

STATE OF WASHINGTON FINAL REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION

PRIORITY DATE	WATER RIGHT APPLICATION NUMBER
February 8, 2022	S1-29425
NAME AND MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Skagit Valley Farm LLC	22898 Howey Road
PO Box 870	Sedro Woolley, WA 98284
Burlington, WA 98233	

Total Rate and Quantity Authorized for Diversion				
DIVERSION RATE (cfs)	ANNUAL QUANTITY (ac-ft/yr)			
4.5	500			

cfs = Cubic Feet per Second; ac-ft/yr = Acre-feet per Year

Purpose			
PURPOSE	DIVERSION RATE (cfs)	ANNUAL QUANTITY (ac-ft/yr)	PERIOD OF USE
Irrigation	4.5	500	04/01-09/30

IRRIGATED ACRES	PUBLIC WATER SYSTEM INFORMATION			
300	WATER SYSTEM NAME and ID	CONNECTIONS		
	-	-		

SPECIAL REMARKS:

USE OF WATER UNDER THIS WATER RIGHT IS NOT ALLOWED WHEN THE ACTUAL FLOW OF THE SKAGIT RIVER (NEAR MOUNT VERNON) – USGS GAGE 12200500, IS LESS THAN THE MINIMUM INSTREAM FLOW FOR THAT CONTROL STATION, AS SPECIFIED IN WASHINGTON ADMINISTRATIVE CODE (WAC) 173-503-040. <u>DUE TO</u> <u>THE LIKELIHOOD OF INTERRUPTION, THE PERMITTEE IS ADVISED TO NOT RELY</u> <u>ON THIS WATER RIGHT TO GROW PERENNIAL CROPS THAT REQUIRE</u> UNINTERRUPTIBLE WATER TO SURVIVE.

Source Location	ı						
COUNTY	WATERBODY		TRIBUTAR	Ү ТО	WATER F	RESOURCE INVE	NTORY AREA
Skagit	Skagit Skagit River		Skagit E	Skagit Bay		03 – Lower Skagit/Samish	
	1						
SOURCE NAME	PARCEL	TOWNSHIP	RANGE	SECTION	QQ Q	LATITUDE	LONGITUDE
1	P38413	35N	04E W.M.	36	SW NW	48.4796	-122.2476
2	P38373, P38374, or P38389	35N	04E W.M.	35	E/2	48.4786	-122.2530

QQ Q = Quarter Quarter

Datum: NAD83/WGS84

Place of Use

PARCEL(S)

Skagit County Parcel Nos. P38373, P38374, P38375, P38377, P38389, P38390, P23416, P23415, P23284, P23285, P38411, P38413, P133632, and P38420

LEGAL DESCRIPTION OF THE AUTHORIZED PLACE OF USE

Within Section 1, Township 34 North, Range 4 East, W.M.:

GOVERNMENT LOT 3, SECTION 1, TOWNSHIP 34 NORTH, RANGE 4 EAST, W.M., EXCEPT THEREFROM THE SOUTH 365 FEET OF THE EAST 559 FEET OF GOVERNMENT LOT 3, AND EXCEPT ANY PORTION THEREOF LYING WITHIN THE BOUNDARIES OF THE AS BUILT AND EXISTING STATE HIGHWAY 9 RUNNING ALONG THE EAST LINE THEREOF, AND EXCEPT ROAD RUNNING ALONG THE SOUTH LINE THEREOF, AND ALSO EXCEPT THAT PORTION THEREOF CONVEYED TO SKAGIT COUNTY FOR ROAD PURPOSES BY DEED RECORDED FEBRUARY 19, 1951, UNDER AUDITOR'S FILE NO. 457075, RECORDS OF SKAGIT COUNTY, WASHINGTON.

GOVERNMENT LOT 4, SECTION 1, TOWNSHIP 34 NORTH, RANGE 4 EAST, W.M.

Within Section 2, Township 34 North, Range 4 East, W.M.:

GOVERNMENT LOT 1, SECTION 2, TOWNSHIP 34 NORTH, RANGE 4 EAST, W.M., LESS ROAD & THE FOLLOWING DESCRIBED TRACT: COMMENCING AT THE NE CORNER OF SAID GOVERNMENT LOT 1; THENCE NORTH 89 DEGREES 57 MINUTES 34 SECONDS WEST ALONG THE NORTH LINE THEREOF, A DISTANCE OF 328.25 FEET TO THE NW CORNER OF EAST 10 ACRES OF SAID GOVERNMENT LOT 1; THENCE SOUTH 00 DEGREES 39 MINUTES 32 SECONDS WEST ALONG WEST LINE OF SAID EAST 10 ACRES, A DISTANCE OF 980.67 FEET TO THE TRUE POINT OF BEGINNING OF DESCRIBED; THENCE NORTH 89 DEGREES 42 MINUTES 00 SECONDS WEST, A DISTANCE OF 302.00 FEET; THENCE SOUTH 00 DEGREES 39 MINUTES 32 SECONDS WEST, A DISTANCE OF 305.00 FEET TO NORTH LINE OF FRANCIS ROAD, A DISTANCE OF 302.00 FEET TO WEST LINE OF SAID EAST 10 ACRES; THENCE NORTH 00 DEGREES 39 MINUTES 32 SECONDS EAST ALONG SAID WEST LINE, A DISTANCE OF 305.00 FEET TO THE TRUE POINT OF BEGINNING. LESS COUNTY ROAD RIGHT OF WAY.

Within Section 35, Township 35 North, Range 4 East, W.M.:

GOVERNMENT LOT 6, SECTION 35, TOWNSHIP 35 NORTH, RANGE 4 EAST, W.M.

GOVERNMENT LOT 7, SECTION 35, TOWNSHIP 35 NORTH, RANGE 4 EAST, W.M., LESS RD

EAST 450 FEET OF GOVERNMENT LOT 8, AND TRACT A OF SURVEY AF#200009140013, SECTION 35, TOWNSHIP 35 NORTH, RANGE 4 EAST, W.M.

