

Exhibit I

Soil Conditions

**Bakeoven Solar Project
November 2019**

Prepared for



Avangrid Renewables, LLC

Prepared by



Tetra Tech, Inc.

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Acronyms and Abbreviations

Applicant	Bakeoven Solar, LLC
BMP	best management practice
ESCP	Erosion and Sediment Control Plan
Facility	Bakeoven Solar Project
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OAR	Oregon Administrative Rule
ODEQ	Oregon Department of Environmental Quality
SPCC Plan	Spill Prevention, Control, and Countermeasures Plan

1.0 Introduction

Bakeoven Solar, LLC (Applicant) proposes to construct and operate a solar energy generation facility and related or supporting facilities in Wasco County, Oregon. This Exhibit I was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(i).

2.0 Analysis Area

The analysis area for soil resources is the area within the proposed site boundary. The site boundary is defined in Exhibits B and C and is shown on Figure I-1.

3.0 Identification and Description of Soil Types

OAR 345-021-0010(1)(i) Information from reasonably available sources regarding soil conditions and uses in the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0022, including:

(A) Identification and description of the major soil types in the analysis area.

According to the Natural Resources Conservation Service (NRCS) web-based soil survey (NRCS 2018), there are seven major soil types in the analysis area (Table I-1; Figure I-1). These soil types are characterized as shallow to deep with high to very high permeability, with areas of fertile silt loams in loess deposits (i.e., wind-blown silt with lesser and variable amounts of sand and clay) on the flatter surfaces.

Soils within the analysis area have a K factor (erosion factor that indicates the susceptibility of a soil to sheet and rill erosion by water) that ranges from 0.10 to 0.37, which could be considered moderately to highly erodible, and subject to sheet erosion and rill erosion by water (NRCS 2018). However, precipitation is limited in the analysis area, as Intellicast (2019) reports that the historical average of precipitation and snow received in nearby Maupin, Oregon, ranges between 1 and 7 inches annually, most of which occurs between November and March.

The seven major soil types are grouped into soil series, which are discussed below. Soils given the same soil series name possess the same characteristics across the landscape.

Bakeoven Soil Series

The Bakeoven series consists of very shallow, well-drained soils that formed in mixed slope alluvium, loess, and residuum weathered from basalt. Bakeoven series soils are on uplands and have slopes of 2 to 20 percent in the site boundary. Thickness of the solum (surface and subsoil layers that have undergone the same soil-forming conditions) and depth to bedrock is approximately 2 feet. The soils formed in loess and residuum weathered from basalt and are well-

drained with moderately slow permeability. In a few places, water ponds on the soil for short periods.

Condon Soil Series

The Condon series consists of moderately deep, well-drained soils that formed in loess overlying basalt. Thickness of the solum and depth to bedrock ranges from 2 to 5 feet. These soils formed in a loess mantle with an appreciable component of volcanic ash overlying basalt and are well-drained with slow to rapid runoff and moderate permeability. Within the site boundary, areas with Condon series soils range from 2 to 20 percent.

Lickskillet Soil Series

The Lickskillet series consists of shallow, well-drained soils that formed in stony colluvium consisting of loess, rock fragments, and residuum weathered from basalt and rhyolite. The thickness of the solum and depth to bedrock is approximately 3 feet. These soils are well-drained with moderate permeability and their slopes range from 15 to 70 percent.

Wrentham-Rock Outcrop Complex

The Wrentham series consists of moderately deep, well-drained soils that formed in loess mixed with colluvium weathered from basalt. These soils experience rapid runoff and have moderately slow permeability. Wrentham soils are on north-facing canyon slopes and have slopes of 35 to 70 percent.

Table I-1. General Description of Mapped Soil Units in the Analysis Area

Soil Type ID	Soil Unit	Setting Within Project Area	Approximate Thickness	Formation Setting	Permeability	Runoff	K Factor
BaC	Bakeoven very cobbly loam	2 to 20 percent slopes	2 feet	Loess and residuum weathered from basalt	Very High	High	0.1
BcC	Bakeoven-Condon complex very cobbly loam	2 to 20 percent slopes	2 feet	Loess and residuum weathered from basalt	Very High	High	0.1
CnC	Condon silt loam	2 to 12 percent slopes	At least 5 feet	Loess over basalt	High	Moderately High	0.37
CoC	Condon-Bakeoven complex	2 to 20 percent slopes	2 feet	Loess and residuum weathered from basalt	High	Moderately High	0.37
LcE	Licksillet very stony loam	15 to 40 percent slopes	3 feet	Shallow, stony colluvium that is a mixture of loess, basalt fragments, and residuum weathered from basalt	Very High	High	0.15
LeF	Licksillet extremely stony loam	40 to 70 percent slopes	3 feet	Shallow, stony colluvium that is a mixture of loess, basalt fragments, and residuum weathered from basalt	Very High	High	0.15
WrF	Wrentham-Rock outcrop complex	35 to 70 percent slopes	> 1 foot	Loess and colluvium derived from basalt	High	Moderately High	0.28

4.0 Current Land Use within the Analysis Area

OAR 345-021-0010(1)(i)(B) Identification and description of current land uses in the analysis area, such as growing crops, that require or depend on productive soils.

Land use in the analysis area is primarily composed of open rangeland with a small portion used for cultivated agricultural use (i.e., dry land wheat); limited rainfall constrains agricultural opportunities. In 2018, the Boxcar Fire burned a portion of the analysis area. A number of soil and water conservation measures have been implemented such as retention ponds, reseeding after the Boxcar Fire, and no-till seeding. See Exhibit K for further description of current land use.

5.0 Project Soil Impacts

OAR 345-021-0010(1)(i)(C) Identification and assessment of significant potential adverse impact to soils from construction, operation and retirement of the facility, including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.

5.1 Construction

Construction activities that may temporarily disturb soils include:

- Clearing and grubbing of vegetation in temporary construction areas, solar array, and new access roads;
- Grading and widening of existing access roads;
- Constructing new access roads;
- Hauling heavy equipment and other truck traffic for the delivery of aggregates, concrete, water, solar components, construction supplies, and drill rigs for pile installation; and
- Fueling or maintenance of construction equipment or vehicles that are not highway-authorized.

