EXHIBIT O – Application for Site Certificate

WATER USE
OAR 345-021-0010(1)(o)

TABLE OF CONTENTS

(o) Exhibit O. Information about anticipated water use during construction and operation of the proposed facility. The applicant shall include:

Rule Sections	Section	✓
(A) A description of the use of water during construction and operation of the proposed facility.	O.2	
(B) A description of each source of water and the applicant's estimate of the amount of water the facility will need during construction and during operation from each source under annual average and worst-case conditions.	O.3	
(C) A description of each avenue of water loss or output from the facility site for the uses described in (A), the applicant's estimate of the amount of water in each avenue under annual average and worst-case conditions and the final disposition of all wastewater.	O.4	
(D) For thermal power plants, a water balance diagram, including the source of cooling water and the estimated consumptive use of cooling water during operation, based on annual average conditions.	NA	
(E) If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility.	O.5	
(F) If the proposed facility would need a groundwater permit, a surface water permit or a water right transfer, information to support a determination by the Council that the Water Resources Department should issue the permit or transfer of a water use, including information in the form required by the Water Resources Department under OAR Chapter 690, Divisions 310 and 380.	NA	
(G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources.	NA	

EXHIBIT O – Application for Site Certificate

WATER USE
OAR 345-021-0010(1)(o)

TABLE OF CONTENTS

TABLES

APPENDICES

O.1 INTRODUCTION

Obsidian Solar Center LLC (Applicant) proposes to construct the Obsidian Solar Center (Facility) in Lake County, Oregon, with an alternating current generating capacity of up to 400 megawatts. Please refer to Exhibit B for Facility layout information and Exhibit C for Facility location information.

Exhibit O provides the information required by Oregon Administrative Rules (OAR) 345-021-0010(1)(o): *Information about anticipated water use during construction and operation of the proposed facility.*

As described in Exhibit B, this Application for Site Certificate analyzes the potential impacts from two design scenarios: a stand-alone photovoltaic (PV) solar power generation build-out, and a PV solar power generation plus battery storage build-out. This exhibit analyzes the PV plus battery storage design scenario, which will likely have a greater potential impact on water use than stand-alone PV, due to the larger footprint and inclusion of battery storage enclosures.

Executive Summary

This exhibit describes that Applicant will be able to secure the water needed under annual average and worst-case conditions to construct and operate the Facility. Water will primarily be purchased from private sources or from one or more local municipalities already in possession of necessary permits and water rights to the sources of the water. No permit is required to construct up to two wells for use during construction and operation, provided that together the wells will withdraw no more than 5,000 gallons per day. The Facility is a "commercial utility facility for the purpose of generating power for public use by sale" (refer to Oregon Revised Statutes 215.283(2)(g)). Therefore, the Facility's use of groundwater from a groundwater well qualifies for an exemption under Oregon Revised Statutes 537.545(1)(f). As such, no groundwater permit, surface water permit, or water right transfer is needed for the construction or operation of the Facility.

Applicant does not propose any specific Site Certificate conditions of approval related to water use.

O.2 WATER USE

OAR 345-021-0010(1)(o)(A) *A description of the use of water during construction and operation of the proposed facility.*

Response: Water use will occur during construction and operation of the Facility. Construction is expected to take up to two years to complete, with up to 250 construction workdays per year. In

addition, Applicant expects that dust abatement crews will also work on the remaining 115 days when no other construction is scheduled (i.e., "non-construction days").

O.2.1 Construction

Applicant estimates that up to 34,300,000 gallons (or 105.26 acre-feet) of water will be used over a two-year construction period, based on an estimate of up to 8,617,000 gallons annually under annual average conditions, and 17,150,000 gallons annually under worst-case conditions. Estimated water use is described by Facility phase and activity below, and is summarized in Tables O-1 and O-2 for the construction and operation phases, respectively.

