

State Environmental Policy Act

Staff Report

for

Teanaway Solar Reserve

Proposal Description:

Teanaway Solar Reserve LLC has submitted a Conditional Use Permit application and Development Agreement to construct and operate the Teanaway Solar Reserve project (“the project”). The project will be constructed on an approximately 982 acre site. Approximately 477 acres of the site will be involved in land disturbance and development. The project will include the following key components: solar modules; field inverters; field transformers; electrical conductors; electrical substation and switchyard; operations and maintenance (O&M) building and supervisory control and data acquisition (SCADA) system; overhead interconnection transmission line; and access and maintenance roads.

The project will be completed over a period of 2 to 3 years, with 7-to 9-month construction periods anticipated each year, weather dependent. The subject property is zoned Forest and Range, on which solar farms may be authorized as a conditional use. The project is proposed to generate up to 75MWdc of PV solar energy for distribution to utilities and communities. See project application materials for full description.

Date Report Prepared: July 14, 2010

Required County Permits or Approvals:

- Conditional Use Permit
- Development Agreement
- Development Permits

Required Other Agency Permits or Approvals:

- Bonneville Power Administration Interconnection Approval
- State Dept. of Ecology NPDES Individual Permit
- State Dept. of Natural Resources Forest Practices Permit

Other Permits or Approvals that May be Required:

- State Dept. of Ecology Section 401 Water Quality Certification
- US Army Corps of Engineers Section 404 Nationwide Permit

Application Number: Kittitas County File No. (CU-09-00005)

Applicant: Teanaway Solar Reserve, LLC
c/o Howard Trott
Land Owner Representative
218 E. First Street, Suite B
Cle Elum, WA 98922

Lead SEPA Agency: Kittitas County

I. Basis for SEPA Review:

1. On August 18, 2009 Teanaway Solar Reserve, LLC (“TSR” or “the applicant”) submitted to Kittitas County Community Services Department (“CDS”) an application for a Conditional Use Permit (“CUP”), a draft Development Agreement (“DA”) for the project, and an expanded *SEPA Environmental Checklist* dated August 14, 2009. The expanded *SEPA Checklist* included a *Sensitive Species Report*; a *Wetland Delineation Report*, a *Cultural Resources Report*, and a *Zone of Visual Influence Memorandum*.
2. The Conditional Use Permit application was deemed complete on August 22, 2009, and a Notice of Application was issued on September 3, 2009. The public notice period lasted from September 3, 2009 to September 18, 2009. During this review period County staff and non-county review agencies submitted comments on the application. The Optional DNS Process was used, according to WAC-197-11-355.
3. The County reviewed the comments with TSR and requested that additional studies addressing the public comments be submitted by February 22, 2010.
4. In February 2010 TSR supplemented its Conditional Use Permit Application and expanded *SEPA Checklist* with additional reports and information in response to the comments that were received. TSR prepared, among other studies, a *Geology and Soils Hazard Evaluation*, a *Fugitive Dust Control Plan*, a *Vegetation Management Plan*, a *Wildlife Mitigation Plan*, and a *Transportation and Road Plan*.
5. TSR submitted additional materials on June 2, 2010, which included additional hydrology and stormwater runoff modeling, and executed agreements between TSR and WDFW and the Kittitas County Fire Protection District #7.
6. The Conditional Use Permit application and Development Agreement will be reviewed for compliance with all applicable Kittitas County codes which regulate development activities, including but not limited to the Zoning Code, International Fire and Building Codes, Road Standards, and Critical Areas Regulations. The County review will impose conditions as required by these existing laws and regulations.
7. Other permits and approvals are also required by other agencies, e.g. a State Department of Ecology NPDES Individual Construction Permit and a State Department of Natural Resources Forest Practices Permit. Those reviews will impose conditions as required by those existing laws and regulations.
8. Voluntary mitigation measures which the Lead Agency or TSR will implement as part of the proposal are listed in the February 22, 2010 expanded *SEPA Environmental Checklist* (“SEPA Checklist”) and are further described in this SEPA staff analysis report. These voluntary mitigation measures are in addition to requirements that will be implemented through Kittitas County permit review. Prior to permit issuance, these voluntary mitigation measures will be incorporated in the permit documents as conditions of development (i.e. shown on the final building permit plans or attached to the permit as conditions).
9. This report contains justification for the Lead Agency SEPA Responsible Official (RO) in making a threshold determination for purposes of SEPA compliance. This report recommends issuance of a mitigated determination of non-significance (MDNS) for the proposal.

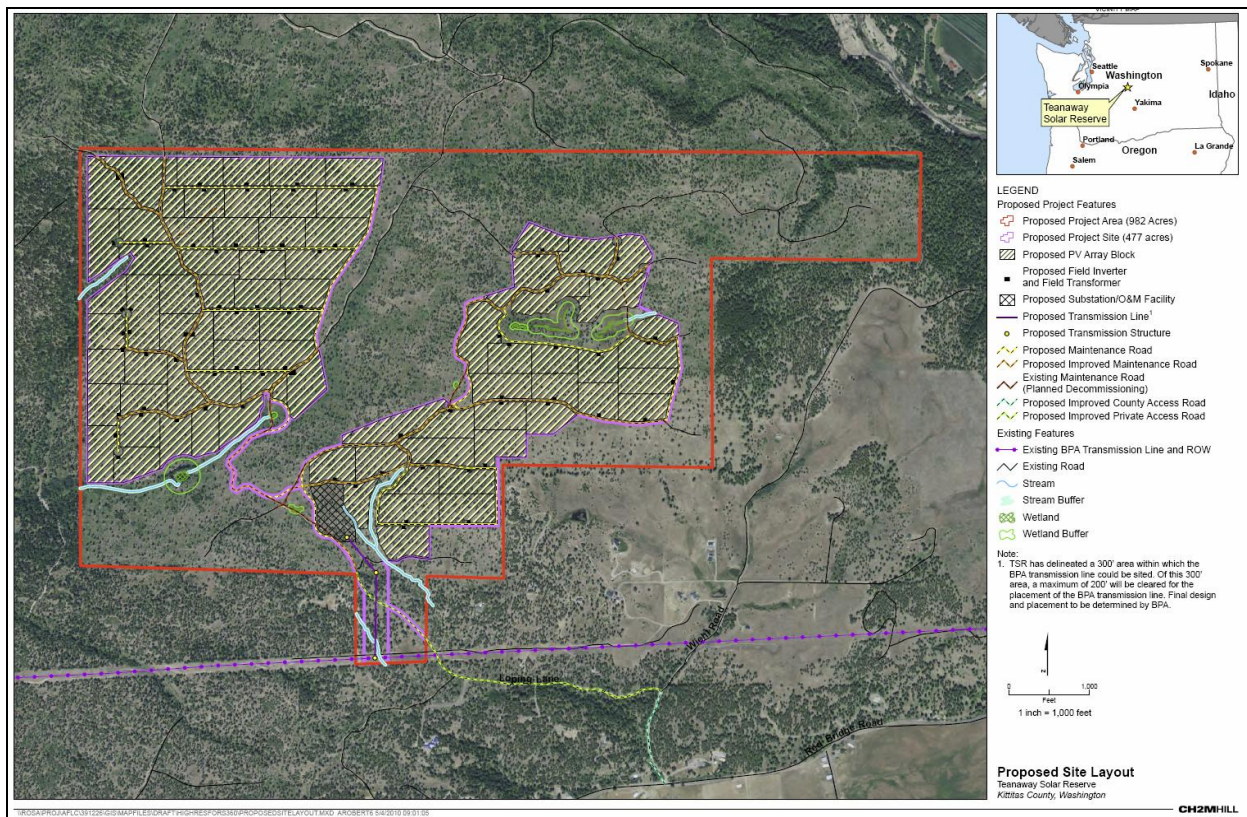
II. Report Purposes & Conclusions

In accordance with the provisions of WAC 197-11-340, Determination of Non-Significance (DNS), and Kittitas County Code (KCC) Chapter 15.04, Kittitas County reviewed the above-described proposal. The report herein documents that the proposal has no probable significant adverse impact on the environment, subject to voluntary mitigation built into the project design, SEPA mitigation contained in the MDNS, and compliance with existing laws and regulations. The report contains the rationale for the mitigated determination of non significance (MDNS).

This SEPA staff report provides the basis for the conclusion that an Environmental Impact Statement (EIS) is not required under RCW 42.21C.030(2)(c).

III. SEPA Review Comments, Evaluation & Analysis

The lead agency reviewed the SEPA checklist as submitted and as supplemented in February 2010 and June 2, 2010. The supplemental materials include a conceptual proposed site layout graphic, as shown below.



IV. Environmental Elements

The following provides a summary of information contained in TSR's SEPA Checklist and associated documents used by the Lead Agency for environmental review of the proposal. This summary describes the effect of the proposal on the listed environmental element and lists mitigation, as applicable, to eliminate or reduce the effect of the proposal.

1. Earth

1.1 Description: The site is located on the eastern slopes of the Cascade Mountains on Cle Elum Ridge, which runs generally from east to west at elevations ranging from approximately 2,200 to 2,600 feet. The Teanaway River is approximately 1 mile to the northeast of Cle Elum Ridge. The site is accessed from Highway 970 by way of county roads such as Red Bridge Road, and private roads such as Loping Lane, and Wiehl Road. The project is located on approximately 477 acres of land within the 982-acre proposed project area. The project site is located on land that generally has a slope less than 25%, but does contain areas with up to 50% slope. The majority of the soils that underlie the project site consist of clayey-, silty-, sandy-loam of the Teanaway series. Although the NRCS data indicates the Teanaway soils have slopes up to 50 percent (NRCS, 2009), slopes measured during an on-site evaluation (November 2009) range from 0 to 25 percent.

There is no prior indication of unstable soils; however soils onsite are rated as moderately susceptible to erosion by water. A National Pollutant Discharge Elimination System (NPDES) Individual Permit will be required by the Department of Ecology for this project. As part of the NPDES permit the applicant will develop a Stormwater Pollution Prevention Plan (SWPPP) that will identify Best Management Practices that will be constructed on site to minimize and eliminate the potential for significant erosion and sediment transport during construction. The potential geologic and soils hazards and erosion potential are discussed in detail in the SEPA Checklist (Attachment D: *Geology and Soil Hazards Evaluation*).

Approximately 8,100 cubic yards of fill will be used to fill an area of up to 10 acres, which will contain the substation. An additional 500 cubic yards of fill will be required in the construction of transmission line poles, and approximately 4,000 cubic yards of fill will be required for the construction of access roads. The solar reserve project has been designed to minimize the amount of impervious surfaces created. An estimated total 1.17 acres of impervious area is expected, which is less than one percent of the total project site.

As stated in the expanded SEPA Checklist, the Project's new 345-kV Project transmission line will connect to an existing Bonneville Power Administration (BPA) network transmission line. This line is commonly referred to as BPA's Rocky Reach to Maple Valley 345 kV transmission line. As further explained in the SEPA Checklist and associated documents in the record for the Project, the substation and overhead interconnection transmission lines are expected to be assumed by BPA. Although BPA is expected to assume ownership of these components, the Project described in the SEPA Checklist is inclusive of all facilities and resources required to up to the BPA interconnection and the corresponding environmental analysis is complete.

A request for interconnection service from BPA, if granted, is a federal action subject to the requirements of the National Environmental Policy Act ("NEPA"). Thus, any unanticipated impacts from the final design and location of the substation and transmission line, along with any impacts beyond the point of interconnection into the existing BPA line, will be fully considered under NEPA and BPA's existing programmatic technical standards and environmental studies for facilitating interconnection requests. Projects, like the Teanaway Solar Reserve project, are reviewed within this context and additional environmental analysis, if necessary, will be completed prior to a decision to grant the interconnection request. Until BPA undertakes its analysis of the proposed interconnection and completes the required technical studies, potential impacts to its transmission system are speculative and cannot be meaningfully evaluated.

The applicant submitted its request to BPA for interconnection service (request G0393, effective 11/17/2009 at 9:30 am) and its request is currently under consideration by BPA.

In the event the Teanaway Solar Reserve decides to terminate operation, the project site will be decommissioned and the site will be restored pursuant to a County-approved plan. No increased incidence of erosion or impacts to soil quality are anticipated as a result of project decommissioning and site restoration, and Best Management Practices (BMPs) will be used to ensure no water or wind erosion will occur as a result of the removal of the project's components. There will be no onsite waste disposal during decommissioning.

1.2 Effects Analysis for Earth: The total estimated amount of fill is 12,600 cubic yards. The checklist indicates that development plans will avoid steep slopes and that specific geotechnical analysis will be conducted prior to construction of any foundation. A SWPPP and BMPs will be used to prevent or control any potential erosion. As required by KCC 17A.06, any construction involving geologically hazardous areas will be required to follow applicable provisions in the Uniform Building Code or may require specialized engineering. The project must also meet the County's stormwater management standards and guidelines (KCC 12.06). The applicant will obtain the required NPDES permit from the Department of Ecology, and has proposed voluntary mitigation to reduce or control erosion and other impacts to the earth. The voluntary mitigation measures and code provisions adequately address impacts to earth and prevent adverse impacts, including those associated with future decommissioning. No additional SEPA mitigation is required.

1.3 Voluntary Mitigation for Earth

1. The applicant has submitted a *Geology and Soil Hazards Evaluation* (Attachment D to the SEPA Checklist). This evaluation recommends the following mitigation measures are incorporated into the project design, in addition to following Best Management Practices:
 - a. The applicant will obtain a Washington State Department of Ecology Individual National Pollutant Discharge Elimination System (NPDES) Permit prior to construction. The applicant will develop a Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of the Permit.
 - b. As part of the SWPPP, the applicant will prepare a temporary erosion and sediment control (TESC) plan. The TESC plan will address excavation, grading, and erosion control measures, both during construction and restoration of temporarily disturbed areas. On completion of the construction activities, all work areas, except any permanent access roads will be regraded so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion. Revegetation will be implemented for all areas temporarily disturbed by the construction of the facility in accordance with the terms of the *Vegetation Management Plan* (Attachment G to the SEPA Checklist).
 - c. Construction zones and areas to be disturbed will be well-defined, limited in extent, and managed by onsite inspectors and construction managers.
 - d. Periodic inspection will be made of erosion control measures, and as required after precipitation events. Erosion control measures will be repaired or replaced as necessary.
 - e. Berms and other water-channeling measures will be used to direct stormwater runoff to appropriate detention ponds, where necessary.
 - f. Barriers and other measures including hay bales, silt fences, and straw mulches will be used to minimize and control soil erosion.
 - g. Cut slope design for roads will not exceed the soil strength limits. Potentially unstable areas will be identified in the design process and avoided during construction. Site grading will be implemented to achieve stable, non-erosive slopes.
 - h. The seismic site class according to the International Building Code will be determined during subsequent geotechnical investigations. Structures and tower foundations will be designed to withstand anticipated seismic loads.