The portions of the analysis area that will be graded are expected to result in a balanced cut-and-fill quantity of earthwork to maintain the existing conditions to the extent practical for the protection of the equipment and facilities.

Acres of temporary and permanent disturbance by disturbance type are identified in Exhibit C. Impacts to soil, such as erosion, resulting from construction activities will be limited through:

- Implementing the erosion and sediment control best management practices (BMP) included in the final Erosion and Sediment Control Plan (ESCP), as required by the Oregon Department of Environmental Quality (ODEQ) National Pollutant Discharge Elimination

System (NPDES) Construction Stormwater Discharge General Permit 1200-C (see draft application in Attachment I-1).

- Maintaining a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan); and
- Implementing appropriate site restoration practices during and following construction as described in the ESCP (Attachment I-1) and the Revegetation Plan (see Exhibit P, Attachment P-3).

5.2 Operation

Operational activities will not result in impacts to soils as activities will be restricted to access roads and no ground disturbance will occur. Construction and post-construction revegetation efforts identified in the Revegetation Plan (see Exhibit P, Attachment P-3) will provide for long-term soil stability during operation in areas that were temporarily disturbed.

The inverters, transformers, and the battery storage system will be stored in completely contained, leak-proof modules on concrete pads to capture any leaks that may occur (see Exhibit B, Figures B-4 and B-10). Operation and maintenance staff will conduct inspections of the inverters, transformers, and battery system according to the manufacturer's recommendations, which are assumed to be monthly inspections. In addition, an SPCC Plan will be developed to manage, prevent, contain, and control potential releases, and provide provisions for quick and safe cleanup of hazardous materials (see Exhibit G). The potential for soil contamination will be limited by not maintaining substantial supplies of hazardous materials on site, and by observing appropriate safety measures during maintenance procedures.

5.3 Decommissioning

In the event of decommissioning, potential erosion hazards will be similar to those occurring during construction. Measures similar to those employed during construction and operation will be used during decommissioning to prevent and control erosion, to prevent spills, and to revegetate disturbed areas.

6.0 Mitigation Measures

OAR 345-021-0010(1)(i)(D) A description of any measures the applicant proposes to avoid or mitigate adverse impact to soils.

The Applicant will rely on the following measures to avoid or minimize adverse impacts on soils.

- **Preserve Existing Vegetation** – To the extent practicable, existing vegetation will be preserved. Where vegetation clearing is necessary, root systems will be conserved if possible.
- **Erosion Control Measures** – During construction, the Applicant will implement BMPs for erosion, including perimeter controls (e.g., silt fence), soil stabilization (e.g., mulching or

tackifiers), and dust control as outlined in the project specific ESCP and the Construction Stormwater NPDES General Permit 1200-C (see draft application in Attachment I-1).

- **Revegetation** – The Applicant will provide long-term soil stability by reseeding disturbed areas to reestablish vegetation. Temporarily impacted areas that are reseeded will be monitored for restoration success according to the Applicant’s Revegetation Plan (see Exhibit P, Attachment P-3).
- **Pollutant Management** – During construction, source control measures will be implemented to reduce the potential of chemical pollution to soil during construction. SPCC plans for construction and operation will be prepared for each phase of the project that outline the site-specific handling and reporting measures (see Exhibit G).

7.0 Monitoring Program

OAR 345-021-0010(1)(i)(E) The applicant’s proposed monitoring program, if any, for adverse impact to soils during construction and operation.

Erosion and sediment control measures will be inspected and maintained regularly during construction as required by the ODEQ NPDES Construction Stormwater Discharge General Permit 1200-C. The Applicant will monitor the restoration success of temporarily disturbed areas according its Revegetation Plan and ESCP. No adverse impacts to soils are expected from operation; therefore, no monitoring program for operation is proposed.

8.0 Conclusions

The evidence provided in this exhibit demonstrates that the requirements specified in OAR 345-022-0022 have been met because the Facility is not likely to result in significant adverse impacts to soils. The potential impacts from erosion during construction are anticipated to be minimal and are addressed through erosion-control measures as described above and in the ESCP as required by the NPDES Construction Stormwater Discharge General Permit 1200-C. Subsequent revegetation efforts identified in the Revegetation Plan (see Exhibit P, Attachment P-3) will provide for long-term soil stability during operation. Restricting operational activity to permanent roads will minimize erosion. Taking this into account, the Oregon Energy Facility Siting Council may conclude that the design, construction, and operation of the Facility, as proposed, is not likely to result in a significant adverse impact to soils.

9.0 Submittal Requirements and Approval Standards

9.1 Submittal Requirements

Table I-2. Submittal Requirements Matrix

Requirement	Location
OAR 345-021-0010(1)(i) Information from reasonably available sources regarding soil conditions and uses in the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0022, including:	-
(A) Identification and description of the major soil types in the analysis area.	Section 3.0
(B) Identification and description of current land uses in the analysis area, such as growing crops, that require or depend on productive soils.	Section 4.0
(C) Identification and assessment of significant potential adverse impact to soils from construction, operation and retirement of the facility, including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.	Section 5.0
(D) A description of any measures the applicant proposes to avoid or mitigate adverse impact to soils.	Section 6.0
(E) The applicant's proposed monitoring program, if any, for adverse impact to soils during construction and operation.	Section 7.0

9.2 Approval Standards

Table I-3. Approval Standard

Requirement	Location
OAR 345-022-0022 Soil Protection	
To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in a significant adverse impact to soils including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.	Sections 5.0, 6.0, 7.0, and 8.0

10.0 References

Intellicast. 2019. Historic Average Precipitation and Snowfall in Maupin, OR.
<http://www.intellicast.com/Local/History.aspx?location=USOR0212>

NRCS (Natural Resources Conservation Service). 2018. United States Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) Database for Oregon.
<http://soildatamart.nrcs.usda.gov>

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Figures












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Bakeoven Solar Project

Figure I-1 Soil Types

WASCO COUNTY, OREGON

-  Proposed Site Boundary
-  Proposed Micrositing Corridor
- Basemap Features**
-  County Boundary