E1/2 OF SE1/4, SECTION 35, TOWNSHIP 35 NORTH, RANGE 4 EAST, W.M.

Within Section 36, Township 35 North, Range 4 East, W.M.:

THAT PORTION OF GOVERNMENT LOT 3, SECTION 36, TOWNSHIP 35 NORTH, RANGE 4 EAST W.M, DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE WEST LINE OF SAID LOT 3 AND THE NORTH LINE OF THE HOWEY ROAD; THENCE EAST ALONG THE NORTH LINE OF SAID ROAD A DISTANCE OF 458.0 FEET TO THE INTERSECTION WITH THE NORTHWESTERLY LINE OF THAT CERTAIN TRACT CONVEYED TO THE STATE OF WASHINGTON BY DEED DATED AUGUST 28, 1957 AND RECORDED JANUARY 24, 1958 UNDER AUDITOR'S FILE NO. 561033; THENCE NORTHEASTERLY ALONG SAID STATE OF WASHINGTON TRACT A DISTANCE OF 703.0 FEET TO THE WESTERLY LINE OF THE STATE HIGHWAY RIGHT-OF-WAY AS CONVEYED BY DEED RECORDED UNDER AUDITOR'S FILE NO. 561033; THENCE NORTH 11 DEGREES 01 MINUTES WEST ALONG THE WEST LINE OF THE STATE HIGHWAY RIGHT OF WAY A DISTANCE OF 234.0 FEET; THENCE WEST TO A POINT ON THE WEST LINE OF SAID LOT 3 THAT IS 465.0 FEET TO THE POINT OF BEGINNING; THENCE SOUTH ALONG THE WEST LINE OF SAID LOT 3 A DISTANCE OF 465.0 FEET TO THE POINT OF BEGINNING; EXCEPT THAT PORTION THEREOF DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE SOUTH LINE OF SAID GOVERNMENT LOT 3, A DISTANCE OF 750 FEET EAST OF THE SOUTHWEST CORNER OF SAID LOT 3; THENCE NORTH PARALLEL TO THE WEST LINE OF SAID LOT 3, A DISTANCE OF 415.0 FEET; THENCE EAST PARALLEL TO THE SOUTH LINE OF SAID LOT 3 TO THE WEST LINE OF THE STATE HIGHWAY RIGHT-OF-WAY; THENCE SOUTH 11 DEGREES 01 MINUTES EAST TO THE SOUTH LINE OF SAID LOT 3; THENCE WEST ALONG THE SOUTH LINE OF SAID LOT 3 TO THE POINT OF BEGINNING; EXCEPT THAT PORTION OF SAID TRACT LYING WITHIN THE BOUNDARIES OF THAT PORTION THEREOF CONVEYED TO THE STATE OF WASHINGTON BY DEED DATED AUGUST 28, 1957 AND RECORDED JANUARY 24, 1958 UNDER AUDITOR'S FILE NO. 561033.

THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 36, TOWNSHIP 35 NORTH, RANGE 4 EAST, W.M.

S1/2 SE1/4 SW1/4, SECTION 36, TOWNSHIP 35 NORTH, RANGE 4 EAST, W.M., LESS RIGHT OF WAY & EAST 100 FEET PARALLEL TO & WEST OF STATE HIGHWAY 9 ALSO INCLUDING THE SOUTH 30 FEET OF THE EAST 130 FEET OF THAT PORTION WHICH LIES WESTERLY OF HIGHWAY 9 IN THE N1/2 SE1/4 SW1/4.

Proposed Works

The system will consist of two points of diversion from the Skagit River. A buried mainline will convey water from the river throughout the place of use for irrigation using moving big gun, moving boom cart, center pivot, and lateral move methods.

Development Schedule					
BEGIN PROJECT BY THIS DATE	COMPLETE PROJECT BY THIS DATE	PUT WATER TO FULL USE BY THIS DATE			
Started	December 31, 2023	December 31, 2028			

<u>Attention</u>: These dates represent deadlines that must be met or risk cancellation of this authorization. Submittal of formal documentation for each stage is required. Extensions may be requested.

Measurement of Water Use	
HOW OFTEN MUST WATER USE BE MEASURED AND RECORDED?	Daily
HOW OFTEN MUST WATER USE DATA BE REPORTED TO ECOLOGY?	Annually by January 31
WHAT QUANTITY SHOULD BE REPORTED?	Total annual quantity in acre-feet
WHAT RATE SHOULD BE REPORTED?	Annual peak rate of diversion in cfs
WHAT ADDITIONAL METERING REQUIREMENTS EXIST FOR THIS WATER RIGHT?	Telemetry and Automated Metering, see Provisions.

Provisions

Minimum Instream Flow

This authorization is subject to the following minimum flow provision as specified in WAC 173-503-040. It is subject to regulation by the Department of Ecology for protection of instream resources when gaged flows are less than the following minimum flow provisions at:

Minimum Instantaneous Discharge						
(cubic feet/second)						
USGS Monitoring Station						
12200500						
Month	Day	Skagit River				
April	1-30	12,000				
May	1-31	12,000				
June	1-30	12,000				
July	1-31	10,000				
August	1-31	10,000				
September 1-30 10,000						

Control Station: Skagit River (near Mount Vernon) – USGS 12200500 Divor Miles 15 7

Real-time discharge data for USGS station 12200500 can be obtained from the following web site: https://waterdata.usgs.gov/monitoring-

location/12200500/?agency_cd=USGS#parameterCode=00060&period=P7D. Provisional data will be relied upon for regulation and any later revisions made to the data by the USGS will not be used as evidence of non-permitted water use by the water right holder.

Start of Irrigation Season Notifications

Water Resources staff at the Department of Ecology Northwest Regional Office shall be notified 72 **hours prior** to the anticipated first startup for each irrigation season.

Metering

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.

WAC 173-173-080 allows the Department of Ecology to modify reporting requirements on a case-bycase basis. This provision is written justification and notification to the water user. For the anticipated first year operation, 2022, the water user may rely on manual-read meters, and record and report detailed water use readings, The Department of Ecology is requiring automated data collection and transmission by April 1, 2023, for the surface water sources specified in this water right, because water use from this source is subject to the minimum flow provision as specified in WAC 173-503-040.

