Draft Outline

Tree Planting Plan for the Teanaway Solar Reserve Project

Prepared for

Teanaway Solar Reserve, LLC

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Prepared by

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1.0 Introduction

Teanaway Solar Reserve LLC (TSR) is seeking approval of a Conditional Use Permit (CUP) (CU-09-0005) from Kittitas County Board of Adjustment (BOA), and a Development Agreement (DA) from Kittitas County Board of County Commissioners (BOCC) to construct and operate the proposed Teanaway Solar Reserve Solar Project (Project). As part of the Project, TSR has voluntarily committed to replace all trees removed for the Project at a ratio of 3:1 (plant three trees for every one tree removed).

1.1 Purpose and Intent

The purpose of this document is to outline the tree replacement plan for the Project. Tree replacement is independent of the *Mitigation Agreement Between Washington Department of Fish and Wildlife and Teanaway Solar Reserve LLC* (Mitigation Agreement). However, the parties named in the Mitigation Agreement agreed that trees planted as part of the Mitigation Agreement may be counted toward the 3:1 tree replacement ratio. The plan has been developed with input from a Technical Advisory Committee (TAC) which includes representatives of the Washington Department of Natural Resources (DNR), Kittitas County Fire Marshall's Office, Kittitas County Community Development Services (CDS), Washington Department of Fish and Wildlife (WDFW), the landowner American Forest Land Company, LLC (AFLC), and TSR.

1.2 Estimated Number of Replacement Trees

As constructed, the Project will require the removal of upland trees (Douglas-fir and Ponderosa Pine) on approximately 477 acres (Project Site) within TSR's 982-acre leasehold (Project Area). The trees within the Project Site will be logged pursuant to a forest practices permit issued by DNR. Since the project action will convert forest land to another use, provisions of the Forest Practices Act (FPA) requiring reforestation for harvested stands do not apply. TSR has nonetheless committed to replace all trees removed for the Project at a ratio of 3:1 (plant three trees for every one tree removed). Although merchantable trees within the Project Site are around 8" dbh or greater, TSR has defined a "tree" triggering replacement at 3 inches diameter at breast height (dbh) or greater. Besides capturing a significantly greater number of trees, the 3 inch dbh threshold also comports with healthy stand conditions east of the Cascades (100 saplings per acre). WAC 222-34-020(1)(b)(v).

According to the landowner's timber inventory data, there are approximately 28 trees per acre 3" dbh or greater (i.e., saplings and commercial) within the Project Site. Although the actual number of replacement trees may change depending on the final layout and engineering plans for the Project, the following currently represents TSR's best estimate of replacement trees based on a survey conducted by Jeff Jones, General Manager, AFLC. The number of trees to be planted is estimated according to the following formula: 477 acres (project footprint) X 28 X 3 =40,068.

2.0 Criteria for Site Selection

As currently estimated, the replacement trees will require approximately 267 to 367 acres of upland habitat, based on planting densities ranging from 17 feet on-center to 20 feet on-center. The number of acres needed for tree planting could be as few as 23 acres if trees are planted at 5 feet on-center, as might be appropriate for willow (*Salix* sp.) plantings in riparian areas. The actual acreage will, of course, depend on a number of factors, including current conditions of any particular replanting area or the underlying purpose of the planting (such as a visual barrier). Accordingly, the actual on-site conditions and intended purpose of any particular replanting will ultimately control the site selection process. The following criteria and priorities may however be helpful to guide in the selection of sites for tree planting. TSR will make the final decision on any particular site selection after review by the TAC and approval from the County.

2.1 Criteria

- Landowner agreement and site control will be required; areas must be free from conflicting encumbrances or restraints.
- Areas to be planted should be free of evidence of tree disease, particularly root rot, unless the purpose of the site location is to address forest health.
- Sites must be suitable for upland forest or riparian habitat (e.g., current or historical upland or riparian habitat) and suitable to sustain survivorship (e.g., soils and soil moisture suitable for trees; low risk of devastating flood damage during period of tree establishment).
- Noxious vegetation that could compete with tree seedlings after planting should not dominate replanting areas.
- Sites should be sensitive to, and compatible with, environmental and cultural concerns.
- Trees should not be planted in areas needed for a firebreak or that would result in over-stocking and thus generate an increased fire hazard or susceptibility to damage by insects.

2.2 Priority Locations (In Descending Order of Importance)

1. Planting trees within the Project Area in accordance with the Wildlife Mitigation Plan.
2. Planting trees in areas within or near the Project Area that could provide visual screening to power lines, sub-stations, and other Project components, or provide other environmental benefits.
3. Planting trees in areas within or outside the Project Area with particular conservation needs, such as degraded riparian areas, floodplains and upland forested areas within the Teanaway area.