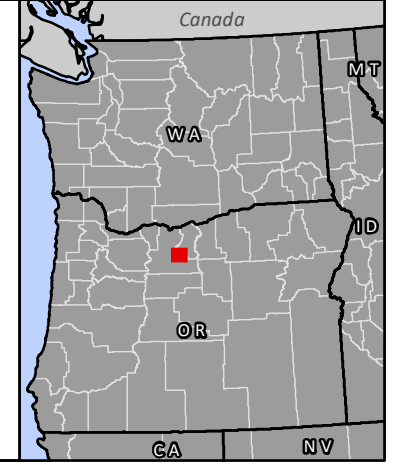
Mapunit Symbol	Mapunit Name
	1 - Endersby fine sandy loam, 0 to 3 percent slopes
	BaC - Bakeoven very cobbly loam, 2 to 20 percent slopes
	BcC - Bakeoven-Condon complex, 2 to 20 percent slopes
	CnC - Condon silt loam, 2 to 12 percent slopes
	CoC - Condon-Bakeoven complex, 2 to 20 percent slopes
	LcE - Licksillet very stony loam, 15 to 40 percent slopes
	LeF - Licksillet extremely stony loam, 40 to 70 percent slopes
	Pa - Playas
	Rh - Riverwash
	W - Water
	Wrf - Wrentham-Rock outcrop complex, 35 to 70 percent slopes



Data Sources

Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads
NRCS-Soils

Reference Map









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Bakeoven Solar Project

Figure I-2 High Value Farmland

WASCO COUNTY, OREGON

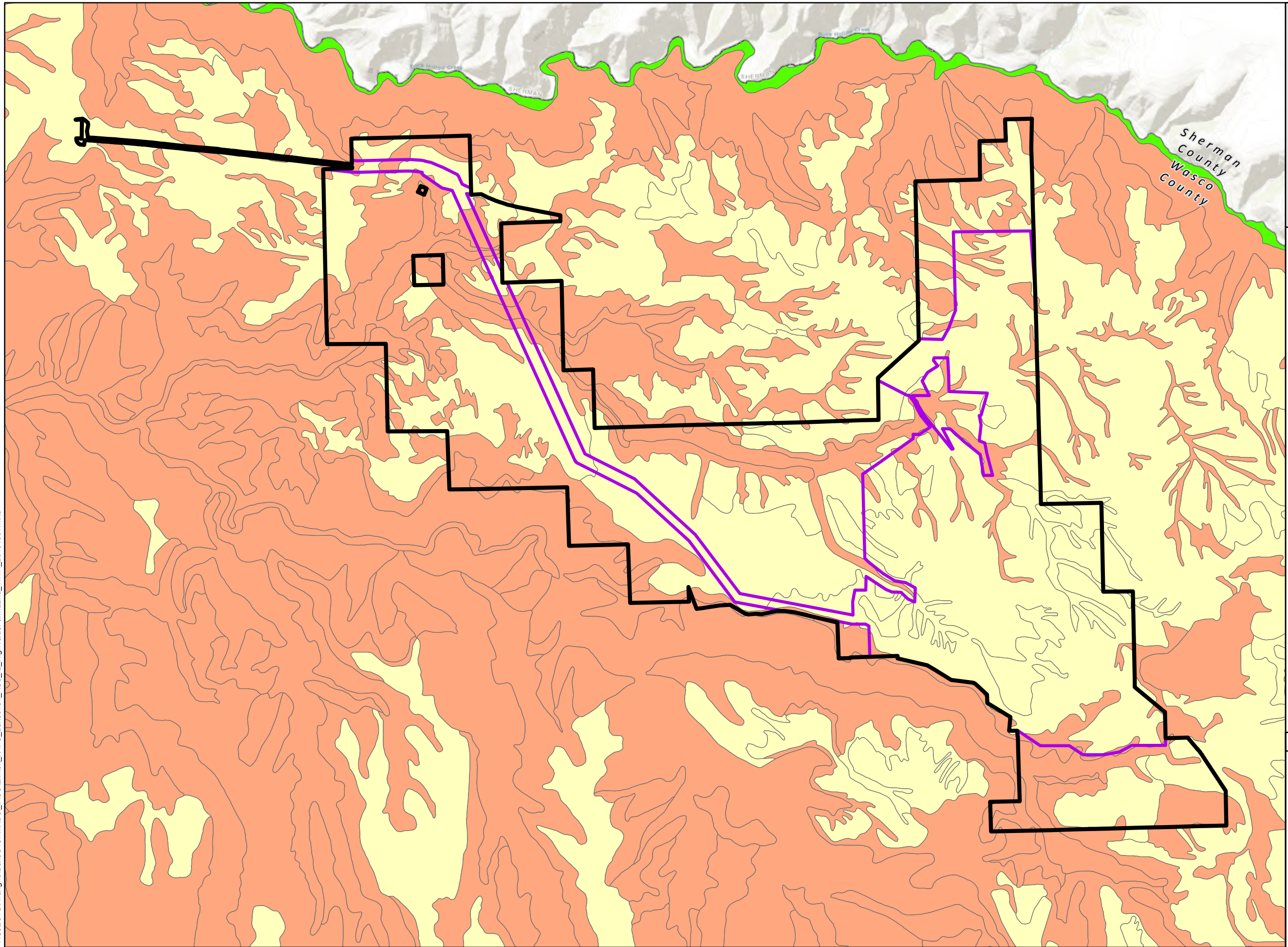
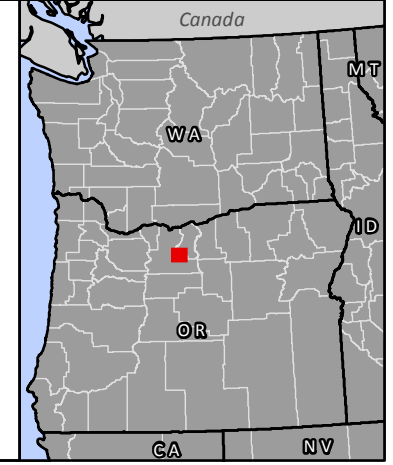
-  Proposed Site Boundary
-  Proposed Micrositing Corridor
- Basemap Features**
 -  County Boundary
- Farmland Classification**
 -  Prime farmland if irrigated
 -  Farmland of statewide importance
 -  Not prime farmland



Data Sources

Avangrid-Project Infrastructure;
USDA-Aerial Imagery; Census Bureau-Tiger Roads

Reference Map



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**Attachment I-1. Draft NPDES Construction
Stormwater Discharge General Permit
1200-C Application**

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**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
APPLICATION FOR NEW NPDES GENERAL PERMIT 1200-C**

Instructions for Completion of 1200-C Construction Stormwater Application: For stormwater discharges to surface waters from construction activities, disturbing one acre or more that do not meet automatic coverage requirements (see page 3 for additional information).