These annual estimates are based on:

Estimated Daily Water Use:

- Construction Workdays (250 annually): about 34,300 gallons per day under average conditions, and 68,600 gallons per day under worst-case conditions.
- Non-Construction Days (115 annually): about 5,000 gallons per day under average conditions, and 10,000 gallons per day under worst-case conditions.

Water use during construction of the Facility will primarily be for dust abatement activities but will also be for washing equipment and vehicles, washing concrete trucks after delivery of concrete loads, and for fire suppression. Concrete washout on site will only be washed out into approved washout vessels. Concrete is expected to arrive at the Facility site pre-mixed and not be mixed on site. Water used for construction of foundations for collector substation or transmission line is included in Applicant's original water use estimates, as is water that may be needed for construction of battery storage building foundations, if required. The volume of water needed will be largely unaffected by the choice between centralized or dispersed storage. Portions of the water allotment will be used for soil management to moisten and condition native soils used for roadway construction and utility trenching/backfill/compaction operations. Estimated water uses during construction include:

- **Dust abatement:** Approximately 95 percent of the total consumed water (up to 32,417,000 gallons total) will be used for dust abatement over the two-year construction period, assuming worst-case conditions. Weather factors that may contribute to worst-case conditions for the dust control estimates include periods of below average precipitation, resulting in drier than normal soils, and high wind conditions, increasing the risk of wind-blown erosion. Water will be applied daily to areas with unstable soils that are prone to wind-blown erosion via water trucks. Generally, the quantity of water used for dust suppression will range from about 30,000 to 60,000 gallons per day.
- **Soil management:** Approximately 4 percent of the consumed water (up to 1,355,000 gallons total over two years, assuming worst-case conditions, or 2,710 gallons per construction workday) will be used in connection with road construction, improvement

and maintenance, including to moisten and condition native soils used for roadway construction and utility trenching/backfill/compaction operations.

- **Washing of equipment and vehicles:** A negligible amount of the consumed water (0.05 percent or less, up to 17,000 gallons total over two years, assuming worst-case conditions, or 35 gallons per construction workday) will be used for equipment and vehicle washing during Facility construction activities.
- **Concrete truck washout:** Very little if any water will be used for concrete truck washing. Most trucks are self-contained and/or have their own water on board for washing. There will not be a temporary batch plant on site.
- **Fire suppression:** Although stringent fire prevention measures will be in place during construction, Applicant is planning for approximately 1 percent of the total consumed water (up to 343,000 gallons total over two years, assuming worst-case conditions, or 686 gallons per construction workday) to be used for fire suppression during Facility construction activities. If more water is required for fire suppression, Applicant will halt other activities and divert water amounts to this activity, as needed.
- **Potable water use:** Less than 0.5 percent of the consumed water (84,000 gallons per year, or up to 168,000 gallons over the two-year construction period, or 230 gallons per day) will be used as potable water. An average of approximately 230 gallons per day will be consumed as potable water (over 2 gallons per person per day). This water will primarily be used as drinking water (i.e., bottled water).

In all cases, water consumed during the construction phase will be used in a manner that is consistent with the best management practices outlined in the National Pollutant Discharge Elimination System 1200-C Construction Stormwater Permit (refer to Exhibit I, Appendix I-1) to avoid erosion and resultant sediment discharge offsite. Estimated water use during Facility construction is summarized in Table O-1.

Table O-1 Water Use during Construction

Construction Activity	Annual Use: Average Conditions (gallons)	Annual Use: Worst-Case Conditions (gallons)	Total under Worst-Case Conditions for Two-Year Construction Period) (gallons)
Dust Suppression	8,104,250	16,208,500	32,417,000
Soil Maintenance	338,750	677,500	1,355,000
Equipment Washing	4,250	8,500	17,000
Fire Suppression	85,750	171,500	343,000
Potable Water (bottled drinking water)	84,000	84,000	168,000
TOTAL	8,617,000	17,150,000	34,300,000

O.2.2 Operation

Applicant estimates that 326,000 gallons (about 1 acre-foot) of water will be used per year for panel washing during operation under average conditions, and 489,000 gallons (about 1.5 acre-feet) per year under worst-case conditions. If Applicant decides to install a septic system, an additional estimated 875,000 gallons of water will be used annually. Estimated water use during Facility operation is summarized in Table O-2.

