

## KITTITAS COUNTY COMMUNITY DEVELOPMENT SERVICES

411 N. Ruby St., Suite 2, Ellensburg, WA 98926

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Fax (509) 962-7682

"Building Partnerships – Building Communities"

## Cu# 15-0000lo ZONING CONDITIONAL AND ADMINISTRATIVE C **IONAL USE**

(Proposing a use, such as a Bed & Breakfast or Campground, per KCC 17.15 & 17.60A)

A <u>preapplication conference</u> is encouraged for this permit. The more information the County has early in the development process, the easier it is to identify and work through issues and conduct an efficient review. To schedule a preapplication conference, complete and submit a Preapplication Conference Scheduling Form to CDS. Notes or summaries from preapplication conference should be included with this application.

Please type or print clearly in ink. Attach additional sheets as necessary. Pursuant to KCC 15A.03.040, a complete application is determined within 28 days of receipt of the application submittal packet and fee. The following items must be attached to the application packet.

#### REQUIRED ATTACHMENTS

- Site plan showing lot area, proposed buildings, points of access, roads, parking areas, water system components, septic tank, drainfield, drainfield replacement area, areas to be cut and/or filled, and natural features (i.e. contours, streams, gullies, cliffs, etc.)
- SEPA Checklist (if not exempt per KCC 15.04 or WAC 197-11-800) (Pick-up SEPA Checklist form if required)
- ☐ Project Narrative responding to Questions 9-11 on the following pages.

#### APPROVAL REQUESTED

Conditional Use

☐ Administrative Conditional Use

#### APPLICATION FEES

1,565.00	Kittitas County	Community Development Services (KCCDS)
		Community Development Services (K. 1.13)

418.00 Kittitas County Department of Public Works

329.00 Kittitas County Fire Marshal

235.00 Kittitas County Environmental Health

Fees due for this application when SEPA is not required (One check made payable to KCCDS) \$2,547.00

\$3,107.00 Fees due for this application when SEPA is required (SEPA fee: \$560.00)

FOR STAFF USE ONLY

Application Received By (CDS Staff Signature):

RECEIPT # 0002815 DATE STAMP IN BOX

COMMUNITY PLANNING • BUILDING INSPECTION • PLAN REVIEW • ADMINISTRATION • PERMIT SERVICES • CODE ENFORCEMENT

### **GENERAL APPLICATION INFORMATION**

		GENERA	L APPLI	CATION INFO	ORMATION		NOV 1 2 2015
1.	Name, mailing address a Landowner(s) signature(s)				cord:		KITTIAS COUNT CDS
	Name:	Bill Hanso	n				
	Mailing Address:	10290 Va	ntage F	łwy			
	City/State/ZIP:	Ellensburg	g, WA 9	98926			
	Day Time Phone:	(509) 899	- 1438				
	Email Address:						
2.	Name, mailing address and day phone of authorized agent, if different from landowner of record: If an authorized agent is indicated, then the authorized agent's signature is required for application submittal.						
	Agent Name:	OneEnerg	y Deve	lopment, L	LC		
	Mailing Address:	2003 Wes	tern Av	e, Suite 2	25		
	City/State/ZIP:	Seattle, W	/A 9812	21			
	Day Time Phone:	(360) 922	-7072				
	Email Address:	projects@	oneen	ergyrenew	ables.com		
3.	Name, mailing address and day phone of other contact person  If different than land owner or authorized agent.						
	Name:	Taylor Ste		0 '' 00'			
	Mailing Address:			, Suite 202	2		
	City/State/ZIP:	Portland,		232			
	Day Time Phone:	(503) 964					
	Email Address:	taylor@or	eenerg	gyrenewab	les.com	<del></del>	
4.	Street address of proper	rty:					
	Address:	320 Carib	ou Roa	ıd			
	City/State/ZIP:	Ellensburg	g, WA 9	98926			
5.	Legal description of pro				• •	WP. 17, RGE. 19; PTN. W1/2 SE	E1/4 (PTN. PARCEL 2, B29/P116-117)
	AND ACRES .30, CD. 9607-2, SEC. 1, TWP. 17, RGE	. 19, PTN. W1/2 SE1/4 (PTN. TAX	1 & 2 - TAX DEED) /	AND ACRES 20, CD 9605-1; \$	SEC. 1, TWP. 17, RGE. 19; PTN V	N1/2 SE1/4 (PTN: TAX 1 & 2 - TAX	DEED) (PTN. PARCEL 2, B29/P116-117)
6.	Tax parcel number: 26	69033, 2790	33, 19	292 and 19	9293		_
7.	Property size: Total: 6	67.82				(acre	s)
8.	Land Use Information:						
	Zoning: Agriculture	20	Comp	Plan Land U	se Designation:	Rural Worl	king
9.	Proposed Water System  ☐ Group A ☐ Grou		KCC 13	.03) NOTE: S  ☐ Shared	how location of  ☐ Cistern	water system of Other: N	,



