



State of Washington
DRAFT
REPORT OF EXAMINATION
FOR WATER RIGHT APPLICATION

PRIORITY DATE 4/11/2006	WATER RIGHT NUMBER S1-28428
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MAILING ADDRESS SYNERGY FARM C/O PETER AND SUSAN CORNING 620 NE VINEYARD LN, UNIT B 303 BAINBRIDGE ISLAND WA 98110	SITE ADDRESS 3501 BEAVERTON VALLEY RD FRIDAY HARBOR WA 98250
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Quantity Authorized for Diversion		
DIVERSION RATE	UNITS	ANNUAL QUANTITY (AC-FT/YR)
0.03	CFS	2.04

Purpose						
PURPOSE	DIVERSION RATE			ANNUAL QUANTITY (AC-FT/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Irrigation				1.84		01/01 - 12/31
Stock water	0.03		CFS	0.2		

Source Location			
COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
San Juan	Unnamed Pond	N/A	2-SAN JUAN

Source	Parcel	Township	Range	Section	Quarter Quarter	Latitude	Longitude
Unnamed Pond	350814001000	35N	03W	08	SE NE	48.5445	-123.0851

Datum: NAD83/WGS84

Place of Use (See Attachment 1)
PARCELS (NOT LISTED FOR SERVICE AREAS) 350814001000
LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE <u>Parcel A:</u> That part of the East 727.0 feet of the southeast quarter of the Northeast quarter in Section 8, Township 35 North, Range 3 West, W.M. in San Juan County, Washington, lying South of the South

margin of the County Road as conveyed to San Juan County by deed recorded under Auditor's File No. 79481, records of San Juan County.

ALSO that part of the Southwest quarter of the Northwest quarter, Section 9, Township 35 North, Range 3 West, W.M., described as follows:

Beginning at a point 318 feet North of the Northeast corner of the Southeast quarter of Section 8, Township 35 North, Range 3 West, W.M.; running
THENCE North 494 feet;
THENCE East 10 feet;
THENCE South 256 feet:
THENCE East 76 feet;
THENCE South 29° 55' 48" East 132 feet;
THENCE South 18° 42' 34" West 130.5 feet to a point which is 110 feet East of the said TRUE POINT OF BEGINNING; THENCE West 110 feet to the TRUE POINT OF BEGINNING.

EXCEPTING from the foregoing that portion as conveyed to San Juan County for road by deed recorded under Auditor's File No. 79481, records of San Juan County.

Parcel B:

East 110 feet of West 120 feet of that part of the Southwest quarter of the Northwest quarter, Section 9, Township 35 North, Range 3 West, W.M., San Juan County, Washington; lying Southerly of Beaverton Valley County Road and North of the Northerly line of tract of land as described under Auditor's File No. 89699, records of San Juan County.

Proposed Works

Water is diverted from a single diversion point on a pond, pumped to two storage tanks, and conveyed for onsite irrigation and stock watering.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Complete	Complete	December 31, 2020

Measurement of Water Use

How often must water use be measured? Monthly
How often must water use data be reported to Ecology? Upon Request by Ecology

Provisions

Measurements, Monitoring, and Metering

An approved measuring device shall be installed and maintained for the source 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.

Water Use Efficiency

The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

Proof of Appropriation

The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

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.

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 purposes of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. S1-28428, subject to existing rights and the provisions specified above.

Your Right To Appeal

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

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

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

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

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

Signed at Bellevue, Washington, this _____ day of _____, 2015.

 Tom Buroker, Section Manager

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>.

INVESTIGATOR'S REPORT

Application for Water Right – Synergy Farm

Water Right Control Number S1-28428

Ria Berns, Department of Ecology

BACKGROUND

This report serves as the written findings of fact concerning Water Right Application Number S1-28428. This application seeks to appropriate surface water from a pond on the applicant's property for the purpose of irrigation and stock watering. The property is located on San Juan Island, San Juan County.