Water diverted from the surface water sources must be recorded by an automated system and reported to the Department of Ecology via cellular-based telemetry. This system must be installed by April 1, 2023. Ecology shall have full access to this data via the Internet. Data shall, at a minimum, record peak instantaneous rate (Qi) and total diverted quantity (Qa) on a daily basis, and at a minimum, transmit data daily. Automated data collection and transmission will allow the Department of Ecology to quickly assess the water users' compliance with the low flow provision as specific in WAC 173-503-040.

A copy of the "Telemetered Meters", Department of Ecology publication 19-11-083, is included with this Report of Examination (Exhibit A). The water user must demonstrate, to the satisfaction of the Department of Ecology, that this telemetered data collection and transmission system is installed, in

operation, and accessible to the Department of Ecology before the water user begins diverting water, for the 2023 irrigation season, from these surface water sources.

Annual Reporting

The water right holder shall submit an annual letter report on the following conditions:

A summary of water use under the water right including:

- Volume diverted,
- Peak pumping rate,
- Any reasons for non-compliance and corrective action that will be taken to prevent that from happening in the future.

This report shall be submitted by January 31st of each year, to the Department of Ecology, Water Resources Program, Northwest Regional Office.

Prior to installation of the telemetry system, the compliance spreadsheet (**Attachment 2**) must be thoroughly filled out throughout the irrigation season. The spreadsheet includes the following columns that must be filled in each time a pump is started: Date, military time, minimum instream flow requirement for that date (from WAC 173-503-040), actual Skagit River flow, water meter reading, pumping rate, and who recorded the data. The spreadsheet also includes the following columns that must be filled in each time a pump is stopped: Date, military time, actual Skagit River flow, water meter reading, and who recorded the data. In addition to noting the meter reading upon every pump startup and shutdown, if the pump runs continuously, water meter readings must be recorded at least weekly per WAC 173-173-060. An electronic version of the spreadsheet must be submitted to Ecology along with any hard-copy data sheets.

After installation of the telemetry system, the abbreviated compliance spreadsheet (**Attachment 3**) must be thoroughly filled out throughout the irrigation season. The spreadsheet includes the following columns that must be filled in each time a pump is started: Date, military time, minimum instream flow requirement for that date (from WAC 173-503-040), and actual Skagit River flow. The spreadsheet also includes the following columns that must be filled in each time a pump is stopped: Date, military time, and actual Skagit River flow. An electronic version of the spreadsheet must be submitted to Ecology along with any hard-copy data sheets.

Compliance

If you are irrigating without a legal water right, in excess of an existing right, or outside of the terms of your water right, you are violating Revised Code of Washington (RCW) 90.03.400 and will be notified to operate in compliance with the terms of the water right. According to provisions of RCW 90.03.600, failure to comply with Washington's water code may result in the issuance of an Administrative Order and/or Notice of Penalty, with possible fines of up to \$5,000 per day of illegal water use.

Efficiency and Conservation

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.

Family Farm Irrigation

That portion of this authorization relating to irrigation of Washington State Department of Natural Resources land is classified as a <u>Publicly Owned Land Permit</u> in accordance with chapter 90.66 RCW.

This authorization to use public waters of the state is classified as a <u>Family Farm Permit</u> in accordance with chapter 90.66 RCW. This means the irrigator provided water under this water right and the associated privately-held irrigated land shall comply with the following definition: **Family Farm - a geographic area including not more than 6,000 acres of irrigated agricultural lands, whether contiguous or noncontiguous, the controlling interest in which is held by a person having a controlling interest in no more than 6,000 acres of irrigated agricultural lands in the state of Washington which are irrigated under water rights acquired after December 8, 1977. Furthermore, the land being irrigated under this authorization must continue to conform to the definition of a family farm.**

Department of Fish and Wildlife Requirement(s)

Pursuant to chapter 77.55 RCW, a Hydraulic Project Approval (HPA) permit must be maintained with the Washington State Department of Fish and Wildlife for the installation and removal of the pump intake(s) each season. Use of water under this authorization is not allowed unless the water right holder has a valid HPA for the subject project.

The intake(s) must be screened in accordance with Department of Fish and Wildlife screening criteria (pursuant to RCW 77.57). Use of water under this authorization is not allowed unless compliant fish screens are maintained on the intake(s). 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. <u>http://wdfw.wa.gov/licensing/hpa/</u>

No dam or weir may be constructed in connection with this diversion.

Proof of Appropriation

Consistent with the development schedule given in this report (unless extended by Ecology), the water right holder must file a Notice of Proof of Appropriation (PA) of Water with Ecology. The PA documents the project is complete and all the water needed has been put to full beneficial use (perfected). In order to verify the extent of water use under this permit, an inspection of water use is typically required, known as a "proof exam". After filing the PA, the water right holder's next step is to hire a Certified Water Rights Examiner (CWRE) to conduct this proof exam. A list of CWREs is provided to the water right holder upon filing the PA with Ecology. The final water right document, a water right certificate, then may issue based upon the findings of the CWRE. Statutory county and state filing fees may apply prior to certificate issuance.

Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law. During the first season of irrigation that utilizes this authorization, the water right holder shall arrange to have Ecology staff inspect the site during operation, including intakes, meters, and irrigation infrastructure. Once the telemetry system is installed, the water holder shall arrange for Ecology staff to inspect the telemetered metering device.

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.

Therefore, I ORDER **APPROVAL** of Application No. S1-29425, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do the following within 30 days of the date of receipt of the Order:

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

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

Street Addresses	Mailing Addresses
Department of Ecology	Department of Ecology
Attn: Appeals Processing Desk	Attn: Appeals Processing Desk
300 Desmond Drive SE	PO Box 47608
Lacey, WA 98503	Olympia, WA 98504-7608
Pollution Control Hearings Board	Pollution Control Hearings Board
1111 Israel RD SW, Ste 301	PO Box 40903
Tumwater, WA 98501	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://www1.leg.wa.gov/CodeReviser.

