application efficiency and the percent evaporation. The three sprinkler methods with the 75% application efficiency have a 10% total evaporation rate, which results in an 85% total consumptive use and 15% total return flow (Ecology 2005). Therefore, the annual and instantaneous quantities for the primary reach are equal to the Total Irrigation Requirement (previously identified in Table 4) and the annual and instantaneous quantities for the secondary reach are equal to 85% of the Total Irrigation Requirement (Table 5).

Trust Water Place of Use

The place of use of a Trust Water Right for instream flows is defined within a primary reach and, if applicable, a secondary reach. The primary reach is the portion of a water body that benefits from both the former consumptive use and return flow waters of a Trust Water Right. It is the reach between the original diversion point and the point where the last return flows re-enter the stream or river. The primary reach is the Okanogan River from a point located 1,452 ft. east and 302 ft. south of the northwest corner of Sec. 7 to a point located 1,077 ft. east and 2,112 ft. south of the northwest corner of Sec. 7, T. 35 N., R. 27 E.W.M. The secondary reach is from a point located 1,077 ft. east and 2,112 ft. south of the NW corner of Sec. 7, T.35 N., R. 27 E.W.M.to the confluence of the Okanogan and Columbia River (see Attachment 1).

Impairment Considerations

"Impair" or "impairment" means to: 1) adversely impact the physical availability of water for a beneficial use that is entitled to protection, and/or; 2) to prevent the beneficial use of the water to which one is entitled, and/or; 3) degrade the quality of the source to the point that water is unsuitable for use by existing water right holders (WAC 173-150). Okanogan River flows will be increased during the irrigation season as a result of cessation of irrigation of the three parcels within the place of use (Parcel Numbers 3527074006, 6650070000, 6650080000); therefore, no impairment of other rights is anticipated.

Public Interest Considerations

This Trust Water Right will be used exclusively for instream flows and enhancement and maintenance of fisheries as allowed under RCW chapters 90.03. 90.42 and 90.54. Water use changes associated with this Application are expected to provide environmental benefits to the Upper Columbia Steelhead ESU by providing critical cool water refuge via side channel and onsite habitat improvements on the property and in the neighboring side channel.

Consideration of Protests and Comments

No protests or comments were received during the comment period.

References

McLaughlin, Greg. Personal communication. 2011. .Conversation between G. McLaughlin (WWT) and A. Neir (Golder) during the October 10, 2011 site visit.

Okanogan County. 2011. Okanogan County Assessor Property Search. Available online at: http://okanoganwa.taxsifter.com/Search/Results.aspx. Accessed November 7, 2011.

US. Department of Agriculture. Natural Resource Conservation Service. 2007. Washington Irrigation Guide (WAIG). Issued September 1997. Updated March 2007. Available online at: http://www.wa.nrcs.usda.gov/technical/ENG/irrigation_guide/index.html. Accessed November 11, 2011.

Washington State Department of Ecology (Ecology). 2005. Determining Irrigation Efficiency and Consumptive Use. Water Resources Program Guidance, GUID-1210. Effective Date: 10/11/05.

Washington State Department of Ecology (Ecology). 2011a. Water Right Tracking System – WRTS. Available at: https://fortress.wa.gov/ecy/wrx/wrtssp1/wrtsmain.aspx?xpage=01FindWRDocLong&xnavigate=clear. Accessed November 7, 2011.

Washington State Department of Ecology (Ecology). 2011b. Washington State Well Log Viewer. Available at: http://apps.ecy.wa.gov/welllog/. Accessed November 7, 2011.

Washington Water Trust (WWT). 2012a. Petersen Ranch Beneficial Use Maps, 2005 through 2011. April 16, 2012. Provided via a series of emails to Golder (A. Neir) from WWT (M. O'Brien) on April 17, 2012.

Washington Water Trust (WWT). 2012b. Petersen Ranch Beneficial Use Maps, 2007, 2008 and 2010. April 30, 2012. Provided via a series of emails to Golder (A. Neir) from WWT (M. O'Brien) on April 30, 2012.

CONCLUSIONS

It is the conclusion of this examiner that, in accordance with chapter 90.42 RCW, water is available to transfer Certificate No. 4324 to trust, and such a transfer will not impair existing water rights, will enhance flows in the Okanogan River and is not detrimental to the public interest.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend the request for change to Water Right Change Application No.CS4-SWC04324 be approved in the amounts and within the limitations listed below and subject to the provisions listed on page 2.

Trust Water Right Attributes

69.81 ac-ft/yr for instream flow purposes in the primary reach.
59.35 ac-ft/yr for instream flow purposes in the secondary reach.

The primary reach is the Okanogan River from a point located 1,452 ft. east and 302 ft. south to a point located 1,077 ft. east and 2,112 ft. south of the northwest corner of Sec. 7, T.35 N., R. 27 E.W.M.