Table O-2 Water Use during Operation

Operation Activity	Annual Use: Average Conditions (gallons)	Annual Use: Worst-Case Conditions (gallons)
Panel Washing	326,000	489,000
Septic System (if applicable)	875,000	875,000
TOTAL	1,201,00	1,364,000

Water use during operation of the Facility may almost entirely be for solar panel washing activities, unless Applicant decides to install an onsite septic system. Estimated and potential water uses during operation include:

- **Panel washing:** Approximately 326,000 gallons (about 1 acre-foot) to 489,000 gallons (about 1.5 acre-feet) of water will be used for panel washing during operation, assuming worst-case conditions. The main factor that may contribute to worst-case conditions for the panel washing estimates is periods of below average precipitation, potentially resulting in more dust adhered to solar panels. Water will be applied via a tanker truck and will not contain cleaning solvents. Panel wash water will be discharged via evaporation and seepage into the ground and will be covered by an Oregon General Water Pollution Control Facilities Permit, WPCF-1700-B, Washwater Discharge from Equipment Cleaning.
- **Potable water use:** Applicant does not plan to install a septic system for use during operation of the Facility, but instead will rely on portable toilets and handwashing stations provided and managed by a local vendor. If a septic system is used, daily sewage flow will be less than 2,500 gallons (i.e., enough to support a workforce of up to 20 personnel for 350 days per year), resulting in a total of up to 875,000 gallons of water use per year. This water will primarily be used for faucets/sinks and sanitary water.

O.3 WATER SOURCES

OAR 345-021-0010(1)(o)(B) *A description of each source of water and the applicant's estimate of the amount of water the facility will need during construction and during operation from each source under annual average and worst-case conditions.*

Response: Applicant plans to construct up to two on-site wells, which will each provide up to 5,000 gallons of water per day during construction and operation. For any additional water needed, during both construction and operation, Applicant will purchase water from municipal sources, including from the Christmas Valley Domestic Water Supply District. Applicant has coordinated with the Christmas Valley Domestic Water Supply District, which has agreed to provide water for construction and operation of the Facility, as their system demand allows (refer to the letter of commitment and copy of water rights in Appendix O-1). Applicant has reached a preliminary agreement with the La Pine Public Works department for Applicant to rely on La Pine as a secondary water source (refer to the letter of commitment and copy of water rights in Appendix O-1).

O.4 WATER LOSSES

OAR 345-021-0010(1)(o)(C) *A description of each avenue of water loss or output from the facility site for the uses described in (A), the applicant's estimate of the amount of water in each avenue under annual average and worst-case conditions and the final disposition of all wastewater.*

Response: Water loss during construction will occur primarily through evaporation from water applied to the site for dust mitigation, and from curing concrete. Based on dry conditions at the Facility and expected low rates of water use and application, it is expected that all water used during construction will be lost within or near the Facility site boundary. Water losses are expected to occur primarily through evaporation and infiltration. Due to the relatively flat topography within the site boundary, and lack of observed channels that would be likely to convey water runoff beyond the site boundary is not expected. If discharges from dust control activities drain into the playas identified within the site boundary via overland sheet flow, such discharges are authorized by and will comply with the terms of the 1200-C Construction Stormwater Permit (refer to Exhibit I, Appendix I-1, for the permit application).

Water use during Facility operation will primarily be for sanitary purposes (i.e., sinks and toilets). Water use generated during Facility operation may be disposed of at an onsite septic field. It is possible that no onsite septic system will be installed, in which case a local vendor will provide the Facility with portable toilets and handwashing stations and will be responsible for obtaining and disposing of water related to both. Stormwater will infiltrate into the ground. The

onsite septic system will be subject to county approval and permitting will be handled by the engineering, procurement, and construction contractor, Swinerton Renewable Energy.

