Erosion Control Plan

Prepared for:

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Contents

1.0 INTRODUCTION

The Clearing, Grading and Erosion requirements described in this Plan apply to work associated with construction, operation, and maintenance of the proposed Applicant Facility. Applicant may implement the construction, mitigation, and reclamation actions contained in this plan to the extent that they do not conflict with the requirements of any applicable federal, state, or local rules and regulations, or other permits or approvals that are applicable to the facility. Construction contractors will be working to a completed and approved set of civil engineering drawings dictating the clearing, grading, and erosion control requirements.

Applicant will work with the county to amend the plan as needed as part of a condition of permit approval. Additionally, applicant may deviate from specific requirements of this plan on specific private lands as agreed to by landowners, county officials or as required to suit actual site conditions as determined and directed by Crook Flat Solar Farm LLC. All work must be in compliance with federal, state, and local Crook County permits. The facility will be designed, constructed, operated, and maintained in a manner that meets or exceeds applicable industry standards and regulatory requirements.

Upon approval, Applicant will be engaging in EPC Contractor (Contractor) bids and likely awarding contracts for various stages of construction of the facility. In addition to satisfying Crook County Conditional Use Permit requirements, this plan is meant to also be a specification and set of guidelines that the EPC Contractor firms(s) may adhere to.

Some parts of this plan may contain information duplicate to other specifically directed plans, such as a Facility Weed Control Plan, submitted as separate Exhibits to this conditional use permit application for the site. In those cases, the specific plans shall supersede this plan.

Questions or comments regarding this plan or required revisions to meet conditional use stipulations shall be directed to the Engineering and Construction Permit Manager.

2.0 Clearing, Grading and Erosion Control

2.1 Clearing

The Applicant site is composed of predominantly Class 6 soils with two small areas of Class 4 soils. The objective of clearing is to provide a clear and unobstructed ROW for safe and efficient construction of the facility. The following mitigation measures shall be implemented:

- Construction traffic shall be restricted to the construction ROW, existing roads, and approved private roads.
- Construction ROW boundaries, including pre-approved temporary workspace, shall be clearly staked to prevent disturbance to unauthorized areas.
- Burning shall be prohibited on cultivated land or where prohibited by state and local regulations.

2.2 Topsoil Removal and Storage

The objective of topsoil handling is to maintain topsoil capability by conserving topsoil for future replacement and reclamation and to minimize the degradation of topsoil from compaction, rutting, loss of organic matter, or soil mixing so that successful reclamation of the ROW can occur. The following mitigation measures shall be implemented during topsoil removal and storage unless otherwise approved or directed by Applicant based on site-specific conditions or circumstances. All work shall be conducted in accordance with applicable permits.

- Segregate topsoil in the areas over the facility area on all lands to a minimum depth of 6 inches and a maximum depth of 12 inches.
- Stripped topsoil shall be stockpiled within designated areas shown on the construction plan in a windrow along the edge of the ROW. The Contractor shall perform work in a manner to minimize the potential for subsoil and topsoil to be mixed.
- Under no circumstances shall the Contractor use topsoil to fill a low area.
- If required due to excessively windy conditions, topsoil piles shall be tackified using either water or a suitable tackifier (liquid mulch binder).
- Gaps in the rows of topsoil will be left in order to allow drainage and prevent ponding of water adjacent to or on the ROW.
- Topsoil shall not be utilized to construct ramps at road or waterbody crossings.

2.3 Grading

The objective of grading is to develop a ROW that allows the safe passage of equipment and meets the requirements to construct the facility. The following mitigative measures shall be implemented during grading unless otherwise approved or directed by Applicant based on site-specific conditions or circumstances. However, all work shall be conducted in accordance with applicable permits.

- All grading for roadways and equipment shall be undertaken with the understanding that original contours and drainage patterns shall be re-established to the extent practicable.
- Some grading will be required to reduce the slopes in the areas that exceed the racking manufacturer's tolerances. The original drainage patterns and flows will be maintained.
- Agricultural areas that have terraces shall be surveyed to establish pre-construction contours to be utilized for restoration of the terraces after construction.
- On steep slopes, or wherever erosion potential is high, temporary erosion control measures shall be implemented.
- Bar ditches adjacent to existing roadways to be crossed during construction shall be adequately ramped with grade or ditch spoil to prevent damage to the road shoulder and ditch.

