WR File NR CS2-SWC10042
WR Doc ID 6044116

State of Washington

DRAFT

REPORT OF EXAMINATION FOR WATER RIGHT CHANGE

Change Place of Use

PRIORITY DATE	WATER RIGHT NUMBER
May 25, 1962	CS2-SWC10042

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Wilcox Farms Inc. 40400 Harts Lake Valley Road Roy, WA 98580	

Total Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
0.17	CFS	221.1

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Irrigation (in combination with other rights not to exceed 475 acres)	0.17	-	CFS	221.1	-	05/01 – 10/01

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Pierce	Hart's Creek	Nisqually River	WRIA 11

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Harts Lake Outlet SW 1	0216121000	N/A	16	03E	7	SW NW	46.887852	-122.486866

Datum: NAD83/WGS84

Place of Use (See Attached Map)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Parcel	Acres	Description
216011000	78.47	Section 1 Township 16 Range 2 Quarter 11 : SE OF NE ALSO LOT 1 LESS NLY 20 FT CURRENT USE RCW 84.34 AS AMEND 1973
316062012	16.02	Section 6 Township 16 Range 3 Quarter 22 : THAT POR OF W 1/2 OF GOVT LOT 4 LY SWLY OF TANWAX EXC N 20 FT - AS MEASURED ON W LI OF SD GOVT LOT - THEREOF, & EXC THAT POR CYD TO PIERCE CO FOR HARTS LAKE LOOP RD SEG F 9527
316062005	3.00	Section 6 Township 16 Range 3 Quarter 23 : BEG NW COR LOT 5 TH S 200 FT TH E 653.4 FT N 200 FT W 653.4 FT TO BEG CURRENT USE RCW 84.34 AS AMEND 1973
216011003	39.00	Section 1 Township 16 Range 2 Quarter 11 : THAT POR OF GOVT LOT 2 LY ELY OF C/L OF NISQUALLY RIV SEG F 1432
216011004	38.00	Section 1 Township 16 Range 2 Quarter 11 : SW OF NE LY ELY OF C/L OF NISQUALLY RIV SEG F 1432
216014000	40.00	Section 1 Township 16 Range 2 Quarter 41 : SE OF SE
216014002	40.00	Section 1 Township 16 Range 2 Quarter 41 : NE OF SE
216014004	77.24	Section 1 Township 16 Range 2 Quarter 41 : W 1/2 OF SE OF SEC 1 EXC THEREFROM THE FOLL DESC PROP BEG AT A PT ON N & S C/L OF SD SEC 1 1650.00 FT N OF SW COR OF SD SE TH N ALG SD S & N C/L 600 FT TH E PAR TO E & W C/L OF SD SEC 1 200.00 FT TH S & PAR TO SD N & S C/L 600.00 FT TH W & PAR TO SD E & W C/L 200.00 FT TO POB SUBJ TO EASE
216121000	133.00	Section 12 Township 16 Range 2 Quarter 11 : THAT PART OF NE IN P CO ALSO THAT POR OF NE OF SE LY E & N OF NISQUALLY RIV EXC E 30 FT FOR RD
216124002	26.30	Section 12 Township 16 Range 2 Quarter 41 : THAT POR OF SE OF SE LY E & N OF NISQUALLY RIV EXC E 30 FT FOR RD
316063019	68.99	Section 6 Township 16 Range 3 Quarter 33 : GOVT LOT 7 & SE OF SW EXC N 250 FT ALSO EXC S 422.83 FT OF N 702.83 FT OF SE OF SW LY W OF HARTS LK VALLEY RD EXC W 225.89 FT THEREOF ALSO EXC FOLL DESC PROP COM AT SE COR OF SW TH N 01 DEG 37 MIN 02 SEC E ALG E LI SD SW 322.21 FT TO CENT OF PRI RD & UTILITY EASE REC UND AFN 88-01-07-0282 TH S 81 DEG 53 MIN 47 SEC W ALG C/L OF SD EASE 188.37 FT TH N 79 DEG 56 MIN 47 SEC W ALG SD C/L 544.35 FT TO AS-BUILT C/L OF HARTS LK VALLEY RD TH S 16 DEG 20 MIN 07 SEC W ALG C/L SD RD 42.12 FT TO POB TH S 73 DEG 36 MIN 48 SEC E 200 FT TH S 20 DEG 17 MIN 44 SEC W 300.7 FT TH N 73 DEG 36 MIN 48 SEC W 200 FT TO AS-BUILT C/L OF HARTS LK VALLEY RD TH N 21 DEG 33 MIN 04 SEC E ALG SD C/L 168.66 FT TH N 18 DEG 41 MIN 34 SEC E ALG SD C/L 132.13 FT TO POB EXC POR LY WITHIN HARTS LK VALLEY RD DESIGNATED FOREST LAND
316064031	5.10	Section 6 Township 16 Range 3 Quarter 43 : PARCEL "A" DBLR 95-06-15-0156 DESC AS LOT 1 OF LARGE LOT 970 AFN 88-05-24-0258 EXC POR LYING SLY OF FOLL DESC LI: COM AT S 1/4 COR OF 07-16-03E TH N 00 DEG 32 MIN 08 SEC E 5400.02 FT TO A 1 1/4 INCH IRON PIPE AT NW COR OF GOVT LOT 7 SD SEC 7 & TRUE POB OF THIS DESC LI TH N 89 DEG 09 MIN 19 SEC E 345 FT M/L TO HARTS LAKE & TERMINUS OF SD LI TOG/W & SUBJ TO EASE RESTR & RESERV OF REC DC/BL04-01-97
316064032	5.04	Section 6 Township 16 Range 3 Quarter 43 : L 2 L L 88-05-24-0258 TOG/W EASE & RESTRICTIONS OF REC OUT OF 4-027 & 4-028 SEG Z-0200 PP RJ
316064033	5.19	Section 6 Township 16 Range 3 Quarter 43 : L 3 L L 88-05-24-0258 TOG/W EASE & RESTRICTIONS OF REC OUT OF 4-027 & 4-028 SEG Z-0200 PP RJ