A. PROJECT INFORMATION

1. Enter the legal name of the applicant. This must be the legal Oregon name (i.e., Acme Products, Inc.) or the legal representative of the company if it operates under an assumed business name (i.e., John Smith, dba Acme Products). The name must be a legal, active name registered with the Oregon Department of Commerce, Corporation Division (503) 378-4752, (http://egov.sos.state.or.us/br/pkg_web_name_srch_inq_login), unless otherwise exempted by their regulations. The permit will be issued to the legal name of the applicant.
 - Permit coverage may be transferred from one party to another. For example, a developer may apply for a permit and then transfer the permit to a contractor. Transfer forms: <http://www.oregon.gov/deq/wq/wqpermits/Pages/Forms.aspx>
2. Provide invoice contact information for billing of DEQ annual permit fee if different from the applicant in #1 above. This is the person or entity legally responsible for payment of the annual fee invoice. This must be the same company as the applicant. not a third party independent of the applicant.
3. Provide contact information for the Architect or Consulting Engineer who designed the Erosion and Sediment Control Plan (ESCP) and Dewatering Plan, if applicable.
4. Provide information on the Erosion and Sediment Control Inspector. This is not a DEQ or DEQ Agent inspector; this is an inspector employed by the applicant. As of January 1, 2017, for project 5 acres or more include inspectors' qualification program, certification number and expiration date.
5. Provide the common name of the project (for example, the name of the subdivision), the location of the site, and, if available, a street address.
6. Check the box that best describes the nature of the construction activity. If "other" is selected, describe the use and include a Standard Industrial Classification Code (visit <http://www.osha.gov/pls/imis/sicsearch.html> for codes). For projects that have submitted a joint permit application, please provide the US Army Corps of Engineers assigned number.
7. Enter latitude and longitude for the approximate center of the site, to the nearest 15 seconds. Latitude and longitude can be obtained from DEQ's location finder web site at <http://deqapp1/website/lit/data.asp>. To get the longitude and latitude to appear you can also zoom in and re-center until you find the area. You may want to turn off DEQ interests to eliminate the yellow dots and you may want to turn on the Aerial Photos to help you locate the site (note that the aerial photos are over ten years old). The latitude and longitude will be indicated on the left side of the page once you have checked the locate place at the top of the page and clicked on a location.
8. If known, specify approximate start date. Provide information on the project size as indicated (based on the total project and not just a single phase).
9. For projects that anticipate dewatering or the need for active treatment system, additional details of BMPs and an operation and maintenance plan is required. This includes a plan review fee (Table 70H) for treatment of contaminants beyond sediment. [Fee table](#)
10. Indicate the name(s) of the receiving water(s) (i.e., indicate where stormwater runoff during construction will flow). Request information from local authority or other resource to determine the name of the receiving waterbody. Your receiving water may be a lake, stream, river, wetland or other waterbody, and may or may not be located adjacent to the site. Your stormwater may discharge directly to the receiving water or indirectly via a storm sewer system, an open drain or ditch, or other conveyance structure. Do NOT list a man-made conveyance, such as a storm sewer system, as your receiving water. If you discharge to an irrigation channel or ditch you must also indicate the owner or operator of the irrigation channel or ditch. Indicate the first natural receiving water your stormwater discharge enters.

For example, if your discharge enters a storm sewer system, that empties into Trout Creek, which flows into Pine River, your receiving water is Trout Creek, because it is the first natural waterbody your discharge will reach. Similarly, a discharge into a ditch that feeds Spring Creek should be identified as "Spring Creek" since the ditch is a manmade conveyance. If you discharge into a municipal separate storm sewer system (MS4), you must identify the waterbody into which that portion of the storm sewer discharges. That information should be readily available from the operator of the MS4.

11. Indicate whether stormwater runoff during construction will discharge directly to or through a storm sewer or drainage system that discharges to a Total Maximum Daily Load (TMDL) or 303(d) listed waterbody for turbidity or sedimentation. To make this determination, the following tools are available on DEQ's website:
- WQ Assessment page: <http://www.deq.state.or.us/wq/assessment/rpt2012/search.asp> to use scroll down to search criteria: waterbody and listing status Category 5 (303d) and Category 4a (TMDL approved).

B. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE

DEFINITION OF LEGALLY AUTHORIZED REPRESENTATIVE:

Please also provide the information requested in brackets []

- **Corporation** - president, secretary, treasurer, vice-president, or any person who performs principal business functions; or a manager of one or more facilities that is authorized in accordance to corporate procedure to sign such documents.
- **Partnership** - General partner *[list of general partners, their addresses, and telephone numbers]*.
- **Sole Proprietorship** - Owner(s) *[each owner must sign the application]*.
- **City, County, State, Federal, or other Public Facility** - Principal executive officer or ranking elected official.
- **Limited Liability Company** - Member *[articles of organization]*.
- **Trusts** - Acting trustee *[list of trustees, their addresses, and telephone numbers]*.

(please see 40 CFR §122.22 for more detail, if needed)

APPLICATION AND FEE SUBMITTAL

To authorize permit registration, the following must be completed and submitted to the appropriate DEQ regional office or DEQ Agent

- DEQ application form signed by the Legally Authorized Representative and meeting the signature requirements above.
- DEQ LUCS and associated Findings.
- Stormwater Erosion and Sediment Control Plan Narrative, if applicable.
- Dewatering and/or Treatment Plan, if applicable.
- Stormwater Erosion and Sediment Control Plan Drawings; full-sized hard copy and electronic file.
- Applicable permit fee. Appropriate fees are available at <http://www.oregon.gov/deq/Rulemaking%20Docs/340-045-0075WQFeeTables.pdf>. All stormwater permits charge an application fee and an annual fee upon registration. DEQ will invoice the annual fee amount if your project coverage extends more than a year. **Please note:** if submitting a dewatering or active treatment O&M Plan to address contaminants beyond sediment, a disposal system plan review fee may be charged as indicated in Table 70H.