- i. For the final design phase, a detailed geotechnical investigation and testing program will be conducted to evaluate the engineering properties of the soil.
 - j. In the event of a volcanic eruption that could damage or impact project facilities, the project facilities would be shut down until safe operating conditions return. If an eruption occurred during construction, a temporary shutdown would likely be required to protect equipment and human health.
2. At a minimum, the construction contractor will implement the following erosion-control measures during construction:
 - a. Maintenance of vegetative buffer strips between the areas affected by construction activities and any receiving waters;
 - b. Installation of sediment fence and straw bale barriers;
 - c. Straw mulching at locations that have suffered impacts;
 - d. Provision of temporary sediment traps downstream of intermittent stream crossings;
 - e. Provision of sediment-type mats downstream of perennial stream crossings
 - f. Planting of designated seed mixes at affected areas; and
 - g. Installation of a sediment fence along the downslope side of pulling and tensioning areas, as appropriate.
3. The construction contractor will reseed all areas affected by the construction. Where installed, sediment fences and check dams will remain in place until the affected areas are well vegetated and the risk of erosion has been eliminated. The construction contractor may remove the sediment fence at that time.
4. The construction contractor will construct roadways so that natural surface drainage is maintained.
5. If project structures are to be located on steep slopes, the construction contractor will located them to avoid potential landslides or rockfall hazards.
6. Geotechnical Investigation for Final Design: The subsurface conditions and engineering properties of the soils across the site can influence the engineering design and construction. Each of the components of the facility requires specific design calculations, drawings, and final engineering design for successful construction and future operation. Therefore, during final design of the facility a detailed geotechnical investigation and testing program will be conducted to evaluate the engineering properties of the soils. The information from the geotechnical investigation will be used to design the foundations securing the solar modules, inverter pads, and substation; and design proper roadway sections to carry the anticipated traffic loads, as well as applicable portions of the Kittitas County Code.
7. The Geotechnical Investigation for Final Design will consist of a combination of soil borings and test pits. Shallow sampling (upper 5 feet of soil) is typically targeted for access roads. Soil samples at the anticipated bearing layers of the solar modules (between 5 and 10 feet deep) will be collected to evaluate foundation conditions and soil strength. Samples collected during the investigation will be tested for engineering properties including compressive strength, Atterberg limits, grain size, moisture content, and compaction. Based on the soil properties, geotechnical analyses will be used to calculate bearing capacity for proper foundation and access road design.
8. Foundations and structures will be designed to withstand high winds, snow loads, and seismic events. The site may have multiple foundation types to match the ground conditions and type of mounting structure used. The embedment will be to a depth of approximately 8 feet. The foundation design will depend on the engineering soil properties as determined by the geotechnical engineering analysis.

1.4 SEPA Mitigation for Earth

None needed.

1.5 Code Mitigation for Earth

1. The project will comply with all State construction standards, and will obtain necessary approvals pertaining to Earth form state agencies, including a National Pollutant Discharge Elimination System (NPDES) construction stormwater permit, which shall require a Stormwater Pollution Prevention Plan (SWPPP) and a Temporary Erosion and Sediment Control plan (TESC) (see also conditions for “Water” below).
2. The project will comply with all State construction standards, and will obtain necessary approvals pertaining to Earth form state agencies, including a National Pollutant Discharge Elimination System (NPDES) construction stormwater permit, and a Stormwater Pollution Prevention Plan (SWPPP) approval, including preparation of a Temporary Erosion and Sediment Control plan (TESC) (see also conditions for “Water” below).

2. Air

2.1 Description: Potential sources of emissions from the project include dust and heavy-duty-vehicle emissions during the construction phase and combustion emissions from burning of woody debris from land clearing. Construction and burning emissions will include nitrogen oxides (NO_x), carbon monoxide (CO), and particulate matter less than 10 micrometers in aerodynamic diameter (PM₁₀; dust), and will be temporary in nature. The potential for dust generation will be greatest during dry, windy weather. When the project is operational, no emissions from any source are expected. No offsite sources of emissions will affect the proposed project. Emissions from machinery are also expected

In the event the Teanaway Solar Reserve decides to terminate operation, the project site will be decommissioned and the site will be restored pursuant to a County-approved plan. Proper BMPs will be utilized to ensure fugitive dust control. No burning of project components will occur as a result of decommissioning. There will be increased vehicle use, similar to that of construction levels.

2.2 Effects Analysis for Air: As stated in the SEPA Checklist, the impacts to air from ongoing operation of the solar reserve will be negligible. Impacts from construction and burning emissions are estimated to be minor and will only be temporary (during two or three 9-month construction seasons). The applicant has prepared a *Fugitive Dust Control Plan*, as requested by the Department of Ecology. Ongoing operations of the Teanaway Solar Reserve will produce no emissions. As long as construction activities adhere to the *Fugitive Dust Control Plan* and other applicable codes and regulations, no significant adverse air quality impacts are anticipated.

2.3 Voluntary Mitigation for Air

1. The applicant has submitted a *Fugitive Dust Control Plan* (Attachment E to the SEPA Checklist) to help minimize air emissions from construction related ground disturbance and traffic, which recommends the following Best Management Practices:
 - a. Vehicles and equipment will comply with applicable state and federal emissions standards.
 - b. Vehicles and equipment used during construction will be properly maintained to minimize exhaust emissions.
 - c. Operational measures such as limiting engine idling time, minimizing driving speeds and shutting down equipment when not in use will be implemented.
 - d. Open soil areas and road surfaces will be watered. TSR expects to have one water truck onsite during construction to minimize fugitive dust. In addition, a chemical tacifier may be utilized at the request of Kittitas County.

- e. Bussing and carpooling among construction workers will be required to minimize construction-related traffic and associated emissions.
 - f. Disturbed sites will be revegetated in a timely manner with a seed mixture consistent with local vegetation.
2. TSR has also prepared a *Vegetation Management Plan* (Attachment G to the SEPA Checklist). While the voluntary measures proposed in the *Vegetation Management Plan* are directed towards preserving the diversity of plant species, the measures proposed in the *Vegetation Management Plan* will also assist in limiting dust emissions.
 3. As described above in “Earth,” an erosion and sediment control plan will be implemented to control deposition of silt in roadway which will further reduce the potential for dust generation on site.

2.4 SEPA Mitigation for Air

1. The applicant has submitted a *Fugitive Dust Control Plan* (February 2010), which has been reviewed by the Department of Ecology. The proposed project shall be constructed and operated in accordance with the *Fugitive Dust Control Plan* and other application documents, such as the *Vegetation Management Plan*. In addition, following optional mitigation measures have been suggested by Ecology to further minimize adverse air quality impacts:
 - a. Fully implement the no-burn option described in the *Vegetation Management Plan*, which includes making beneficial use of all organic matter being displaced and ensuring no waste disposal into the atmosphere or breathing air. If burning is to occur, a permit will be required from the Department of Ecology, Central Regional Office – Air Quality.
 - b. Seek and employ the cleanest possible mobile source technology reasonably available especially for construction vehicles, including using low emission vehicles wherever possible, keeping all vehicles tuned-up and running well, using the lowest sulfur fuel available, and eliminating unnecessary idling.
2. The current proposal does not contain assembly or manufacturing components. If at any time the project is changed to include these components, the applicant shall contact the Department of Ecology to discuss emissions and permit requirements. Air quality permits would be required prior to construction, and the Department of Ecology wishes to advise the applicant that sufficient lead time should be considered for any additional review and permit processing.

2.5 Code Mitigation for Air

1. The proposed project will comply with Kittitas County construction standards, including KCC Title 14.04 Building Code, which also adopts by reference The Washington State Ventilation and Indoor Air Quality Code 2006 Edition [Chapter 51-13 WAC](#).

3. Water

3.1 Description:

- a. Surface: Within the site survey area, a total of 12 wetlands were identified and six ephemeral streams were identified. There is a total of 0.97 acres of wetlands within the survey area. The applicant’s biologist presumes that all the wetlands and water bodies are potentially jurisdictional under federal regulations, but a final determination has not yet been made by the USACE. The six streams are Type 4, for which the Code requires a riparian buffer of between 10-20 feet (KCC 17A.07.010). The proposed project will not place any structures within this buffer. A 100-150-foot buffer will be

placed around wetlands 1-11 and a 150-300-foot buffer will be placed around wetland 12. No solar modules will be placed within 200 feet of these waters, and although there may be some work within 200 feet of these waters, impacts to all potentially jurisdictional wetlands and waters will be avoided. No fill or removal of material is proposed in any stream or wetland, and there will be no water diversions or withdrawals. The project is not located in a 100-year flood plain and the project does not involve any discharge of waste materials to surface waters.

- b. **Ground:** No ground water withdrawal or discharge is proposed in any phase of this project, including construction or operations. The construction crew may use water for dust suppression, but this water will be delivered to the site in water trucks from a source with an existing water right. The construction contractor will use onsite portable toilets during construction. The County Department of Public Health has stated that during construction the site must have adequate means to address the needs of the workforce bathroom facilities in the form of at least a sanitary port-a-potty that is serviced by a septic pumper approved by the Kittitas Department of Public Health and hand-washing facilities must be present and available for use.
- c. **Stormwater:** Runoff will be generated from rainfall and snowstorm events in the project area. There are two main drainage basins on the project site, the North Drainage Basin drains into the Teanaway River and the South Drainage Basin drains to a stream that flows to the Teanaway River. The natural drainage of the project site is not expected to change due to the small amount of impervious surface proposed. Waste materials are not projected to enter ground or surface waters, and waste materials stored at the staging areas will have secondary containment to prevent entrance into ground or surface waters. BMPs will be followed to minimize the release of waste materials into ground or surface waters.

In the event the applicant decides to terminate operation of the Project, the Project will be decommissioned and the site will be restored pursuant to a County-approved plan. Impacts to wetlands and streams are not anticipated during decommissioning through the use of avoidance measures and BMPs. BMPs will be also be utilized to ensure no water quality impacts from increased soil erosion and sedimentation. In addition, all waste will be disposed of by a local waste removal company to an offsite location. This will prevent any potential water contamination from oil, herbicides, or other routinely used solvents.

3.2 Effects Analysis for Water: As described in the SEPA Checklist and June 2010 *Hydrologic Analysis*, the project has been designed to minimize impacts to surface and ground water. There may be impacts related to runoff from stormwater due to site grading, vegetation removal, and increased impervious surface. As noted earlier, the applicant will also be required to obtain NPDES permit approval prior to construction. As part of that permit the applicant will be required to prepare and implement Storm Water Pollution Prevention Plan and follow Best Management Practices during construction as well as post-construction operations. Because the County's stormwater regulations and guidelines (KCC Title 12.06) do not make reference to or adopt the *Stormwater Management Manual for Eastern Washington*, it is necessary to impose a SEPA Mitigation requiring a stormwater plan to be created in compliance with the *Stormwater Management Manual for Eastern Washington*. As long as the project is designed and constructed according to the voluntary, code, and SEPA Mitigation below, no significant adverse water impacts are anticipated to result from construction, operations, or decommissioning.

3.3 Voluntary Mitigation for Water

1. The applicant has submitted a *Hydrologic Analysis* (Attachment F to the SEPA Checklist), which recommends the following mitigation measures:

- a. Stormwater BMPs will be chosen based on site-specific conditions during design and on their ability to function with and protect the natural watershed. Specific BMPs will be outlined in the National Pollutant Discharge Elimination System (NPDES) permit and the Stormwater Pollution Prevention Plan (SWPPP) that will be submitted to the Washington State Department of Ecology prior to construction of the project.
 - b. BMPs to prevent soil erosion and any downstream turbidity during construction and operation of the Teanaway Solar Reserve facilities will be outlined in the National Pollutant Discharge Elimination System (NPDES) permit and the Stormwater Pollution Prevention Plan (SWPPP) that will be submitted to the Washington State Department of Ecology prior to construction of the project. The project is highly unlikely to increase temperature in the Teanaway River due to the disconnected nature of impervious area, flow paths on the site, and distance from the project site to its discharge into the Teanaway River.
 - c. Routine vegetation management will be required to ensure vegetation growth does not interfere with the operation of any equipment on the Teanaway Solar Reserve project site. Woody vegetation removal and ongoing management will be necessary to prevent interference with solar arrays. Measures will be implemented to protect herbaceous plant cover on site, including under solar arrays. These measures include ongoing vegetation removal that will be limited to woody vegetation that could potentially interfere with safe and effective project operations and preventing non-native plant invasion into the project area.
 - d. With several drainages in close proximity to the roads, stormwater drainage infrastructure will be necessary if Loping Lane and Wiehl Road are improved. All drainage improvements will be designed and constructed in accordance with the Eastern Washington Stormwater Management Manual and the requirements of local, state, and federal jurisdictions. BMPs will also be implemented to prevent soil erosion and any downstream turbidity during construction and operation.
2. Waste materials stored at staging areas shall have secondary containment to prevent entrance into ground or surface waters. The construction contractor will also remove waste materials from the project area upon completion of construction activities. The construction contractor will implement the following BMPs to minimize the release of waste materials into ground or surface waters:
 - a. During project construction, vehicle servicing and refueling will occur offsite in a temporary staging area equipped for fuel or oil spills.
 - b. Existing roads located immediately adjacent to jurisdictional wetlands within the project area will be disused during project construction.
 - c. Construction flagging and signage will be installed to clearly identify stream and wetland buffers within the project area so that they are avoided by project activities.
 - d. Onsite vehicles will be monitored for petroleum leaks. Spills will be cleaned up immediately upon recovery and reported to the appropriate agency.
 - e. Few hazardous materials will be used during project construction or operation—primarily small amounts of lubricants and cleaning solutions. Any hazardous waste material generated by project construction or operation will be disposed of in a manner specified by local and state regulations or by the manufacturer.
 - f. Cleanup materials will be kept readily available onsite, either at the equipment storage area, O&M building or on the construction contractor's trucks.
 3. During decommissioning, BMPs shall be used to ensure no water quality impacts from increased soil erosion and sedimentation. In addition, all waste will be disposed of by a local waste removal company to an offsite location. This will prevent any potential water contamination from oil, herbicides, or other routinely used solvents.

3.4 SEPA Mitigation for Water

1. On-site stormwater management that conforms to the specifications of the *2004 Stormwater Management Manual for Eastern Washington* is required of this development. Stormwater systems shall be designed to store stormwater generated by a 24-hour, 25-year storm event. Stormwater system designs shall be prepared and stamped by a civil engineer licensed in the State of Washington. The stormwater system design shall be presented to Public Works and approved by the County Engineer prior to permit issuance. The stormwater system construction shall be certified by a licensed engineer and is required prior to issuance of a building permit. Stormwater plans shall be submitted in accordance with KCC 12.06 and 12.08.

3.5 Code Mitigation for Water

1. The project shall comply with all Kittitas County standards pertaining to water, including KCC Title 17A.07 Critical Areas—Habitat; and KCC 12.06 Stormwater Management Standards and Guidelines
2. The County Department of Public Health requires that during construction the site must have adequate means to address the needs of the workforce bathroom facilities in the form of at least a sanitary port-a-potty that is serviced by a septic pumper approved by the Kittitas Department of Public Health and hand-washing facilities must be present and available for use. If these two items are not provided, the State Department Labor and Industries Officials may be notified and applicable fines may be issued.
3. The applicant shall obtain a National Pollutant Discharge Elimination System (NPDES) permit from the Department of Ecology. This permit requires BMPs to minimize possible impacts from erosion or other impacts to soil and waterways. Increases in rainfall runoff rates and volumes will be managed by on-site infiltration to the maximum extent practicable. As required by the conditions outlined in the permit authorization, any permanent erosion-control measures will be implemented with final design of the project.
4. Section 303(d) of the federal Clean Water Act requires states to periodically prepare a list of all surface waters in the state whose beneficial uses are impaired by pollutants. Waters placed on the 303(d) list require the preparation of Total Maximum Daily Loads (TMDLs). In accordance with the standards outlined in the Teanaway Temperature TMDL and Upper Yakima Suspended Sediment, Turbidity, and Organochlorine Pesticide TMDL and the stormwater requirements for Eastern Washington, BMPs will be implemented to prevent soil erosion and any downstream turbidity during construction and operation of the Teanaway Solar Reserve facilities.