O.5 EXPLANATION FOR NO WATER USE PERMIT

OAR 345-021-0010(1)(o)(E) *If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility.*

Response: As described in Section O.3, water for the construction and operation of the Facility will primarily be purchased from local municipal sources that already have the permits and water rights to the required water volumes. No permits are required to construct up to two wells for use during construction and operation, provided that each will withdraw no more than 5,000 gallons per day. Therefore, no groundwater permit, surface water permit, or water right transfer is needed for the construction or operation of the Facility.

Appendix O-1
Letter of Commitment and Copy of Water Right

CHRISTMAS VALLEY DOMESTIC WATER SUPPLY DISTRICT

87379 Holly Lane
P.O. Box 142
Christmas Valley, OR 97641
Phone & Fax.: 541-576-2090

August 16, 2018

Todd Gregory
Obsidian Renewables

Subject: Construction Water

Dear Mr. Gregory:

Recently you contacted the Christmas Valley Water District in regards to obtaining construction water for a solar energy project set to start in the near future.

The District Board has agreed to provide water for your project as our system demand allows. Continuing to provide safe and reliable drinking water to our community will continue to be our top priority, seconded by ensuring we have adequate water stored for fire suppression. In the event of an unforeseen shortage within our distribution system (mainline break, pump failure, high usage) we will have to discontinue service until issue/shortage is rectified; therefore, it is strongly suggested that you also have a secondary supply arranged.

The District prides itself on continuously providing safe drinking water to our community! All trucks intended to be used for hauling water from the district must be equipped with appropriate backflow protection, and be inspected by the Districts Cross Connection Specialist prior to use. If arrangements can be made to use the Fire Departments overhead fill with approved air-gap, that will satisfy the backflow requirement. Please contact the Fire District to coordinate use of this fill up facility.

The charge for water will be $.07 (seven cents) per gallon. Your contractor will be required to track the gallons hauled daily and report them to the district office on Friday of each week. Lack of submitting water use reports may cause curtailment of the service by the District. Please furnish the name and contact number of who will be in charge of the water hauling. Charges will be billed at the end of the month for that month and must be paid in full within 30 days.

Please contact me if you have any further questions.

Sincerely,

Erica Jo Anderson
Erica Anderson
Manager / Operator

STATE OF OREGON

COUNTY OF LAKE

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* CHRISTMAS VALLEY MUTUAL WATER IMPROVEMENT DISTRICT

of Christmas Valley Rural Station, Silver Lake, *State of* Oregon, *has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of* Well No. 3

a tributary of Christmas Valley Basin *for the purpose of* group domestic

under Permit No. G-2440 *of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* June 13, 1963

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.25 cubic foot per second

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NW¼ NE¼, Section 17, T. 27 S., R. 17 E., W. M. Well located: 1180 feet South and 610 feet East from the N¼ Corner, Section 17.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to - - - - - - - - *of one cubic foot per second per acre,*

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

S½ SW¼
S½ SE¼
Section 9

All
Section 10

SW¼
Section 11

NW¼
Section 13

N½
Section 14

N½ NE¼
SE¼ NE¼
N½ NW¼
Section 15

N½ NE¼
N½ NW¼
Section 16

N½
SW¼
N½ SE¼
SW¼ SE¼
Section 17

All
Section 18
T. 27 S., R. 17 E., W. M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

WITNESS the signature of the State Engineer, affixed this date. June 16, 1970

State Engineer

Recorded in State Record of Water Right Certificates, Volume 28 *, page* 36770

STATE OF OREGON

COUNTY OF LAKE

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

CHRISTMAS VALLEY DOMESTIC WATER SUPPLY DISTRICT
PO BOX 142
CHRISTMAS VALLEY, OREGON 97641 (541)576-2665

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-12865

SOURCE OF WATER: WELL 3 IN FORT ROCK VALLEY BASIN

PURPOSE OR USE: QUASI-MUNICIPAL USE

RATE OF USE: 0.31 CUBIC FOOT PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: APRIL 6, 1992