Authorizing Signature

Signed at Shoreline, Washington, this <u>9th</u> day of <u>June</u>, 2022.

Kasey Cykler, Section Manager Water Resources Program/Northwest Regional Office Department of Ecology

INVESTIGATOR'S REPORT

Water Right Application No.: S1-29425 (Skagit Valley Farm LLC) Investigator: Andrew B. Dunn – RH2 Engineering, Inc. Reviewed by: Buck Smith (Dept of Ecology) and Kellie Gillingham (Dept of Ecology)

BACKGROUND

This report serves as the written findings of fact concerning Water Right Application Number S1-29425.

On February 8, 2022, Skagit Valley Farm LLC (Skagit Valley Farm) filed a water right application with the State of Washington Department of Ecology. In the application, Skagit Valley Farm requested 4.5 cubic feet per second (cfs) for irrigation of 300 acres from two surface water diversions from the Skagit River.

Parcels within the place of use are owned by Acme Properties LLC, Skagit Farmland LLC, Washington State Department of Natural Resources, and Donna Waite. Mr. Tony Wisdom, manager of the farm, signed the application on behalf of Skagit Valley Farm LLC, Acme Properties LLC, and Skagit Farmland LLC. Ms. Kari Fagerness (ADM, Product Sales & Leasing Division) from Washington State Department of Natural Resources (DNR) signed the water right application as an authorized agent of the legal owner of the place of use (Skagit County Parcel No. P133632). Ms. Waite signed the water right application as the legal owner of the place of use (Skagit County Parcel No. P38420).

Applicant Name	Skagit Valley Farm LLC
Priority Date	February 8, 2022
County	Skagit
WRIA	03 – Lower Skagit/Samish
Water Source	Skagit River
Tributary to	Skagit Bay
Place of Use	Skagit County Parcel Nos. P38373, P38374, P38375, P38377, P38389, P38390,
	P23416, P23415, P23284, P23285, P38411, P38413, P133632, and P38420

Table 1. Summary of Requested Water Right

Purpose	Instantaneous Rate (cfs)	Annual Quantity (ac-ft/yr)	Begin Season	End Season
Irrigation of 300 acres	4.5	600	04/01	09/30

Source Name	Parcel	Township	Range	Section	QQ Q	Latitude	Longitude
1	P38413	35N	04E W.M.	36	SW NW	48.4796	-122.2476
2	P38373, P38374, or P38389	35N	04E W.M.	35	E/2	48.4786	-122.2530

WRIA = Water Resource Inventory Area; cfs = Cubic Feet per Second; ac-ft/yr = Acre-feet per Year; QQ Q = Quarter Quarter

Datum: NAD83/WGS84

Compliance History

The applicant has been irrigating the proposed place of use from a well without a water right. Ecology has an active compliance case with the applicant that must be resolved in order for the use of public water of the state to continue to occur. The applicant is working to resolve this issue through this application and using the cost reimbursement process.

Cost Reimbursement

This application is being processed under a cost reimbursement agreement between the applicant and the Department of Ecology. This report has been prepared by RH2 Engineering, Inc., consultant for Skagit Valley Farm, and reviewed by Buck Smith and Kellie Gillingham with the Department of Ecology's Water Resources Program.

INVESTIGATION

Proposed Use and Basis of Water Demand

Site Description

On March 11, 2022, Andrew B. Dunn (RH2) performed a site visit. The place of use is composed of flat agricultural fields (**Figure 1**).



Figure 1. Place of Use

The river water level at the proposed points of diversion was approximately 10 feet below where the pump could be easily placed (**Figure 2**). Based on the Skagit River as measured in Mount Vernon (USGS gage 12200500) it was flowing 18,500 cfs during the site visit and the stage was approximately 15.6 feet. During the irrigation season, when the river is flowing near 10,000 cfs, the stage will be approximately 12.1 feet, or 3.5 feet lower than during the site visit. The highest pump lift required without lowering the pump will be approximately 13.5 feet, which is feasible for a centrifugal pump.

Figure 2. Point of Diversion No. 2 (Western) Location



The onsite center pivot consists of five towers and rotates halfway to form a half circle. Sprinklers installed on the center pivot are spray head on drops with a small end gun. There are risers that allow for other sprinkler systems to be connected to allow for irrigation of the field where the pivot can't reach.

The onsite lateral move system (lateral) consists of eight towers (including the motor tower). The towers are spaced such that the lateral can irrigate a swath nearly a quarter mile wide. Sprinklers installed on the lateral are spray head on drops. There are no end guns installed on the lateral. There are risers positioned along the west side of the DNR field. The lateral is connected to a riser with a hose and then advances until the hose has to be reconnected to the next riser.

At the time of the site visit, the DNR and Waite fields had been recently plowed.

Water System Description

The water system is proposed to consist of two points of diversion from the Skagit River. Pumping plants will initially consist of a trailer-mounted, diesel powered motor, closely-connected to a centrifugal pump. If a permit is issued for this application, the applicant will obtain a hydraulic project approval from the Washington Department of Fish and Wildlife (WDFW) and intakes will be properly screened according to guidance from WDFW before commencing use of this water system. Water will be pumped from the river into an irrigation mainline distribution system (consisting of 10-inch to 6-inch diameter buried mainline) capable of serving the entire place of use. Risers are positioned appropriately to allow for utilization by the lateral move, moving big gun, and moving boom carts. The current center pivot is piped directly into the mainline.

Proposed Use

The proposed use is agricultural irrigation. The place of use includes 300 acres to be irrigated. The applicant is proposing to irrigate a variety of crops, typically on a rotational basis, including, but not

limited to, broccoli, Brussels sprouts, potatoes, wheat, barley, spinach seed, cabbage seed, corn, and pasture.