Table 1. Summary of Requested Water Right

Applicant Name:	Synergy Farm
Date of Application:	4/11/2006
Place of Use	San Juan County parcel 350814001000 (See pages 1 – 2 for full legal description)

County	Waterbody	Tributary To	WRIA
San Juan	Unnamed Pond	N/A	2-San Juan

Purpose	Rate	Unit	Ac-ft/yr	Begin Season	End Season
Irrigation	.03	CFS	1.84	01/01	12/31
Stockwater			0.2		

Source	Parcel	Township	Range	Section	Quarter Quarter	Latitude	Longitude
Unnamed Pond	350814001000	35N	03W	08	SE NE	48.5445	-123.0851

NAD83/WGS84

Requirements for Approval of Appropriation of Water

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 *Journal of the San Juan Islands* on October 4 and 11, 2006.

Consultation with Department of Fish and Wildlife

Ecology must give notice to the Washington Department of Fish and Wildlife (WDFW) of applications to divert, withdraw, or store water. On February 3, 2015, Steve Boessow responded to Ecology's request for comment with the following:

“Based on impacts to fish and/or wildlife and the habitat they rely on, and pursuant to Chapter 77.57.020 RCW, WDFW does not oppose the issuance of this application. The location of the...pond are in upstream reaches of San Juan Valley Creek. Most of the fish impacted would be privately owned and planted. Near False Bay there have been

documented occurrences of salmon. Any impacts would be attenuated by the dams and ponds between the project site and False Bay.”

State Environmental Policy Act (SEPA)

A surface water right application is subject to a SEPA threshold determination (i.e., an evaluation of whether there are likely to be significant adverse environmental impacts) if the application is for more than 1 cfs. Because this application does not meet this condition, it is exempt from SEPA and a threshold determination is not required.

INVESTIGATION

On October 10, 2014, former Water Resources employee Toni Smith (Environmental Specialist) and Buck Smith (Senior Hydrogeologist) visited the Synergy Farm site. This investigation draws on notes from this site visit, follow-up communication with the applicant, water rights research, and the resources listed in the References section.

Proposed Use and Basis of Water Demand

Synergy Farm is a bio-intensive organic farm that maximizes crop yields while minimizing water and fossil fuel use and promoting soil health. The applicant has a permit-exempt well on their property which serves their domestic needs as well provides commercial irrigation water in amounts less than 5,000 gallons per day (see RCW 90.44.050). To allow flexibility, the applicant plans to supplement their well water with water from an unnamed, manmade pond on their property. This water would be used for year-round irrigation and stock watering purposes. The applicant plans to irrigate a range of market-bound vegetable crops and provide water for sheep and horses from the pond.

Water will be pumped from the source and conveyed to storage tanks on the property. A combination of overhead sprinklers and micro drip irrigation will be used.

Irrigation Works

- 10 gpm-capacity Grundfos solar-powered surface pump
- 15 gpm-capacity backup electrical pump
- 2- to 4-inch pipes
- Filtration: mechanical, sand filters, ultra-violet
- 4,300 gallon storage capacity (1,500 and 2,800 gallon tanks)
- Overhead spray irrigation and micro-drip irrigation

Source Water

The pond was engineered by the Burlington Conservation District and has the capacity to hold an estimated 1.3 million gallons of water. The pond is ~25 feet at the deepest point, lined in clay to prevent seepage, and fed by stormwater runoff, direct rain catchment, and rain catchment from the barn roof. The applicant estimates that rain catchment contributes to approximately 100,000 gallons/year.

Geography and Climate

Located on Beaverton Valley Road near the epicenter of San Juan Island, Synergy Farm includes 16 acres of mostly cleared land. The small pond is located in the central west part of the property.

The temperate climate of the San Juan Islands is typified by cool, dry summers, and mild, moderately wet winters. Due to the rainshadow effect from the Olympic Mountains, the San Juan Islands have significant variations in annual and seasonal precipitation across the islands (USGS, 2002).