APPLICATION AND FEE SUBMITTAL

Submit this application, Narrative Parts I, II & III (if applicable), LUCS, Erosion and Sediment Control Plan (full-sized hard copies and electronic copy), Dewatering and/or Treatment Plan and the applicable fee to the appropriate DEQ regional office or DEQ Agent listed below. Contact the appropriate DEQ regional office or DEQ Agent for the best way to submit the electronic version of the ESCP.

AGENTS AND REGIONAL OFFICES CONTACTS

City of Eugene 99 W. 10th Avenue Eugene, OR 97401 541-682-2706	City of Hermiston 215 Gladys Avenue Hermiston, OR 97838 541-667-5025	City of Troutdale 342 SW 4th Street Troutdale, OR 97060 503-674-3300			
Clean Water Services 2550 SW Hillsboro Highway Hillsboro, OR 97123 503-681-5101 <i>Includes Banks, Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, North Plains, Sherwood, Tigard, Tualatin, and portions of Washington Co.</i>	Rogue Valley Sewer Services 138 West Vilas Road, PO Box 3130 Central Point, OR 97502 541-664-6300				
DEQ Northwest Region	DEQ Western Region	DEQ Eastern Region			
700 Lloyd Building at 700 NE Multnomah St., Suite #600, Portland, OR 97232 503-229-5263 or 1-800-452-4011	165 East 7th Avenue, Suite 100 Eugene, OR 97401 541-686-7930 or 1-800-844-8467	800 SE Emigrant Avenue, Suite 330 Pendleton, OR 97801 541-278-4605 or 1-800-304-3513			
Clackamas	Benton	Lane	Baker	Hood River	Sherman
Clatsop	Coos	Lincoln	Crook	Jefferson	Umatilla
Columbia	Curry	Linn	Deschutes	Klamath	Union
Multnomah	Douglas	Marion	Gilliam	Lake	Wallowa
Tillamook	Jackson	Polk	Grant	Malheur	Wasco
Washington	Josephine	Yamhill	Harney	Marrow	Wheeler

DEQ USE ONLY

File #: _____

Application #: _____

LLID/RM: _____

River Mile: _____

Legal Name Confirmed:

Notes: _____



State of Oregon
Department of
Environmental
Quality

**DEPARTMENT OF
ENVIRONMENTAL QUALITY**

**APPLICATION FOR NEW
NPDES GENERAL PERMIT
1200-C**

For stormwater discharges to surface waters from construction activities disturbing one acre or more that do not meet automatic coverage requirements.*

DEQ USE ONLY

Date Received: _____

Amount: \$ _____

Check #: _____

Check Name: _____

Deposit #: _____

Receipt #: _____

Notes: _____

*A project *may* be eligible for “automatic coverage” under NPDES general permit 1200-CN if stormwater *does not* discharge to a waterbody with a TMDL or 303(d) listing for sediment or turbidity *and* it meets one of the following criteria (see 1200-CN at <http://www.oregon.gov/deq/FilterPermitsDocs/1200cnPermit.pdf>):

- 1) Disturbs less than one acre and is located in Gresham, Troutdale, or Wood Village.
- 2) Disturbs less than five acres and is located in Albany, Corvallis, Eugene, Milwaukie, Multnomah Co. (unincorporated areas), Springfield, West Linn, or Wilsonville.
- 3) Disturbs less than five acres and is within the jurisdictions of Clackamas Co. Water Environment Services [Gladstone, areas within Clackamas Co. Service Dist. #1 (excluding Happy Valley), and areas within the Surface Water Management Agency of Clackamas Co. (including Rivergrove)], Clean Water Services (Banks, Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, North Plains, Sherwood, Tigard, Tualatin, and Washington Co. within Urban Growth Boundary), or Rogue Valley Sewer Services.

A. PROJECT INFORMATION

1. _____
Applicant (entity legally responsible for permit)

_____ Contact Name (if different from applicant)

_____ Address

_____ City _____ State _____ Zip

_____ Telephone _____ E-Mail Address

2. Invoicing information (person or entity legally responsible for payment of annual fee invoice; not a third party independent of the applicant)

_____ Invoice Contact Name (if different from applicant)

_____ Address

_____ City _____ State _____ Zip

_____ Telephone _____ E-Mail Address

3. _____
Architect/Engineering Firm (Erosion & Sediment Control Plan)

_____ Project Manager

_____ Telephone _____ E-Mail Address

4. _____
Applicant's Designated Erosion and Sediment Control Inspector

_____ Company Name

_____ Telephone _____ E-Mail Address

_____ Qualification program, certification number and expiration date

5. _____ <div style="text-align: center;">Name of Project</div> _____ <div style="text-align: center;">Address or Cross Street</div> _____ _____ _____ <div style="text-align: center;">City State Zip</div> _____ <div style="text-align: center;">County</div>	6. Nature of Construction Activity <input type="checkbox"/> Single Family (SIC Code 1521) <input type="checkbox"/> Multi-Family Residential (SIC Code 1522) <input type="checkbox"/> Commercial (SIC Code 1542) <input type="checkbox"/> Industrial (SIC Code 1541) <input type="checkbox"/> Highway (SIC Code 1611) <input type="checkbox"/> Restoration (SIC Code 1629) <input type="checkbox"/> Utilities (SIC Code 1623): _____ <input type="checkbox"/> Other (SIC Code required): _____ Army Corps No. (if any): _____
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

7. Approximate location of center of site Latitude: _____ Longitude: _____ <i>**For assistance: DEQ Location Improvement Tool at: http://deqapp1/website/lit/data.asp**</i>	8. Approximate start date: _____ Project Size Total Site Acreage (acres): _____ Total Disturbed Area (acres): _____ Total Number of Lots: _____
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

9. Is there soil or groundwater contamination located within the site boundary? YES NO
 Will you be dewatering during construction (plan review fee may apply)? YES NO
 Depth to groundwater: _____ Data Source: _____