316064034	5.10	Section 6 Township 16 Range 3 Quarter 43 : L 4 L L 88-05-24-0258 TOG/W EASE & RESTRICTIONS OF REC OUT OF 4-027 & 4-028 SEG Z-0200 PP RJ
316064035	5.08	Section 6 Township 16 Range 3 Quarter 43 : L 5 L L 88-05-24-0258 TOG/W EASE & RESTRICTIONS OF REC OUT OF 4-027 & 4-028 SEG Z-0200 PP RJ
316064036	6.43	Section 6 Township 16 Range 3 Quarter 43 : L 6 L L 88-05-24-0258 TOG/W EASE & RESTRICTIONS OF REC OUT OF 4-027 & 4-028 SEG Z-0200 PP RJ
316071010	368.55	Section 7 Township 16 Range 3 Quarter 13 : (WETLAND & BUFFER NOTICE REC UNDER AFN 96-03-29-0477 GR 2-97) LOT 6 TOG/W SHLDS ABUTT ALSO SE OF NW LOT 2 E 1/2 OF SW LOT 3 N 1/2 OF LOT 4 N 18 AC OF S 1/2 OF LOT 4 & 5 TOG/W SHLDS ABUTT ALSO SW OF SE EASE OF RECORD EXC THAT POR OF LD LY IN SE OF NW DESC AS FOLL COM AT W 1/4 COR OF SD SEC TH S 88 DEG 36 MIN 06 SEC E 1874 FT ALG S LI OF NW OF SEC TH N 854 FT TO POB TH N 18 DEG 15 MIN 30 SEC E 185 FT TH S 71 DEG 44 MIN 30 SEC E 185 FT TH S 28 DEG 58 MIN 20 SEC W 188.28 FT TH N 71 DEG 44 MIN 30 SEC W 150 FT TO POB LESS THAT PART DESC AS FOLL BEG AT NE COR OF GOVT LOT 4 TH E ALG N LI OF SE OF SW OF SEC 47 FT M/L TO WLY R/W OF THE HARTS LAKE VALLEY RD TH SLY ALG SD WLY R/W OF SD RD TO INTER A LI PAR/W & 225 FT S OF N LI OF S 1/2 OF SW OF SD SEC TH W ALG SD PAR LI TO INTER A LI PAR/W & 90 FT W OF E LI OF SD LOT 4 TH N ALG SD PAR LI 225 FT TO N LI OF SD LOT 4 TH E ALG N LI OF SD LOT 4, 90 FT TO BEG LESS FOLL COM AT W 1/4 COR OF SEC TH S 88 DEG 36 MIN 06 SEC E 1800 FT ALG S LI OF NW TH N 820 FT TO POB TH S 20 DEG E 150 FT TH S 70 DEG W 150 FT TH N 20 DEG W 150 FT TH N 70 DEG E 150 FT TO POB TOG/W PARCEL "F" DBLR 95-06-15-0156 DESC AS NE OF NW OF 07-16-03E TOG/W THAT POR GOVT LOT 7 MORE PARTICULARLY DESC AS FOLL: BEG AT A 1 1/4 IN IRON PIPE AT NW COR OF SD GOVT LOT 7 TH S 00 DEG 32 MIN 08 SEC W ALG W LI OF SD GOVT L 7 12.00 FT TH N 89 DEG 09 MIN 19 SEC E 350 FT M/L TO SHORE OF HARTS LAKE TH NLY ALG SHORE OF HARTS LAKE TO A PT WHICH BEARS N 89 DEG 09 MIN 19 SEC E OF TRUE POB TH S 89 DEG 09 MIN 19 SEC W 350 FT M/L TO TRUE POB TOG/W & SUBJ TO EASE RESERV & RESTR OF REC
316072000	51.75	Section 7 Township 16 Range 3 Quarter 21 : L 1 & NE OF NW W OF RD
316074000	71.25	Section 7 Township 16 Range 3 Quarter 41 : LOT 9 & SE OF SE
316074000	71.25	Section 7 Township 16 Range 3 Quarter 41 : LOT 9 & SE OF SE
316083006	19.78	Section 8 Township 16 Range 3 Quarter 33 : TR 11 OF ROS 94-08-10-0551 DESC AS S 1/2 OF SW OF SW EASE OF RECORD OUT OF 3-001 SEG M-0501 JU 3/8/01JU
316083007	19.82	Section 8 Township 16 Range 3 Quarter 33 : TR 12 OF ROS 94-08-10-0551 DESC AS N 1/2 OF SW OF SW EASE OF RECORD OUT OF 3-001 SEG M-0501 JU 3/8/01JU
316083008	19.86	Section 8 Township 16 Range 3 Quarter 32 : TR 13 OF ROS 94-08-10-0551 DESC AS S 1/2 OF NW OF SW EASE OF RECORD OUT OF 3-001 SEG M-0501 JU 3/8/01JU
316083009	19.91	Section 8 Township 16 Range 3 Quarter 32 : TR 14 OF ROS 94-08-10-0551 DESC AS N 1/2 OF NW OF SW EASE OF RECORD OUT OF 3-001 SEG M-0501 JU 3/8/01JU
316181000	318.58	Section 18 Township 16 Range 3 Quarter 11 NE & E 1/2 OF NW EXC N 130 FT OF W 200 FT THEREOF & NE OF SW & NW OF SE
316182003	39.17	Section 18 Township 16 Range 3 Quarter 21 : L 1 EXC S 200 FT OF N 950 FT OF E 230 FT THEREOF EXC RD

Proposed Works
Surface water diversion on Harts Lake outlet consists of floating pump station and associated piping

Development Schedule		
BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	Completed	November 1, 2020

Measurement of Water Use	
How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Annually
What volume should be reported?	Total Annual
What rate should be reported?	Peak Rate of Withdrawal (cfs)

Provisions

Water Use Plan

Wilcox Farms has agreed to submit an annual Water Use Plan to the Department of Ecology. The Plan will specifically describe how irrigation water will be used under this authorization for the upcoming irrigation year. The Plan will include a discussion of how appropriations authorized by all of Wilcox's water rights will be managed to ensure the water right limitations are not exceeded. The Plan will identify the acreage of the land to be irrigated under this authorization and all other water rights held by the applicant.