The 2002 USGS Water-Resources Investigations Report 02-4114 found the mean annual precipitation for the place of use ranges from 34 to 36 inches/year. The same report lists the average annual recharge near the source from 3.5 to 7.5 inches/year.

Other Rights Appurtenant to the Place of Use

There are five water rights appurtenant to the proposed place of use (see Table 2), including three water right claims (2 ground and 1 surface water) and two groundwater certificates. The claims, all under the name Carleton King, include an area much larger than the place of use proposed under this application, whereas the certificates have a place of use that directly overlap with this proposed place of use. The applicant currently withdraws water from a well to serve irrigation and domestic supply purposes. These uses are likely covered by these certificates or by the allowed quantities under the groundwater permit exemption (RCW 90.44.050).

A water right claim is a *claim* to a water right for a beneficial use which predates the state water code (1917 for surface water and 1945 for groundwater) and is not authorized by a state-issued permit or certificate. Water right claims can only be confirmed through adjudication by the Washington State Superior Court. The Department of Ecology cannot verify a claim's validity. However, Ecology may tentatively determine the extent and validity of a claimed water right pursuant to RCW 90.14 (Ecology POL 1120). The appurtenant surface water claim has a different source water from the pond proposed in this application.

Table 2. Record of Water Rights Appurtenant to the Synergy Farm Place of Use

<i>Control Number</i>	<i>Name on Document</i>	<i>Document Type (Priority Date)</i>	<i>Purpose</i>	<i>Q_i (gpm)</i>	<i>Q_a (ac-ft/yr)</i>
S1-071440CL	Carleton King	Short-form claim	DG, ST	-	-
G1-071441CL	Carleton King	Short form claim	ST	-	-
G1-071442CL	Carleton King	Long form claim	DG	1.0	1.0
G1-23604CWRIS	Larry D Morrow	Certificate (1980)	DS	2	1
G1-24788CWRIS	Charles G Tuller	Certificate (1986)	DS	8	1

Abbreviations: DG: domestic general; DS: Single domestic; Qa: annual quantity; Qi: Instantaneous quantity; ST: stock watering

In addition to the above-listed water rights and water right claims, there are approximately 28 water wells located within a half mile radius of the proposed point of diversion, including the well serving Synergy Farm. This information was obtained using the Department of Ecology's well log database. Most of these wells are likely permit-exempt wells (RCW 90.44.050).

FINDINGS

Under Washington State law, the following criteria must be met for a new application to be approved:

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

Impairment Considerations

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

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

The proposed Synergy Farm source pond is not in direct hydraulic continuity to water rights within the vicinity. The pond is clay lined and fed by runoff and rainwater catchment during the wet season. Thus, it is unlikely that this diversion will impair existing water right holders. In addition, the source has been historically used and Ecology is not aware of any impairment issues.

In summary, no impairment to water resources, water quality, or existing water right holders is expected to result from this project.

Water Availability

For water to be available for appropriation, it must be both physically and legally available.

Physical Availability

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

- Volume of water represented by senior water rights, including federal or tribal reserved rights or claims;

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

The diversion system will be designed to meet the proposed instantaneous quantity of .03 CFS. This amount is reasonable to meet ongoing irrigation and stock watering needs.

The Department of Ecology uses the Washington Irrigation Guide (WIG) to determine crop water duties when the actual volume of water applied per acre is not known. Application efficiency (Ea) values are from *GUID-1210, Determining Irrigation Efficiency and Consumptive Use*. The applicant plans to irrigate mixed vegetable and grain crops; however, in the future, higher water duty mono-culture crops may be irrigated on this property. Thus, to provide future flexibility, the crop irrigation requirement (CIR) for turf is used for these calculations (see Table 3). The applicant proposes to use micro-drip irrigation as well as a sprinkler system. For the total irrigation requirement (TIR) calculation, I've used the less efficient sprinkler system to allow for system flexibility. The 1992 WIG lists the CIR for turf at the Olga, Washington station as 16.61 inches/acre (1.38 feet/acre).