10. Receiving waterbody - Must identify final discharge location of construction stormwater flows.

Waters of the State (name or description): Columbia River, Deschutes River, Bakeoven Creek, Salt Creek, Dead Dog Creek

Municipal storm sewer or drainage system (include downstream receiving waterbody):

Ditch (include downstream receiving waterbody):

Irrigation channel or ditch (include owner or operator):

Infiltration device(s) (construction stormwater discharge to underground injection control/drywell is prohibited)

Other:

11. Stormwater runoff during construction discharges directly to or through a storm sewer or drainage system that discharges to a waterbody with a Total Maximum Daily Load (TMDL) or 303(d) listing for turbidity or sedimentation? YES NO

***For assistance: DEQ assessment database page at <http://www.deq.state.or.us/wq/assessment/rpt2012/search.asp>*

B. SIGNATURE OF LEGALLY AUTHORIZED REPRESENTATIVE

The legally authorized representative *must* sign the application (see instructions – Section C).

I hereby certify that the information contained in this application is true and correct to the best of my knowledge and belief. In addition, I agree to pay all permit fees required by Oregon Administrative Rules 340-045. This includes a compliance determination fee invoiced annually by DEQ to maintain the permit.

Name of Legally Authorized Representative (Type or Print)	Title
Signature of Legally Authorized Representative	Date

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AVANGRID RENEWABLES BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

1750 SW HARBOR WAY, SUITE 400
PORTLAND, OR 97201
PHONE: (503) 221-8636 FAX: (503) 227-1287



www.tetrattech.com

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

- Hold a pre-construction meeting of project construction personnel that includes the inspector to discuss erosion and sediment control measures and construction limits. (Schedule A.8.c.i.(3))
- All inspections must be made in accordance with DEQ 1200-C permit requirements.
- Inspection logs must be kept in accordance with DEQ's 1200-C permit requirements.
- Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. During inactive periods of greater than seven (7) consecutive calendar days, retain the ESCP at the construction site or at another location. (Schedule B.2.a)
- All permit registrants must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit. (Schedule A.8.a)
- The ESCP measures shown on this plan are minimum requirements for anticipated site conditions. During the construction period, upgrade these measures as needed to comply with all applicable local, state, and federal erosion and sediment control regulations. (Schedule A.8.c.ii.(1)(2))
- Submission of all ESCP revisions is not required. Submission of the ESCP revisions is only under specific conditions. Submit all necessary revision to DEQ or Agent. (Schedule A.12.c.iii)
- Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Schedule A.8.c.ii.(1)(d))
- Identify, mark, and protect (by fencing off or other means) critical riparian areas and vegetation including important trees and associated rooting zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved, especially in perimeter areas. (Schedule A.8.c.i.(1) & (2))
- Preserve existing vegetation when practical and re-vegetate open areas. Re-vegetate open areas when practicable before and after grading or construction. Identify the type of vegetative seed mix used. (Schedule A.7.b.iii(1) and A.7.b.iii(3))
- Erosion and sediment control measures including perimeter sediment control must be in place before vegetation is disturbed and must remain in place and be maintained, repaired, and promptly implemented following procedures established for the duration of construction, including protection for active storm drain openings and appropriate non-stormwater pollution controls. (Schedule A.7.d.i. and A.8.c)
- Establish concrete truck and other concrete equipment washout areas before beginning concrete work. (Schedule A.8.c.i.(6))
- Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses and for all roadways including gravel roadways. (Schedule A.8.c.ii.(2))
- Establish material and waste storage areas, and other non-stormwater controls. (Schedule A.8.c.i.(7))
- Prevent tracking of sediment onto public or private roads using BMPs such as: graveled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMPs must be in place prior to land-disturbing activities. (Schedule A.7.d.ii.(1) and A.8.c.i.(4))
- When trucking saturated soils from the site, either use water-tight trucks or drain loads on site. (Schedule A.7.d.ii.(3))
- Use BMPs to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations. (Schedule A.7.e.i.(2))
- Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies. (Sch A.7.e.iii.)
- Use water, soil-binding agent or other dust control technique as needed to avoid wind-blown soil. (Schedule A.7.b.ii)
- The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time-release fertilizers within any waterway riparian zone. (Schedule A.9.b.ii)
- If a stormwater treatment system (for example, electro-coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain plan approval before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications. (Schedule A.9.d)
- Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year. (Schedule A.7.b)
- At the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters. (Schedule A.7.e.i.(2))
- Construction activities must avoid or minimize excavation and creation of bare ground during wet weather. (Schedule A.7.a.i)
- Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal. (Schedule A.9.c.i)
- Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height. and before BMP removal. (Schedule A.9.c.ii)
- Catch basins: clean before retention capacity has been reduced by fifty percent. Sediment basins and sediment traps: remove trapped sediments before design capacity has been reduced by fifty percent and at completion of project. (Schedule A.9.c.iii & iv)
- Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in-stream clean up of sediment shall be performed according to the Oregon Division of State Lands required timeframe. (Schedule A.9.b.i)
- The intentional washing of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments. (Schedule A.9.b.ii)
- The entire site must be temporarily stabilized using vegetation or a heavy mulch layer, temporary seeding, or other method should all construction activities cease for 30 days or more. (Schedule A.7.f.i)
- Provide temporary stabilization for that portion of the site where construction activities cease for 14 days or more with a covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Schedule A.7.f.ii)
- Provide permanent erosion control measures on all exposed areas. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. However, do remove all temporary erosion control measures as exposed areas become stabilized, unless doing so conflicts with local requirements. Properly dispose of construction materials and waste, including sediment retained by temporary BMPs. (Schedule A.7.b.iii(2) and A.8.c.iii)

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

DEVELOPER
DEVELOPER/COMPANY: AVANGRID RENEWABLES
CONTACT: TBD
ADDRESS: TBD
PHONE: TBD
EMAIL: TBD

**PLANNING/ENGINEERING/
SURVEYING FIRM**
COMPANY: TETRA TECH
CONTACT: SUZY CAVANAGH
ADDRESS: 1750 SW HARBOR WAY, SUITE 400
PORTLAND, OR 97201
PHONE: (208) 489-2868
EMAIL: SUZY.CAVANAGH@TETRATTECH.COM