- Where the construction surface remains inadequate to support equipment travel, timber mats, timber riprap, or other method shall be used to stabilize surface conditions.

The Contractor shall limit the interruption of the surface drain network in the vicinity of the ROW using the appropriate methods:

- Providing gaps in the rows of subsoil and topsoil in order to prevent any accumulation of water on the land;
- Preventing obstructions in furrows, furrow drains, and ditches;
- Installing flumes and ramps in furrows, furrow drains, and ditches to facilitate water flow across the construction ROW and allow for construction equipment traffic; and
- Installing flumes over the trench for any watercourse where flow is continuous during construction.

2.4 Temporary Erosion and Sediment Control

2.4.1 General

Temporary erosion and sediment control measures shall be installed immediately prior to initial disturbance of the soil, maintained throughout construction, and reinstalled as necessary until replaced by permanent erosion control structures or restoration of the construction site is complete.

Specifications and configurations for erosion and sediment control measures may be modified by Applicant as necessary to suit actual site conditions. However, all work shall be conducted in accordance with applicable permits.

The Contractor shall inspect all temporary erosion control measures at least once every 14 days in areas of active construction or equipment operation, and once every 30 days in areas with no construction or equipment operation, and within 24 hours of each significant rainfall event of 0.5 inches or greater. The Contractor shall repair all ineffective temporary erosion control measures as expediently as practicable.

2.4.2 Sediment Barriers

Sediment barriers shall be constructed of silt fence, compacted earth (e.g., drivable berms across travel lanes), sand bags, or other appropriate materials.

The Contractor shall install sediment barriers in accordance with Company specifications or as otherwise approved or directed by Applicant. The Contractor is responsible for properly installing, maintaining, and replacing temporary and permanent erosion controls throughout construction and cleanup. Near wetland or riparian zones, the Contractor will install sediment control structures along the construction site edges prior to vegetation removal where practicable. The aforementioned sediment barriers may be used interchangeably or together depending on site-specific conditions. In most cases, silt fence shall be utilized where longer sediment barriers are required.

Sediment barriers shall be installed below disturbed areas where there is hazard of off-site sedimentation. These areas include:

- The base of slopes adjacent to road crossings;
- The edge of the construction site adjacent to and up-gradient of a roadway, flowing stream, spring, wetland, or impoundment;
- Trench or test water discharge locations where required;
- Where waterbodies or wetlands are adjacent to the construction site; (the Contractor shall install sediment barriers along the edge of the construction site as necessary to contain spoil and sediment within the construction site);
- Across the entire construction site at flowing waterbody crossings;
- Along the edge of the construction site within 50 feet of wetland boundaries as necessary to contain spoil and sediment within the construction site.

Sediment barriers placed at the toe of a slope shall be set a sufficient distance from the toe of the slope, if possible, in order to increase ponding volume.

Sediment control barriers shall be placed so as not to hinder construction operations. If silt fence or other sediment controls are placed across the entire construction site at waterbodies, wetlands, or upslope of roads, a provision shall be made for temporary traffic flow through a gap for vehicles and equipment to pass within the structure. Immediately following each day's shutdown of construction activities, a section of silt fence or other sediment control shall be placed across the up-gradient side of the gap with sufficient overlap at each end of the barrier gap to eliminate sediment bypass flow. Following completion of the equipment crossing, the gap shall be closed using silt fence or other perimeter sediment control management practices.

The Contractor shall maintain sediment barriers by removing collected sediment and replacing damaged material. Sediment shall be removed and placed where it shall not reenter the barrier when sediment loading is greater than half the height of the device or if directed by Applicant.

The Contractor shall remove sediment barriers, except those needed for permanent erosion and sediment control, during restoration of the construction site.