Table 3. Calculation of Total Irrigation Requirements for Turf

<i>Crop and System Type</i>	<i>Total Irrigation Requirement (TIR)</i>
<p>Crop : Turf</p> <p>Irrigation System: Sprinkler: Pop-Up Impact</p> <p>Area: 1 acre</p> <p>CIR: 1.38 ac-ft/ac</p> <p>Irrigation Efficiency: 75%</p>	<p>1.38 ac-ft/ac</p> <p>÷ 75%</p> <p>= 1.84 ac-ft/ac * 1 acre</p> <p>* * *</p> <p>TIR for all acres: 1.84 ac-ft/yr</p>

Based on these assumptions, an annual quantity of 1.84 ac-ft/yr is reasonable for irrigation purposes. To calculate the water duty for stock, I used the Environmental Protection Agency's *Manual of Individual and Non-Public Water Supply Systems* (EPA, 1991). This report estimates the daily water duty for horses at 12 gallons per day (gpd) and sheep at 2 gpd. Using a generous livestock estimate of 10 horses and 30 sheep, I calculate an annual quantity of 180 gpd or 0.2 ac-ft/yr.

I find that a combined annual quantity of 2.04 ac-ft/yr for stock watering and irrigation purposes is generous yet reasonable and physically available from this source.

Legal Availability

To determine if water will be legally available for appropriation, the following factors are considered:

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

There are no regulatory closures or restrictions affecting water availability in this San Juan Island watershed and the Department of Fish and Wildlife found no impacts to fish, wildlife, or the habitat they rely on. Therefore, I find that water is legally available for appropriation.

Beneficial Use

Irrigation and stock watering are considered beneficial uses (RCW 90.54.020(1)).

Public Interest Considerations

No protests were filed against this application and no potential for harm to the public interest was identified during the investigation of this application.

Conclusions

In accordance with RCW 90.03, I conclude there is water available from the source in question, the purpose of use is beneficial, there will be no impairment of existing rights, and there will be no detriment to the public interest.

RECOMMENDATIONS

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

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

- 0.03 cfs
- 2.02 acre-feet per year
- Irrigation and Stock Watering

Point of Diversion

SE¼ NE¼, Section 8, Township 35 North, Range 3 West, W.M.

Place of Use

San Juan County parcel number 350814001000

(See pages 1 – 2 for full legal description)

Ria Berns, Report Writer

Date

Buck Smith, L.Hg., Reviewer

Date

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

Selected References

Environmental Protection Agency, 1991. *Manual of Individual and Non-Public Water Supply Systems*. EPA 570/9-91-004, 181 pages.

Orr, L.A., Bauer, H.H. and Wayenberg, J.A., 2002. *Estimates of Ground-Water Recharge from Precipitation to Glacial-Deposit and Bedrock Aquifers on Lopez, San Juan, Orcas, and Shaw Islands, San Juan County, Washington*. U.S. Geological Survey Water-Resources Investigations Report 02-4114, 114 pages.

Russell, R.H. ed., 1975. *Geology and Water Resources of the San Juan Islands, San Juan County, Washington*. Washington Department of Ecology Water Supply Bulletin No 46, 171 pages.

ATTACHMENT 1: PLACE OF USE MAP



Place of use and point(s) of withdrawal are as defined on the cover sheet under the headings, 'LOCATION OF WITHDRAWAL' and 'LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED.'

Legend

-  Authorized Place of Use
-  San Juan County Parcels
-  Authorized Point of Diversion



Synergy Farm
 Water Right Document S1-28428
 Section 8 T 35N R 03W W.M.
 WRIA 2 - San Juan County
 San Juan Island