#### **PROJECT NARRATIVE**

Include responses as an attachment to this application

- 10. Narrative project description (include as attachment): Please include at minimum the following information in your description: describe project size, location, description of water system, sewage disposal and all qualitative features of the proposal; include every element of the proposal in the description.
- 11. Provision of the zoning code applicable: 17.61.020
- 12. A conditional use or administrative conditional use permit may be granted when the following criteria are met. Please describe in detail how each criteria from KCC 17.60A.015 is met for this particular project (attach additional sheets as necessary):
  - A. The proposed use is essential or desirable to the public convenience and not detrimental or injurious to the public health, peace, or safety or to the character of the surrounding neighborhood.
  - B. The proposed use at the proposed location will not be unreasonably detrimental to the economic welfare of the county and that it will not create excessive public cost for facilities and services by finding that:
    - i. It will be adequately serviced by existing facilities such as highways, roads, police and fire protection, irrigation and drainage structures, refuse disposal, water and sewers, and schools; or
    - ii. The applicant shall provide such facilities; or
    - iii. The proposed use will be of sufficient economic benefit to offset additional public costs or economic detriment.
  - C. The proposed use complies with relevant development standards and criteria for approval set forth in this title or other applicable provisions of Kittitas County Code.
  - D. The proposed use will mitigate material impacts of the development, whether environmental or otherwise.
  - E. The proposed use will ensure compatibility with existing neighboring land uses.
  - F. The proposed use is consistent with the intent and character of the zoning district in which it is located.
  - G. For conditional uses outside of Urban Growth Areas, the proposed use:
    - i. Is consistent with the intent, goals, policies, and objectives of the Kittitas County Comprehensive Plan, including the policies of Chapter 8, Rural and Resource Lands;
    - ii. Preserves "rural character" as defined in the Growth Management Act (RCW 36.70A.030(15));
    - iii. Requires only rural government services; and
    - iv. Does not compromise the long term viability of designated resource lands.

#### **AUTHORIZATION**

13. Application is hereby made for permit(s) to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agencies to which this application is made, the right to enter the above-described location to inspect the proposed and or completed work.

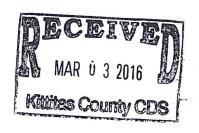
All correspondence and notices will be transmitted to the Land Owner of Record and copies sent to the authorized agent or contact person, as applicable.

Signature of Authorized Agent: (REQUIRED if indicated on application)	Date:		
xx	Nov. 9, 2015		
Signature of Land Owner of Record (Required for application submittal):	Date:		
x Bll Jan-	11-11-2015		

# **ONEENERGY RENEWABLES**\*\*

Making Clean Energy Work





CONDITIONAL USE PERMIT APPLICATION
IRON HORSE SOLAR

4.5 MW GROUND-MOUNTED PV PROJECT KITTITAS COUNTY, WASHINGTON

### CONTACT

Taylor Steele, Associate Project Manager Taylor@OneEnergyRenewables.com 503-964-6763

OneEnergy Renewables 206 NE 28<sup>th</sup> Ave, Suite 202 Portland, OR 97232

## ONEENERGY RENEWABLES<sup>®</sup> Making Clean Energy Work

#### **EXECUTIVE SUMMARY**

Iron Horse Solar ("Project") is a proposed solar photovoltaic ("PV") project located in Kittitas County, Washington. The Project has a maximum size of 4.5 megawatt ("MW") alternating current ("AC"). The Project is owned by OneEnergy Development, LLC, a wholly-owned subsidiary of OneEnergy Renewables ("OER"). This Project's proposed area of development ("Site") will occupy up to approximately forty-seven and one half (47.5) acres along Clerf Road just east of the city of Kittitas.

This Project has achieved key development milestones including long-term site control, a power purchase agreement, and a clear path to interconnection with Puget Sound Energy.

OneEnergy Renewables' experienced development team employs rigorous technical and economic analyses, abides by low impact development practices and possesses a commitment to renewable energy. To learn more about OneEnergy Renewables, please see Appendix A.





### AT A GLANCE: IRON HORSE SOLAR

PROJECT SITE ACREAGE USE 47.5

SITE CONTROL 26-year lease with 5-year development option

UTILITY SERVICE TERRITORY Puget Sound Energy

SYSTEM SIZE 4.5 MW-AC

SYSTEM TYPE Single-axis ground-mounted PV

PROJECTED ANNUAL OUTPUT 10,379 MWh

INTERCONNECTION STATUS Facilities Study Completed December 2015

GEOTECHNICAL REPORT Completed September 2015

PHASE I ARCHAEOLOGICAL REVIEW Completed October 2015

ENDANGERED SPECIES REVIEW Completed July 2015

WA STATE HISTORICAL REVIEW

To be completed during SEPA review

POWER PURCHASE AGREEMENT Fully Executed January 2015

ESTIMATED ONLINE DATE Q4 2016



#### STATEMENT OF PROPOSAL

#### COMPLIANCE WITH ZONING ORDINANCE

This Conditional Use Permit ("CUP") application is proposing the installation of a photovoltaic solar energy generating facility on land zoned as Agricultural 20 ("AG-20") allowed per Section 17.61.020 of the Kittitas County Code. The use is in conformance with all required standards and criteria of the County code, and the proposed use will not have an adverse impact on the surrounding area as detailed in the below narrative and Burden of Proof Statement.