2.4.3 Drainage Channels or Ditches

Drainage channels or ditches shall be used on a limited basis to provide drainage along the construction site and toe of cut slopes as well as to direct surface runoff across the construction site or away from disturbances and onto natural undisturbed ground. Channels or ditches shall be constructed by the Contractor during grading operations. Where there is inadequate vegetation at the channel or ditch outlet, sediment barriers, check berms, or other appropriate measures shall be used to control erosion.

2.4.4 Temporary Mulching

Unless otherwise directed by applicant, the Contractor shall apply temporary seed and/or mulch on disturbed construction work areas that have been inactive for 21 days or are expected to be inactive for 21 days or more. The Contractor shall not apply temporary mulch in cultivated areas unless specifically requested by the landowner. The Contractor shall not apply mulch within wetland boundaries.

Temporary mulch of straw or equivalent applied on slopes shall be spread uniformly to cover at least 90 percent of the ground surface at an approximate rate of 2 tons per acre of straw or its equivalent. Mulch application on slopes within 100 feet of waterbodies and wetlands shall be increased to an approximate rate of 2 tons per acre.

2.4.5 Tackifier

When wetting topsoil piles with water does not prevent wind erosion, the Contractor shall temporarily suspend topsoil handling operations and apply a tackifier to topsoil stockpiles at the rate recommended by the manufacturer.

Should construction traffic, cattle grazing, heavy rains, or other related construction activity disturb the tackified topsoil piles and create a potential for wind erosion, additional tackifier shall be applied by the Contractor.

2.5 Trenching

The objective of trenching is to provide a ditch of sufficient depth and width with a bottom to continuously support the conduit and/or direct burial electrical collection cables and meet applicable civil, electrical engineering and safety requirements for depth, dependent on the types installed. During trenching operations, the following mitigation measures shall be implemented unless otherwise approved or directed by Applicant based on site-specific conditions or circumstances. All work shall be conducted in accordance with applicable permits.

- Subsoil shall be segregated from topsoil in separate, distinct rows with a separation that shall limit any admixing of topsoil and subsoil during handling.
- Gaps must be left in the spoil piles that coincide with breaks in the strung conduit to facilitate natural drainage patterns and to allow the passage of livestock or wildlife.
- Trenching operations shall be followed as closely as practicable by lower-in and backfill operations to minimize the length of time the ditch is open.
- Construction debris (e.g., welding debris) and other garbage shall not be deposited in the ditch.

2.5.1 Trench Dewatering/Well Points

The Contractor shall make all reasonable efforts to discharge trench water in a manner that avoids damage to adjacent agricultural land, crops, and pasture. Damage includes, but is not limited to, the inundation of crops for more than 24 hours, deposition of sediment in ditches, and the deposition of gravel in fields or pastures.

When pumping water from the trench for any reason, the Contractor shall ensure that adequate pumping capacity and sufficient hose is available to permit dewatering as follows:

- No heavily silt-laden trench water shall be allowed to enter a waterbody or wetland directly but shall instead be diverted through a well-vegetated area, a geotextile filter bag, or a permeable berm (or Applicant-approved equivalent).
- Trench water shall not be disposed of in a manner that could damage crops or interfere with the functioning of underground drainage systems.

The Contractor shall screen the intake hose and keep the hose either one foot off the bottom of the trench or in a container to minimize entrainment of sediment.

2.6 Cleanup

The objective of cleanup activities shall be to prepare the site and other disturbed areas to approximate preconstruction ground contours to the extent possible and to replace spoil and stockpiled material in a manner that preserves soil viability and quality to a degree reasonably equivalent to the original or that of representative undisturbed land. The following mitigation measures shall be utilized during cleanup, unless otherwise approved or directed by Applicant based on specific conditions or circumstances. All work shall be conducted in accordance with applicable permits.

- All garbage and construction debris shall be collected and disposed of at approved disposal sites.
- Subsoil shall not be placed on top of topsoil.
- During cleanup, temporary sediment barriers such as silt fence shall be removed; accumulated sediment shall be re-contoured with the rest of the site; and permanent erosion controls shall be installed as necessary.
- After construction, all temporary access shall be returned to pre-construction conditions unless specifically agreed with the landowner or otherwise specified by Applicant.
- All temporary gates installed during construction shall be replaced with permanent fence unless otherwise requested by the landowner.