The Washington Irrigation Guide data (1985 and 1992) for the Sedro Woolley station was utilized. The crop irrigation requirements identified for the crops planned to be grown within the place of use are contained in **Table 2**.

wooney station (washing	ton in igation Guide, 1965 and 1992)
Crop (WIG year)	Crop Irrigation Requirement (inches)
Crucifer (1985) ¹	3.19
Field Corn (1992)	7.06
Potatoes (1985)	7.25
Pasture/Turf (1992)	12.99
Spinach (1985)	1.78
Spring Grain (1985)	5.48
Winter Wheat (1985)	3.60
¹ Crucifer includes broccoli, Brussels	sprouts, cabbage, and other vegetables.

Table 2. Crop Irrigation Requirements for Crops Planned to Be Grown in the Place of Use – Sedro Woolley Station (Washington Irrigation Guide, 1985 and 1992)

Since pasture/turf is the highest duty crop anticipated to be grown, its crop irrigation requirement will be utilized to determine the appropriate annual volume to allocate.

Crop irrigation methods anticipated to be utilized at the site include moving big gun, moving boom cart, lateral move with spray heads and hose feed, and center pivot with spray heads and a small end gun. **Table 3** lists the irrigation methods along with the application efficiency range and averages.

Irrigation Method	Application Efficiency Range	Average Application Efficienc							
Moving Big Gun ¹	55 to 75	65							
Moving Boom Cart ²	NA	85							
Center Pivot with Spray Heads	75 to 95	90							
and small end gun ¹									
Lateral Move with Spray Heads	75 to 95	90							
and hose feed ¹									
Source:									

Table 3. Irrigation Method Application Efficiencies (in %)

¹ Ecology Water Resources Program Guidance Determining Irrigation Efficiency and Consumptive Use, Publication 20-11-076, October 2005.

² Peters and others, Washington State University Extension Fact Sheet FS003E

Since moving big gun sprinkler has the lowest average application efficiency, it will be utilized to determine the appropriate annual volume to allocate.

The following equation is used to calculate the total irrigation requirement (TIR) needed for pasture/turf irrigated by moving big gun.

TIR = <u>CIR</u> Ea TIR – Total Irrigation Requirement CIR – Crop Irrigation Requirement Ea – Irrigation System Application Efficiency in percent

TIR = <u>12.99 inches</u> 65%

TIR = 19.98 inches [equal to 1.67 feet]

The following equation is used to calculate the annual volume of water needed to irrigate pasture/turf with a moving big gun on the desired number of acres.

Qa = <u>TIR</u> * Irrigated Acres 12 inches/foot

Qa - Water Right Annual Volume Irrigated Acres - Acres proposed to be irrigated under this application (300 acres)

Qa = <u>19.98 inches</u> * 300 acres 12 inches/foot

Qa = 500 acre-feet per year

Based on the above calculations, the calculated maximum demand for this request will be 500 acre-feet per year. This is less than the applied for volume of 600 acre-feet per year.

Per the Washington Irrigation Guide (1992) the highest CIR month for pasture/turf is July at 4.11 inches. Dividing by the moving big gun application efficiency of 65 percent equals 6.33 inches that need to be pumped in that month to apply the CIR. 6.33 inches applied over 300 acres is equal to 158 ac-ft pumped in 31 days, which is equal to 5.1 ac-ft (222,015 cubic feet) per day. At the requested diversion rate of 4.5 cfs, it will take an average of 13.7 hours of pumping per day to meet that peak demand, which is reasonable.

The pump curve provided with the application (Cornell Pump Model 6NNT) was reviewed. The instantaneous rate requested is reasonable to obtain from two points of diversion for the proposed portable pumping plant setup.

An irrigation season of April 1 through September 30 is reasonable for the typical crops grown in this region.

Other Rights Associated with the Project or Place of Use

The following water rights in **Table 4** are at least partially appurtenant to the place of use.

Water Right	Name	Priority	Qi	Qa	Irrigated	Purpose of Use							
		Date	(gpm)	(ac-ft/yr)	Acres								
G1-061010CL	Ruth E. Waite	NS	NS	NS	NS	Domestic, Stockwatering, Irrigation (lawn and garden)							
G1-013779CL	William R. Dennhardt	4/3/1967	10	4	0.5	Domestic, Lawn, Garden							
G1-063730CL	Washington State Department of Natural Resources	1912	10	2	0	Domestic, Stockwatering							
G1-019508CL	Wesley Loop	12/1/1937	10	2	0	Domestic							

NS – Not Specified

No water rights appurtenant to the place of use are for diversion from the Skagit River adjacent to the place of use, from the proposed points of diversion, for agricultural irrigation. For this reason, no tentative determination of the validity and extent of the claims listed in **Table 4** was made. The requested new water right will be issued as additive for instantaneous rate, annual volume, and irrigated acres.

In addition to the other water rights listed above, the Public Utility District No. 1 of Skagit County (PUD). holds municipal water rights that include the entire county as the place of use. The PUD provides agricultural irrigation water within its service area through its distribution system, where the infrastructure allows it. The PUD currently has a mainline in Francis Road running along the southern edge of the place of use. Skagit Valley Farm plans to utilize PUD water as a backup source of irrigation supply if this water right is interrupted by the Skagit River flow dropping below the minimum instream flows, and irrigation is required. Issuance of an overlapping interruptible water right to the applicant does not present a problem because the water diverted under this water right will be metered separately.

Hydrologic Evaluation

The Skagit River is located in northwestern Washington State in Water Resource Inventory Areas (WRIAs) 3 and 4. The river's watershed lies within Snohomish, Skagit, and Whatcom Counties, Washington, as well as British Columbia, Canada. The watershed spans from the crest of the North Cascades to Skagit Bay (Drost and Lombard, 1978). The largest tributaries include the Cascade River (confluence at Marblemount), Sauk River (confluence at Rockport), and Baker River (confluence at Concrete). There are two large hydropower projects within the watershed including Puget Sound Energy's Baker River Hydroelectric Project, which includes dams on the Baker River forming Lake Shannon and Baker Lake, and Seattle City Light's Skagit River Hydroelectric Project, which includes dams on the Skagit River forming Gorge Lake, Diablo Lake, and Ross Lake (**Figure 3**). After exiting the foothills, the river flows across a relatively flat area referred to as the Skagit Lowland before discharging into the

marine water of Skagit Bay. The river bifurcates into a north and south fork at river mile 8.1. The watershed upstream of the USGS Gage 12200500 Skagit River near Mount Vernon, WA (located at river mile 15.7) is 3,093 square miles, of which 400 square miles is located in Canada. The average water year discharge for the period of 1941 through 2020 is 16,610 cfs, which is equivalent to 12,025,091 ac-ft/yr. The maximum recorded discharge for the period of record (October 1940 through September 2020) of 152,000 cfs occurred on November 25, 1990, and the minimum daily mean discharge of 3,050 cfs occurred on October 26, 1942 (United States Geological Survey, 2020).