The Water Use Plan will be provided on an annual basis prior to any water use. If agreed to by Ecology the Plan may be provided less frequently. In addition to describing water use for the upcoming irrigation season, the Plan will also describe any changes in farming or conditions that were not part of the previous report submitted to Ecology.

Measurements, Monitoring, Metering and Reporting

An approved measuring device must 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, which 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.

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

Department of Fish and Wildlife Requirement(s)

The intake(s) must be screened in accordance with Department of Fish and Wildlife screening criteria (pursuant to RCW 77.57.010, RCW 77.57.070, and RCW 77.57.040). Contact the Department of Fish and Wildlife, 600 Capitol Way N, Olympia, WA 98501-1091. Attention: Habitat Program, Phone: (360) 902-2534 if you have questions about screening criteria. http://www.wdfw.wa.gov/reg/regions.htm

This water right certificate does not authorize the construction of a dam or weir. Any construction must permitted by the Department of Fish and Wildlife. The water right holder is responsible for acquiring any permits needed for their operation.

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.

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 SWC 10042 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 Hearing 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.

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** 111 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 Lacey, Washington, this _____ day of _____ 2015.

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Michael J. Gallagher, Section Manager
SWRO Water Resources

INVESTIGATOR'S REPORT

BACKGROUND

On December 17, 2013 Wilcox Farms Inc., filed *Applications for Change* to modify seven water right certificates associated with its Pierce County farming operations. The stated intent of the request was to change the place of use, manner of use, season of use, and point of diversion/withdrawal of any or all of the referenced water rights within the area described as the place of use, to the extent that it does not exceed the annual water duty of each of the individual water rights. Wilcox additionally requested the ability to temporarily place all or a portion of its water rights into the State's Trust Water program for environmental purposes, using the submittal of an annual plan to notify Ecology.

The overall objective of these filings is to provide Wilcox the flexibility it needs to operate its right in an effective manner. *Applications for Change* were filed on the following water right certificates:

Water Right Number	Original Owner	Date
SWC 3281	Wilcox, T., et al.	8/18/1944
SWC 10042	**Wilcox Farms,**	**5/25/1962**
G2-00117	Waller, Clifford	10/9/1970
GWC 7428	Wilcox Farms.	8/22/1967
G2-20972	Wilcox Farms	4/25/1973
G2-22107	Wilcox Farms	4/1/1974
G2-28175	Wilcox Farms	5/23/1991

This Report of Examination addresses proposed changes to Surface Water Certificate (SWC) 10042.

This application has been processed under Ecology's Cost Reimbursement Program. Pacific Groundwater Group (PGG) prepared this report under contract to Ecology. PGG reviewed all available documents pertaining to this and the other related *Applications for Change of Water Right*, including site conditions, hydrogeological and well-testing reports, historical water use, and the standing of existing rights. In consultation with the Department of Ecology, PGG has evaluated the applicant's request in light of Ecology's policy and procedural guidance and has determined, as will be addressed in this Report of Examination (ROE) that the request can be partially accommodated.

Table 1:. Attributes of Surface Water Certificate (SWC) 10042 and requested change.

Attributes	Existing	Requested
Name	Wilcox Farms	Wilcox Farms Inc.
Priority Date/ Change Application Date	5/25/1962 12/17/2013	N/A
Instantaneous Quantity	1.5 cubic feet per second (cfs)	N/A
Annual Quantity	300	N/A
Purpose of Use	Irrigation	Irrigation, and environmental benefit
Period of Use	April 15 to October 15	N/A
Place of Use	NW of NE Sec. 18 ,T. 16 N. R.3E. NE of NW Sec.18, T. 16 N. R.3E. Lots 4 & 5 of Sec. 7, T. 16 N. R.3E. NE of SW of Sec. 7, T. 16 N. R.3E. SE of Sec. 7, T. 16 N. R.3E. SW of SE of Sec. 7, T. 16 N. R.3E.	Wilcox Farm project as described on pages 2 and 3
Points of Diversion	SE ¼ of the SW ¼ of Sec 7, T16N, R3E, and; SW ¼ of the NW ¼ of Sec 7, T16N, R3E	SW #1 (SW ¼ of the NW ¼ of Sec 7, T16N, R3E)

Table 2. Recommend for approval.

Attributes	Recommended for Superseding Certificate
Name	Wilcox Farms Inc.
Priority Date	5/25/1962
Instantaneous Quantity	0.17 cfs
Purpose of Use	Irrigation (475 acres) 221.1 Acre-feet per year (ac-ft/yr) (Additive) May 1 to October 1
Place of Use	Wilcox Farm project as described on pages 2 and 3
Point of Diversion	SW #1

Legal Requirements for Proposed Change

The following is a list of requirements that must be met prior to authorizing the proposed change.

Public Notice

A public notice detailing this proposed change was published in the News Tribune on March 24th and 31st of 2014. No protests were received as a result of the statutory notice.

State Environmental Policy Act (SEPA)

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

- It is a surface water right application for more than 1 cubic feet per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- It is a groundwater right application for more than 2,250 gpm
- It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
- It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

None of these situations apply to this application. While this request involves the change of seven individual certificates, the combined instantaneous quantity does not exceed the threshold that triggers a SEPA determination for either surface water or groundwater.

Water Resources Statutes and Case Law

RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed. The point of diversion, place of use, and purpose of use may be changes if it would not result in harm or injury to other water rights. Likewise, section 90.03.380(1) provides that "[a] change in the place of use…to enable irrigation of additional acreage…may be permitted if such change results in no increase in the annual consumptive quantity of water. Additionally, RCW 90.44.100(2)(d) requires that when making a change the place of use of a water right…other existing water rights shall not be impaired.

