

Land Use Application

Applicant(s):	Property Owner(s):
Dan Johnson & Deb Lawless	same
Mailing Address:	Mailing Address:
PO Box 2411, White Salmon, WA 98672	same
Phone: 503.619.9977	Phone:
Email: xiaomifong@hotmail.com	Email:

Location of property:		
Township: 3 North	Range: 11 East, Willamette Meridian	Parcel address: 15 Smokey Ridge
Section & Qtr. Section: NW 1/4 of SE 1/4 of NE 1/4 of	NE 1/4 of Section 33	County: Klickitat
Tax Lot No(s): 03-11-3300-0002/00		Parcel Size (acres): 2.5
Existing use of parcel: GMA Small Scale Ag. 8(o)		
Use of adjacent parcels: GMA Small Scale Ag.		

Project description: This should include all proposed activities and details on size, height, exterior colors, and construction materials of proposed structures. Any areas of ground disturbance and landscaping details should also be described. It is important to describe all aspects of your project so that you may gain approval for all of the development activities you plan to do.

This application is for a ground mounted solar panel system which would enable us to offset our home and electric vehicle energy consumption. Our plan consists of two 14 panel ground mounted sets of panels (28 panels in total), arranged E-W on the west-southwest edge of the property (figure 1). This position enables adequate sun exposure and minimizes visibility from key viewing areas by placing the panels on a flat area at the lowest elevation on the property, and shifted northward away from the southern edge of the property.

The placement will reduce visibility, enable access for snow removal, and limit wind exposure as compared with a roof mounted system. Our plan is to use net metering to build PV energy surplus during the summer months, to offset our winter electrical demand. Based on the energy modeling of our home and the addition of electrical consumption of an electric vehicle (future purchase), our goal is to offset all electrical consumption to be effectively CO2 emission free and net zero energy consumption.

Figure 2 is extracted from our home energy modeling document which is submitted with this application. A 4.4kw PV system is estimated to supply the electricity needed (6080kw-hr/yr) to offset our heating, cooling and plug loads. As we plan to purchase an electric vehicle in the future and would also like to offset that energy load as well, the PV system needed would need to be increased, based on this simple EV estimation.

$$\begin{aligned} & 325\text{w-hr/mi (avg) - } <https://ev-database.org/imp/cheatsheet/energy-consumption-electric-car> \\ & 12,000 \text{ miles/yr (typical car usage)} \\ & = 12,000 * 0.325\text{kw-hr/mi} = 3900 \text{ kw-hr/yr} \end{aligned}$$

$$\text{total PV system needed} = 6080 + 3900 = 9980 \text{ kw-hr/yr}$$

28 panels is estimated to offset the home and EV needs with some added headroom for an additional EV, compensate for potential underestimation of consumption, or other unanticipated electrical needs. Being grid tied any surplus would be absorbed by the PUD, on a yearly basis, and utilized elsewhere. <http://www.klickitatpud.com/conservation/netMetering.aspx>

Figure 3 depicts a cross sectional view of the two rows of panels and overall panel dimensions. The two rows will be 42' in length and will fit north of the septic drain field and offset more than ten feet from the west property boundary. We have established, and flagged, the perimeter of our septic drain field and will place the ground mounted panels adjacent to the north, and clear of the drain field. The height off the ground is needed for times of heavy snow load, providing enough room for the snow to slide off from the panels. The spacing between the rows is needed to prevent the most southern row from shading the sun from the more northern one.

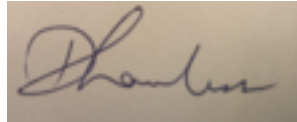
The ground disturbance will be minimal as the PV system posts are effectively drilled into the ground. A narrow trench from the solar AC combiner back to the net metering PUD meter will be needed to grid tie the system.

Application checklist: The following is required to complete your application:

- x Application form completed and signed
- x Site plan
- x Key viewing areas checklist, elevation drawings, and landscape details, if required
- x Names and addresses of adjacent property owners, if required
- x Any additional information as required

Signature of the property owner(s) indicates that the property owner(s) is/are aware that an application is being made on the subject property. **Signature of the property owner(s) also authorizes the Gorge Commission or the Commission's designee(s) reasonable access to the site in order to evaluate the application.**

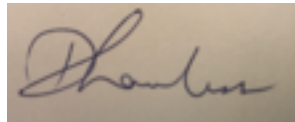
Applicant(s) signature:



date: April 19, 2022

date: April 19, 2022

Property owner(s) signature:



date: April 19, 2022

date: April 19, 2022

Site Plan

A plan drawn in black ink at a scale of 1 inch equals 200 feet (1:2400) or at a scale providing greater detail must be included with the application.

If the parcel is very large, you may show on the portion of the parcel affected by the proposed use. Be sure, however, to show enough of the parcel or some adjacent features, such as roads, so that the planners can orient themselves on your map. A small vicinity map showing the subject parcel and surrounding parcels may help.

At a minimum, you must show the following features; other site plan information may be required depending on the type or location of development being proposed.