#### DESCRIPTION OF PROJECT

#### SITE CONTROL

The Project components will be located on private land for which OER has negotiated a long-term lease with the underlying landowner. The lease allows OER to permit, construct, and operate solar energy facilities for a defined period. In exchange, the landowner will receive compensation. OER has achieved long-term site control via a 26-year lease agreement executed with a single landowner with 10 year extension rights. The property owner has several parcels, totalling roughly 500 acres, that are used for agriculture. OneEnergy Development, LLC has leased a total area of 47.5 acres, as currently designed the site plan covers an approximately 40.15 acre area of land for the proposed 4.5 MW solar project.

#### LOCATION AND ACCESS

The Project is located on the east side of the Town of Kittitas in Kittitas County, Washington. The Site is located within an unincorporated, generally agriculturally developed and rural residential area of Kittitas County. The Project address is 320 Caribou Road, Kittitas, WA 98926, also found at GPS coordinates, 46.98879, -120.400291. The leased area consists of four parcels, identified by Kittitas County Assessor as parcels 269033, 279033, 19292, and 19293, totaling 67.8 acres of which 47.5 has been leased to OER by the landowner. At this time the Site is typically accessed via an access drive of the west side of county road, Caribou Road. The landowner often accesses the Site from the north via his adjoining property.

#### PROPERTY OWNER

Bill Hanson

10290 Vantage Hwy

Ellensburg, WA 98926

#### ZONING

The anticipated footprint of the Project as currently designed is approximately 40.15 acres, placed within the larger 67.8 combined acres of the Kittitas County Parcels referenced above. All parcels associated with the Project are zoned Agricultural Use as AG-20. As per Chapter 17.29 of the Kittitas County Code, AG-20 is defined as "an area wherein farming, ranching and rural life styles are dominant



characteristics. The intent of this zoning classification is to preserve fertile farmland from encroachment by nonagricultural land uses; and protect the rights and traditions of those engaged in agriculture". Title 17.61.020 of the Kittitas County Code outlines that all major alternative energy facilities, including solar farms, may be authorized as a conditional use in the AG-20 zone.

#### CURRENT USE OF LAND AND ADJACENT AREAS

The Site is currently used by the landowner primarily for agricultural fields, the majority of which are planted in agricultural crops. Agricultural activities on the Site primarily include, but are not limited to, the growing and harvesting of hay crops. Approximately 10 acres, or 21.5%, of the Site are currently being used for Timothy Hay production while 37.5 acres, or 78.95%, are being used for Alfalfa production. The Site is currently irrigated by the use of a flood irrigation system which water from the Kittitas Reclamtion District (KRD) to the field. KRD sources it's water from the Lake Easton Dam. The landowner's key crops are Timothy Hay or Alfalfa, planted once every four years. Harvests happen twice a year, in June and again in August.

The Site vicinity is primarily composed of agricultural and rural residential uses. The Site is bordered by the following:

- North: Caribou Creek followed by agricultural land owned by the landowner
- East: A single family residence owned by the landower followed by South Caribou Road
- South: Clerf Road followed by agricultural land
- West: Caribou Creek followed by agricultural land

The adjacent farm lands are in production for Timothy Hay or Alfalfa, similar to the production currently happening on the Project Site. No businesses or accessory uses have been identified within the immediate vicinity of the Project Site. There are no other unique land uses or covers which would create any type of conflict or impairment for the proposed development.

#### **EXISTING CONDITIONS & BUILDINGS**

There are no existing buildings on the proposed area of development. There is some disturbance on the Site due to the agricultural harvesting, installation of fences, and irrigation ditching. The Site is composed predominantly of agricultural lands with improvements consisting of wood-post and strung wire fence and an irrigation ditch. The ditch on Site was created as part of the irrigation system and does not reflect naturally occurring waterways.

There is limited residential development in the vicinity of the Site. In a half-mile mile radius of the Project Site, there are thirty-two (32) buildings. Preliminary classifications identified through aerial imagery show that there are ten (10) dwellings, twelve (12) farm buildings and ten (10) unknown non-residential buildings in the half-mile mile radius as shown in Appendix B. Of the 32 buildings, 4 of these buildings



are owned by the landowner who leased the property to OER for the purpose of solar energy development, including the nearest occupied building located just east of the Site.

#### VEGETATION

There is no forest cover or shrubbery present on the Site. Vegetation on the Site is primarily agricultural pasture or hay. For many years, the landowner has been irrigating the land to produce hay. The area planned for solar project construction is clear of any large shrubbery or trees and will leave ample buffer space for the irrigation canal on-site. The Site vicinity is primarily composed of agricultural and rural residential uses. For additional information regarding vegetation management plans, please see Appendix C.

#### TOPOGRAPHY

The Site is very flat with little change in slope and minimal topography. The Project area varies in elevation from approximately 1720 to 1690 feet above mean sea level, sloping gradually to the southwest. With and average slope of <1.5%, there is elevation change over the whole of the approximately 47.5 acres. Caribou Creek is located along the north border of the Site and flows southward along the northwest side of the Project area. What changes do occur on the Site are gradual and pose no significant concern for stormwater management practices.