Changes can be made to existing certificates to the extent that the water has been fully appropriated and the change will not impair other water users. While changes to purpose of use can be allowed, adding additional purposes of use such as has been requested by the applicant, can only be allowed if it can be documented that the change will not increase the annual consumptive quantity of the water right. Any amounts of water authorized for use under SWC 10042 but not beneficially used in the most-recent five year period is not available for change and is subject to relinquishment for non-use.

The Washington Supreme Court has held that Ecology, when processing an Application for Change to a water right, is required to make a tentative determination of extent and validity of the claim or water right. This is necessary to establish whether the right is eligible for change. R.D. Merrill v. PCHB and Okanogan Wilderness League v. Town of Twisp.

RCW 90.03.265(2) provides that, in pursuing a cost-reimbursement project, the Department must determine the source of water from which the water is proposed to be diverted or withdrawn, including the boundaries of the area that delimit the source. The Department must determine if any other water-right applications are pending from the same source. A water source may include surface water only, groundwater only, or surface and groundwater together, if the Department finds they are hydraulically connected. The Department shall consider technical information submitted by the applicant in making its determinations under this subsection.

RCW 90.03.265(1)(b) provides that the requirement for an applicant to pay for the processing of senior applications does not apply in situations where it can be determined that the water allocated to one party will <u>not diminish</u> the water available to a senior applicant from the same source of supply. Because this request is an *Application for Change*, and no water beyond that with has been historically diverted will be appropriated, this request will be neutral to other users, and not diminish the amount of water available to them accordingly this application can be processed prior to other pending applications.

INVESTIGATION

Evaluation of this application included, but was not limited to, research and/or review of the following:

- Department of Ecology records of surface and groundwater rights and claims, and of well construction reports within the vicinity of the subject production wells.
- Ecology's Water Resources Program's policies, procedures, and guidance.
- *Water Well Reports* from the Department of Ecology well log database (various dates).
- Records of water rights (and related information) in the vicinity of the subject property.
- Keta Waters (2013) Information, Data, and Analysis to Support Change Applications for Wilcox Family Farms Water Rights, December 2, 2013.
- Keta Waters (2015a) Updated Water Use Estimates Wilcox Family Farms, March 31, 2015.
- Keta Waters (2015b) email communication from Joel Massmann to Jill VanHulle (PGG) dated April 24, 2015.
- Keta Waters (2015c) email communication from Joel Massmann to Tammy Hall (Dept of Ecology), dated October 9, 2015.

Setting

Wilcox Farms (Wilcox) is a 1,800 acre facility located along the north and east bank of the Nisqually River in Pierce County. Water features in the vicinity of the Wilcox Farm include Harts Lake and Little Harts Lake to the east, Horn Creek to the north, and the Nisqually River to the south and west. The Centralia Dam which diverts water into a channel for hydropower production near Yelm, is located on the Nisqually River on the downstream end of the farm. A small unnamed stream (Harts Creek) flows through the site from Harts Lake into the Nisqually River. The stream enters the Nisqually River upstream of the Centralia Dam's intake.

See Attachment #1

Project Description

The farm was originally established in 1909 and operations at the facility have included dairy operations, poultry operations, livestock services, milk processing, whole eggs and liquid eggs processing, gathering forest products, and growing crops. The facilities have included chicken and egg production buildings, a milk processing plant, egg processing plants, a composting facility, a vehicle repair and maintenance facility, an office complex, and residential units.

The farm obtains water from groundwater wells and from surface water diversions located on Harts Creek. The existing water rights include two surface water rights located on a tributary of the Nisqually River originating in Harts Lake, and five ground water rights withdrawing water from 11 wells that are hydraulically connected with the Nisqually River. A total of 475[1] acres of land have historically been irrigated under Wilcox's existing water right certificates (Keta Waters, 2013).

One purpose of the applications is to allow any farm field to be irrigated from any water source within the proposed expanded place of use. All of the diversion and withdrawal points providing water are conveyed through a common distribution system allowing water from any water source to be applied to any field on the farm. However, the water rights currently only allow specific sources to be used on specific fields. The intent of this filing is to make the water use consistent with actual irrigation practices.

Wilcox Farm water use has evolved to include agriculture and other purposes not anticipated when the farm was established. These proposed changes to Wilcox's water rights portfolio are required to bring Wilcox's water rights into compliance with what is currently being practiced.

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[1] As currently issued water right allow for irrigation of 420 acres, the additional 55 acres of irrigation have occurred as a defacto changes to the stockwater portions of Groundwater rights G2- 20972, and G2-28175 as they were converted from dairy use to irrigation.

Original intent of filing Applications for Change

Wilcox's intent when they filed the *Applications for Change* was to change the following attributes of their water rights:

- Change purpose of use from irrigation to irrigation and environmental purposes.
- Change the place of use to the entire Wilcox Farm property to enable the water supply sources to be used throughout the property.
- Irrigate additional acreage beyond what their currently authorize water rights by spreading to irrigate an undisclosed number of additional acreage.
- Change portions of stockwater rights used for dairy purposes to irrigation.
- Change water rights identified for domestic purposes to multiple domestic purposes.
- Preserve unperfected inchoate water for environmental purposes, specifically to preserve instream flows.
- Add environmental purposes as an authorized purpose of use to all water rights to allow for water to be used in unknown amounts for non-specific environmental purposes

Ecology's Determination

In evaluating Wilcox's requests, Ecology will agree to approve the place of use change. However, expansion of acreage beyond what the water rights authorize (*Spreading*) will not be approved. These rights once approved will remain limited to the irrigation of 475 acres.

Addition of acres to currently authorized water rights

The process for adding purposes of use or expanding the number of acres is described in Chapter 90.03.380(1) RCW and PRO-1210. The intent of this regulation is to allow applicants the ability to increase the number of acres they can irrigation in specific situations where they 1) have adequate data that documents water use for five continuous years, and 2) they can demonstrate that a new irrigation technique will result in a significant water savings.