4. Plants

4.1 Description: Five natural habitat types exist within the project area surveyed for the *Sensitive Species Survey* (Attachment A to the SEPA Checklist): Ponderosa Pine Forest and Woodlands; Open Water—Lakes, Rivers, and Streams; Herbaceous Wetlands; Riparian; and Upland Aspen Forest. The project construction will require removal of vegetation during the placement of solar arrays and ongoing operations. Both temporary and permanent removal of vegetation will be required. As described in the SEPA Checklist and *Vegetation Mitigation Plan* (Attachment G to the SEPA Checklist), clearing up to 477 acres for the placement of solar panels and associated facilities is anticipated.

The project site will require clearing to address the potential for damage to the project from blown down trees, decreased power efficiency of the solar modules, the risk of fire from fuel buildup within the project area, and the need to create a 100-foot firebreak along the project's perimeters as described below. To clear the site for installing the project, trees will be harvested within the project area on an as-needed basis for facilitating the next construction phase of the project. Trees will generally be harvested to a stump level of 6 to 12 inches above ground level. The applicant will obtain a permit from WDNR and contract with a professional forester to harvest these trees in accordance with the permit. Because the bottoms of the solar modules will be approximately 3-4 feet above grade, any vegetation taller than 3 feet or expected to exceed 3 feet in height will be removed. Shrubs, grass, and groundcover will remain, to the maximum extent practicable, between rows and under the solar modules.

The project will not affect any listed Washington Department of Fish and Wildlife Priority Habitat or habitats listed under the Washington Department of Natural Resources Natural Heritage Program database. No high-value or Category I or II habitats will be affected, and mitigation has been proposed to address impacts to Category III habitats.

In the event the applicant decides to terminate operation of the project, the Project will be decommissioned and the site will be restored pursuant to a County-approved plan. Disturbed areas will be restored through replanting with a native seed mixture, approved by Kittitas County.

4.2 Effects Analysis for Plants: The proposed project will result in permanent impacts to vegetation, including maintaining cleared up to 477-acres areas in the project area to preserve efficiency of solar modules. The County and agencies have worked extensively with the applicant to evaluate and address impacts to plants, including a *Draft Tree Planting Plan* dated June 2010. Pursuant to voluntary mitigation provided in the SEPA Checklist, including the *Vegetation Mitigation Plan*, *Sensitive Species Survey*, and *Wetland Delineation Report*, in addition to additional agency SEPA mitigation measures, the combination of voluntary, SEPA, and code mitigation will bring the impact to plants of project construction, operations, and decommissioning below the level of significance.

4.3 Voluntary Mitigation for Plants

1. The applicant has conducted and prepared a *Sensitive Species Survey* to identify potential impacts to plants and animals. Pursuant to the *Sensitive Species Survey*, the following mitigation shall be implemented:
 - a. The applicant shall implement Best Management Practices wherever surface disturbance occurs during construction to avoid and reduce temporary and permanent impacts to plants to the extent possible. In the event that a state or federally listed threatened or endangered plant species is observed during project development, work will be halted immediately and a qualified biologist notified.
 - b. There remains a possibility that individuals or populations of rare plant species may be encountered in the course of project construction. In the event of such a discovery, a qualified botanist shall be retained to verify identity of the plant(s) and make recommendations for addressing the situation. All efforts shall be made to avoid disturbance to such species. If disturbance cannot be avoided, efforts shall be employed to minimize disturbance to the maximum extent practicable. If such efforts are not possible, mitigation for impacts to the plant(s) shall be required. Mitigation measures shall be specific to each plant species. Possible avoidance and mitigation measures may include the following:
 - i. Implement micrositing: slight relocations of project facilities to avoid rare plant populations;

- ii. Remove and conserve plants; replant following construction; Replant areas temporarily disturbed by construction activities with seed obtained from a qualified cultivator of rare plants; or
 - iii. Mitigate by seeding an approved off-site area with the same species. This type of mitigation requires agency approval, as well as monitoring for a defined period of time.
2. The applicant has submitted a *Vegetation Management Plan* (Attachment G to the SEPA Checklist), which recommends the following mitigation:
- a. BMPs will be implemented during construction to avoid and reduce temporary and permanent impacts to the extent practicable. In the event that a state or federally listed threatened or endangered plant or wildlife species is observed during project development, work will be halted immediately and a qualified biologist notified.
 - b. BMPs will be implemented wherever surface disturbances occur. These measures include, but are not limited to, the following:
 - i. Trees will generally be harvested to a stump level of 6 to 12 inches above ground level. TSR will obtain a permit from the WDNR and contract with a professional forester to harvest these trees in accordance with the Forest Practices Act.
 - ii. It is TSR's intent not to burn woody debris, slash, or logging refuse. Any woody debris chipped on site will be put to a beneficial use (e.g. chipped material will be sent to a compost facility, used for paper or ground cover). If burning is necessary, TSR will secure the necessary permits from the regulatory agencies and no more than approximately 130 consumable tons of material will be burned.
 - iii. Slash production from logging will use a chipper, such as the Hydro-ax, to de-limb and process slash and small trees. This will be done in confined staging areas on or next to proposed or current roadways. The resulting chips could be used as composting chips, ground cover, or erosion control material, or taken to a mulch center for recycling. Kittitas County has a new compost center north in Ellensburg, which is approximately 25 miles from the project site. No slash or brush piles permanently left on the project site to inadvertently impact herbaceous vegetation cover.
 - iv. All trees, shrubbery, and other vegetation not designated for removal will be protected from damage caused by the project construction.
 - v. Areas of temporarily disturbed by construction activities will be seeded with the specified seed mix.
 - vi. Install filter bags, sediment fences, sediment filter fabric traps, and graveled construction accesses as necessary for erosion control, where possible.
 - vii. Cover stockpiles with impervious materials when unattended or during rainfall.
 - viii. Locate construction staging areas for storage, maintenance, and fueling of construction equipment minimum of 150 feet from creeks or wetlands. Show staging areas on the construction plans.
 - ix. Petroleum products and other harmful material will be prevented from entering wetland or waterways at all times.
 - x. Upon completion of construction, seed or plant all areas of temporary disturbance due to construction activities with native plants.
 - xi. Erect construction fencing along buffered boundaries of all wetland and riparian areas and aspen groves within the proposed project site prior to construction to avoid inadvertent impacts to these habitats.
 - xii. Monitor areas used for staging after construction to determine if impacts to these areas are temporary. If weeds invade or native plants on these sites appear to be dead or unhealthy the year following construction, weeds will be controlled and these areas will be overseeded with the same seeding mixture described for other disturbed areas.

- xiii. Where seeding is necessary, seeding mixture consisting of 12 pounds of PLS from a certified weed-free source will be planted on this prepared surface at a ratio of 4 pounds of bluebunch wheatgrass (*Pseudoroegneria spicata*), 2 pounds of Idaho fescue (*Festuca idahoensis*), 2 pounds of prairie junegrass (*Koeleria macrantha*), 2 pounds needle-and-thread grass (*Hesperostipa comata*), 1 pound of arrowleaf balsamroot (*Balsamorhiza sagittata*), and 1 pound of silky lupine (*Lupinus sericeus*).
 - c. The following BMPs for noxious weed control will be presented to the Kittitas County Noxious Weed Control Board (NWCB).
 - i. Weed monitoring and any necessary control efforts will be completed annually.
 - ii. Ground application of herbicides will be with a dripless wand applicator carried over the site either on foot in a backpack sprayer or in a tank on a rubber-tired all-terrain vehicle (ATV). Herbicide(s) used will be limited to types that do not move through the soil and whose affect is immediate but short-lived. Herbicide(s) used will be approved for use near or in wetlands to avoid unintentional affects to aquatic species.
 - iii. Herbicide mixes will be colored with dye to aid in post-application monitoring.
 - iv. The first pass of each application will be made parallel to the buffer zones in such a way that chemicals cannot drift into the buffers.
 - v. Wetland buffers will be maintained and are described in detail in Attachment B to the SEPA Checklist, *Wetland Delineation Report*.
3. As described in the *Draft Tree Planting Plan*, trees with a diameter at breast height (dbh) of 3 inches or greater removed for the Project will be replanted with seedlings at a 3:1 ratio. Although there is no legal requirement for this mitigation the applicant has committed to undertaking efforts that will further the long term sustainability of the land. This measure will provide greater carbon sequestration, wildlife habitat, and soil stabilization opportunities than are currently available onsite.
 4. The applicant formed a Technical Advisory Committee (“TAC”) to address mitigation for tree replacement. TAC members include Teanaway Solar Reserve, LLC, Kittitas County, Kittitas County Fire Marshal’s Office, WDNR, WDFW, and the primary landowner American Forest Land Company. Two meetings of the TAC have been held. The first meeting took place on May 18th, 2010 and the second meeting was on June 24th, 2010. Once plantings are in place, the success of plantings will be monitored annually for 3 years by TSR by installing monitoring plots. Plots will be monitored for seedling survival for the duration of 3 years. If the viable seedlings meet or exceed 150 stems 3 years post planting, the site is considered fully stocked and no further planting will be required. Alternatively, as described in the *Draft Tree Planting Plan*, consideration will be given to an annual survival rate of 80% of the replanted trees in lieu of stocking levels as the supplemental replanting threshold for the three year monitoring period. An annual monitoring report will be sent to Kittitas County, WDNR, and WDFW, at a minimum.
 5. Areas temporarily disturbed by construction activities, including the areas under solar arrays, will be revegetated with native species. Annual revegetation monitoring will be undertaken to ensure that all seeded revegetation sites meet a minimum cover standard of 70 percent cover composed of predominantly native species within 3 years. A general seeding mixture consisting of 12 pounds per acre of pure live seed (PLS) from a certified weed-free source will be planted on disturbed sites at a ratio of 4 pounds of bluebunch wheatgrass (*Pseudoroegneria spicata*), 2 pounds of Idaho fescue (*Festuca idahoensis*), 2 pounds of prairie junegrass (*Koeleria macrantha*), 2 pounds needle-and-thread grass (*Hesperostipa comata*), 1 pound of arrowleaf balsamroot (*Balsamorhiza sagittata*), and 1 pound of silky lupine (*Lupinus sericeus*).
 6. Several small roads segments located near wetlands will be abandoned during construction of the project to avoid impacts to the wetland resource.

4.4 SEPA Mitigation for Plants

1. According to the *Mitigation Agreement Between Washington State Department of Fish and Wildlife and Teanaway Solar Reserve LLC*, TSR shall control the spread of noxious weeds caused by the Project. Prior to construction, TSR shall present a Noxious Weed Control Plan to the Kittitas County Noxious Weed Control Board for review and approval.
2. No later than August 31st, 2010, the applicant shall submit to the County a *Final Draft Tree Planting Plan* based on review comments from the Technical Advisory Committee on the *Draft Tree Planting Plan*. Following the TAC meeting tentatively scheduled for September 2010, at which the *Final Draft Tree Planting Plan* will be discussed, the applicant shall submit the *Final Tree Planting Plan* for review and approval by the County prior to building permit issuance.

4.5 Code Mitigation for Plants

1. The project shall comply with Kittitas County standards pertaining to plant habitat, including KCC Title 17A.07 Critical Areas—Habitat

5. Animals

5.1 Description: No federal- or state-listed threatened or endangered species were found during field surveys, as described in the *Sensitive Species Survey* (Attachment A to the SEPA Checklist). A state candidate species, the white-headed woodpecker (*Picoides albolarvatus*), was observed in the northwest portion of the survey area. Biologists observed both male and female woodpeckers close to the main access road. The male was observed foraging in a stand of adult ponderosa pine, while the female was located excavating a nest in a snag approximately 10 feet from the road. According to the applicant, it is unlikely the black-backed woodpeckers will be affected by project development because activities relating to this project will not involve the documented area.

During the course of field surveys, a small herd of roughly six elk cows and two mule deer with fawns was identified in the northwest portion of the proposed project area. This area is used as a calving and fawning area during spring and summer. During fall, the herds travel east to the regions located along the Teanaway River.

In the event the applicant decides to terminate operation of the project, the Project will be decommissioned and the site will be restored pursuant to a County-approved plan.. No threatened or endangered species are present onsite, and thus no listed species will be affected. Temporary impacts in the form of increased noise levels and human activity may occur during project decommissioning; however, these are expected to be temporary in nature and will not result in permanent impacts to wildlife.

5.2 Effects Analysis for Animals:

The proposed project, including road construction, clearing for solar arrays, and construction of operations and maintenance facilities, will result in temporary and permanent impacts to habitat. The County and agencies have worked extensively with the applicant to evaluation ad address impacts to animals. Pursuant to voluntary mitigation provided in the SEPA Checklist, including the *Wildlife Mitigation Plan* (Attachment H to the SEPA Checklist) and *Sensitive Species Survey* (Attachment A to the SEPA Checklist), in addition to additional agency SEPA mitigation measures, the combination of voluntary, SEPA, and code mitigation will bring the impact to animals of construction, operations and decommissioning below the level of significance.

5.3 Voluntary Mitigation for Animals

1. The applicant has submitted a *Sensitive Species Survey*, which contains mitigation for sensitive wildlife habitats. See “Voluntary Mitigation for Plants.”
2. The applicant has submitted a *Wildlife Mitigation Plan*, which includes the following mitigation:
 - a. The proposed design of the project incorporates numerous features to avoid and/or minimize impacts on elk and elk habitat. These features are based on site surveys, experience at other similar projects, and recommendations from consultants, agencies, and experts performing studies at the site. TSR has reached an agreement with WDFW on mitigation measures, as referenced in the *Wildlife Mitigation Plan* (Attachment G to the SEPA Checklist) and contained within the County's record of decision for the Project, entitled the *Mitigation Agreement Between Washington State Department of Fish and Wildlife and Teanaway Solar Reserve LLC* (WDFW Mitigation Agreement). Features of the project that are designed to avoid or minimize impacts on elk and elk habitat include:
 - i. Ongoing coordination with agency, and private landowner's will be pursued to find ways that further minimize project-related impacts to the Colockum elk herd and enhances elk habitat within the vicinity of the project area.
 - ii. The project footprint is designed to avoid possible migration routes identified by landowners and densely forested winter habitat along the Teanaway River corridor in an effort to minimize impacts to elk movement.
 - iii. No project facilities will be placed within any riparian corridor, wetland, or stream, essentially leaving these areas undisturbed for elk forage and movement use. However, the narrow width of these areas and the fact that they would be surrounded by the solar array would likely limit use by elk.
 - iv. Artificial lighting will be directed toward project facilities to avoid light disturbance to surrounding wildlife mitigation areas and potential wildlife corridors.
 - v. The Teanaway Solar Reserve has been designed to use existing transmission corridors and roads to the maximum extent possible. Linear facilities (such as collector cable routes, transmission line routes, or access roads) will be located in or adjacent to existing disturbed corridors in order to minimize project footprint, habitat fragmentation, and habitat degradation.
 - vi. Electrical conductors between solar modules will also be installed underground to minimize impacts to elk movements. Electrical conductors from the array field to the field inverters will be supported above-ground within the solar module framework and installed per National Electrical Code standards. Collector lines between the field transformers and the substation will be below grade.
 - vii. Overall site selection will avoid all areas with documented endangered, threatened species.
 - viii. Following joint recommendations from USFWS and WDFW, no fencing will be erected along the project boundary (Draft Meeting Notes, 2009). Both agencies raised concerns in a July meeting regarding maintaining access to important elk calving and foraging habitats and migratory corridors on the project.
 - ix. A planned solar panel located between the two major solar array fields in the southwest portion of the project area was removed to allow local elk movement between the two major arrays.
 - x. The proposed project site will be restored to approximate or improved pre-project conditions including removal of solar modules and infrastructure when the project ceases operation. Surrounding lands with similar habitat will be used as reference sites to guide restoration.
 - xi. Protect all trees, shrubbery, and other vegetation not designated for removal from damage during project construction.