#### SOILS

The near surface soils within the Site were identified using information from the U.S. Natural Resources Conservation Service ("NRCS") Web Soil Survey. The soils series within the Site boundary are grouped into four general map units: Brickmill, Mitta, Manastash-Durtash and Opnish. The table below shows the map units within the Site area.

Table 1. Map Unit Table

Map Unit Symbol	Map Unit Name	Acres in Site	Percent of Site
601	Brickmill gravelly ashy loam,	2.4	5.3%
	0 to 2 percent slopes		
621	Mitta ashy silt loam, flooded	0.1	0.3%
	0 to2 percent slopes		
625	Manastash-Durtash complex,	0.5	1.1%
	5to 10 percent slopes		
635	Opnish ashy loam,	34.4	75.1%
	0 to 2 percent slopes		
791	Mitta ashy silt loam, drained,	8.3	18.2%
	0 to 2 percent slopes		
Totals for Area of I	nterest	45.7	100%

Soil Descriptions:



#### Brickmill gravelly ashy loam, 0 to 2 percent slopes

The Brickmill series consists of very deep, moderately well drained soils formed in old alluvium with an influence of volcanic ash in the upper part. Brickmill soils are on piedmont slopes grading from mountain foot slopes to basin floors. Slopes are 0 to 5 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 49 degrees F. Brickmill soils are moderately well drained; slow runoff; permeability is moderate above the lithologic discontinuity, and rapid to very rapid below. This soil has an irrigation induced water table at 30 to 40 inches with its uppermost limit occurring at some time between during the mid-May to mid-October growing season. These soils are used for pasture, limited cropland, and wildlife habitat. Native vegetation is bluebunch wheatgrass, Sandberg bluegrass, and big sagebrush.

[Source: USDA Soil Series https://soilseries.sc.egov.usda.gov/OSD\_Docs/B/BRICKMILL.html]

#### Mitta ashy silt loam, flooded, 0 to 2 percent slopes

The Mitta series consists of very deep, moderately well drained soils that formed in alluvium mixed with volcanic ash in the upper part. Mitta soils are on flood plains, fan aprons, fan skirts and inset fans. Slopes are 0 to 2 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 49 degrees F. Mitta soils are moderately well drained; slow runoff; moderately slow permeability. This soil is irrigated and drained. This soil has an irrigation-induced water table at 30 to 60 inches during the mid-May to mid-October growing season. These soils are used for irrigated crop production and livestock grazing. When irrigated, hay, oats, wheat, corn, potatoes, and peas are among the crops grown.

[Source: USDA Soil Series <a href="https://soilseries.sc.egov.usda.gov/OSD\_Docs/M/MITTA.html">https://soilseries.sc.egov.usda.gov/OSD\_Docs/M/MITTA.html</a>]

#### Manastash-Durtash complex, 5 to 10 percent slopes

The Manastash series consists of moderately deep to a duripan, well drained soils formed in loess and alluvium. Manastash soils are on fan remnants, terrace remnants, and partial ballenas of piedmonts. Slopes are 0 to 30 percent. The mean annual precipitation is about 11 inches and the mean annual air temperature is about 48 degrees F. Manastash soils are well drained; runoff is very slow to medium; permeability is moderate above the subsoil, slow in the subsoil, and very slow within the duripan. These soils are used for irrigated crops, pasture, range and wildlife habitat. Native vegetation is bluebunch wheatgrass, Sandberg bluegrass, and big sagebrush.

[Source: USDA Soil Series https://soilseries.sc.egov.usda.gov/OSD\_Docs/M/MANASTASH.html]

The Durtash series consists of shallow to a duripan, well drained soils formed in loess and alluvium on alluvial fans. Slopes are 2 to 30 percent. The mean annual precipitation is about 10 inches, and the mean annual air temperature is about 49 degrees F. Durtash soils are well drained, medium runoff; slow permeability. Well drained, medium runoff; slow permeability. Rangeland and wildlife habitat;



Native vegetation is bluebunch wheatgrass, Sandberg bluegrass, cusick bluegrass, and Wyoming big sagebrush.

[Source: USDA Soil Series <a href="https://soilseries.sc.egov.usda.gov/OSD\_Docs/M/MANASTASH.html">https://soilseries.sc.egov.usda.gov/OSD\_Docs/M/MANASTASH.html</a>]

#### Opnish ashy loam, 0 to 2 percent slopes

The Opnish series consists of very deep, moderately well drained soils formed in alluvium with an influence of volcanic ash in the surface. These soils are on alluvial fans. Slopes are 0 to 2 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 49 degrees F. Opnish soils are moderately well drained; slow runoff; moderately slow permeability. This soil has an irrigation-induced water table with its uppermost limit occurring at some time between the mid-May to mid-October growing season. This soil is used for irrigated crop production and livestock grazing. Native vegetation is greasewood and saltgrass. When irrigated, hay, oats, wheat, corn, potatoes, and peas are among the crops grown.