Under PRO-1210, Ecology is required to determine the water right's Annual Consumptive Quantity (ACQ). An ACQ analysis serves to reduce the water right's annual quantity by subtracting the non-consumptive portion of the water right. In the case of an irrigation water right, this means subtracting return flows from the annual water use. An ACQ baseline selects the two highest use years over the most-recent five year period of continuous water use, computes the consumptive portion for each year, and then averages the two values. The average value becomes quantity of water that can be used to spread over additional acreage.

One intent of this *Application for Change* was to provide Wilcox Farms with the ability to spread water – or increase the number of acres being irrigated beyond what their water rights authorize. However, Ecology has determined this request cannot be accommodated for the following reasons:

- Wilcox is already irrigating more acreage than their water rights authorize. In order to spread water, water use has to be perfected *as authorized*. Using the annual quantity *within the limits*

of the water right, ACQ is calculated to arrive at a consumptive portion. This consumptive portion is available to spread. ACQ cannot be applied to spreading that has already happened.

- Spreading water requires an evaluation of water use data over the most-recent five-year period of continuous water use for *each* water right. Wilcox does not meter all of their irrigation water use and co-mingles their sources, so it is not possible to evaluate each water right separately. Further, they use several different sources to irrigate overlapping places of use. Some of the irrigation is also occurring outside of authorized place of use for each individual water right.
- Wilcox's data submittal did not include water use data for 2013 or 2014, because irrigation did not occur during those years. The first year included in the evaluation period is generally the first full irrigation season or year immediately preceding the decision date of the application for change.
- Wilcox did not indicate how many additional acres they wanted to irrigate, or provide specific details regarding a new crop type which could be used to assess a different water duty.
- Wilcox did not demonstrate how they intended to change their irrigation practices so that additional acres could be added without exceeding the consumptive portion of the water right. Ecology finds the request speculative in nature in that the request lacks enough specificity to allow an evaluation of current and future water use patterns.

Although Ecology is unable to approve Wilcox's request in its entirety, Ecology has agreed to allow Wilcox to manage its irrigation on a split-season basis. Ecology recognizes the need for flexibility and agrees to allow split season irrigation to be used on the farm to the extent it is addressed in the Farm Planning documents, which are required as a condition of approval. The authorization to allow split season irrigation is specific to the water rights involved in these proposed changes. Further, use under split season irrigation is contingent on Wilcox being able to meter and document their water use so that the total amount of acres and total annual quantity authorized for irrigation is at no time exceeded.

Split season irrigation would allow cultivation of cool season row crops irrigated early in the season (i.e. peas) in one place followed by irrigation of a later season crop (i.e. squash) in a different place once the cool season crop has been harvested and no longer is being irrigated.

Environmental purposes

Environmental purposes will not be added as an authorized purpose of use. Wilcox's request to preserve <u>unperfected</u> water for environmental benefit will not be allowed. RCW 90.03.380(1) states that a water right that has been put to beneficial use may be changed, *to the extent it has been perfected.* Because this water has not been perfected through beneficial use, it is not eligible to be changed to a different purpose.

Likewise Wilcox's request to add environmental purposes as a designated purpose of use will not be authorized by this change. Wilcox has not demonstrated a demand for water for environmental purposes, and without specific information regarding the type of project, nature of water use and duration of water use Ecology finds the request speculative. Ecology does not consider non-use of water an environmental purpose unless it is a Trust Water donation. If Wilcox needs water for reasons <u>different</u> than irrigation or industrial, Wilcox can request temporary permits from Ecology. *If Wilcox anticipates not fully utilizing their water rights for more than five years, Ecology recommends placing the unused portion in Ecology's Trust Water Program as temporary donations to prevent relinquishment.*

Wilcox's other requests, including the disposition of two defacto changes will be approved and are addressed in this report.

Site Visit

A site visit to the project site was not conducted specifically as part of processing these proposed water right changes. However, the investigator has previously visited the Wilcox property and is familiar with the farm project and reviewed other records that documents onsite conditions.

General Hydrogeological Setting

The general hydrogeological setting of Wilcox Farms was describe by described by Keta Waters (2013), in the supporting documentation provided by the applicant in support of this application.
The groundwater flow system in the vicinity of the Wilcox Farms consists of a relatively shallow aquifer system comprised of recent alluvial and Pleistocene glacial deposits. These deposits overlie a sequence of deposits of Miocene age that have been termed the Mashel Formation (Walters and Kimmel, 1968).

The recent alluvial deposits (Qa) at the site are relatively thin and are in direct contact with the glacial deposits. These glacial deposits include sands and gravels deposited as the Vashon glacier advanced (Qva), as well as till (Qvt) and recessional outwash materials that were deposited as the glacier retreated (Qvr). All of the wells at the site appear to be completed in the Vashon advance outwash materials (Qva). This advance outwash underlies the Qvt, Qvr, and Qa deposits (Keta Waters, 2013). Groundwater flows in the shallow aquifer system to the north and west and discharges into the Nisqually River (Keta Waters, 2013).

Groundwater in alluvial and glacial deposits is hydraulically connected to Harts Creek and the Nisqually River. Water pumped from groundwater wells or diverted from Harts Creek would otherwise have discharged into the Nisqually River. Because of this relationship, groundwater and surface water diversions on Wilcox Farms can be considered to be the same source of water (Keta Waters, 2013).

History of Water Use

Wilcox surface water rights, SWC 3281 and 10042 are for irrigation purposes, and this ROE is specific to SWC 10042 with consideration of SWC 3281.

Certificate SWC 10042 authorizes the diversion of an additional 1.5 cfs from Harts Lake and Harts Creek. The purpose of use is the irrigation of 150 acres, or 300 ac-ft/yr, during the irrigation season. The place-of-use encompasses 278 acres. Crops that have been raised on the farm include grass, alfalfa, corn, and berries.

The farm was founded by Judson and Elizabeth Wilcox in 1909. At that time, the land was covered in timber, and the only actual land suitable for farming was the area adjacent to Harts Lake, as authorized by the subject water-right certificate. In the earliest days of the farm, the family milked a few cows and raised chickens and vegetables, which were sold to the local logging camps. In 1920, a commercial-scale poultry operation was started.