- xii. Install filter bags, sediment fences, sediment filter fabric traps, and graveled construction accesses as necessary for erosion control.
- xiii. Prepare and implement a Stormwater Pollution Protection Plan (SWPPP)
- xiv. Reseed all areas temporarily disturbed by construction activities, as agreed upon with landowners or as required to meet elk habitat goals. Where installed, sediment fences and check dams will remain in place until the affected areas are well vegetated and the risk of erosion has been eliminated.
- xv. During project construction, vehicle servicing and refueling will occur offsite in a temporary staging area equipped for fuel or oil spills.
- xvi. Onsite vehicles will be monitored for petroleum leaks.
- xvii. Spills will be cleaned up immediately upon discovery and reported to the appropriate agency.
- xviii. Any hazardous waste material generated by project construction or operation will be disposed of in a manner specified by local and state regulations or by the manufacturer.

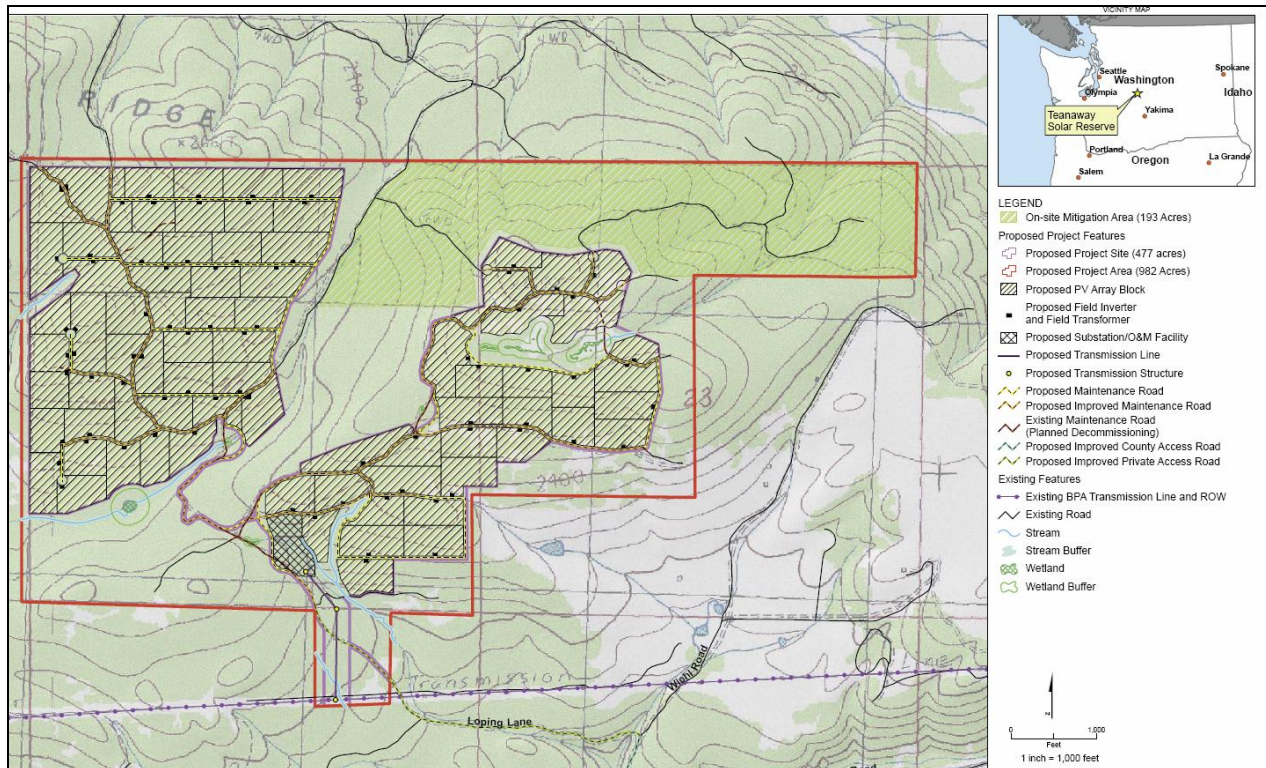
5.4 SEPA Mitigation for Animals

As a voluntary measure, TSR agreed to develop mitigation under *The Washington Department of Fish and Wildlife Wind Power Guidelines* (April 2009) ("*Wind Power Guidelines*") where feasible even though the Project is a solar facility. The WDFW Mitigation Agreement between TSR and WDFW was also developed pursuant to the *Wind Power Guidelines*. The WDFW Mitigation Agreement and applicant's voluntary mitigation contain the following requirements pertaining to animals:

1. The applicant has conducted sensitive species surveys to identify potential impacts to plants and animals. Pursuant to the *Sensitive Species Surveys for the Teanaway Solar Reserve, Kittitas County, Washington* (February 2010), the applicant shall implement Best Management Practices wherever surface disturbance occurs during construction to avoid and reduce temporary and permanent impacts to wildlife to the extent practicable. In the event that a state or federally listed threatened or endangered wildlife species is observed during project development, work will be halted immediately and a qualified biologist notified.

On-Site Mitigation

2. TSR will permanently impact 477 acres of Class II habitat, requiring a mitigation value of 2:1, or 954 acres, under *The Washington Department of Fish and Wildlife Wind Power Guidelines* (April 2009) ("*Wind Power Guidelines*"). To satisfy this mitigation in part, TSR will protect and preserve from further development, for the life of the project, a Category II area on-site of approximately 193 acres of similar elk habitat within the proposed Project Area identified as "Mitigation Area" below and in Figure 3 of the *Teanaway Solar Reserve Wildlife Mitigation Plan, Kittitas County, Washington* (February 2010).



The amount of on-site replacement habitat (193 acres) may be increased as a result of a pre-construction on-site habitat analysis jointly conducted by WDFW and TSR’s qualified biologist. The 193 acre on-site mitigation and any additional acreage approved for on-site mitigation shall be preserved and protected through a conservation easement with a non-governmental organization from further development for as long as a solar energy project remains within the project area, regardless of who holds the lease or owns the property. The conservation easement must be in a form approved by WDFW and must be completed and recorded before construction begins on the Project. If TSR is unsuccessful in recording the conservation easement for the on-site mitigation, TSR will either contribute money to a mutually acceptable third party that owns or will purchase mitigation habitat or pay WDFW a fee as provided for in “Off-Site Mitigation” below.

3. Several existing roads located within the northeast parcel which are not used to access WDNR property, will be restricted for general use to minimize human impacts on elk.
4. To reduce impacts to elk, visual barriers will be created and reasonably maintained between (1) the array fields and Mitigation Area, and (2) along the corridor between the arrays. These barriers will consist of local native coniferous trees (ponderosa pine and Douglas fir) placed and maintained in such proximity and density to provide a visual screen approximately 8’ or greater in height within 6-8 years after planting. It must be noted that this is a vegetation requirement independent of tree stocking criteria required by the Washington Department of Natural Resources, and that soils, weather, elevation, drainage, planting density, nutrients, fire, wind and other factors heavily influence the rate of growth and mortality of trees and other vegetation. Accordingly, TSR cannot guarantee that any vegetation barrier will block all views of the Project at any particular location or time. WDFW does not oppose any trees used for the visual barriers counting towards fulfillment of TSR’s 3:1 tree replacement mitigation for the CUP. The Technical Advisory Committee shall guide in the location and placement of the trees, provided that creation of the visual barriers cited above shall be the first priority of the tree replacement program.

5. TSR shall design and engineer the Project to avoid and/or minimize impacts on elk and elk habitat. The Project already includes, or shall include, the following design features and commitments:
- a. The Project footprint is designed to avoid, or minimize impacts on, possible migration routes previously identified by landowners and densely forested winter habitat along the Teanaway River corridor.
 - b. No Project facilities will be placed within any riparian corridor, wetland, or stream. Stream buffers will be flagged and clearly marked to prevent inadvertent clearing by construction crews.
 - c. Artificial lighting will be directed on Project facilities to avoid light disturbance to surrounding wildlife mitigation areas and potential wildlife corridors.
 - d. Electrical conductors from the array field to the inverters will be supported above-ground within the solar module framework and installed per National Electrical Code standards. Collector lines between field transformers and the substation will be below grade.
 - e. Overall site selection is designed to avoid all areas with documented endangered, threatened species.
 - f. No fencing will be erected along the boundary of the Project Area to help maintain access for large mammals and minimize disruption of movement or migration of wildlife.
 - g. TSR will not place a planned solar panel between the two major solar array fields in the southwest portion of the Project Area to provide opportunity for wildlife movement between the two major arrays. Vegetation within the corridor will not be altered.
 - h. During the initial timber clearing process, TSR will temporarily stockpile (up to one year), load and haul up to 100 trees greater than 14" dbh cut from the project site for use by WDFW or third party in stream projects within the upper Yakima River Basin. The trees will remain in lengths of 40-45 feet wherever possible. WDFW or third party will be responsible for identifying a location for TSR to haul and deposit the trees, and shall provide TSR notice requesting the trees within the one year stockpiling period.
 - i. TSR shall install filter bags, weed free mulches, sediment fences, sediment filter fabric traps, and graveled construction accesses as necessary for erosion control. The primary means of erosion control will involve methods that preclude initial mobilization of fines and sediment rather than attempting to catch or trap it after mobilization. Straw mulches and similar mechanisms will be used to prevent erosion and mobilization of sediment contaminated runoff.
 - j. TSR shall ensure that the hydrology of the seasonal streams on-site is not altered.
 - k. TSR shall reseed areas temporarily affected by construction activities using seed sources of native biotypes. Where installed, erosion control mulches, sediment fences and check dams will remain in place until the affected areas are well vegetated and the risk of erosion has been eliminated.
 - l. During project construction, vehicle servicing and refueling will occur in a temporary staging area equipped for fuel or oil spills.
 - m. Onsite vehicles used during construction, operation, maintenance, and decommissioning will be monitored for petroleum leaks.
 - n. Spills will be cleaned up immediately upon discovery and reported to the appropriate agency. Equipment found to be visibly leaking petroleum products will not be used at the project site until repaired.
 - o. Any hazardous waste material generated by project construction or operation will be disposed of in a manner specified by local and state regulations or if there are no applicable regulations, according to the manufacturer's recommendations.
 - p. Cleanup materials will be kept readily available onsite, either at the equipment storage area, O&M building or on the construction contractor's trucks.
 - q. Speed limits on access roads will be set at 20 m.p.h. in order to minimize vehicle strikes on wildlife.
 - r. The Project site will be restored to approximate or improved pre-project conditions as provided in TSR's Development Agreement. Surrounding lands with similar habitat will be used as reference

sites to guide restoration. The project site will be revegetated with plant species and densities representative of undisturbed areas adjacent to the site.

Off-Site Mitigation

1. The *Wind Power Guidelines* suggest two fundamental mitigation approaches for mitigating permanent impacts to habitats by wind energy projects: Mitigation “be fee” and, secondarily, acquisition of replacement habitats. The Project will permanently impact 477 acres of Class II habitat, requiring a mitigation value of 2:1, or 954 acres, under the *Wind Power Guidelines*. As provided above, a maximum of approximately 193 acres of the remaining 505 undeveloped acres within the Project Area will be considered mitigation habitat; *provided* that the amount of on-site replacement habitat (193 acres) may be increased as a result of a pre-construction on-site habitat analysis jointly conducted by WDFW and TSR’s qualified biologist, and provided that this mitigation habitat it not altered or developed, and is managed exclusively for fish and wildlife benefit as long as any form of type of solar energy project remains on the 477 acres referenced above. Moreover, this 193 acre on-site mitigation and any additional acreage set aside for on-site mitigation must be secured by a conservation easement as provided for above (On-Site Mitigation). In accordance with the *Guidelines*, TSR will provide off-site mitigation for the number of remaining acres necessary to satisfy its 2:1 habitat mitigation (Mitigation Obligation) through fee or habitat acquisition.
2. Consistent with the *Wind Power Guidelines*, TSR may satisfy its remaining Mitigation Obligation either by purchasing mutually acceptable mitigation habitat and deeding it to WDFW or a mutually acceptable third party, contributing money to a mutually acceptable third-party that owns or will purchase mitigation habitat, or by paying to WDFW a fee of one-thousand four hundred fifty dollars (\$1450.00) per acre plus \$30,000.00 or the actual funds necessary, for appraisal costs, a hazardous waste assessment, closing costs, and transaction time invested by WDFW real estate staff. WDFW and TSR agree in utilizing any of the proceeding approaches for TSR to satisfy habitat permanently impacted by the Project shall be a priority. The mitigation proposed by TSR will be subject to WDFW’s final approval and such approval will not be unreasonable withheld. If TSR has not satisfied its mitigation obligation prior to commencing construction, TSR will provide a letter of credit, bond, or other financial security to WDFW in an amount and form sufficient to provide for its Mitigation Obligation prior to commencing operation of the Project.

5.5. Code Mitigation for Animals:

1. The project shall comply with all Kittitas County standards pertaining to animals, including KCC Title 17A.07 Critical Areas—Habitat.

6. Energy & Natural Resources

6.1 Description: Minimal amounts of energy will be used to meet the completed project’s energy needs, such as heating and lighting the Operations and Maintenance facility. After commencing operations, all energy used onsite will be derived form the solar energy facility. The proposal will not inhibit the ability of nearby properties to use solar energy. As stated in the project file, the new 345-kV Project transmission line will connect to an existing Bonneville Power Administration (BPA) network transmission line. This line is commonly referred to as BPA’s Rocky Reach to Maple Valley 345 kV transmission line. Although BPA is expected to assume ownership of the substation and transmission line, the Project described in the SEPA Checklist is inclusive of all facilities and resources required to up to the BPA interconnection and the corresponding environmental analysis is complete. TSR submitted its

request to BPA for interconnection service (request G0393, effective 11/17/2009 at 9:30 am) and its request is currently under consideration by BPA.

In the event the applicant decides to terminate operation of the project, the Project will be decommissioned and the site will be restored pursuant to a County-approved plan.. The decommissioning effort will not require additional energy consumption and will not affect the potential solar energy use of adjacent properties. Accordingly, no significant unavoidable adverse environmental impacts from construction, operation, decommissioning, or restoration of the proposed project are expected.