POINT OF DIVERSION LOCATION: NW 1/4 NE 1/4, SECTION 17, T27S, R17E, W.M.; 1180 FEET SOUTH & 610 FEET EAST FROM N 1/4 CORNER, SECTION 17

THE PLACE OF USE IS LOCATED AS FOLLOWS:

N 1/2 SW 1/4
SECTION 8
E 1/2 NE 1/4
SW 1/4
SECTION 9
ALL
SECTION 10
SW 1/4 NW 1/4
SW 1/4
SE 1/4
SECTION 11
SW 1/4 SW 1/4
SECTION 12
NW 1/4
SECTION 13
N 1/2
N 1/2 SW 1/4
SW 1/4 SW 1/4
SECTION 14

STATE OF OREGON

COUNTY OF LAKE

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

CHRISTMAS VALLEY DOMESTIC WATER SUPPLY DISTRICT
PO BOX 142
CHRISTMAS VALLEY, OREGON 97641 (541)576-2665

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-12864

SOURCE OF WATER: WELL 4 IN CHRISTMAS LAKE VALLEY BASIN

PURPOSE OR USE: QUASI-MUNICIPAL USE

RATE OF USE: 1.25 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: APRIL 6, 1992

POINT OF DIVERSION LOCATION: NW 1/4 NE 1/4, SECTION 14, T27S, R17E, W.M.; 1260 FEET SOUTH & 80 FEET EAST FROM N 1/4 CORNER, SECTION 14

THE PLACE OF USE IS LOCATED AS FOLLOWS:

N 1/2 SW 1/4
SECTION 8
NE 1/4
SW 1/4
SECTION 9
ALL
SECTION 10
SW 1/4 NW 1/4
SW 1/4
SE 1/4
SECTION 11
SW 1/4 SW 1/4
SECTION 12
NW 1/4
SECTION 13
NE 1/4
NW 1/4
N 1/2 SW 1/4
SW 1/4 SW 1/4
N 1/2 SE 1/4
SECTION 14
NE 1/4

STATE OF OREGON

County of LAKE

PERMIT TO APPROPRIATE THE PUBLIC WATERS

This is to certify that I have examined APPLICATION G-11581 and do hereby grant the same SUBJECT TO EXISTING RIGHTS and the following limitations and conditions:

This permit is issued to Christmas Valley Domestic Water Supply District of P.O. Box 142, Christmas Valley, Oregon 97641, for the use of water from one well,

for the PURPOSE of quasi-municipal,

that the PRIORITY OF THE RIGHT dates from September 11 1986,

and is limited to the amount of water which can be applied to beneficial use and shall not exceed 1.5 cubic feet per second

measured at the point of diversion from the well, or its equivalent in case of rotation with other water users.

The well is to be LOCATED: 400 feet North and 50 feet West from the center of Section 13, being within the SE1/4 NW1/4 of Section 13, Township 27 South, Range 17 East, W.M., in the County of Lake.

A description of the PLACE OF USE under the permit, and to which such right is appurtenant, is as follows:

Township 27 South, Range 17 East, W.M.,	Section 8	W1/2 SW1/4	Quasi-
	Section 9	E1/2 NE1/4	municipal
		S1/2	
	Section 10	All	
	Section 11	SW1/4 NW1/4	
		S1/2	
	Section 12	SW1/4 SW1/4	
	Section 13	NW1/4	
	Section 14	N1/2	
		NE1/4 SW1/4	
		W1/2 SW1/4	
		N1/2 SE1/4	
	Section 15	N1/2	
		N1/2 SE1/4	
		SE1/4 SE1/4	
	Section 16	N1/2	
		W1/2 SW1/4	
	Section 17	All	
	Section 18	All	