In 1931, Judson's son, Truman, joined into a partnership and production of farm products increased. By 1940, the poultry operation had expanded to 5,000 birds, and beef cattle were raised as well. Over the next several decades, Wilcox Farms greatly expanded its operations and brought additional property into cultivation. Crops that have been raised on the farm include pasture grass, alfalfa, corn, and berries. The point of withdrawal assigned to SWC 10042 is defined in the certificate as the SE ¼ of the SW ¼ of Section 7, T. 16N, R. 3E. In recent years, the point of diversion for SWC 10042 has been combined with the diversion for SWC 3218A and today a single diversion site exists on the property.

A central water distribution system extends across much of the Wilcox property and provides potable water for both irrigation and non-irrigation uses. This distribution system results in comingling of waters from different sources authorized under different water rights.

SWC 10042 and 3281 are exercised at the same diversion point on Harts Creek (Creek Diversion). SWC 3281 authorizes the diversion of 0.5 cfs. The diversion for the water right is operated with a portable pump on a movable floating platform. The diversion is not metered but is active and monitored in concert with other irrigation sources.

Water is pumped through buried pipelines to risers along the edges of the fields. A portable sprinkler system using movable big guns is connected to the risers.

Water Use Calculations/Tentative Determination

Irrigation water duty calculations

Assessing historical water use for Wilcox Farms is problematic because water is co-mingled between sources and applied to areas outside the authorized place of use by the original individual water rights. Because the number of acres irrigated and the amount of water used from each source has fluctuated over the years, Ecology is taking a portfolio approach to assess the Wilcox water rights, provided the total number of acres irrigated has not exceeded 475 acres. Using this approach, each right can be quantified based on the maximum extent of beneficial use.

Only some water use at Wilcox Farms is metered. Water metering data is available from all of the groundwater wells but the data is not complete. Meter data covers primarily only the non-irrigation use portion. Surface water use was not metered.

The amount of water used for irrigation was calculated by Keta Waters (2013) using metering data when available and information in a database maintained by Wilcox Farms. The database specifies the duration of each irrigation event in hours, the type of nozzle used with the irrigation equipment, and the

water pressure associated with the irrigation system. The volume of irrigation water used in an irrigation event is calculated using an empirical relationship between flow rate and the water pressure in the irrigation line.

Irrigation water use estimates for 2008 through 2012 is summarized in Table 3. Based on the data, 2010 was the year with the highest use when a total of 693.2 ac-ft were used for irrigation purposes. **For this specific water right certificate (SWC 10042) Wilcox used 221.1 ac-ft for irrigation.**

Table 3. Irrigation water use as reported by Wilcox Farms.

	Well 1 ac-ft	Well 2 ac-ft	Well 3 ac-ft	Creek ac-ft	Creek ac-ft	Well 8 ac-ft	Well 9 ac-ft	Well 11 ac-ft	Total
2012	0.3	0.0	0.0	24	72	n.a.	*33.3*	16.6	146.5
2011	0.0	0.0	0.0	14	42	n.a.	*n.a.*	n.a.	56.1
2010	**114.3**	**29.9**	**99.6**[2]	**73.7**	**221.1**	**75.8**	***64.0***	**14.8**	**693.2**
2009	111.7	25.9	84.6	53	158	68.3	*38.8*	0.2	539.5
2008	33.7	26.3	34.9	89.8	269.4	n.a.	*28.9*	30.6	513.6
WR#	GWC-7428	GWC 7428	G2-00117	SWC 3281	SWC 10042	G2-22107	*G2-28175*	G2-20972	

Keta Waters, 2015b

Based on total use of 693.2 ac-ft/ yr, the resulting Total Irrigation Requirement (TIR) at the Wilcox farm for a mixed crop is 1.46 ac-ft /acre (17.5 inches/acre). If we assume the consistent use of a big gun style irrigation system, which is typical of the irrigation method used at the Wilcox farm, the **Crop Irrigation (CIR) Requirement** is 1.02 ac-ft / acre (12.25 inches).

While the originally issued water rights only allowed for 420 acres of irrigation Wilcox has provided additional information to support the irrigation of an additional 55 acres resulting from a documented defacto change (CG2-28175) that occurred in 2008 when Wilcox shifted from dairy to additional irrigation. Assuming this defacto change, it appears the maximum extent of Wilcox's authorized irrigation totals 475 acres.

Table 4 summaries the irrigation water duty at Wilcox Farms. These calculations assume irrigation of 475 acres, using the highest amount of water use reported by Wilcox and the use of a big gun style traveling sprinkler. We have accounted for the possibility that other more efficient irrigation techniques may have been used on parts of the farm but using a higher calculation for the overall efficiency of the system (65% is the average efficient rate for big guns).

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[2] Water use under GWC G2-00117 exceeding the authorized quantity is considered a defacto change adding Well 3 as a point of withdrawal to G2-22107.

We note this calculation is lower than expected based on the Washington Irrigation Guide because much of the Wilcox property is naturally wet. In addition to irrigation water rights. Wilcox also land applies industrial process water which reduces the amount of irrigation water that is needed.

Table 4. Irrigation water duty for 475 acres.

Crop requirement in inches	Crop Irrigation Requirement	Total Irrigation Requirement	App. Efficiency (%)	% Total Evaporated	Total Consumed ac-ft	Return Flow ac-ft
12.25	485	693	70	5	520	173

Water Use Plan

In exchange for the increased flexibility in managing their water rights, Wilcox has agreed to provide a Water Use Plan. This plan must accurately identify property they intend to irrigate and how much water they anticipate using for other uses (stock watering, multiple domestic, environmental enhancement or other permitted water uses). Wilcox must identify the source of water to be used for each purpose and the instantaneous quantities of water that will be used.

If conditions are not expected to change, the Water Use Plan may be prepared for multiple years, and if agreed to by Ecology may be provided less frequently.