6.2 Effects Analysis for Energy & Natural Resources: The proposed project will produce solar energy for regional distribution. The facility itself will have minimal operational energy needs, all of which will be provided by the onsite solar facilities. All structures will be required to comply with applicable County construction codes, including those addressing energy efficiency. Any impacts on BPA's transmission system will be determined and addressed by BPA in response to a request for interconnection service. A request for interconnection service from BPA, if granted, is a federal action subject to the requirements of the National Environmental Policy Act ("NEPA"). BPA considers interconnection requests in accordance with the rules and procedures set forth in BPA's Open Access Transmission Tariff ("OATT") and portions most relevant to interconnection requests are found at "Attachment J" (beginning at p.152) and "Attachment L" (beginning at page 191). BPA's jurisdiction to determine and impacts to the transmission system pursuant to its OATT is exclusive. The construction, operation, and decommissioning of the proposal will not cause significant adverse impacts to energy and natural resources.

6.3 Voluntary Mitigation for Energy & Natural Resources

None needed.

6.4 SEPA Mitigation for Energy & Natural Resources

None needed.

6.5 Code Mitigation for Energy & Natural Resources

1. The project shall comply with KCC Title 14 Buildings and Construction, including KCC 14.04.010.7 adopting the Washington State Energy Code.

7. Environmental Health

7.1 Description: Environmental Health considers such areas as hazardous substance use and storage, risk of explosions or accidents, and noise. According to the SEPA Checklist, once the project is completed, there will be minimal exposure to toxic chemicals, risk of fire and explosion, spill, noise, or hazardous waste. The solar modules are silicon based and do not contain hazardous materials such as cadmium which is used in some other types of solar modules. The modules do contain a small amount of lead solder which is fully encapsulated. Even in the event of damage to the modules, there is no potential for the lead to be released into the environment." At the end of this 25-year life cycle, the solar modules will be recycled by the manufacturer.

During construction, the construction contractor may use small amounts of lubricants and solvents and will follow appropriate measures to prevent spills and contamination. Except for fuel and oil used in construction equipment, the construction contractor will use no combustible materials. During construction activities, the potential for fires and accidents may exist. However, the construction

contractor will construct the project in accordance with applicable federal, state, and County regulations that pertain to fire prevention, presuppression, and suppression.

During construction, the project will expose nearby residences to increased noise from construction equipment. Sources of potential noise during construction include vehicular traffic noise and equipment noise such as chainsaws, rollers, bulldozers, pile drivers, and diesel engines. Typical equipment the construction contractor is likely to use during construction includes pickup trucks, line trucks, graders and bulldozers, backhoes, boring equipment, tractor-trailers, cranes, drum pullers and tensioners, harrows, and broadcast seeders. Construction equipment typically produces noise levels of 75 to 90 decibels on an A-weighted scale (dBA) at a distance of 50 feet from the construction activity. Noise levels from construction equipment will vary and will be temporary in nature. Construction will occur during daylight hours (7 a.m. to 7 p.m.) and is anticipated to last for several weeks at a given location for up to 9 months over a period of 2 to 3 years. Sources of noise during operations, such as solar tracking devices, transformer and switchgear noise from substations, corona noise from transmission lines, vehicular traffic noise, and maintenance facility noise, are expected to be minimal. Finally, the applicant has submitted an Electric and Magnetic Fields (EMF) Analysis for the Project. This analysis concluded that EMFs associated with the Project will be comparable to those already present on the site.

Subject to final BPA substation design, the substation area following construction is expected to be generally flat, and the base area will be graded and covered with a sub-base rock and a graveled surface on top. Foundation and underground trenching excavation spoils would be handled in the same manner as described in the above sections regarding foundations and underground cable trenches. Disturbed areas surrounding the substation perimeter will be contoured to the natural grade, covered in straw mulch, protected for erosion control, and re-seeded as appropriate to the adjacent slopes. The substation transformers, which are typically filled with mineral oil, are equipped with an oil level meter and float switch. Oil containment catch trenches would surround the outer foundation perimeters of transformers.

In the event the applicant decides to terminate operation of the project, the Project will be decommissioned and the site will be restored pursuant to a County-approved plan. All waste will be disposed of by a local waste removal company to an offsite location in accordance with all applicable laws. This will prevent any potential hazard of human exposure from oil, herbicides, or other routinely used solvents. It is unlikely that emergency services will be necessary during the decommissioning and restoration effort; however, the Kittitas County Planning Department and Kittitas County Fire District 7 will be notified prior to the engaging in decommissioning and restoration. Noise levels during decommissioning of the solar facility components and other related appurtenant improvements will be similar to construction levels. This noise will be localized and temporary. To minimize noise impacts, the decommissioning and site restoration efforts will be limited to daylight hours (7 a.m. to 7 p.m.), and all equipment will have sound-control devices.

7.2 Effects Analysis for Environmental Health: The completed project will generate little noise, and carry little risk of EMF or hazardous material exposure, explosions, or accidents. However, during construction, there will be increased noise levels, some exposure to flammable substances (fuel and oil from construction equipment), and increased risk of accident. The applicant has proposed several voluntary mitigation conditions to address these impacts. The County code also addresses noise impacts and setback requirements to separate various land uses. The combination of voluntary mitigation and code mitigation adequately reduces the impacts to environmental health impacts of project construction, operations, and decommissioning below a level of significance.

7.3 Voluntary Mitigation for Environmental Health

1. TSR will construct the project to comply with applicable federal, state, and industry standards that address environmental health standards, such as clearances, grounding, lightning protection, and fire protection.
2. During construction, the construction contractor will implement standard safety measures to reduce or control environmental health hazards. The construction contractor will employ the following BMPs to reduce or control the potential for environmental health hazards:
 - a. Monitoring onsite vehicles for petroleum leaks; the construction contractor will clean up spills immediately upon recovery and report such spills to the appropriate agency.
 - b. Disposing of hazardous waste material generated by project construction and operation in a manner specified by local and state regulations or by the manufacturer.
 - c. Keeping cleanup materials readily available onsite, either at the equipment storage area or on the construction contractor's trucks.
3. PV arrays will be set back 100 feet from the perimeter of the property to allow for proper firebreaks. In addition, spacing between PV arrays will be 10 feet, to provide for adequate maintenance and fire prevention space.
4. During operation, TSR will continue to implement applicable BMPs to reduce or control environmental health hazards.
5. Noise levels during construction of the solar facility components and other related appurtenant improvements will depend on the specific construction methods used. Construction noise will be localized and temporary.
6. To minimize noise impacts, the construction contractor will limit construction activities to daylight hours (7 a.m. to 7 p.m.), and all equipment will have sound-control devices.
7. In addition, the following contractor practices are recommended to minimize the effects of construction noise in the project area:
 - a. Do not allow heavy-duty haul trucks to travel through the City of Cle Elum during evening or nighttime hours.
 - b. Maintain equipment in good working order and use adequate mufflers and engine enclosures to reduce equipment noise during operation.
 - c. Coordinate construction vehicle travel to reduce the number of passes by sensitive receivers.
 - d. Do not allow haul trucks to park and idle within 100 feet of a residential dwelling.

7.4 SEPA Mitigation for Environmental Health

None needed.

7.5 Code Mitigation for Environmental Health

1. The project shall comply with KCC Chapter 9.45 Public Peace Safety and Morals—Noise; and KCC Chapter 17.28A Zoning—Agriculture-3

8. Land Use

8.1 Description: The site is currently zoned Forest and Range and is designated “Rural” by the Kittitas County Comprehensive Plan. The site was most recently selectively logged in 2001–2002, and existing site vegetation consists of low grasses, shrubs, and plants with scattered 50- to 60-foot, 6- to 18-inch-diameter ponderosa pine (*Pinus ponderosa*) trees. The adjacent properties are zoned Commercial Forest (CF), Rural 3, and Forest and Range (see Figure 6 *Land Use/Zoning Map* in SEPA Checklist) with some residences located on adjacent properties (see Figure 5a *Proximity to Closest Residences* in SEPA Checklist).

There are no existing structures on the project site. The applicant selected the site in part to optimize significant insulation capacities and sunlight, optimize slopes for year-round energy production, provide adequate site accessibility, avoid environmentally sensitive areas, and minimize visibility from offsite locations.

The proposed project will not be located within 200 feet of any rivers designated under the shoreline master program. The closest river with such a designation under Washington Administrative Code (WAC) 173-18-230 is the Teanaway River, which is located approximately 1.0 mile from the proposed project site. The project site contains wetlands, to which impacts will be avoided or mitigated, as described above in “Water.” There are no residences on the subject site; therefore no residences will be displaced as a result of the proposal.

The project is defined as a “*Major alternative energy facility*” in KCC Section 17.61.010(9) and may be authorized in the Forest and Range zoning district through approval of a Conditional Use Permit per KCC Section 17.61.020(4). The County has determined that the size and complexity of the project generate the need for a Development Agreement (DA) between TSR and the County.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. The applicant has stated that all critical areas will be avoided during decommissioning, that decommissioning will adhere to the construction buffers of 150 feet for each wetland and 20 feet for each stream, and that BMPs will be utilized to ensure no water or wind erosion associated with the removal of the project’s components and site restoration.

8.2 Effects Analysis for Land Use: The proposed project is an allowed use in Rural lands zoned “Forest and Range,” subject to approval of a Conditional Use Permit. No shoreline environments will be directly impacted by this project. As required by code, the applicant is seeking a Conditional Use Permit and will enter into a Development Agreement. Aspects of the Development Agreement include modification of the setback requirements of lands adjacent to the Commercial Forest zoning district (KCC 17.56.065), as well as modification of structure height for transmission towers (KCC 17.56.070). Modification of the Commercial Forest setback to 100 feet, modification of structure height to allow transmission towers to be up to a maximum of 150-foot tall, and compliance with other zoning code requirements are adequate to prevent significant adverse land use impacts.

The impacts to land use of project construction, operations, and decommissioning will not be significant.

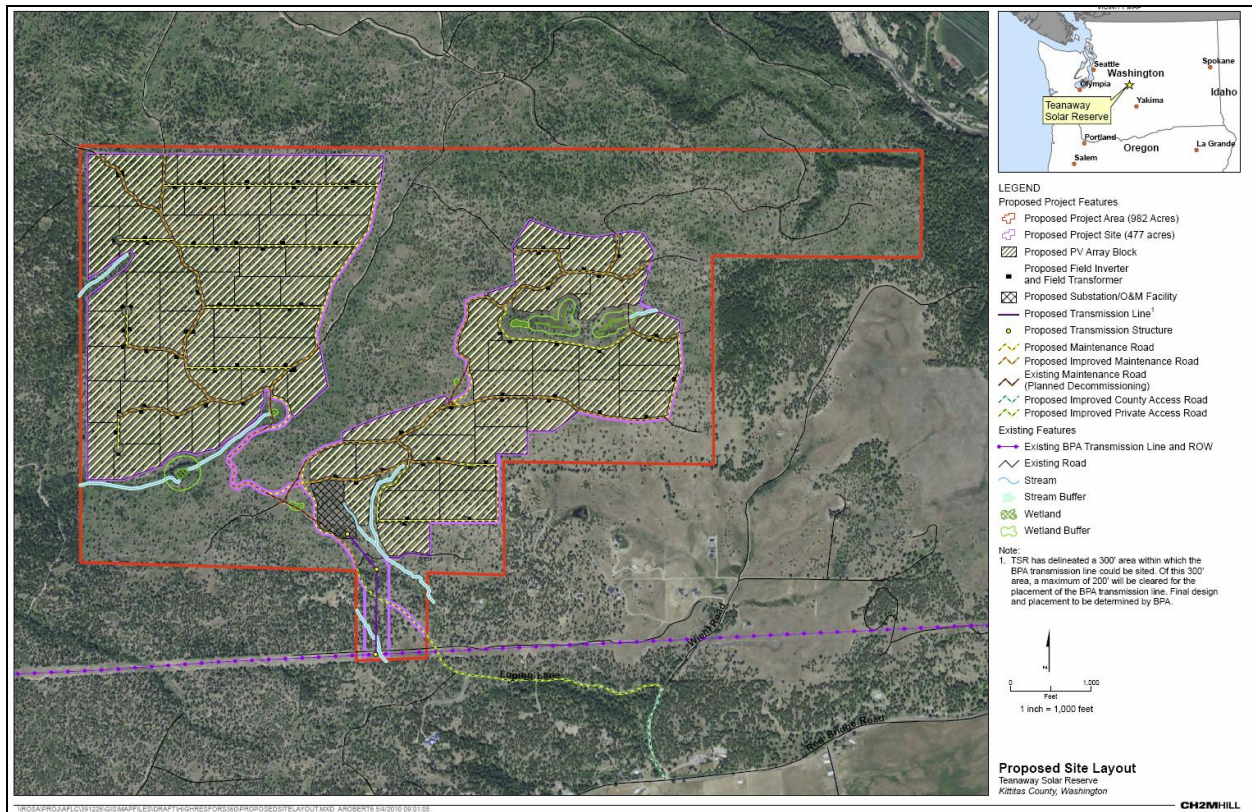
8.3 Voluntary Mitigation for Land Use

1. The applicant has reduced the Project Site from an originally proposed size of 580 acres to the current proposal of 477 acres.

2. The applicant has designed the site layout to minimize impacts of major facilities on adjacent residences.
3. In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored. The decommissioning and restoration obligations will be set forth in the Development Agreement.

8.4 SEPA Mitigation for Land Use

1. The width and location of the transmission corridor, the location of the substation facility, and the southeasterly edge of the southern solar module field shall be located no closer to residences than shown on the proposed site layout below.



2. The northern solar module field shall be setback at least 100 feet from adjacent properties zoned Commercial Forest.

8.5 Code Mitigation for Land Use

1. This project must comply with KCC Chapter 17.61 Utilities, Chapter 17.60A Conditional Uses, and Chapter 15A.11 Development Agreements.

9. Housing

9.1 Description: The proposed project does not include the development of any housing units. Because project construction will require an estimated 450 workers per construction period, it is appropriate to consider housing of construction workers. TSR is committed to utilizing a local workforce and thus, the

number of construction workers expected to be transient to Kittitas County will be small enough that adequate temporary housing provided by hotels and motels is available to meet project needs. No temporary housing units will be developed as part of the proposed project. According to the Cle Elum Roslyn Chamber of Commerce (2009), approximately 20 hotels and motels are available in the Cle Elum Roslyn area. During the summer months, when construction will predominantly occur, the number of vacant rooms ranges from 102 to 417 rooms.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. The number of decommissioning and restoration workers expected to be transient to Kittitas County will be small enough that adequate temporary housing provided by hotels and motels is available to meet project needs. Accordingly, no significant unavoidable adverse impacts from construction, operation, decommissioning, or restoration of the proposed project are expected.

9.2 Effects Analysis for Housing: The proposed project will have a minimal impact on housing. No new housing will be constructed, and the housing demand created by the seasonal construction work will be accommodated by 1) utilizing local workforce who can commute to and from the worksite daily, and 2) the local supply of hotels, which have capacity to accommodate the temporary workforce. The impacts to housing of project construction, operation, and decommissioning will not be significant; therefore no further mitigation is needed

9.3 Voluntary Mitigation for Housing

1. TSR is committed to utilizing a local workforce and thus, the number of construction workers expected to be transient to Kittitas County will be small enough that adequate temporary housing provided by hotels and motels is available to meet project needs.