Skagit River Regulation

The State of Washington adopted chapter 173-503 WAC in 2001. WAC 173-503-040 includes the establishment of stream management units and control stations for five stream management units. The subject water right application requests to divert water from the Skagit Mainstem stream management unit, which includes the reach of the Skagit River from the mouth of the Skagit River, including tidal fluctuations, to the headwaters. The control station within this stream management unit is USGS gage 12200500, which is referred to as the Skagit River near Mount Vernon, WA and is located at river mile 15.7 (**Figure 3**). **Figure 4** shows the established minimum instream flows for this control station during the irrigation season.





Figure 4 also shows the historical percentage of time that the minimum instream flows are not met for each particular day of the year, during the period of use, over the period of record (1941 – 2021), which spans 81 years. This figure shows that, In April, the actual discharge of the river should be greater than the minimum instream flows in approximately 7 out of 10 years. In May, the actual discharge of the river should be greater than minimum instream flows in approximately 9 out of 10 years. In June, the actual discharge of the river should be greater than the minimum instream flows in approximately 19 out of 20 years. By mid-August the actual discharge of the river should be greater than the minimum instream flow in 5 out of 10 years. By mid-September, the actual discharge of the river should be greater than the minimum instream flows in only 2 out of 10 years. This graph shows that the water right holder should be prepared to shut-off on any particular day and the likelihood of having to shut off generally increases as the irrigation season progresses. Based on the likelihood of interruption and acknowledging that this is not a firm source of supply, it is advised that the water right holder take this into consideration when planning which crops to grow each season.

Materials Submitted in Support of Application

The applicant submitted a complete application packet consisting of the Application for a New Water Right Permit and also a Supporting Document for Application for a New Water Right Permit (RH2, 2022).

ANALYSIS

Under Washington State law (RCW 90.03.290), each of the following four criteria must be met for an application for a new water right permit to be approved:

- Water must be available for appropriation.
- Water diversion and use must not cause impairment of existing water rights.
- The proposed water use must be beneficial.
- Water use must not be detrimental to the public interest (public welfare).

Water Availability

For any new appropriation, water must be both physically and legally available.

Physical Availability

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

The Skagit River is a perennial river that flows past the proposed points of diversion at all times. Therefore, water is physically available for appropriation from this source.

Legal Availability

To meet the legal availability test, the proposed appropriation may not divert and use water that is already "spoken for", such as water from sources that are protected by administrative rule or court order.

While the Skagit River has minimum instream flows in chapter 173-503 WAC, it is not closed to future consumptive appropriation. This basin has not yet been adjudicated and the extent of federal and tribal reserved rights has not been quantified. **Figure 4** shows that, in all years, there is anticipated to be water available above the minimum instream flow levels during at least a portion of the irrigation season.

WAC 173-503-050 specifies that 200 cfs is available to be appropriated for consumptive uses after adoption of the minimum instream flow rule in April 2001. With approval of this water right application, less than 130 cfs of interruptible consumptive water rights will have been issued in the Skagit Basin portion of WRIAs 3 and 4 (**Table 5**).

Water Right	Stage	Name	Priority	Instantaneous				
Number	J		Date	Rate (cfs)				
GWC 3959 ¹	Certificate	City of Anacortes	9/13/1954	17.300				
(G1-*03767C)								
S1-*18219P ¹	Permit	Skagit County PUD No. 1	10/30/1963	4.000				
S1-24876	Permit	David Baumgardner	6/10/1986	1.220				
S1-25129 ¹	Permit	Skagit County PUD No. 1	11/16/1987	13.150				
S1-27860 ¹	Permit	Skagit County PUD No. 1	10/22/1997	12.800				
S1-27861 ¹	Permit	Skagit County PUD No. 1	10/22/1997	18.560				
S1-27862 ¹	Permit	Skagit County PUD No. 1	10/22/1997	6.600				
S1-28718	Permit	Skagit County CDID 22	1/30/2012	10.690				
S1-28821	Permit	S&B Properties LLC	5/13/2016	2.500				
S1-28822	Permit	Willie Yak Properties	5/13/2016	2.500				
S1-28828	Permit	Skagit County DID 15	10/11/2016	8.912				
S1-28831	Permit	Willie Yak Properties	10/21/2016	2.500				
S1-28850	Permit	Skagit County CDID 22	12/11/2017	17.830				
S1-28855	Permit	Brian Waltner	1/5/2018	1.340				
S1-28856	Permit	Brain Waltner	1/8/2018	1.340				
S1-28866	Permit	Morrison Farms	5/22/2018	2.000				
S1-29425	Report of	Skagit Valley Farm LLC	2/8/2022	4.500				
(subject	Examination							
application)								
			Total	127.742				
Total	Interruptible Alloc	ations Authorized under WAC	173-503-050	200.000				
		Remaining after t	his allocation	72.258				
GWC – Ground Water	Certificate							
¹ These water rights we	ere part of the 1996 M	emorandum of Agreement – Regard	ing Utilization of S	kagit River Basin				
of Skagit County. Skagi	istream and Out of Stre t County, Upper Skagit	eam Purposes; signed by the City of . Indian Tribe, Swinomish Indian Trib	Anacortes, Public al Community. Sai	Utility District No. 1 uk-Sujattle Indian				

Table 5. Accounting of Interruptible Water Rights

Therefore, water is legally available for appropriation.