Ecology notes that while the Water Use Plan is a useful tool for monitoring compliance with the terms of this recommended change, that it holds no legal standing in the actual authorization of water use. The total number of acres to be irrigated may not be increased unless Ecology makes a determination on a specific request.

Other Water Rights Appurtenant to the Proposed Place of Use

Wilcox Family Farms holds seven water-right certificates, including two surface water and five groundwater certificates, plus a pending groundwater application. The purposes of use for the Wilcox water rights include irrigation, stock watering, dairy and poultry operations, and domestic uses. The attributes of these water rights are summarized in Table 5.

The certificates together authorize up to:

737 ac-ft for irrigation of 420 acres,
89.5 ac-ft for poultry facilities,
246.5 ac-ft for dairy facilities,
1 ac-ft for stockwater and
8.5 ac-ft for group domestic purposes, for a combined allocation of 1,082.5 ac-ft/yr.

Table 5. Summary of recorded water rights at Wilcox Family Farms.

Water Right Certificate/ Claim	Original Owner	Doc	Date	Purpose [1]	Qi	Units	Qa	Acres
Surface Water								
SWC 3281	Wilcox, T., et al.	Certificate	8/18/1944	IR	0.5	CFS		50
SWC 10042	Wilcox Farms, Inc.	Certificate	5/25/1962	IR	1.5	CFS	300	150
Ground Water								
G2-00117	Waller, Clifford	Certificate	10/9/1970	IR, DS, ST	225	GPM	69	35
GWC 7428	Wilcox Farms Inc.	Certificate	8/22/1967	ST, IR	400	GPM	262	125
G2-20972	Wilcox Farms Inc.	Certificate	4/25/1973	ST, DM	500	GPM	331.5	
G2-22107	Wilcox Farms Inc.	Certificate	4/1/1974	ST, IR	250	GPM	120	60
G2-28175	Wilcox Farms Inc.	Certificate	5/23/1991	ST, DM	200	GPM	0	
G2-078925CL	Wilcox Farms Inc.	Claim - Long Form	Pre 1945	DG	na	GPM	na	na
G2-28788	Wilcox Farms Inc.	Application	3/19/1993	ST, DM	200	GPM	na	na

[1] IR = irrigation, DS = domestic single, ST = stock, DG = Domestic General, DM = domestic Multiple

Other Water Supply Sources

Wilcox Farms also has a separate distribution system that is used to distribute treated wastewater from a 33-million gallon holding lagoon. This treated wastewater is used to irrigate approximately 350 acres divided among ten separate spray fields.

This reuse of treated wastewater is allowed under the terms of Wilcox's discharge permits. It can be used to irrigate additional acreage beyond what is authorized under Wilcox's irrigation water rights. Wilcox may want to identify where they plan to use treated wastewater in the Farm Plan and differentiate it from irrigation water rights.

Impairment Considerations

Wilcox requested to change the place of use of this water right so water from SW #1 can be used throughout Wilcox's farm provided the use of this water source is not increased. Because no other changes being proposed, other water users will not be impacted.

Existing water rights within a two mile radius of Wilcox Farms are listed in Table 6.

Table 6. Water rights within a two mile radius of Wilcox Farms.

Water Right Certificate	Qi	Qa	Use	Source
Within a one mile radius				
G2-00758CWRIS	100 gpm	23	domestic multiple	Well
G2-*09275CWRIS	20 gpm	1.5	domestic single and stock watering	Well
Greater than one mile and less than two mile radius				

S2-27488CWRIS	80 cfs	58,000	power	Nisqually River
G2-*01658CWRIS	150 gpm	80	irrigation	Infiltration trench
S2-01086AWCWRIS	0.27 cfs	40	irrigation	Toboton Creek
S2-25136GWRIS	0.12 cfs	16	irrigation	Un-named slough
S2-21602CWRIS	0.02 cfs	1	domestic single	Un-named spring
S2-24559ALCWRIS	0.02 cfs	1	domestic single	Un-named spring
S2-*08140CWRIS	0.2 cfs	35	irrigation and stockwatering	Powell Creek

QUANTITIES RECCOMMENDED FOR APPROVAL

Water use at Wilcox Family Farms falls into four purposes of use: irrigation, dairy operations or stockwater, poultry operations, and domestic supply. In the interest in giving the applicant more flexibility as to how water is used Ecology has agreed to reallocate these rights into three categories – Irrigation, Domestic and Industrial/commercial. Industrial/commercial is a general category that includes water used by poultry – for drinking, cooling, cleaning AND in the processing of egg products. Industrial/commercial will replace stockwatering as a purpose and include water rights originally allocated as Poultry Operations. Other future uses of industrial/commercial water can occur without further changes provided they do not increase the consumptive nature of the water use.

Table 7 outlines the recommendations for the reissuance of Superseding Certificates as a result of the *Applications for Change* filed by Wilcox Farms. It reflects favorable approval of the requested *defacto changes,* adjustments for use of water allocated under non-additive water rights, and is based on Wilcox's highest reported water usage.

Table 7. Recommendations for issuance of superseding certificates.

Water Right Certificate	Purpose	Qi	Qa	Comment
SWC 3281	Irrigation	0.5 CFS	73.7	Based on 2010 use.
SWC 10042	Irrigation	0.17 CFS	221.1	Based on 2010 use.
GWC 7428	Irrigation	400 gpm	165.5	Total Qa based on 2010 water use. Annual quantity for all purposes of use have been increased to reflect the portion of G2-28175 converted from non-additive to additive.
	Industrial/Comm.		36.5	
	Multiple Domestic		1.5	
G2-00117	Irrigation	150 gpm	67	Total Qa based on 2010 water use. Total of 99.6 ac-ft pumped, balanced of 31.6 ac-ft assigned to G2-22107.
	Single Domestic		0.5	
G2-20972	Irrigation	100 gpm	37.9	Total Qa based on 2012 water use. Annual quantity for all purposes of use have been increased to reflect the portion of G2-28175 converted from non-additive to additive.
	Industrial/Comm.		53.4	
	Multiple Domestic		6	