2.7 Reclamation and Revegetation

The objectives of reclamation and revegetation are to return the disturbed areas to approximately pre-construction use and capability. This involves the treatment of soil as necessary to preserve approximate pre-construction capability and the stabilization of the work surface in a manner consistent with the initial land use.

The following mitigative measures will be utilized unless otherwise approved or directed by Applicant based on site-specific conditions or circumstances. However, all work shall be conducted in accordance with applicable permits and meet the guidelines and requirements of the site Noxious Weed Plan approved by the Crook County.

2.7.1 Rock Removal

- On agricultural land, rocks that are exposed on the surface due to construction activity shall be removed from the site prior to and after topsoil replacement. This effort will result in an equivalent quantity, size and distribution of rocks to that found on adjacent lands.
- Clearing of rocks may be carried out with a mechanical rock picker or by manual means, provided that preservation of topsoil is assured. Rock removed from the site shall be hauled off the landowner's premises or disposed of on the landowner's premises at a location that is mutually acceptable to the landowner and to Applicant.

2.7.2 Seeding

- Seed Mixes shall meet the requirements of the Noxious Weed Plan for the site.
- Certificates of seed analysis by the State of Oregon, Crook County, or the state in which the seed originated, are required for all seed mixes to limit the introduction of noxious weeds.
- Seeding shall follow cleanup and topsoil replacement as closely as possible. Seed shall be applied to all disturbed surfaces (except cultivated fields unless requested by the landowner).
- If mulch was applied prior to seeding for temporary erosion control, the Third Party Contractor shall remove and dispose of the excess mulch prior to seedbed preparation to ensure that seedbed preparation equipment and seed drills do not become plugged with excess mulch; and to support an adequate seedbed; and to ensure that seed incorporation or soil packing equipment can operate without becoming plugged with mulch.
- The Third Party Contractor may evenly re-apply and anchor (straw crimp) the removed temporary mulch on the construction site following seeding.
- Seed shall be applied at the rate recommended by the managing agency. Seeding rates shall be based on pure live seed.
- Weather conditions, construction site constraints, site access, and soil type shall influence the seeding method to be used (i.e., drill seeding versus broadcast seeding).
- The Third Party Contractor shall delay seeding as necessary until the soil is in the appropriate condition for drill seeding.
- The Third Party Contractor shall operate drill seeders at an appropriate speed so the specified seeding rate and depth is maintained.
- The Third Party Contractor shall calibrate drill seeders so that the specified seeding rate is planted. The site spacing on drill seeders shall not exceed 8 inches.
- The Third Party Contractor shall plant seed at depths consistent with the local or regional agricultural practices.
- Broadcast or hydro seeding, used in lieu of drilling, shall utilize double the recommended seeding rates. Where seed is broadcast, the Third Party Contractor shall use a harrow, cultipacker, or other equipment immediately following broadcasting to incorporate the seed to the specified depth and to firm the seedbed.
- The Third Party Contractor shall delay broadcast seeding during high wind conditions if even distribution of seed is impeded.
- The Third Party Contractor shall hand rake all areas that are too steep or otherwise cannot be safely harrowed or culti-packed in order to incorporate the broadcast seed to the specified depth.
- Hydro seeding may be used, on a limited basis, where the slope is too steep or soil conditions do not warrant conventional seeding methods. Fertilizer, where specified, may be included in the seed, virgin wood fiber, tackifier, and water

mixture. When hydro-seeding, virgin wood fiber shall be applied at the rate of approximately 3,000 pounds per acre on an air-dry weight basis as necessary to provide at least 75 percent ground cover. Tackifier shall consist of biodegradable, vegetable-based material and shall be applied at the rate recommended by the manufacturer. The seed, mulch, and tackifier slurry shall be applied so that it forms a uniform, mat-like covering of the ground.

2.7.3 Permanent Erosion and Sediment Control

The Contractor shall restore all existing landowner soil conservation improvements and structures disturbed by facility construction to the approximate pre-construction line and grade. Soil conservation improvements and structures include, but are not limited to, grassed waterways, toe walls, drop inlets, grade control works, terraces, levees, and farm ponds.