Impairment

In analyzing impairment, Ecology must make a determination as to whether existing water rights, including adopted instream flows, may be impaired by the diversion and proposed use. A water right application may not be approved if it would:

Tribes, Washington State Department of Ecology, and Washington State Department of Fish and Wildlife.

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of a surface water right. A surface water right conditioned with instream flows may be impaired if a

proposed use would cause the flow of the stream to fall to or below the instream flow more frequently or for a longer duration than was previously the case.

- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users.

The diversions under this water right will be subject to the minimum instream flows set in WAC 173-503-040. The provision will prevent use under this water right from impairing the minimum instream flows.

This application requests to divert up to 4.5 cfs. This diversion can only be exercised when the actual flow in the river exceeds the established minimum instream flow. This diversion rate is equal to 0.045 percent of the Skagit River discharge when minimum instream flow levels are equal to 10,000 cfs. This reduction in river discharge and stage is not large enough to physically impair any existing senior water rights Also, flow at USGS gage 12200500 is displayed in 100 cfs increments. Therefore, it's unlikely that senior interruptible water users will have to turn off more often if this permit is issued.

Beneficial Use

The proposed appropriation must be for a beneficial use of water.

Irrigation is considered a beneficial use of water under RCW 90.54.020(1).

Public Interest

The diversion and associated use must not be detrimental to the public interest. At a minimum, the following are considered when making this assessment.

Notification to the Washington Department of Fish and Wildlife

Per RCW 90.03.280 and 77.57.020, Ecology must give notice to the Washington Department of Fish and Wildlife (WDFW) of applications to divert, withdraw, use, or store water.

WDFW was provided notice of this water right application via email on February 22, 2022, March 14, 2022, March 25, 2022, and March 28, 2022.

On March 29, 2022, Steve Boessow, Water Rights Biologist, provided a comment letter to Ecology. In that letter, he indicated that, *"WDFW has reviewed the pending water right application for its impact to stream flows that support Washington fish populations."*

"Based on impacts to fish and/or wildlife and the habitat they rely on, and pursuant to 77.57.020 RCW, WDFW does not support or oppose the issuance of this application."

Mr. Boessow requested that Ecology be mindful of the presence of ESA listed Chinook and steelhead. He requested that the water right be subject to minimum instream flows, metering, and reporting. He also mentioned that the letter from WDFW does not exempt the applicant from compliance with state Hydraulic Code and fish screening statutes which may be required to divert water.

Consistent with WDFW's comments, this report of examination includes provisions related to interruption when minimum instream flows are not meet, metering water use, and reporting water use,

as well as requirements to work with WDFW on Hydraulic Project Approval (HPA) and fish screening criteria.

State Environmental Policy Act (SEPA)

Under chapter 197-11 WAC, a water right application is subject to a SEPA threshold determination (i.e., an evaluation of whether there will be significant adverse environmental impacts) if any of the following conditions are met:

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

Considering that none of the above conditions are met, the application under review is categorically exempt from a SEPA threshold determination.

Public Notice

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the county or counties where the water is to be stored, diverted, and used. Notice of this application was published in the Skagit Valley Herald on February 18 and 25, 2022.

Consideration of Comments

In response to public notice of this application, the Department of Ecology received a comment from the following party:

Commenter	Date of Comment	Summary of Comments
Swinomish Indian	March 26, 2022	Request real time remote monitoring and
Tribal Community		recording of water use.
		Request monthly intake screen monitoring.

On March 26, 2022, Mr. Larry Wasserman, Consultant for the Swinomish Indian Tribal Community (Swinomish) provided a letter to the Department of Ecology. The Swinomish requested Ecology include two measures if the permit is approved. Those measures, as contained in the letter are included below, followed by a response:

1. That withdrawals from the river be remotely monitored with real time recording. This will insure (ensure) that Skagit Valley Farms will not be taking water when Skagit River instream flows are not being met. We would like that (the) Department make this information available to the Tribe on a routine basis.

This report of examination makes this water right request subject to minimum instream flows for the Skagit River as specified in WAC 173-503-040. The provision dictates that the water right holder must check the actual discharge of the river, as measured at the control station (USGS Gage 12200500 Skagit River Near Mount Vernon, WA) and if the actual flow of the Skagit River is

less than the minimum instream flow specified in rule, then diversion must stop or not occur. Ecology has included a telemetry metering provision that requires telemetry to be in place by the 2023 irrigation season. All metering data that is collected is public and can be shared with Swinomish upon request.

2. That the intake structure be monitored monthly to insure (ensure) that there has been to (no) damage to the intake screens that prevent capture of small fish residing in or migrating through the area. The Skagit River is subject to flooding which results in a great deal of large wood being transported downstream during these events. Collision of this wood with the intake structure may damage the screens yet not impede withdrawals and without active monitoring this damage may occur without the knowledge of the applicant, the Department, or the Department of Fish and Wildlife.

The intake(s) utilized under this water right will be installed at the start of the irrigation season and removed at the end of the irrigation season. The provisions of this water right indicate that the water right holder may not divert water unless an HPA and compliant fish screen exist on each diversion. The water right holder will work with WDFW to ensure that these diversions are fish-safe before water diversion occurs.

In response to posting of the Draft Report of Examination, the Department of Ecology received a comment from the following party:

Commenter	Date of Comment	Summary of Comments
Swinomish Indian	May 17, 2022	Concern about adequacy of the Skagit PUD water
Tribal Community		to be used in event of interruption.
		Concern that issuance of a permit will result in
		unauthorized water use during times of low river
		flow.
		Concern about the high pumping rate requested.

On May 17, 2022, Mr. Larry Wasserman, Consultant for the Swinomish Indian Tribal Community (Swinomish) provided a letter to the Department of Ecology. The Swinomish wanted to restate their concerns regarding this application and bring new concerns to light. These concerns, as contained in the letter, are paraphrased below, followed by a response:

1. The draft Report of Examination states that the applicant will rely on water supplied from Skagit PUD when streamflows in the Skagit River are below the minimum instream flows specified in WAC 173-503-040. Mr. Wasserman contacted Skagit PUD and determined that no agreement for water service has been finalized yet and that the Skagit PUD system would only likely be able to provide a maximum of 1.8 cfs to the Howey Road Farm after the Francis Road line is upsized during the summer of 2022. Mr. Wasserman believes that since the Skagit PUD cannot provide the same instantaneous rate as the water right, that there is not an adequate backup plan to meet irrigation demand when minimum instream flows are not met.