G2-22107	Irrigation	100 gpm	128.7	Total Qa based on 2010 water use. Annual quantity for all purposes of use have been increased to reflect the portion of G2-28175 converted from non-additive to additive. Also included is 31.6 ac-ft as a defacto change adding Well 3 as an additional point of withdrawal to G2-22107.
	Industrial/Comm.		52.5 (non-additive)	
	Multiple Domestic		6 (non-additive)	
G2-28175	Irrigation	200 gpm	64 (non-additive	Total Qa based on 2010 use. Qa divided among CG2-GWC7428, CG2-20972, and CG2-22107.
	Industrial/Comm.		51 (non-additive)	
	Multiple Domestic		1 (non-additive)	

Public Interest Considerations

This request is consistent with the recommendations of the Nisqually Watershed Planning process which recommends that existing water rights be used to supply new development, to the extent possible. This right as originally issued and as modified under this request is not detrimental to the public interest.

CONCLUSIONS

The proposed change does not affect the original findings of SWC 10042. This conclusion is based on the above investigation and is summarized as follows:

1. This water right is for irrigation supply, which is a beneficial use of water;
2. The requested change will not affect the availability of water for appropriation, because there will be no increase in water use;
3. The request will not impair senior water rights or instream flows; and
4. The request is not detrimental to the public interest.
5.

RECOMMENDATIONS

Based on the information presented above, the author recommends that Application for Change of Water Right Certificate SWC 10042 be approved in the amounts of 0.17 cfs and 221.1 ac-ft/yr for irrigation, not to exceed 475 acres.

Report by: _____ _____

Date

Reviewed by: _____ _____

Date

References

Natural Resource Conservation Service, 2007, State of Washington Irrigation Guide (WIG), 1985, amended 1992 for select western Washington crops)
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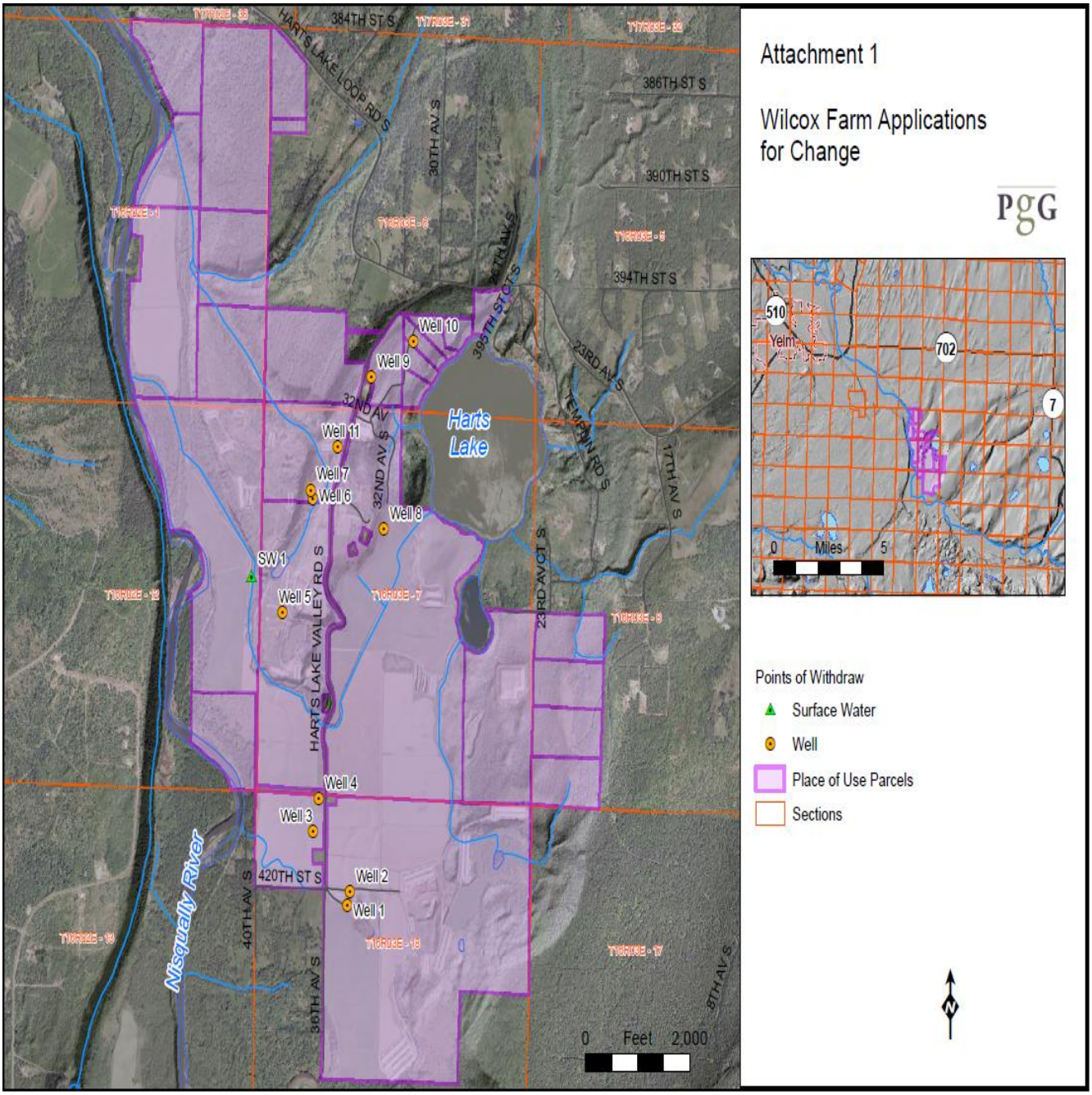
Walters, K.L; Kimmel, G.E. 1968, Groundwater occurrence and stratigraphy of unconsolidated deposits, central Pierce County Washington: Washington Department of Water Resources Water Supply Bulletin 22, 428 p., 3 plates.

ATTACHMENT 1