2.3 Site Preparation

Site preparation for planting typically includes cutting whips (non-merchantable trees), piling slash, and scattering or burning slash. If good planting sites are available as determined by forest industry standards, no further preparation may be necessary.

TSR will not remove all the vegetation and slash as this can lead to browsing by rodents, deer and elk. TSR will take special care when using heavy equipment to prepare the site for planting. TSR will make all attempts to prevent soil compaction which can delay or prevent the growth of new trees. The following checklist for site preparation will be used prior to seedling planting at any TSR or participating landowner site.

- Site preparation shall be done in accordance with WAC 222-34-040.
- Minimize soil disturbance when using mechanical equipment.
- Use the proper amount and type of site preparation for replanting.
- Slash piles are not allowed in the Riparian Management Zone (RMZ) or Wetland Management Zone (WMZ) as defined under the FPA. Place all slash piles above the 100-year flood plain.
- Slash burning is not allowed in the RMZ or WMZ. Slash burning requires a burn permit from DNR and/or Kittitas County. TSR will coordinate with the local DNR region or Kittitas County office for permit information.
- If contemplating the use of herbicides, TSR will first refer to WAC 222-38.
- TSR will avoid creating any slash piles within 100 feet of a public road or within 500 feet of a structure.

3.0 Planting Specifications

The following planting specifications will be used to guide the selection of sites, tree species, and standards for planting.

3.1 Tree Species

In Kittitas County, two tree species are appropriate for reforestation in upland areas: Rocky mountain Douglas Fir *(Pseudotsuga menziesii* subsp. *glauca)* and Ponderosa pine (*Pinus ponderosa* subsp. *Ponderosa)*, and six tree species that may be considered for reforestation in riparian areas: Ponderosa pine (*Pinus ponderosa* subsp. *Ponderosa* , Rocky mountain Douglas fir (*Pseudotsuga menziesii* subsp. *glauca)* , black cottonwood (*Populus trichocarpa)*, aspen (*Populus tremuloides),* willow (*Salix spp.*), spruce (*Picea spp.*), alder (*Alnus sp.*), and chokecherry (*Prunus virginiana*).

In consultation with a certified arborist, TSR or its designee will select the one or more of the identified tree species seedlings for planting specific to planting site conditions and needs.

3.2 Seedling Handling

Seedlings must be kept cool and moist during transport and storage prior to planting. During transport, storage and planting, seedlings must be placed in a pail or planting bag, keeping roots covered with wet burlap, peat moss or similar moist material. Seedlings must not be carried long distances by hand to prevent tree roots from drying out.

3.3 Planting Standards

In consultation with a certified arborist, planting will occur as appropriate for the tree species and site. In the Teanaway watershed, for example, planting may occur in late Fall (before snow season), or between March and May (or as soon as snow has receded). Seedlings must be locally derived if feasible, originating from the same climatic zone and region as the site to be planted. Seedlings should be planted on cool or cloudy days with little to no wind. Figures 1 and 2 illustrate correct planting and incorrect planting examples for upland trees. Upland trees will be planted as 2-year old seedlings.

Figure 1 Example of Correct Planting (Source FPA Illustrated)

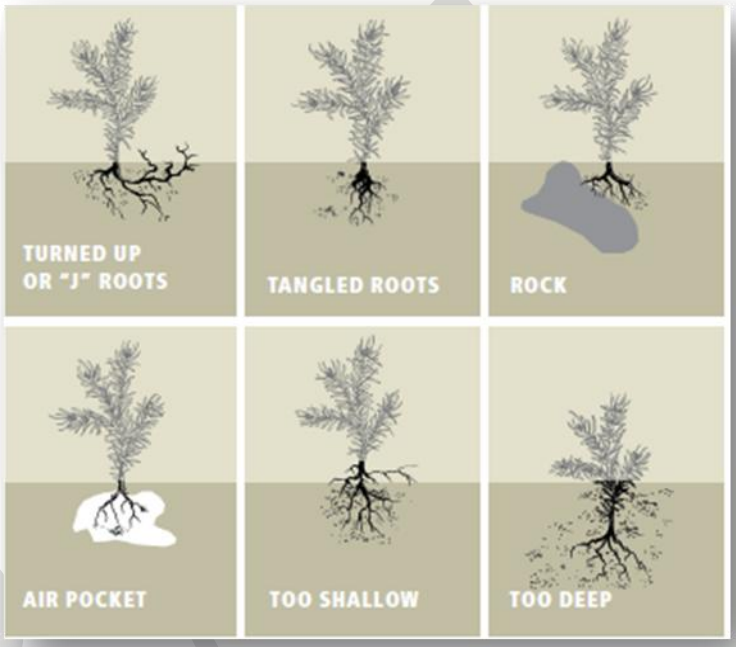

Figure 2 Example of Incorrect Planting (Source FPA Illustrated)