2.7.3.1 Mulching

The Contractor shall apply mulch on all areas with high erosion potential and on slopes greater than 8 percent unless otherwise approved based on site-specific conditions or circumstances. The Contractor shall spread mulch uniformly over the area to cover at least 90 percent of the ground surface at an approximate rate of 2 tons per acre of straw or its equivalent. The Environmental Inspector may reduce the application rate or forego mulching an area altogether if there is an adequate cover of rock or organic debris to protect the slope from erosion.

Mulch application includes straw or grass hay mulch or hydro mulch and tackifier. The Contractor shall not apply mulch in cultivated areas unless deemed necessary by the County and Applicant.

The Contractor shall use mulch that is State of Oregon and Crook County certified, or by the state of origin, weed seed free.

The Contractor shall apply mulch immediately following seeding. The Contractor shall not apply mulch in wetlands.

If a mulch blower is used, the majority of strands of the mulching material shall not be shredded to less than 12 inches in length to allow anchoring. The Contractor shall anchor mulch immediately after application to minimize loss by wind and water.

When anchoring (straw crimping) by mechanical means, the Contractor shall use a tool specifically designed for mulch anchoring with flat, notched disks to properly crimp the mulch to a depth of 2 to 3 inches. A regular farm disk shall not be used to crimp mulch. The crimping of mulch shall be performed across the slope of the ground, not parallel to it. In addition, in areas of steep terrain, tracked vehicles may be used as a means of crimping mulch (equipment running up and down the hill to leave crimps perpendicular to the slope), provided they leave adequate coverage of mulch.

In soils possessing high erosion potential, the Contractor may be required to make two passes with the mulch crimping tool; passes must be as perpendicular to the others as possible.

When anchoring with liquid mulch binders (tackifiers), the Contractor shall use a biodegradable tackifier derived from a vegetable-based source. The Contractor shall apply mulch binders at rates recommended by the manufacturer.

The Contractor shall limit the use of tackifiers for anchoring straw and the use of hydromulch and tackifier to areas that are too steep or rocky to safely or effectively operate mechanical mulch-anchoring tools. No asphalt-based tackifiers shall be used on the Facility.

2.7.3.2 Erosion Control Matting

Erosion control matting shall be applied in areas of high erosion potential. The Contractor shall anchor the erosion control matting with staples or other approved devices.

The Contractor shall use erosion control matting made of biodegradable, natural fiber such as straw or coir (coconut fiber).

The Contractor shall prepare the soil surface and install the erosion control matting to ensure it is stable and the matting makes uniform contact with the soil of the slope face or waterbody bank with no bridging of rills, gullies, or other low areas.

3.0 WATERBODIES AND RIPARIAN AREAS

3.1 General

The Contractor shall comply with requirements of all permits issued for the waterbody crossings by federal, state, or local agencies.

Waterbody includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:

- Minor Waterbody includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of construction.
- Intermediate Waterbody includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water's edge at the time of construction.
- Major Waterbody includes all waterbodies greater than 100 feet wide at the water's edge at the time of construction.

The Contractor shall supply and install advisory signs in a readily visible location along the construction ROW at a distance of approximately 50 feet on each side of the crossing and on all roads that provide direct construction access to waterbody crossing sites. Signs shall be supplied, installed, maintained, and then removed upon completion of the Facility.

The Contractor shall not store hazardous materials, chemicals, fuels, lubricating oils, or perform concrete coating within 100 feet of any waterbody. The Contractor shall not refuel construction equipment within 100 feet of any waterbody. All equipment maintenance and repairs shall be performed in upland locations at least 100 feet from waterbodies and wetlands. All equipment parked overnight shall be at least 100 feet from a watercourse or wetland, if possible. Equipment shall not be washed in waterbodies or wetlands.

Throughout construction, the Contractor shall maintain adequate flow rates to protect aquatic life and to prevent the interruption of existing downstream uses.