[Source: USDA Soil Series https://soilseries.sc.egov.usda.gov/OSD\_Docs/O/OPNISH.html]

#### **ENERGY RESOURCE**

OER uses the software PVSyst to generate energy resource assessments. PVSyst has become the industry standard for estimating energy production. It accounts for losses due to weather and climate, shading, wiring, component efficiencies, and aging, and provides recommendations for equipment and array layout. The resource supply for the Project is solar energy that will generate electrical power through polycrystalline solar PV modules on horizontal single-axis tracker technology. The Project location provides optimal solar irradiation in central Washington and PSE territory. The projected annual output for the project is 10,379 MWh (year 1).

#### INTERCONNECTION

The Project is located in PSE's service territory. The Project will connect to the local grid on the south side of the parcel through a line tap on the existing electrical 12.47kV distribution circuit KIT-26 at a distance of approximately one mile northeast of the Kittitas Substation. KIT-26, runs east to west along the southern boundary of our Site on the south side of Clerf Road. The electricity from the Project will feed directly to the nearby substation and provide additional power generation to the local electricity load. The Project is currently in the final interconnection study process with PSE. The Facilities Study report was returned in December of 2015. The final interconnection requirements will be outlined in the Interconnection Agreement, anticipated by Q2 2016. The major elements of the preliminary design anticipated for the new service are:

- Add pad-mounted metering
- Add electrical poles and minimal distribution circuit span to interconnect Project
- Off-site load balance improvements

- Improvements to Kittitas Substation electrical infrastructures, protection and controls
- Modification of communications at control centers

#### POWER PURCHASE AGREEMENT ("PPA")

This Project is an eligible Qualified Facility ("QF") under the Public Utility Regulatory Policy Act ("PURPA") as small power production facilities eligible to receive a standard contract PPA from the local public utility. The PPA is available by right to projects smaller than 5 MW-AC. The basic terms are not subject to negotiation. In January of 2016, PSE and OER fully executed a "Schedule 91" PPA agreement for this Project.

#### PERMITTING & GOVERNMENT APPROVALS

OER will comply with all local, state, and federal requirements in the permitting required for the Project, including stipulations in Washington Administrative Code ("WAC") and the Kittitas County Code, specifically Title 17, Zoning. This Zoning Conditional and Administrative Conditional Use Permit Application ("CUP") to the Kittitas County Community Development Services Division is the mechanism to achieve the required ministerial permit as outlined in County's land use processes.

Washington Department of Fish and Wildlife ("WDFW") completed a site review for any potential impact to State or Federal endangered species in July 2015 (see Appendix D). In their initial review, WDFW determined that the Site does not include any areas of Priority Habitat Species ("PHS") but is in the vicinity of two species occurrence records; the greater sage-grouse and the Mountain Sucker.

While there is record of a greater sage-grouse lek located approximately 3 miles to the southwest of the Project, this record consists of a single male last observed during the spring of 1994 and is not considered to be an active lek. WDFW noted that they do not expect there to be adverse impacts on sage grouse or sage grouse habitat as a result of the Project.

WDFW also informed OER that Caribou Creek is a fish-bearing stream and will require a stream buffer. OER will work with WDFW to protect Caribou creek and any potential species in the site plan development and Project operations. OER has included a 100' buffer in the site plan as per WDFW's recommendations and plans to continue incorporating WDFW recommendations into the Project design.

The broader parcel has no wetland areas as per the United States Fish and Wildlife Service's National Wetlands Inventory (see Appendix E). The western border of the Site is located in the the 100-year FEMA floodplain (see Appendix F). The preliminary site plan included in this application does intersect the floodplain and includes a 100' buffer to Caribou Creek. OER has consulted with the planners at the

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7

Kittitas County Planning Department on this preliminary design, which is subject to change based upon further site analysis and surveying.

PROJECT SCHEDULE

The estimated online date for this project is Q4 2016. Commercial operations dates are driven by a number of factors including but not limited to: timelines for PSE to complete system upgrades for the facilities required to interconnect the Project to the electrical grid, timelines required to complete all federal, state and local permitting processes for the Project, and project finance requirements. OER anticipates being able to provide a more specific commercial operations date upon receipt of the Interconnection Agreement, anticipated in late April 2016. These dates as currently proposed are

subject to change contingent upon third-party schedule needs.

The Project will be built out in a single phase and is anticipated to take roughly four months to complete.

Anticipated implementation dates are as follows:

Engineering and Permitting: Q1,Q2 2016

Construction: Q3 2016

Operation: Q4 2016

Additionally, for further information on Construction and Operation Plans and potential impacts, please

see Appendix G. To understand resulting mititigation plans, please see Appenix H.

RECLAMATION MEASURES

Following construction of the Project, reclamation measures will be implemented to restore the temporarily disturbed near-surface soils at the Site. Permanent impacts from Project construction will be minimized whenever possible, enabling the land to return to pasture or other agricultural uses at the end of its useful life. For additional Information regarding decomissioning site restoration, see Appendix

J.

Additionally, for further information on Construction and Operation Plans and potential impacts, please

see Appendix H. To understand resulting mititigation plans, please see Appenix I.