9.4 SEPA Mitigation for Housing

None needed.

9.5 Code Mitigation for Housing

None needed.

10. Aesthetics

10.1 Description: Aesthetics include areas such as structure height and views. The tallest structures associated with the proposed project will be structures associated with the proposed powerline route to interconnect with the grid. Although the final engineering designs of the transmission line and substation will be determined by BPA, the transmission line structures will not exceed 150-feet in height. In addition, an A-frame dead-end structure at the project substation to which the transmission line would connect would be 120-feet high. The length of the transmission line between the substation and the BPA transmission line will be approximately 3,000 feet. The tallest structure in the completed project, other than those associated with the transmission line, will be components associated with the Operations and Maintenance building, which will be approximately 24 feet in height.

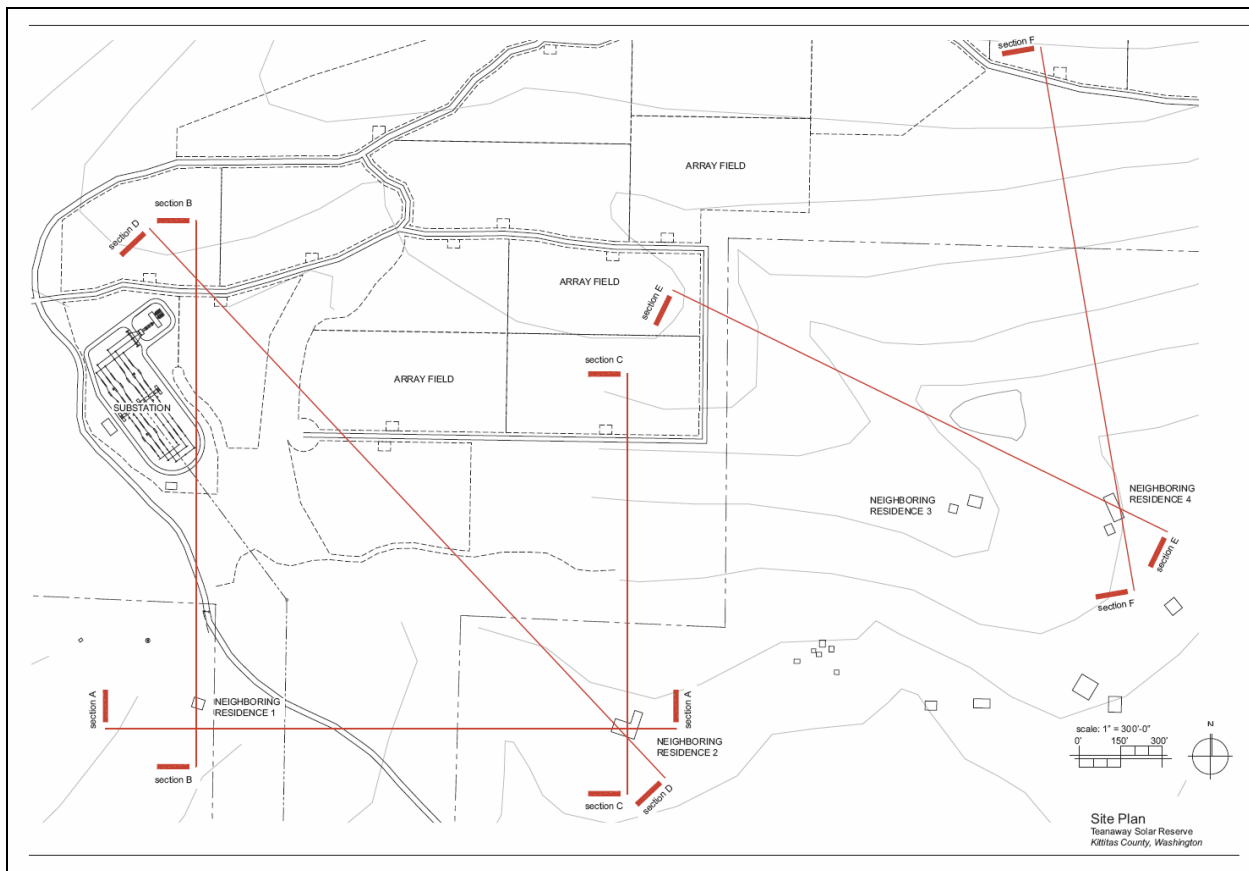
A geographic information system (GIS)-based zone of potential visual influence assessment was conducted for the project (see *Teanaway Solar Reserve Potential Visual Impact Assessment*, Attachment L to the SEPA Checklist).

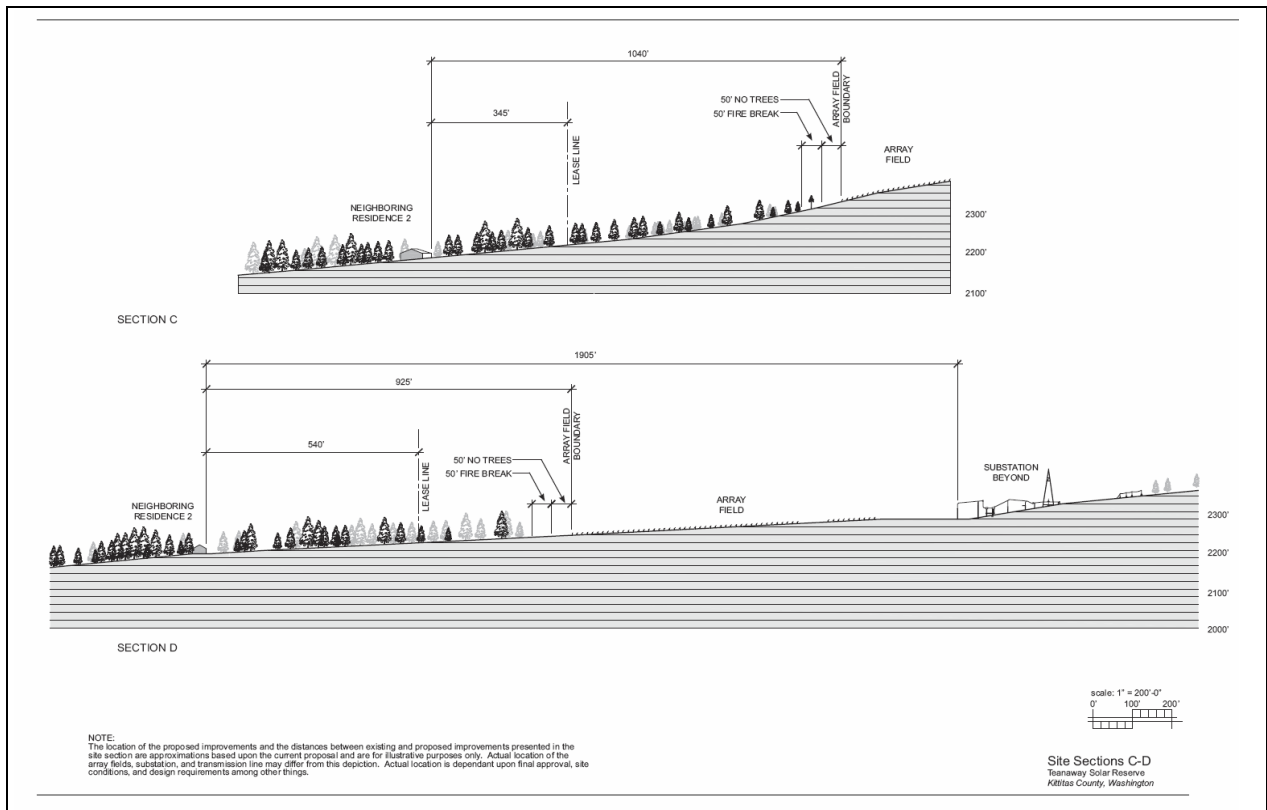
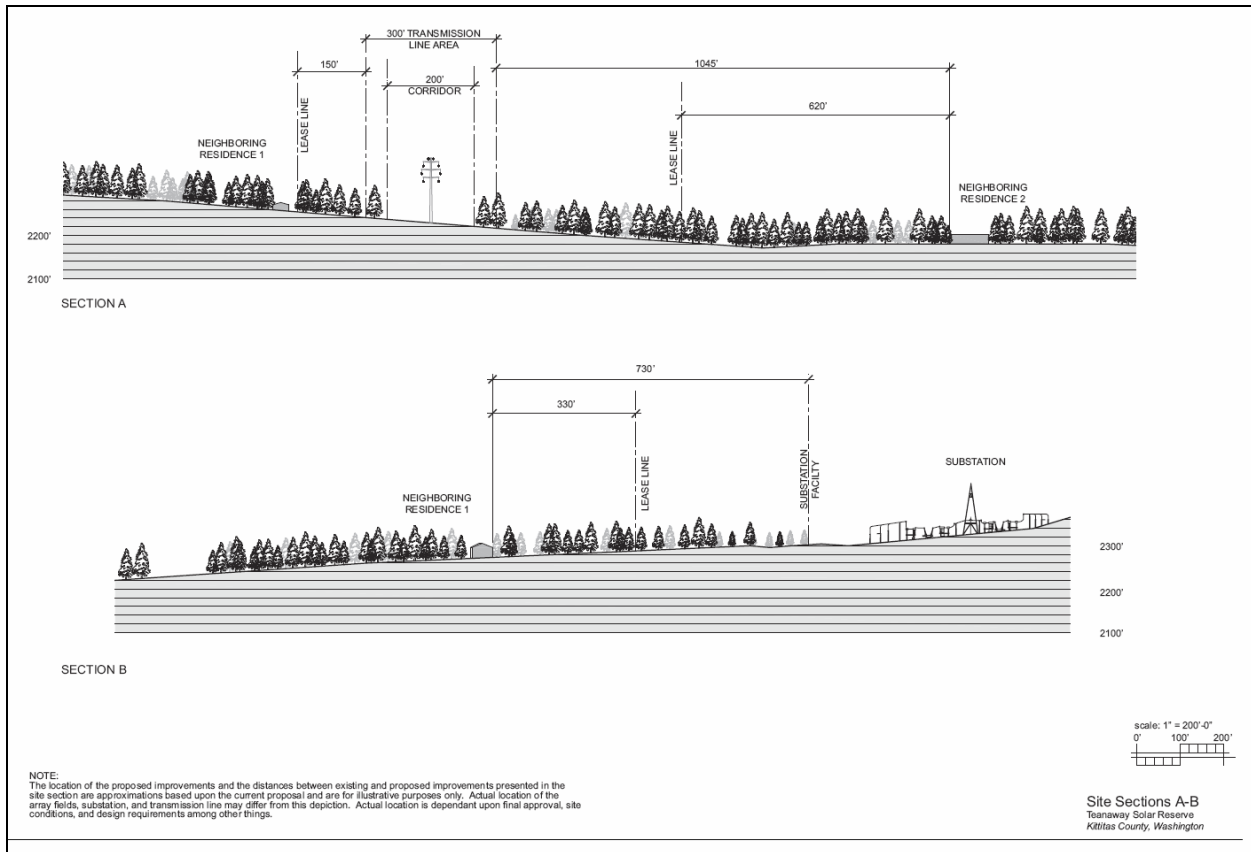
The *Potential Visual Impact Assessment* indicates that because the proposed site is located on a sloping “bench,” above Cle Elum and the Teanaway Valley, it would not be visible from many important nearby

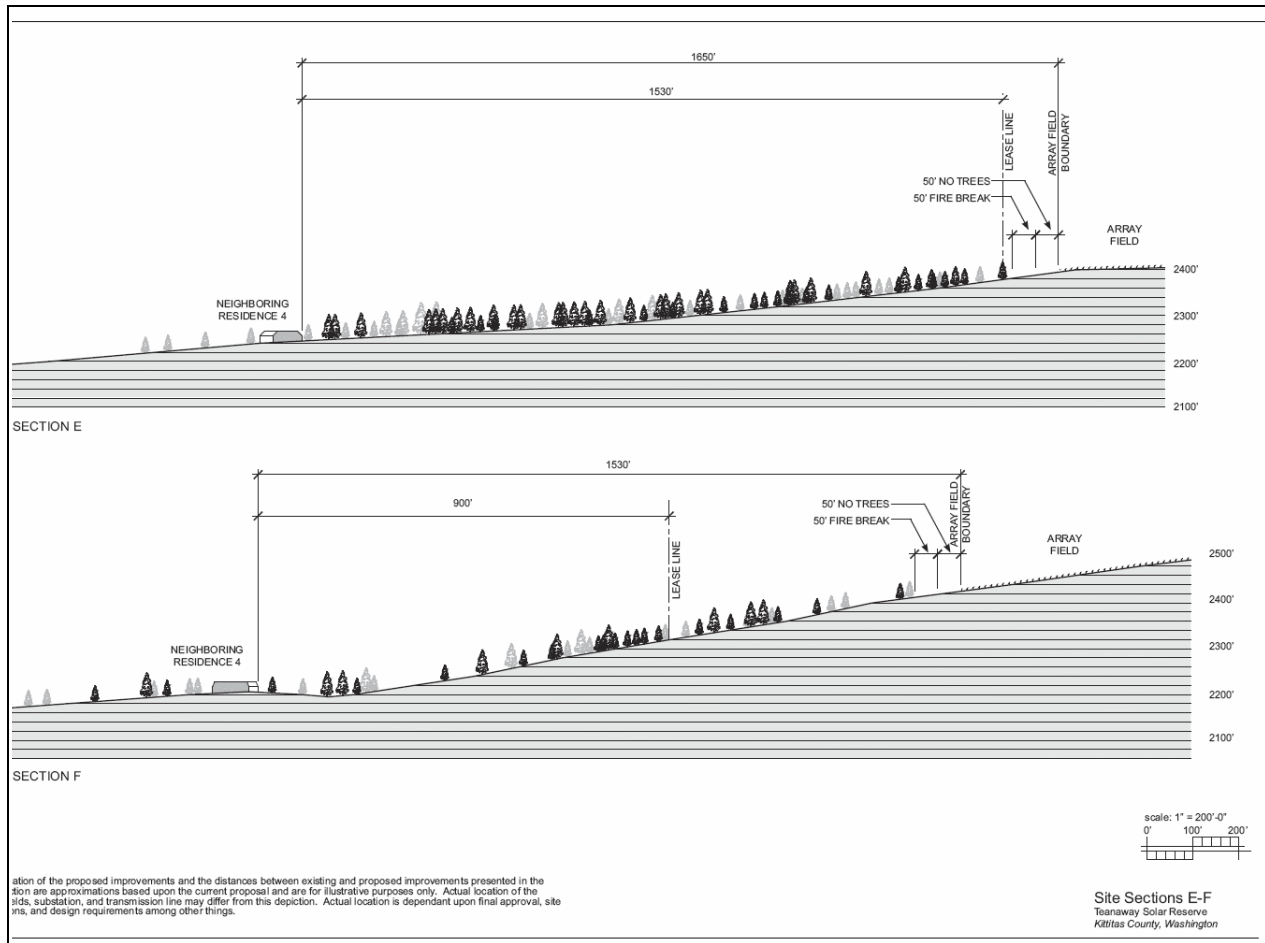
viewing locations within the immediate vicinity (considered to be within one-mile of the project boundary). These locations include parts of the Teanaway Valley (from north to east to south around the project site); U.S. 97 (a state-designated Scenic and Recreational Highway); and the City of Cle Elum.