Applicant may allow modification of the following specification, as necessary, to accommodate specific situations or procedures. Any modifications must comply with all applicable regulations and permits. Applicant will complete site-specific crossing plans for certain waterbody crossings if required by the applicable regulatory agencies during federal or state permitting processes.

3.2 Easement and Work Space

The permanent easement, temporary workspace, additional temporary workspace, and any special restrictions will be depicted on the construction drawings. The work shall be contained within these areas and be limited in size to the minimum required to construct the waterbody crossing.

The Contractor shall locate all extra work areas (such as staging areas and additional spoil storage areas) at least 10 feet from the water's edge if practicable.

At all waterbody crossings, the Contractor shall install flagging across the construction ROW at least 10 feet from the water's edge prior to clearing and ensure that riparian cover is maintained where practicable during construction.

3.3 Vehicle Access and Equipment Crossings

The Contractor shall inspect equipment for fluid leaks prior to entering or crossing over waterbodies.

Equipment crossings shall be perpendicular to drainage bottoms wherever possible.

Erosion and sediment control barriers shall be installed and maintained around vehicle access points, as necessary, to prevent sediment from reaching the waterway.

The Contractor shall be responsible for the installation, maintenance, and removal of all temporary access crossings including portable bridges, bridges made from timber or mats, flumes, culverts, sand bags, subsoil, coarse granular material, and riprap.

The Contractor shall ensure that culverts and flumes are sized and installed of sufficient diameter to accommodate the existing flow of water and those that potentially may be created by sudden runoffs. Flumes shall be installed with the inlet and outlet at natural grade, if possible.

Where bridges, culverts, or flumes are installed across the work area, the Contractor shall be responsible for maintaining them (e.g., preventing collapse, clogging, or tilting). All flumes and culverts shall be removed as soon as possible upon completion of construction.

The width of the temporary access road across culverts and flumes and the design of the approaches and ramps shall be adequate for the size of vehicle and equipment access required. The ramps shall be of sufficient depth and constructed to prevent collapse of the flumes, and the approaches on both sides of the flume shall be feathered.

Where culverts are installed for access, the culvert shall be of sufficient length to convey the stream flow through the construction zone.

The Contractor shall maintain equipment bridges to prevent soil from entering the waterbody.

3.4 Waterbody Crossing Methods

It is not anticipated that major waterbodies are located in the Facility area; however, construction methods pertinent to waterbody crossings are presented below. In conjunction with the appropriate jurisdictional agency, Applicant will develop specific crossing plans for major waterbodies that contain recreationally or commercially important fisheries, or are classified as special use. Applicant will consult with state fisheries agencies with respect to applicable

construction windows for each crossing and develop specific construction and crossing methods for open cuts in conjunction with USACE permitting and USFWS consultation.

3.5 Clearing

All staging areas for materials and equipment shall be located at least 50 feet from the waterbody edge. The Contractor shall preserve as much vegetation as possible along the waterbody banks while allowing for safe equipment operation.

Clearing and grubbing for temporary vehicle access and equipment crossings shall be carefully controlled to minimize sediment entering the waterbody from the construction ROW.

Plant debris or soil inadvertently deposited within the highwater mark of waterbodies shall be promptly removed in a manner that minimizes disturbance of the waterbody bed and bank. Excess floatable debris shall be removed above the highwater mark from areas immediately above crossings.

3.6 Grading

The construction ROW adjacent to the waterbody shall be graded so that soil is pushed away from the waterbody rather than towards it whenever possible.

In order to minimize disturbance to woody riparian vegetation within extra workspaces adjacent to the construction ROW at waterbody crossings, the Contractor shall limit grading and grubbing to upland areas adjacent to waterbody banks.

3.7 Temporary Erosion and Sediment Control

The Contractor shall install and maintain sediment and erosion control barriers and cover across the entire construction ROW at all flowing waterbody crossings.

The Contractor shall install sediment barriers immediately prior to initial disturbance adjacent uplands. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete.

Where waterbodies are adjacent to the construction ROW, the Contractor shall install and maintain sediment barriers along the edge of the construction ROW as necessary to contain spoil and sediment within the construction ROW.

Exhibit H

Weed Control Plan