Solar Project Basics

Solar panels convert energy from the sun directly into electric power. Light energy in the form of photons strikes the panels and creates a chemical electrical imbalance in the crystalline silicon in the panel via the photovoltaic effect, producing electricity. When solar panels are installed on commercial or residential rooftops, the electric power is usually consumed entirely onsite by the business or residence, with excess power generation delivered to the grid. Utility scale solar farms operate differently in that all of their power is delivered directly to the grid and purchased by customers that

KCDS CUP Application

IRON HORSE SOLAR: Project Narrative

can be located far away - even in different counties or states. As a utility scale solar farm, the Project would deliver its power to the electrical grid. Solar panels can operate in both direct and indirect sunlight conditions, making solar suitable in a wide range of geographic areas.

#### PROJECT DESIGN

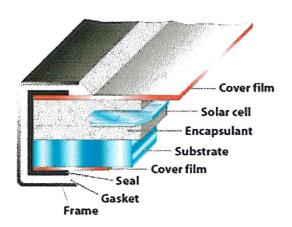
System Layout - The Project will consist of single-axis tracking PV modules supported on stationary piles. Each row of solar panels will be strung together in a north-south orientation and the panels will tilt on a single-axis (facing east in the morning and tilting toward the west following the sun through the course of each day to maximize energy output.). Each string of panels is arranged in rows with approximately eight to twelve feet of space between the rows. The racking system and panels would be support by steel piles



Common 72-cell solar module

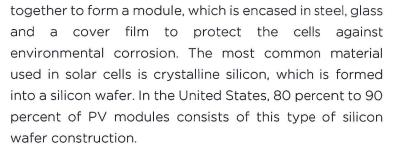
driven to a depth of 26 to 8 feet below grade. The top of the panels would stand no higher than 8 feet - approximately the height of a mature corn plant.

Modules - The fundamental building block of a PV module is the solar cell. Individual cells are connected

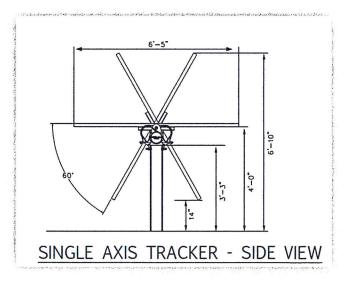


Solar module cross sectional view

with galvanized steel or aluminum structures driven or screwed into the ground by a pile-driving machine to a depth of approximately 6 to 8 feet. The spacing of the piles can range dramatically depending on the foundation installation methods. Generally, piles are expected to be placed between 10 and 30 feet apart, described further below in "Construction."



**Steel piles** - The PV modules would be secured on the racking system and supported by galvanized steel post



**Tracking system** - The Project would use a single-axis tracking system. The tracking technology system varies by manufacturer but generally consists of a series of mechanically linked horizontal steel support beams known as torque tubes with a drive train system usually located in the center of the rows, dividing the array into sections. The system tracks from a 45° tilt to the east to a 45° tilt to the west over the course the day. Tracking technology has the added benefit of keeping the panels lower to the ground, making the project less visible from adjacent roads and properties.

**Inverters** – In addition to the steel support system and PV panels, the Project will include inverters to convert direct current ("DC") power from the panels into AC power that the utility uses throughout its system. Each inverter would be coupled with a medium voltage step-up transformer to increase the voltage of the power to be consistent with the local utility's lines.

Fence - As required by County regulation, the Project will be set back from the existing road Right of Way and a security fence up to 8 feet in height will be installed around the perimeter of the Project. OER will work with the County to adjust the fence height in accordance with the recommendation of the Department of Fish and Wildlife and the County Public Works Department access needs. A knox box will be installed at the entrance location to allow for Emergency Services to access the Site.



Entrance Drive Road - A service drive will be constructed using appropriate gravel material and geotextile fabrics. As required by County regulation, low impact maintenance roads will be designed to allow maintenance access to the facility. Access will also include fire vehicle turnarounds that adhere to County code regulation. OER will make all efforts to use existing entrance drives when possible. Land will be excavated approximately 8 inches and then covered with a geo-textile material. The material is covered with aggregate to make the road.

Concrete Foundations – There will be additional concrete foundations required to hold the necessary electrical power conversion station and switchgear at the point of interconnection. While the exact size of this pad will be determined by the choice of equipment and utility compliance requirements, it is typically no larger than  $15' \times 40'$ .

**Ground Disturbance** – OER anticipates some ground disturbance across the Site due to rough grading of the Site in order to level variation in site topography. Effort would be taken to minimize the earthwork required for the construction of the concrete pads for the transformers and inverters. The Project area includes room for temporary staging areas and stone access roads with interior connector drives. All appropriate measures will be taken during construction and operation to install and maintain necessary stormwater and sediment erosion control measures as required by both County and State regulatory agencies.

**Lighting** - The Project will be an unmanned facility and will not require significant lighting at night. If lighting is required for insurance or other permitting reasons, all lighting will be installed with downlighting in order to create the least impact necessary.

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**Vegetation** – At the conclusion of construction, disturbed areas will be re-seeded with a weed free, low growing native seed mix.

**Sewer and Water** – No sewer or water connections will be needed for the development of this Project as a solar facility. If and when water resources are required to clean the solar panels, the operation and maintenance team can source water using a water truck.