According to recognized forestry standards and practices, TSR will minimize soil disturbance when using mechanical equipment, ensure the best seedling size for each planting site's conditions, consider the amount of competing vegetation, take into account the amount of sunlight and shade the trees will receive, and how best to protect planted seedlings from damage from livestock and wildlife. In addition, TSR will scalp areas around seedlings, as needed, to avoid competition and inspect and approve plant material is in good condition prior to planting.

Trees in riparian areas may be planted as 2-year old seedlings for conifers, as bare-root saplings for deciduous trees, or as cuttings (such as willows or cottonwoods). Deciduous saplings that are bare-root should be 3 to 5 feet in height at the time of planting. Cuttings, such as willows, must be a minimum of 3 to 5-feet long and 0.5 inches in diameter with 2/3 of the cutting installed below ground. Essentials in willow planting include the following: more than one-half of the cutting below ground, below ground contact with saturated to wet soil for a significant

portion of the growing season; approximately 2 buds above ground; and planting with the apical end up.

4.0 Performance Standards and Monitoring

4.1 Performance Standards

TSR intends to phase the harvest of trees for the Project over two to three years. Obtaining commercially available seedlings for the replacement program may take 1 to 3 years from the initial order. Once the seedlings are acquired, TSR shall begin to replant three times as many trees in the next available optimal planting window (as defined in Section 3.3 of this plan) as those removed in the immediately prior phase of logging. As recommended by the TAC, TSR shall plant and maintain to ensure an 80 percent survivorship of each replanted tree for three years following its planting, as provided in section 4.2 below.

4.2 Maintenance, Monitoring and Reporting

- TSR or its designee shall file with Kittitas County a detailed written report of its replanting program no later than June 15th each year, beginning after the first phase of logging for the Project. The report shall be in a form approved by Kittitas County and shall, as applicable, chronicle the approximate number of trees previously removed for the Project, area of the Project where the trees were removed, the number of replacement trees planted, the location of the planted replacement trees, and survivorship of the replanted trees. For monitoring survivorship, the replacement trees will be individually flagged when interplanted and monitored by survey. If the replacement trees are planted in an open stand area (such as a clear-cut or recently harvested area), the replacement trees can be monitored on a stand-wide basis via a regeneration survey plot method. TSR shall file the report for three consecutive years following each logging phase, or until the replanting obligations under this plan are satisfied, whichever is later.
- Within 12 months after receiving that report, the TAC (or a minimum of TSR, Kittitas County, and a qualified forester), shall inspect the replanted areas for survivorship.
- If the monitoring data or inspection shows that the 80 percent survivorship of planted replacement trees has not been met, TSR shall replant as necessary to achieve such standards. This supplemental planting commitment shall continue for three consecutive years ending June 15 2014. In lieu of such supplemental planting, the department and TSR may agree on a supplemental reforestation plan. Supplemental planting or reforestation will not be required where in the opinion of the TAC (or a minimum of TSR, Kittitas County, and a qualified forester), the 80 percent survivorship standard has not been achieved due to drought, fire, or other factors as provided in WAC 222-34-030(4).

4.3 Third Party's Assumption of Planting, Management and Care of the Replacement Trees

The provisions of this Tree Planting Plan, including planting, monitoring, and any management of the replanted areas, may be assumed in whole or in part by a third party. TSR and the County agree that a third party must have the necessary experience to assume the planting,

monitoring, and any management of the replanted areas contemplated by this plan. Any such third party must be first reviewed by the TAC and approved by Kittitas County prior to any assumption of the provision of this Plan. Further, TSR shall remain wholly responsible for any third party's compliance with this plan.

5.0 Modifications to the Plan

It is recognized that circumstances may occur beyond the control of the parties that necessitate adjustments to this plan. For example, locations of planting may need to be modified prior to installation or selection of tree species may change due to limited supplies. TSR and the County shall work in good faith to identify any issues and resolve any challenges that arise in the implementation of this Tree Planting Plan.

6.0 References

CH2M HILL, 2010, *Technical Advisory Committee May 18, 2010 Meeting Minutes.*

Revised Code of Washington (RCW) *76.09 Forest Practices.*

Washington Administrative Code (WAC) *222 Forest Practices Board.*