There are residences within 1 mile of the project site. Due to existing trees and topography (the residences would look uphill at the site) views of the project from most residences within these areas will be very limited. The *Potential Visual Impact Assessment* includes conceptual illustrations from residential areas looking towards the project that depict how the viewed landscape would likely change. The main change will be that trees within the project site that form part of the forested backdrop of views from some nearby residences and roads will be removed; in some locations (such as from residences on the bench south of the project site) this will change the appearance of the tree-lined backdrop. Some of these residences will have obstructed views (between trees) of some of the panels and possibly other project components.

In addition to the analysis in the *Potential Visual Impact Assessment*, visual impacts to the immediate vicinity of the project site were also included in the June 2, 2010 *Teanaway Solar Reserve-Substation Location Memorandum*. This memorandum describes how the BPA substation and transmission line were relocated to minimize the visual impacts of the project, as well as incorporate input from BPA standards. The diagram and cross sections below show the proximity of the residences to the proposed facilities in relationship to the existing vegetation and topography.







In addition to the immediate vicinity, the project site is also visible from some residences farther than 1 mile away. Among the closest residences beyond 1 mile away are those found southeast of the site on the northwest-facing slopes of Lookout Mountain. Several residences are located between 1 and 2 miles from the project site at elevations that are higher than, or similar to, the project site. Views from these locations look down upon or are even with parts of the project site. Based on several site visits and discussions with one resident in the area (personal communication between M. Greenig [CH2M HILL] and Tom Lambert, property owner, July 26, 2009), many, if not most, of the residences on the northwest-facing slopes of Lookout Mountain that have views toward the project site have their views obscured, or at least partially screened, by trees.

The project will alter the viewed landscape to the extent that dark solar modules will be visible in areas that now have been selectively harvested for timber. Most of the remaining or replanted trees at the project site that are visible from these two locations will be removed for the project and replaced with a series of parallel solar module rows. Consistent with the *Tree Planting Plan*, new trees will be planted at visually strategic locations around the perimeter of the site to screen views or help “soften” views of the project.

Views of Mt. Stewart and other peaks that are visible from these two locations will not be blocked or obscured by the project; still, the presence of the project will alter the appearance of the viewed landscape, as shown below in “Figures 3a and 3b” taken from the *Potential Visual Impact Assessment*.



Figure 3a: Existing view of residences 1/4 mile west of Lambert Road



Figure 3b: Conceptual illustration of residences 1/4 mile west of Lambert Road

The site is also potentially visible within the 1- to 2-mile distance zone from part of the Teanaway Valley north of the project site. From some locations, people looking south toward the project site may notice changes in the tree line along the ridge near the north end of the project, although most trees north of the project site will remain in place.

The project site is also potentially visible from areas beyond 2 miles away. It will be seen from some residential areas on hillsides south of I-90. The distance between these areas and the closest part of the project site varies from approximately 3.5 to 7 miles. Conceptual depictions of how the project will change existing views toward the project site from two locations in the 3.5- to 4-mile range areas are provided in the *Potential Visual Impact Assessment*. These conceptual illustrations show that parts of the project will be visible as low-lying darker areas on the slopes of the ridge the project will be sited on, but that the project would not block or obscure views of the mountains behind it.

The closest part of I-90 (a National Scenic Byway) to the project site is approximately 3 miles away. Because the part of I-90 from which the project will be visible is laid out in a generally southeast-to-northwest direction, drivers likely will not notice the project in their peripheral vision as they drive I-90 with their attention on the freeway ahead of them. Passengers looking at the landscape may notice the project site as a darker area on the ridgeline for brief periods of time as they traverse I-90. However, because of the project site's distance from I-90 and the gentle slope of the terrain on which much of it will be located, the project will not block or obscure views of mountains to the north.

The project site will be most visible in terms of contrasting with its adjoining landscape during the construction phase of the project. The site's color contrast will be greatest after site clearing and before the solar modules have been installed. This will occur because the color of the disturbed earth will contrast with nearby vegetation. After the dark solar modules have been installed and the vegetation underneath them has become established, the visibility of the project site, particularly from areas south of I-90 will greatly decrease.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. For several years after decommissioning, site disturbance would likely be visible upon close examination; however, replanting and restoration efforts will take place as part of the decommissioning efforts and the natural vegetation will be restored to pre-construction conditions. Accordingly, no significant unavoidable adverse impacts from construction, operation, decommissioning, or restoration of the proposed project are expected.

10.2 Effects Analysis for Aesthetics: As describe below, the project will have impacts to views that are below a level of significance:

- There are residences within 1 mile of the project site, but due to existing trees and topography (the residences would look uphill at the site) views of the project from most residences within these areas will be limited, see cross sections above.
- The views depicted above in "Figures 3a and 3b" are taken from residential property located on the eastern slope of Lookout Mountain. This view will change enough to be considered a moderate impact.
- The appearance of the landscape seen from Ridgewater Drive will change, but not enough to be considered a significant impact.
- Visual impacts resulting from changes in the tree line along the ridge near the north end of the project are considered to range from negligible to low.
- Impacts to the viewed landscape from areas south of I-90 from which the project site could be seen are considered to range from minor to low.
- Due to the distance separating the project from I-90, there will be little alteration to landscape viewed from I-90, impacts will range from minor to low.
- The proposed project transmission line would be similar in terms of potential visibility as the portion of the existing BPA transmission line passing south of the project site. To help reduce its visibility, the project transmission line will be constructed in the portion of the project site with the lowest elevation.

The applicant has proposed voluntary mitigation to reduce aesthetic impacts from proposed structures. The combination of voluntary, SEPA, and code mitigation is adequate to bring the aesthetic impacts of project construction, operations, and decommissioning below a level of significance.

10.3 Voluntary Mitigation for Aesthetics

1. The tallest and potentially most visible project components (the transmission structures) will be treated at the factory to create a dulled finish that will reduce light reflection from the structures. In addition, nonspecular (nonreflecting) material will be used for the conductors. Nonspecular conductors and insulators made of materials that do not reflect light will also be used for the proposed substation.
2. As with the transmission structures, the metal frames for the solar modules will be treated at the factory to create a dull finish that will reduce reflection. The solar modules themselves require no measures to reduce or control light or glare impacts.
3. Lighting specified for the substation and inverters will be the minimum required to meet safety and security standards. Light fixtures will be hooded to eliminate any potential for glare effects and to prevent light from spilling off the site or up into the sky. In addition, the fixtures will have sensors and switches to permit the lighting to be turned off at times when it is not required. The finish of the inverters will be dull so as not to reflect glare.

10.4 SEPA Mitigation for Aesthetics

1. Consistent with the *Tree Planting Plan*, new trees will be planted at visually strategic locations around the perimeter of the site that could provide visual screening to power lines, sub-stations, and other project components, and to screen views or help “soften” views of the project.

10.5 Code Mitigation for Aesthetics

1. Not Applicable.

11. Light & Glare

11.1 Description: The proposed solar modules are monochromatic with a dull finish, which minimizes the production of glare. Additionally, the photovoltaic modules proposed are designed (and have antireflective coatings) to absorb and capture sunlight rather than reflect it. Design features such as textured glass further reduce reflectivity. Lights associated with the substation and inverter buildings will potentially be seen from some areas for irregular periods of time. During construction, onsite and offsite staging areas will have temporary lights that will be used at times. Because most of the project will occur during daylight hours, use of the lights will be limited. During the construction period, construction lights might be noticed by observers from various vantage points, but would likely not be noticed by nearby residences south of the project site due to topography and screening by trees.

There are no existing off-site sources of light near the project area. There are very few residences and buildings near the project site and none within the site itself. Some lighting from residences may be seen below the project site, and some light or glare from vehicles traveling on roads near the project site (but rarely through the project site due to locked gates blocking public access) may be seen from some viewing areas. These offsite sources of light or glare will not affect the proposed project.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. Since all above ground facilities will be removed entirely there will be no possibilities for glare. The restored area will not contain any lighting.

11.2 Effects Analysis for Light & Glare: Title 17, Zoning does not include specific standards to control light and glare; however the applicant has proposed mitigation conditions to address this issue. As conditioned by voluntary mitigation below, the proposed project construction, operations, and decommissioning are not anticipated to have significant light and glare impacts. No further SEPA mitigation is needed.

11.3 Voluntary Mitigation for Light & Glare

1. The tallest and potentially most visible project components (the three transmission structures) will be galvanized and treated at the factory to create a dulled and darkened finish that will reduce light reflection from the structures. In addition, nonspecular (nonreflecting) material will be used for the conductors. Nonspecular conductors and insulators made of materials that do not reflect light will also be used for the proposed substation.
2. As with the transmission structures, the metal frames for the solar modules will be galvanized and treated at the factory to create a dull finish that will reduce reflection. The solar modules themselves require no measures to reduce or control light or glare impacts.
3. Lighting specified for the substation and inverters buildings will be the minimum required to meet safety and security standards. All light fixtures will be hooded to eliminate any potential for glare effects and to prevent light from spilling off the site or up into the sky. In addition, the fixtures will have sensors and switches to permit the lighting to be turned off at times when it is not required.
4. The finish of the inverter buildings' walls and roofs will be dull so as not to reflect glare.

11.4 SEPA Mitigation for Light & Glare

None needed.

11.5 Code Mitigation for Light & Glare

Not applicable.

12. Recreation

12.1 Description: The proposed project site and immediate vicinity do not contain any designated or formal recreational opportunities. The proposed project site traditionally has been used as commercial forest, and open public access on the site has been prohibited. Although some hunting or hiking occurs on private land near the proposed project site, there are no designated parks, wildlife refuges, or recreational areas in the immediate vicinity, according to data provided by *National Atlas of the United States* (U.S. Department of the Interior, 2007). The proposed project is not visible from the Indian John Hill rest stop and may be minimally visible from the summit. Three lakes occur approximately 2 miles from the proposed project area. No impacts to the lakes are anticipated. The majority of the land near the proposed project area is privately owned. Bird watching and hunting are the only types of recreational opportunity to exist on these private lands. There are no known planned future recreational sites or opportunities in or near the proposed project area.

The project may minimally affect the existing hunting uses. Public access of the primary access point is already restricted by the subject landowners and will continue to be restricted in accordance with easement agreements.

Public recreation, such as orienteering, has been allowed on the site by the landowner on a case-by-case basis. Historically, the landowner has allowed responsible uses of the land by anyone lawfully accessing the site; however, the use of motorized vehicles has been prohibited on the property. In addition, the road to the proposed project site traditionally has been gated to prevent access. Gating will continue to regulate motorized vehicles, but a fence restricting access is not proposed.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. The proposed project site traditionally has been used as commercial forest, and public access has been prohibited. The applicant has indicated that historic recreations uses of the site will be permitted to the maximum extent practicable.

12.2 Effects Analysis for Recreation: The project is proposed on land held in private ownership, on which no designated or formal recreational opportunities. Though the property owner has allowed informal recreational use of this site in the past, continuance of such uses is not required. The proposal will not prevent informal recreation from occurring in other areas of the vicinity. As proposed, the project construction, operations, and decommissioning will not have significant negative impacts on recreation; therefore no further mitigation is required.

12.3 Voluntary Mitigation for Recreation

None needed.

12.4 SEPA Mitigation for Recreation

None needed.

12.5 Code Mitigation for Recreation

None needed.

13. Historic & Cultural Resources

13.1 Description: The applicant conducted a cultural resources survey of the project site, as described in detail in the *Cultural Resources Report* (Appendix C to the SEPA Checklist (restricted distribution-State law exempts cultural records from public disclosure pursuant to RCW 42.56.300.)). The site contains no places, objects, or sites listed or proposed for listing in the national, state, or local preservation registers. The *Cultural Resources Report* identifies the possibility that portions of the site could contain cultural resources relating to historic use of the Yakima River.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. No places, objects, or sites located in the project area are listed or proposed for listing in the national, state, or local preservation registers. Decommissioning efforts will not take place outside of previously surveyed areas.

13.2 Effects Analysis for Historic & Cultural Resources: The project site is located on privately owned industrial forestlands. No landmarks or other evidence of historic, archaeological, scientific, or cultural importance are known to be on or adjacent to the site. The *Cultural Resources Report* identifies areas in which shovel testing should be carried out to avoid disturbing potential archeological sites. These sites are included in voluntary mitigation. In the even that a cultural resource is discovered onsite,

mitigation is required, as described below. As mitigated, the project construction, operations, and decommissioning will result in no significant negative impacts to historic or cultural resources.

13.3 Voluntary Mitigation for Historic & Cultural Resources

1. Should previously unidentified sites be discovered during the course of construction, TSR will halt work in that area until a qualified archaeologist can assess the site and determine whether protective measures should be implemented.
2. Ethnographic literature indicates that a winter village site was located approximately 2.5 miles off-site. The south facing slopes of the project area would have been easily accessed from this and other ethnographic settlements as a hinterland to their winter villages. Because the project area may contain buried archaeological sites associated with seasonal base camps, shovel testing shall be conducted in areas deemed most likely to reveal the presence of cultural materials related to resource acquisition.

13.4 SEPA Mitigation for Historic & Cultural Resources

1. The project shall be constructed and operated pursuant to the August 2009 *Cultural Resources Report*, referenced in the expanded SEPA Checklist.

13.5 Code Mitigation for Historic & Cultural Resources

1. The proposal shall comply with RCW 27.44 Indian Graves and Records and RCW 27.53 Archaeological Sites and Resources.

14. Transportation

14.1 Description: The construction contractor will access the project site primarily from I-90 eastbound to State Route (SR) 970 northbound to Red Bridge Road, which is a local County roadway. From Red Bridge Road, project traffic likely will take Wiehl Road northbound for approximately 0.2 mile to Loping Lane, where traffic will turn left and continue westbound on Loping Lane to the project site. Loping Lane is a private roadway and Wiehl Road is a public roadway, but neither road is maintained by Kittitas County.

From the main proposed project access off Loping Lane, proposed project traffic may use private and County roads to access the project site. Use of these roads will depend on weather conditions and on load and size restrictions. Most of these other access routes are privately owned.

The project will be served internally by a network of existing and new maintenance roads. The existing maintenance roads, along with Wiehl Road and Loping Lane, generally consist of gravel and dirt and will be improved pursuant to County requirements.

Transport of major equipment and materials to the site for construction likely will span 7 to 9 months for each of the two or three construction seasons. Truck deliveries are anticipated to occur between 7 a.m. and 7 p.m. on weekdays. The average daily truck volume will be approximately 100 trips per day (50 trucks with one inbound trip and one outbound trip). No more than 50 vehicles are expected to either enter or leave the site during the peak hour of construction.

Assuming construction is completed over a period of two years, the daily truck volume will be approximately 34 trips per day (17 trucks with one inbound trip and one outbound trip).

Construction worker traffic is also expected during the construction seasons. The expected peak workforce could include up to 450 construction workers during the peak months of construction each year. Assuming 30 percent of construction workers carpool to the site each day and 70 percent are bused in via project-provided transportation, approximately 75 worker vehicles (or 150 worker trips) can be expected to enter the project site in the morning and leave the site during the evening peak hour. During construction with an average workforce, worker trips would be approximately half that during the peak. This estimate does not include truck trips related to bringing water to the site for dust suppression.