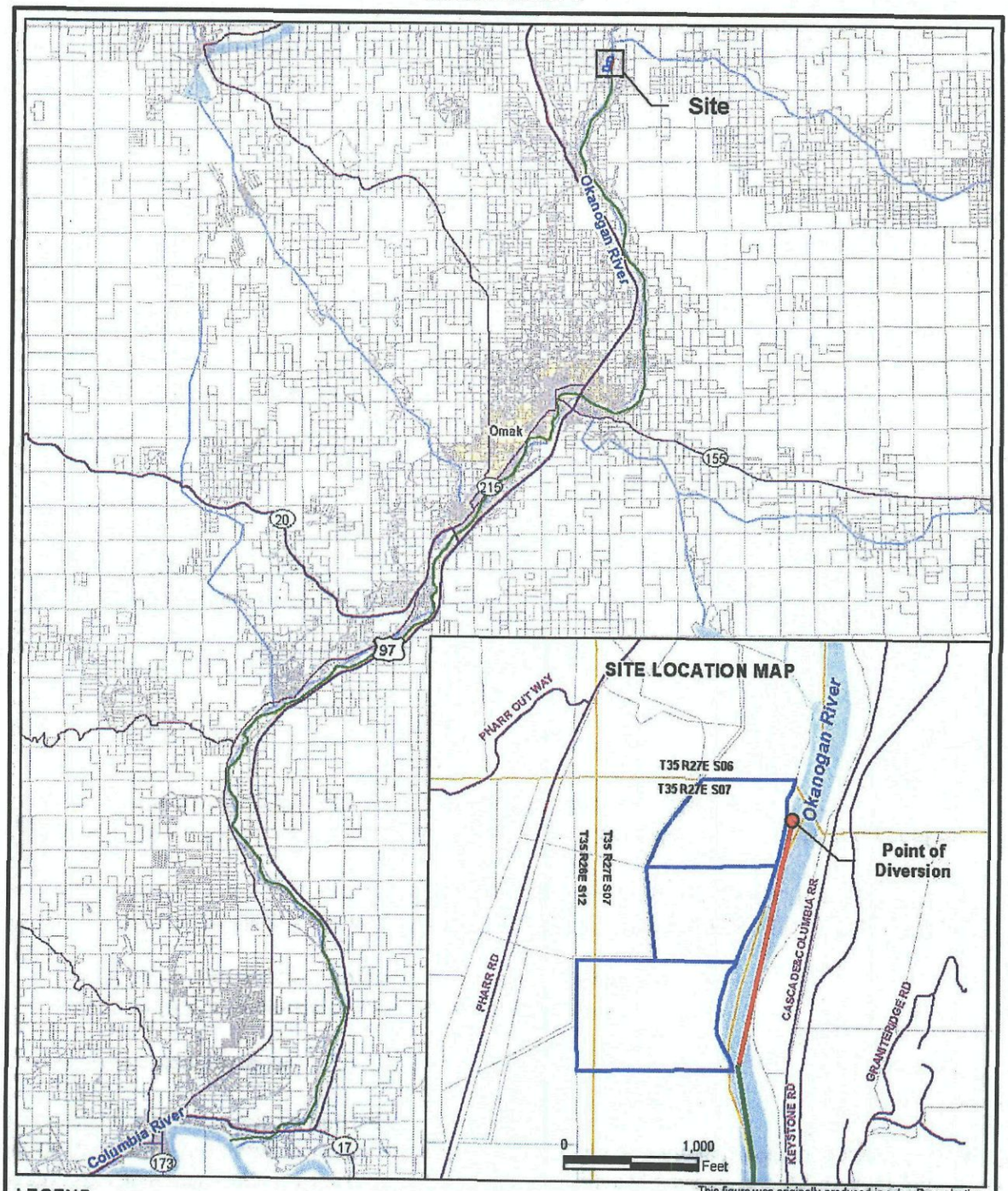
The secondary reach is from a point located 1,077 ft. east and 2,112 ft. south of the NW corner of Sec. 7, T.35 N., R. 27 E.W.M.to the confluence of the Okanogan and Columbia River.

Report by: Carl W. Einberger, Project Hydrogeologist — Date
Golder Associates, Inc.

Reviewed by: Sage Park for Kelsey Collins — 9/10/12
Kelsey Collins — Date
Water Resources Program

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

ATTACHMENT 1



LEGEND

- Primary Reach
- Secondary Reach
- Roads
- Place of Use (SWC-4324 (S4-*08331CWRIS))
- Parcels
- PLSS Section Line

0 20,000
Scale in Feet

Map Projection:
Washington State Plane North
NAD 83 Feet

Source:
Golder Associates Inc.

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This figure was originally produced in color. Reproduction in black and white may result in a loss of information.

ATTACHMENT **1**

PRIMARY AND SECONDARY REACH, SWC-4324 (S4-*08331CWRIS), CARL C. AND MARGARET E. PETERSEN, T35N R27E SEC.7, WRIA 49, OKANOGAN COUNTY, WASHINGTON

WSDOE/OKANOGAN FLOW ENHANCEMENT/WA

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