The applicant understands that the Skagit PUD supply rate will be less than the water right rate. The applicant will need to take that fact into consideration as they prepare to plant crops and are looking at the streamflow forecast each spring. There is no requirement in Chapter 173-503 WAC to have a backup source of water in order to obtain an interruptible water right. Even a reduced backup source of supply can help to prevent total loss of the crops if the water right is interrupted due to low flows. This planning on behalf of the applicant for at least a partial backup supply is encouraging. Ultimately, the water right holder will carry the risk of interruption and the impacts of that risk and/or the reduced source of supply from Skagit PUD will have on its crops.

2. Swinomish is concerned that issuance of this permit will result in unauthorized use of water during times of water shortage.

Chapter 173-503 WAC authorizes issuance of interruptible water rights. This approval has been provisioned to require real-time metering/telemetry that will provide Ecology with an easy way to monitor the water right holder's pumping as compared with actual flows and minimum instream flows. Ecology will monitor the water use, as it does with all interruptible water right holders in the Skagit River Watershed, to make sure they are compliant.

3. Swinomish is concerned about the requested pumping rate of 4.5 cfs and that the water will be used outside of the original place of use and beyond the limits of the approved water right.

The interruptible nature of the water right supports needing a higher pumping rate than if the water right was not interruptible. This is so that water can be used more heavily when available if it appears that interruption could occur. The rate and volume granted under this permit is intended to capture the potential highest use scenario, and that is why the highest duty and lowest irrigation efficiency for crops and irrigation methods respectively, employed in this area, were used. If the full rate and volume are not used during the permit stage, then those will be reduced when the certificate is issued. Since this water right must be metered, the metering data will be used to quantify the maximum rate and volume beneficially used for certificate issuance. The certificate can only issue for the rate and volume of water beneficially used on the acres authorized within the place of use. Use outside the limits of the permit are unauthorized.

Consideration of Comments

The Department of Ecology received comments from the following party during internet posting of the Draft Report of Examination:

Commenter	Date of Comment	Summary of Comment
Skagit County Drainage	May 19, 2022	Support Ecology issuance of the permit. Request
and Irrigation District		that the minimum instream flow provision be
Consortium		altered in case mitigation water is provided in the
		future.

On May 19, 2022, Ms. Jenna Friebel, Executive Director of the Skagit County Drainage and Irrigation District Consortium (Consortium), provided a letter to the Department of Ecology. In that letter the Consortium supported Skagit Valley Farm's effort to obtain a new interruptible surface water right. However, the Consortium requested that the minimum instream flow provision be altered to more easily allow the water right to convert from interruptible to non-interruptible if mitigation projects that the Consortium is working on would offset the permitted use during times when minimum instream flows are not met. Since a mitigation plan was not in place at the time this application was processed, it must issue with the standard minimum instream flow provision, as required under WAC 173-503-040(5). If in the future the Consortium, or Skagit Valley Farm, or others are able to prepare a mitigation plan, Ecology would review that plan under an associated change or new water right application at that time. That review will be independent of this water right decision. If a mitigation plan results in a more desirable water right, the interruptible water right can be voluntarily forfeited by the water right holder.

Conclusions

I find that:

- Water is physically and legally available.
- The appropriation will not impair existing rights.
- The proposed irrigation is a beneficial use.
- Approval of this application will not be detrimental to the public interest.

RECOMMENDATIONS

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

Recommended Quantities, Purpose of Use, and Project Location

The rate and quantity of water recommended are maximum limits. The permit holder may only divert water at a rate and quantity within the specified limits that are reasonable and beneficial:

Table 6. Recommended Limits and Location

Maximum Instantaneous Rate (cfs)	4.5
Maximum Annual Quantity (ac-ft/yr)	500
Purpose of Use	Irrigation of 300 acres
Points of Diversion	Skagit River
	1 - SW ¼ NW ¼ Section 36, Township 35 North,
	Range 4 East, W.M.
	2 – East ½ Section 35, Township 35 North, Range
	4 East, W.M.
Place of Use	See pages 2 and 3 and Attachment 1

Andrew B. On

Andrew B. Dunn, LG, LHG, CWRE – RH2 Engineering, Inc.

<u>6/2/22</u> Date

Buck Smith, LHG – Dept of Ecology

Kellie a Gillinghum

Kellie Gillingham – Dept of Ecology

<u>6/2/22</u> Date

<u>6/2/22</u> Date

To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program at 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

Selected References

Drost, B.W. and Lombard, R.E., 1978, *Water in the Skagit River Basin, Washington*, Water Supply Bulletin No. 47, State of Washington, Department of Ecology. Accessed at <u>https://apps.ecology.wa.gov/publications/SummaryPages/WSB47.html</u>

National Resource Conservation Service, 1985 (amended 1992 for specific crops in Western Washington), *State of Washington Irrigation Guide (WIG)*. Accessed at https://www.nrcs.usda.gov/wps/portal/nrcs/detail/wa/technical/engineering/?cid=nrcs144p2_036314

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RH2 Engineering, Inc., 2022, *Supporting Document for Application for a New Water Right Permit*, Prepared for Skagit Valley Farm – Howey Road Farm.

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Washington State Department of Ecology, 2005, *Determining Irrigation Efficiency and Consumptive Use*, Water Resources Program Guidance, Publication 20-11-076. Accessed at <u>https://apps.ecology.wa.gov/publications/documents/2011076.pdf</u>



ATTACHMENT 1 – MAP

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ATTACHMENT 2 – Initial Compliance and Metering Spreadsheet

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ATTACHMENT 3 – Telemetry Compliance and Metering Spreadsheet