#### PROJECT SITE PLAN

#### PRELIMINARY SITE PLAN

As proposed, the Project will have a maximum installed capacity of 4.5MW-AC. The Project's Preliminary Site Plans are included as Appendix J. The Project will utilize horizontal single-axis tracking technology to mount PV solar panel arrays. Additional significant Project components will include access roads, foundations, racking infrastructure, inverter stations, and utility grid interconnection and metering facilities.

Adhering to County setbacks of 25 feet from the front and rear parcel boundaries and 15 feet from the side boundaries, per the Kittitas County Code Title 17 A-20 17.29.060, the total maximum footprint is 47.5 acres based on the land agreement between OneEnergy Development, LLC and landowner, Bill Hanson. The Preliminary Site Plan contains the proposed footprint with boundaries depicted by the fence line, totaling approximately 40.15 acres.

The Preliminary Site Plan is based upon technical studies completed to date and is subject to changes, but will not exceed 4.5MW-AC in size and will be located solely within the the total maximum footprint of 47.5 acres. The final Project facility locations will depend upon results from outstanding technical studies (i.e. geotechnical investigation, interconnection facilities study) that warrant changes to either minimize impact to the environmental landscape or to optimize project economics. Any such changes will be addressed and incorporated into the development of a Final Site Plan. Changes will be driven by OER's best management practices, which are to site with the least disturbance necessary for the lowest impact feasible.

SYSTEM TECHNOLOGY AND MAJOR EQUIPMENT SPECIFICATIONS

The Project will use thoroughly proven, financeable solar panels, inverters, and related equipment. The Project system is sized up to 4.5MW-AC with a preliminary design and equipment specifications using Canadian Solar polysilicon PV modules, Eaton Power Xpert 1500kW inverters and racking with single-axis tracking. Design is subject to change upon execution of a contract with an EPC partner. OER's selected EPC partner and long-term financier will assist in final design, procurement of panels, inverters, racking system and other necessary facilities.



Major equipment as currently designed includes:

- Modules & Racking Canadian Solar CS6X-320P or equivalent (see Appendix K)
- Inverters Eaton Power Xpert 1500kW or equivalent (see Appendix L)
- Transformer(s) Cooper Power Systems equivalent (see Appendix M)
- Trackers NEXTTracker Single-axis 120s (see Appendix N)

The Project will include recyclable materials, including glass, semiconductor material, steel, and wiring. When the Project reaches the end of its operational life, the component parts would be dismantled and recycled. Waste resulting from decommissioning will be recycled or disposed of in accordance with all local, state and federal regulations.

For additional information on expected system performance and production, see Appendix O.

#### FINAL DESIGN MICROSITING

To accommodate the final design changes, OER is seeking micrositing flexibility for the Project with regard to the final layout for solar panels, related facilities and associated access roads and fences. Due to outstanding technical studies that will drive final Project size and exact placement of Project facilities, OER is requesting in this CUP application the County's approval to site a maximum Project size of 4.5MW with a maximum project footprint of up to 47.5 acres.

Proposed conditions of approval would include: 1) OER will provide the Final Site Plan depicting Project facilities to the County prior to commencement of construction, and 2) OER will comply with all local, state, and federal laws and will work with all applicable agencies to obtain the necessary permits to construct and operate the Project.

#### BURDEN OF PROOF STATEMENT - COMPLIANCE WITH ZONING ORDINANCE

Proposed Project will satisfy applicable provisions of the Kittitas County Code, including Title 17, Zoning. TITLE 17.61.020

A) The proposed use is essential or desirable to the public convenience and not detrimental or injurious to the public health, peace, or safety or to the character of the surrounding neighborhood

The State of Washington has enacted aggressive legal and policy standards in pursuit of more renewable energy generation within its borders. Washington's Renewable Portfolio Standard ("RPS") mandates that fifteen percent (15%) of Washington's electricity be generated from renewable energy sources by 2020, with a ramp-up of increasings targets, including the next tranche of nine percent (9%) by 2016. This Project will help the State meet these objectives and create more clean energy generation in Washington. This Project will deliver all of its output to the electricity grid through the PSE distribution system.

The Project will be the largest solar project in Washington and is desirable to the public convenience because it will fortify the County's electric grid with clean, local power. The facility will be quiet and have very few moving parts and thus will not pose a threat to public health, peace or safety. The low lying panels will be unobtrusive to any view sheds and won't alter Kittitas Valley's rural character in operations.

This Project will generate approximately 10,379 MWh of clean electricity each year, which is enough to power more than 950 average American homes and result in an annual emissions reduction of over 15.7 million pounds of CO2e (equivalent to removing roughly 1,500 passenger vehicles from the road).

B) The proposed use at the proposed location will not be unreasonably detrimental to the economic welfare of the county and that it will not create excessive public cost for facilities and services.

The city of Kittitas is a small community with a population of approximately 1,450 people. The town has a rural character with deep roots in agriculture. The City of Ellensburg lies just 10 miles west and is home to a much larger population of approximately 18,175 people and Central Washington University. Both communites have shown support for renewables through approving wind development, such as the Wild Horse Wind Project and the Kittitas Valley Wind Project, as well as the Wild Horse Solar Facility and the Ellensburg Community Solar Project.

i. This project will be serviced by existing facilities including but, not limited to, existing

roads, highways, and police and fire protection.

ii. Any additional facilities required by this Project will be provided by OER. These

facilities may include utility infrastructure on Clerf Road, appropriate access

improvements to comply with public works or Washington Department of

Transportation, additional safety training for the local fire department, and all necessary

equipment.

iii. The power generated from this Project will primarily be absorbed in PSE's service

areas in and near Kittitas. The total Project capital investment is estimated to be

approximately \$11.2 million. Beyond generating a source of renewable energy, this Project

will deliver numerous economic benefits through direct capital investment in the local

and regional economy.