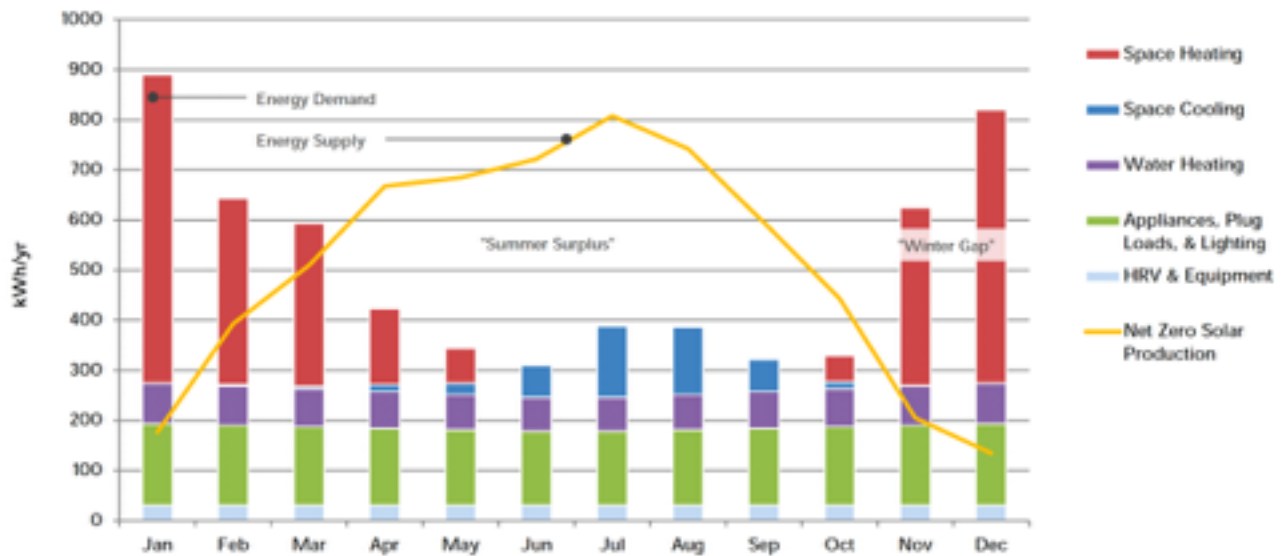
- X applicant(s) name
- X location and width of existing and proposed roads, driveways, and trails
- X scale and north arrow
- X location and size of all existing and proposed structures
- X boundaries of parcel with dimensions and size
- X location of existing and proposed services including wells or other water supplies, sewage disposal systems, power and telephone poles and lines and outdoor lighting
- X significant terrain features or landforms
- N/A location and depth of all proposed grading and ditching
- X groupings and species of trees or other vegetation on the parcel
- X location and species of vegetation that would be removed or planted
- N/A bodies of water and water courses

FIGURE 1:



FIGURE 2:

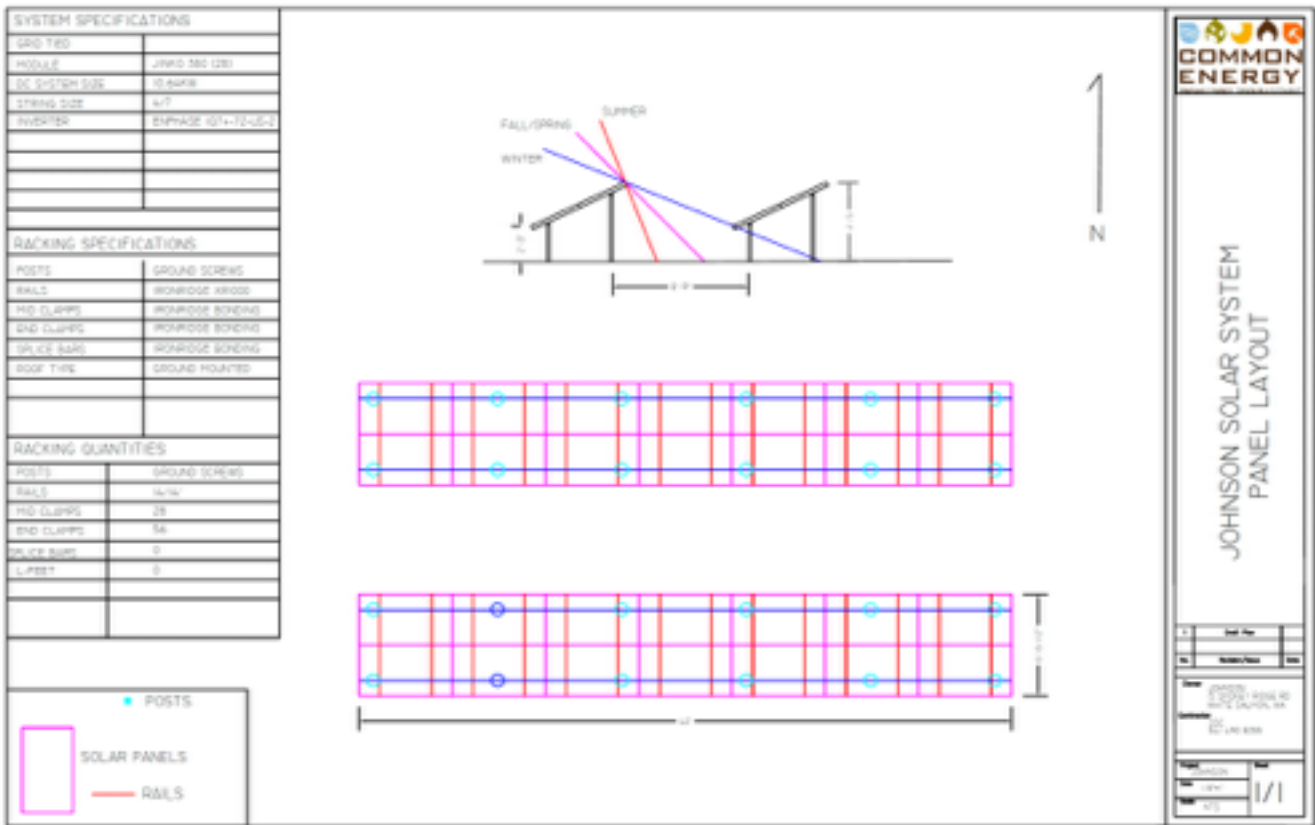
Monthly Energy Demand vs Supply



Notes

1. Peak energy demand in winter is about 3 times that of summer, driven by space heating.
2. Peak supply of renewable energy occurs in summer, shown here from a hypothetical Solar PV array (4.4 kW) which achieves Net Zero energy use.
3. This mismatch in demand vs supply peaks results in a "Winter Gap" comprising 35% of the building's energy demand. Whether solar panels are initially planned or not, reducing the space heating demand is a clear priority to improve the building's resilience in the transition to a post-fossil-fuel energy grid.

FIGURE 3:



Key Viewing Areas:

Key viewing areas are important public viewpoints and areas that afford opportunities to view the Gorge scenery. Key viewing areas are listed below.

Please check those sites which can be seen from your property:

- x Historic Columbia River Highway
- Old Highway 8 (County Road 1230)
- x Highway I-84
- Washington State Route 142
- Washington State Route 14
- Washington State Route 141
- Panorama Point Park
- x Columbia River
- Rowena Plateau and Nature Conservancy
- Cook-Underwood Road

If your project would be visible from one or more key viewing areas, then you must submit elevation drawings and landscaping details.

Elevation drawings must show the sides of proposed buildings which would be visible from key viewing areas, including:

*the appearance of proposed buildings over 400 square feet in size
surrounding final grades*

Landscape details must show how your project will be screened from key viewing areas, including:

- x location of plants used*
- x number of plants*
- x size of plants*
- x type of plants*
- x irrigation provisions or other measures to ensure the survival of landscaping planted for screening purposes*
- x location of existing and proposed topographical features which would screen your project.*

Adjacent Property Owners:

If your project is included in one of the categories below, then you must submit names and address of adjacent property owners within a specified distance (200 feet or 500 feet) of the perimeter of your parcel. The following list specifies the distance within which property owners must be notified of your proposal. You only need to provide the names and address (along with the parcel number); the Commission will send the notice.

Your county Assessor's Office can assist you in obtaining this property owner information. You may use the back of this form to record the names and addresses or you may submit forms which the county may provide you.

Notification of landowners within 200 feet:

- Uses within Residential designation (except single-family dwellings located adjacent to Agriculture or Forest designations - see notification of landowners within 500 feet)
- Uses within Agriculture designation (except non-farm single-family dwellings in Large-Scale Agriculture designation - see notification of landowners within 500 feet)
- Uses within Forest designation (except utility facilities, railroads, home occupations, cottage industries, wineries, agriculture product processing and packaging, mineral resources, geothermal resources, aquaculture, boarding of horses, temporary asphalt/batch plants, expansion of non-profit camps-retreats-conference centers, bed and breakfasts, and non-profit learning/research facilities - see notification of landowners within 500 feet)
- Uses within Commercial designations
- Uses within Recreation designations
- Uses within Open Space designations
- Uses within Agriculture-Special designations
- Uses within Special Management Areas

Notification of landowners within 500 feet:

- Single-family dwellings within Residential designation located adjacent to Agriculture or Forest designations
- Non-farm single-family dwellings within Large-Scale Agriculture designation
- Utility facilities, railroad, home occupations, wineries, agriculture product processing and packaging, mineral resources, geothermal resources, aquaculture, boarding of horses, temporary asphalt/batch plants, expansion of nonprofit camps/retreats/conference centers, and bed and breakfasts, non-profit learning/research facilities within Forest designations

Adjacent property owners (continued):

**Township, Range, Section,
Tax Lot Number**

Name, Address, and E-mail (if possible)

03-11-3300-0003/00	Patricia Salmon, PO Box 288, Bingen WA, 98605
03-11-3300-0004/00	Stacey Baker, 14722 260th Ave SE, Issaquah WA, 98027
03-11-3300-0005/00	Audrey Bruce, PO Box 849, White Salmon WA, 98672
03-11-3300-0001/00	Lori Hendren and Semen Kharif, 6501 SE Riverside Drive, Vancouver WA 98661