Once the project has been completed, there will be virtually no traffic (less than five trips per day) for operations and maintenance.

Some access roads may need to be added or widened. Widening these roads may require clearing or grading of the earth slopes on either side of the travel path, which may affect erosion. In order to prevent erosion, retaining walls may be built to stabilize the adjacent slope and channel runoff away from the roadway to a catchment or detention pond area.

In addition, the applicant will coordinate any improvements to access roads with the Kittitas County Public Works Department to ensure compliance with County requirements. The number of new access roads will be kept to a minimum to avoid disrupting existing land use.

The applicant has submitted a *Transportation Road Plan* (Attachment I to the SEPA Checklist), which analyses project road use, average daily traffic volumes, and necessary mitigation.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. Traffic impacts during decommissioning are expected to be similar to those described for construction. If some of the access roads constructed or improved as part of the project remain in place, there would be fewer trips associated with workforce, materials, and equipment during decommissioning, and there would likely be fewer traffic impacts than expected during construction. Truck trips are anticipated to occur between 7 a.m. and 7 p.m. on weekdays. Workforce trips during decommissioning are expected to increase compared to workforce trips during project operation, but no significant unavoidable adverse impacts from decommissioning or restoration of the proposed Project are expected. Mitigation at the time of decommissioning would be implemented and would likely be similar to that recommended for construction.

14.2 Effects Analysis for Transportation: The completed Teanaway Solar Reserve will generate very low levels of traffic during operations; however during construction there will be an increase in truck trips (34 trips a day) in addition to employee vehicle traffic, which will impact nearby transportation infrastructure. Changes to road surfaces and widening will disrupt normal traffic flow, which will have an impact on residents and others using Red Bridge Road, Loping Lane, and Wiehl Road. The Department of Public Works has proposed SEPA and code mitigation measures to address traffic disruptions during the construction phase and the operational phase, as well as the standards to which access roads will need to be built. As mitigated, transportation impacts of project construction, operations, and decommissioning are brought below a level of significance.

14.3 Voluntary Mitigation for Transportation

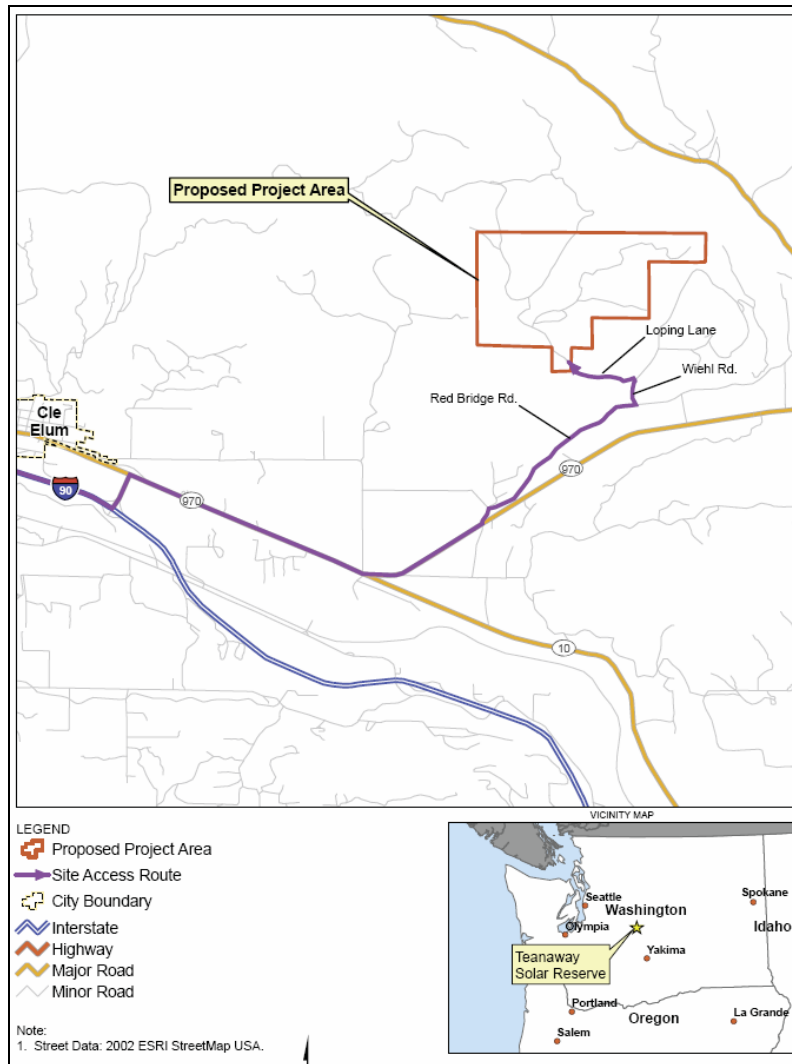
1. Temporary measures could be taken to manage changes in traffic patterns:
 - a. Provide proper advance road signage and warnings of “Equipment on Road,” “Truck Access,” or “Road Crossings.”
 - b. Encourage carpooling for the construction workforce to reduce traffic volume.

- c. Employ flagpersons as necessary to direct traffic if equipment is exiting or entering public roads to minimize risk of accidents.
- d. Advance warning signage could be placed along the access route to alert motorists to delivery vehicles entering or exiting SR 970 or Red Bridge Road. Flagpersons may also be used to facilitate these turning vehicles, or to monitor traffic so that motorists are not in conflict with construction vehicles.

14.4 SEPA Mitigation for Transportation

Construction Mitigation (Excluding Site Preparation—SEPA Checklist page 10-11)

1. Construction traffic shall access Red Bridge Road from the southwest entrance, directly from SR 970. If road closures along this access route occur, Public Works shall be consulted to establish a temporary detour route.
2. The applicant shall prepare a *Traffic Management Plan* with the construction contractor outlining steps for minimizing construction traffic impacts. The *Traffic Management Plan* shall be submitted to the Department of Public Works and WSDOT for review and approval prior to construction.
3. The applicant shall prepare a Construction Road Signage Plan for Red Bridge Road and Wiehl Road that conforms to the most recent edition of the Manual on Uniform Traffic Control Devices. The Construction Road Signage Plan shall be submitted to the Department of Public Works prior to construction for review and approval.
4. The applicant shall assist in minimizing access disruptions to residents along roadways impacted by construction activities. Five days prior to the commencement of road construction, the applicant shall provide notice by mail of upcoming construction activities to landowners gaining access from the portion of the “Site Access Route” extending from the intersection of Red Bridge Road and Highway 970 northeastward to the intersection of Loping Land and the project’s onsite access point, as depicted below.



5. When hauling slow or oversized wide loads, appropriate vehicle and roadside signing and warning devices shall be deployed per the Traffic Management Plan. Pilot cars shall be used as WSDOT dictates, depending on load size and weight. WSDOT requirements shall also apply to county roads.
6. The applicant shall encourage carpooling for the construction workforce to reduce traffic volume.
7. The applicant shall provide Detour and Warning Sign Plans to the Department of Public Works in advance of any traffic disturbances. When temporary road closures cannot be avoided the applicant shall post "To Be Closed" signs and place a legal notice in the newspaper a minimum of five working days prior to the closing. The types and locations of the signs shall be shown on a detour plan. A Detour Plan must be submitted to the Department of Public Works at least ten working days prior to the proposed closure. No County roadway shall be closed until after the Detour Plan has received approval from the Department of Public Works. In addition, at least five working days prior to the closing the contractor must provide written notification to local fire, school, law enforcement authorities, postal service and any other affected persons as directed by the Department of Public Works.

8. The applicant shall maintain one travel lane at all times when construction occurs on Loping Lane or Wiehl Road. A flagger shall be employed at all times when only one travel lane is open.
9. The applicant shall employ flaggers as necessary to direct traffic when large equipment is exiting or entering public roads to minimize risk of accidents.
10. The applicant shall provide a roadway pavement analysis and visually inspect the condition of pavement and the quantity and severity of pavement distresses utilizing a county approved rating system and a video, prior to and immediately after each phase of construction, including substation construction. The analysis shall document roadway and shoulder conditions before and after construction and shall include Red Bridge Road east of Wiehl Road. The applicant shall be responsible for restorative work made necessary by the project.
11. Loping Lane and Wiehl Road shall be constructed to meet the minimum requirements of the IFC as adopted by the County, prior to receiving building permit approval.

Project Mitigation

12. Loping Lane and Wiehl Road shall be constructed and/or repaired as required below. Prior to receiving permit approval, a bond shall be submitted which covers 135% of the engineer's estimate of the full costs of road construction requirements and repairs and follows all requirements of KCC 12.01.150.
 - a. After construction is completed, Loping Lane shall be constructed and/or repaired to comply with International Fire Code standards. The road must be certified by a civil engineer licensed in the state of Washington prior to release of the bond.
 - b. Wiehl Road must be constructed to 24-foot total paved width, or as approved by the County Engineer from the intersection at Red Bridge Road to the intersection with Loping Lane. All road designs shall be engineered as specified by AASHTO A Policy on Geometric Design of Highways and Streets, 5th edition (2004). Engineering justification shall be included with the design for proposed total pavement width less than 24 feet. The road must be certified by a civil engineer licensed in the state of Washington prior to release of the bond.
13. Within the project boundaries, the primary access roads shall be constructed with an all-weather surface and be a minimum of 20 feet in width. Secondary roads shall be a minimum of 16-feet wide. A turnout shall be provided every 1000 feet, or if the segment of road is less than 2000-feet long, the turnout shall be located in the middle of that segment. Each turnout shall provide at least 5 feet of additional driving surface for a length of 50 feet. All changes to the road layout must be approved by County staff.
14. The turning radius at all corners shall be a minimum of 28 feet. Cul-de-sacs shall have a minimum driving surface radius of 50 feet.
15. Primary access roads throughout the site shall be kept clear of snow for emergency access.

14.5 Code Mitigation for Transportation

1. This project shall comply with KCC Title 12 Kittitas County Road Standards; and KCC Title 17 Zoning.

15. Public Services

15.1 Description: The proposed project area is currently subject to the fire-suppression protection services of Washington Department of Natural Resources. The applicant has negotiated a fire protection agreement with Kittitas County Fire District #7 to ensure that suitable fire suppression protection services are in place during the construction and ongoing operations of the project.

The applicant will create and maintain a firebreak of no less than 100 feet between all outer edges of the project site and adjacent property lines. Small shrubs and herbs less than three feet in height will be left in place where possible to reduce the potential stormwater runoff.

Police protection of the proposed project area is provided by the County Sheriff's Office. The construction contractor will notify the fire protection and police services of staging and active construction locations so these services can respond efficiently to emergencies, should any arise. During the operational phase, the applicant will contact fire protection and police services in the event of an emergency.

It is not anticipated that health care and school needs will increase during construction or operation of the proposed project.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. It is unlikely that emergency services will be necessary during the decommissioning and restoration effort; however, the Kittitas County Planning Department, the County Sheriff's Office, and Kittitas County Fire District 7 will be notified prior to the engaging in decommissioning. The applicant does not anticipate that health care and school needs will increase during the decommissioning of the proposed project.

15.2 Effects Analysis for Public Services: The applicant has negotiated a fire protection agreement to ensure fire protection services are in place, and has indicated that they will seek permanent annexation into Fire District #7 upon project approval. The development will be required to meet all requirements of the KCC Title 14 Buildings and Construction and International Fire Code, adopted by reference therein. As mitigated by voluntary, code, and SEPA mitigation, project construction, operations, and decommissioning will not result in significant negative impacts to public services.

15.3 Voluntary Mitigation for Public Services

1. The applicant has negotiated a fire protection agreement with Kittitas County Fire District #7.
2. The applicant will create and maintain a firebreak of no less than 100 feet between all outer edges of the project site and adjacent property lines. Small shrubs and herbs less than three feet in height will be left in place where possible to reduce the potential stormwater runoff.

15.4 SEPA Mitigation for Public Services

1. A 50' cleared area shall be maintained around the solar module fields, with an additional 50' of area with reduced natural vegetation. Trees greater than 4" in diameter are to be limbed up, ladder fuels are to be removed, dead fall is to be removed, etc.
2. Emergency fire, supportive medical, and other standard emergency response services shall be provided to the Teanaway Solar Reserve by Fire District 7, according to the Fire Protection Agreement (Teanaway Solar Reserve) dated April 17th, 2010. Any future amendments to this agreement shall be reviewed by the Fire Marshal's Office prior to adoption.

3. Pursuant to the Fire Protection Agreement, the applicant will seek annexation of the Teanaway Solar Reserve property into Fire District 7 following permit approvals. The applicant shall provide a copy of the petition for Annexation of the Property to the District No. 7, and any other subsequent proceedings regarding the annexation process.

15.5 Code Mitigation Measures for Public Services

1. The project shall comply with KCC Title 14 Buildings and Construction, and the 2006 International Fire Code, adopted by reference therein.
2. A rescue toboggan with all required accessories, i.e., tow bar with spray guard, stretcher, etc., shall be made available to emergency services and stored in a readily accessible area in the operations and maintenance facility on site.
3. A Knox box shall be posted on the buildings. Please contact the Fire Marshal's Office for more information.
4. A gated entry shall have a Knox box located at the gate, and the gate must meet minimum County standards. Please contact the Fire Marshal's Office for more information.
5. In the event that sprinkler suppression systems and/or alarm systems are to be installed within the buildings, each system requires a separate permit from the Fire Marshal's Office.
6. Review of the final project submittals may include further code requirements.

16. Utilities

16.1 Description: The proposed project will include electricity, telephone, and data service for the Operations and Maintenance facility. The applicant does not anticipate any utility use during construction. The construction contractor will provide mobile utilities such as portable toilets, cellular telephones, and water trucks. During operation, electricity generated from the solar arrays will be utilized for the Operations and Maintenance building.

Telephone and data lines will be installed during construction for operational uses at the Operations and Maintenance building. These lines will be used for general telephone, internet, and SCADA (supervisory control and data acquisition) information reporting. The applicant will use a local service provider if possible for telephone and data lines. If no local service provider exists, the applicant will contract with Quest Communications International, Inc.

TSR will remove refuse from the proposed project site.

In the event the applicant decides to terminate operation of the project, the project will be decommissioned and the site will be restored pursuant to a County-approved plan. There will be no need for any utilities as a result of project decommissioning and site restoration.

16.2 Effects Analysis for Utilities: The proposed project will be a utility provider with the purpose of producing solar energy for regional distribution. The facility itself will be served by off-site phone and data service, but plans on deriving all electricity from onsite solar modules. No negative impacts to utilities are projected to result from the proposed project construction, operations, and decommissioning.

16.3 Voluntary Mitigation for Utilities

None needed.

16.4 SEPA Mitigation for Utilities

None needed.

16.5 Code Mitigation for Utilities

1. The project will be required to comply with Title 14 Buildings and Construction; and KCC Title 17 Zoning.

V. Recommendation

By incorporating the voluntary mitigation, code requirements noted above (State and County) and additional SEPA mitigation conditions, any probable significant adverse environmental impacts will be reduced below a level of significance and issuance of a Mitigated Determination of Non-Significance (MDNS) is appropriate.

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