In addition to local hired project development technical support and the spike of local spending

during the construction period and a hired regional labor force, the Project will generate a

consistent revenue stream over the operation life through recurring annual lease payments,

which will bring revenue to the landowner as a different commercial enterprise; property taxes,

which will generate revenue for Kittitas County, an injection that will contribute to the provision

of improved roads, quality education, police, fire, and other municipal needs that would benefit

the entire community; and long-term operations and maintenance expenses spent regionally.

C) The proposed use complies with relevant development standards and criteria for approval set forth

in this title or other applicable provisions of Kittitas County Code.

OER is dedicated to using best management practices during all phases of development,

construction and operations. This Project will comply with any and all relevant development

standards laid out by Kittitas County code.

D) The proposed use will mitigate material impacts of the development, whether environmental or

otherwise.

OER employs a rigorous site selection process to mitigate, to the largest extent feasible,

negative environmental impacts while partnering with landowners and local residents to

generate positive community impacts and economic development for Kittitas County.

The development process for this Project began in 2013 and OER has been working through the due diligence process to ensure the least amount of impacts while developing the Project to achieve successful financing and operations. OER has been and will continue to work to mitigate impacts. OER is committed to developing well-sited projects that avoid sensitive habitats and engages agencies early and often, as represented by Appendix D, demonstration of corrrespondence with WDFW for review.

E) The proposed use will ensure compatibility with existing neighboring land uses.

The Project will be compatible with all neighboring land use. The Project will have very limited visual or auditory impacts, keeping with the rural nature of the City of Kittitas, as further described in the Project narrative above.

F) The proposed use is consistent with the intent and character of the zoning district in which it is located.

The Parcel is currently zoned AG-20. Kittitas County Code states that alternative energy facilities may be authorized in this zoning. This Project is a clean energy generator defined in Chapter 17.61 as a "Major alternative energy facility" means a hydroelectric plant, solar farm, or wind farm that is not a minor alternative energy facility." The Project is consistent with the intent and character of the zoning district. As defined in 17.61.020 Permitted and Conditional Uses, "Major alternative energy facilities may be authorized in the Agriculture-20, forest and range, commercial agriculture, and commercial forest zones as follows:...All other major alternative energy facilities may be authorized as a conditional use."

- G). The proposed conditional use is outside of Urban Growth Areas, the proposed use:
  - i. Is consistent with the intent, goals, policies, and objectives of the Kittitas County Comprehensive Plan, specifically GPO 6.36, which states an intent to develop a criteria and design standard for siting solar farms in the county.
  - ii. Preserves "rural character" as defined in the Growth Management Act by fiting into the patterns established by the county in RCW 36.70A.030 (15). The low lying panels will be unobtrusive to any view sheds and won't alter Kittitas Valley's rural character in operations. The facility will be quiet and have very few moving parts and thus will not pose a threat to public health, peace or safety. Native grasses will be planted beneath

the panels. The low-lying natures and native grasses will prepetuate the visual landscapes of open space and vegetation that are traditionally found in rural area.

The project is compatible with use of the land by local wildlife. OER will continue to work with WDFW to address concerns related to existing wildlife habitiat. Additionally, this Project will continue the protection of natural surface water and groundwater flows and surface water recharge and discharge areas. This Project will not inhibit traditional rural lifestyles, rual-based economies, and opportunities to both live and work in rural areas as local farming practices will continue and no job opportunities will be lost. The Project will not require and extension of urban governmental services.

i. The Project requires only rural government services such as but not limited to, police and fire protection services.

ii. This Project does not compromise the long term viability of the agricultural resource value of this parcel. This Project will temporarily remove a maximum of 47.5 acres for a term to be no longer than 36 years from agricultural production. The landowner will have the ability to continue using the remainder of the land holdings for agricultural uses for the duration of this term. Within one year from the date the lease expires or terminates, all solar facilities and related infrastructure shall be removed and the land shall be returned to it's orginal state at which time the land can return to an agricultural resource.



#### **APPENDICES**

APPENDIX A: Company Overview

APPENDIX B: Vicinity Map

APPENDIX C: Vegetation Management Plan

APPENDIX D: WDFW Correspondence

APPENDIX E: NWI Map

APPENDIX F: FEMA Map

APPENDIX G: Construction and Operations Plan

**APPENDIX H: Mitigation Measures** 

APPENDIX I: Decommisioning and Site Restoration Plan

APPENDIX J: Premilinary Site Layout

APPENDIX K: Canadian Solar Module Datasheet

APPENDIX L: Eaton Inverter Datasheet

APPENDIX M: Cooper Transformer Datasheet

APPENDIX N: Next Tracker Datasheet

APPENDIX O: PVSyst