PERMITTEE'S SITE INSPECTOR
INSPECTOR: TBD
COMPANY/AGENCY: TBD
PHONE: TBD
EMAIL: TBD
DESCRIPTION OF EXPERIENCE: TBD

LOCAL AGENCY-SPECIFIC EROSION CONTROL NOTES:

- OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF AL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
- PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMP'S THAT MUST BE INSTALLED ARE A GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMP'S MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
- IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE THE PLACE NO LATER THAN SEPTEMBER 1; THE TYPE AND PERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS.
- ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE DISCHARGED ON AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP I.E. (FILTER BAG).
- THE ESC PLAN MUST BE KEPT ON SITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT R SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE SYSTEM, ROADWAY, OR OTHER PROPERTIES.
- THE ESC MEASURES SHOWN ON THIS PAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD THESE MEASURES SHALL BE UPGRADED AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL EROSION CONTROL REGULATIONS CHANGES TO THE APPROVED ESC PLAN MUST BE SUBMITTED IN THE FORM OF AN ACTION PLAN TO DEQ PER THE 1200 C PERMIT.
- IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMP'S MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING OR OTHER APPROVED MEASURES.
- ALL EXPOSED SOILS MUST BE COVERED DURING THE WET WEATHER PERIOD.

BMP MATRIX FOR CONSTRUCTION PHASES

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S

BMPs	2019											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pipe Slope Drains												
Energy Dissipaters												
Temporary Diversion Dikes												
Check Dams												
Temporary Seeding and Planting											X	X
Permanent Seeding and Planting												
Mycorrhizae/Biofertilizers												
Mulches (type)						X	X	X	X	X	X	X
Construction Entrance				X								
Compost Blankets												
Compost Socks												
Compost Berm												
Soil Trackifiers										X	X	
Sodding Vegetative Buffer Strips												
Sediments Fencing		X	X	X	X	X	X	X	X	X	X	X
Erosion Control Blankets & Mts												
Earth Dikes												
Drainage Swales												
Rock Outlet Protection												
Sediments Trap												
Straw Wattles												
Storm Drain Inlet Protection												
Temporary or Permanent Sedimentation Basins												
Unpaved Roads Graveled or other BMP on Road												
Dewatering												
Paving Operations Controls												
Concrete Truck Washout												

INSPECTION FREQUENCY: TBD

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN FOURTEEN CONSECUTIVE CALENDAR DAYS.	ONCE EVERY TWO WEEKS.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.

- HOLD A PRE-CON MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE EC INSPECTOR.
- ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
- REVISIONS TO THE APPROVED ESC PLAN MUST BE SUBMITTED TO DEQ OR AGENT IN ACCORDANCE WITH CURRENT 1200-C PERMIT

RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ'S GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP'S WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

INITIAL

PROJECT LOCATION:

WASCO COUNTY, OREGON

CLIENT INFORMATION:

AVANGRID RENEWABLES
180 MARSH HILL ROAD
ORANGE, CT, 06477

Tt PROJECT No.:

194-6211

CLIENT PROJECT No.:

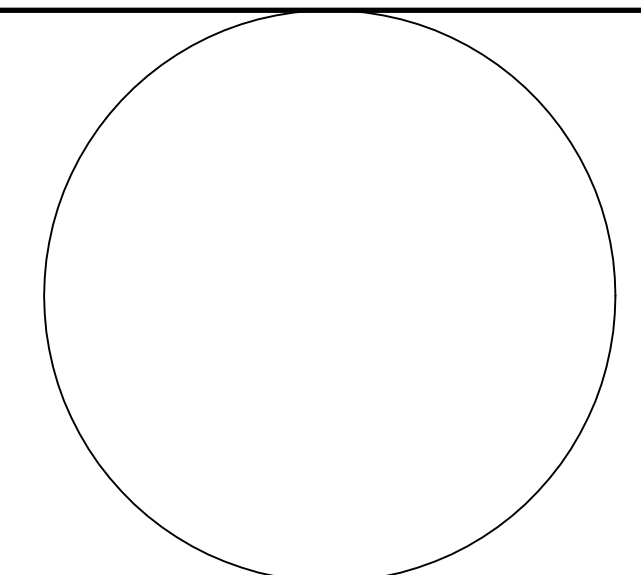
BAKEOVEN SOLAR PROJECT

PROJECT DESCRIPTION / NOTES:

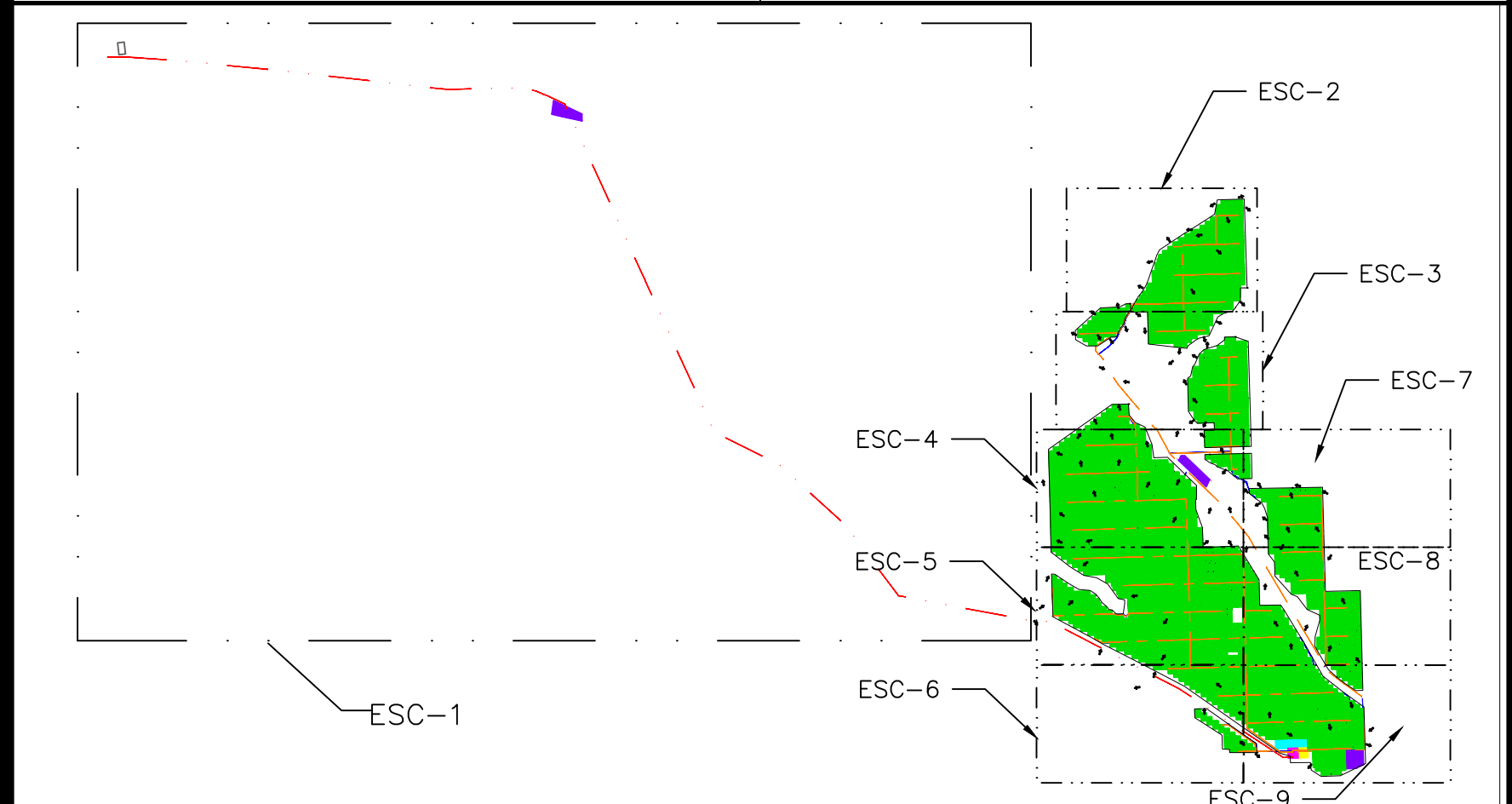
AVANGRID RENEWABLES TO CONSTRUCTION AN XXX MEGAWATT SOLAR FACILITY AND ACCOMPANYING SUBSTATIONS AND TRANSMISSION LINE.

ISSUED:

ISSUED FOR EDQ REVIEW



VICINITY MAP



NARRATIVE DESCRIPTIONS

PROJECT LOCATION

EIGHT MILES EAST OF MAUPIN
WASCO COUNTY, OREGON
LATITUDE= 45°07'03" N LONGITUDE= 120°51'52" W

EXISTING SITE CONDITIONS

- UNDEVELOPED

CONDITIONS WILL BE CHANGED TO ACTIVE SOLAR FACILITY WITH XXX PANEL A SUBSTATION OPERATIONS AND MAINTENANCE BUILDING AND TRANSMISSION LINE..

PROPERTY DESCRIPTION

SOUTH OF WASCO-SHERMAN COUNTY LINE THAT FOLLOWS BUCK CREEK.

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE

AVANGRID RENEWABLES TO CONSTRUCT THE BAKEOVEN SOLAR PROJECT TO CONSIST OF:

- THE OVERALL PROJECT WILL CONSIST OF 951,900 MODULES AND 320 WATTS EACH TOTALING A 303 MEGAWATT FACILITY
- EACH PHASE OF THE PROJECT WILL BE DETERMINED BASED ON DEMAND SO NO SET NUMBER OF MODULES WILL BE CONSTRUCTED IN EACH OF THE PHASES
- ACCESS ROADS, OPERATIONS AND MAINTENANCE BUILDING, TRANSMISSION LINE, STAGING AREAS, AND BATTERY STORAGE

FINAL ENGINEERING AND BEGING CONSTRUCTION (DATES, FROM: JAN 2020 TO: DEC 2025)

PHASE I CONSTRUCTION AND OPERATIONS (DATES, FROM: JUN 2020 TO: DEC 2021)

PHASE II CONSTRUCTION AND OPERATIONS (DATES, FROM: JAN 2022 TO: DEC 2022)

PHASE III CONSTRUCTION AND OPERATIONS (DATES, FROM: JAN 2023 TO: DEC 2024)

COMPLETION DEADLINE FOR ALL PHASES (DEC 2025)

TOTAL SITE AREA: APPROX. 10,615 ACRES
POTENTIAL MAX DISTURBED AREA: APPROX. 4,138 ACRES

SITE SOIL CLASSIFICATION:

BaC - BAKEOVEN VERY COBBLY LOAM, 2 TO 20 PERCENT SLOPES
BcC - BAKEOVEN-CONDON COMPLEX, 2 TO 20 PERCENT SLOPES
CnC - CONDON SILT LOAM, 2 TO 12 PERCENT SLOPES
CcC - CONDON-BAKEOVEN COMPLEX, 2 TO 7 PERCENT SLOPES
LcE - LICKSKILLET VERY STONY LOAM, 15 TO 40 PERCENT SLOPES
LeF - LICKSKILLET EXTREMELY STONY LOAM, 12 TO 25 PERCENT SLOPES
Pa - PLAYAS
Rh - RIVERWASH
WfF - WRENTHAM-ROCK OUTCROP COMPLEX, 35 TO 70 PERCENT SLOPES

RECEIVING WATER BODIES:

WATERBODIES IN THE PROJECT AREA INCLUDE SALT CREEK TRIBUTARY STREAMS TO BAKEOVEN CREEK AND BUCK HOLLOW CREEK, AND NUMEROUS INTERMITTENT/EPHEMERAL EROSIONAL FEATURES.

SHEET INDEX

ESC-0	EROSION AND SEDIMENT CONTROL COVER SHEET
ESC-1	EROSION AND SEDIMENT CONTROL PLAN AREA 1
ESC-2	EROSION AND SEDIMENT CONTROL PLAN AREA 2
ESC-3	EROSION AND SEDIMENT CONTROL PLAN AREA 3
ESC-4	EROSION AND SEDIMENT CONTROL PLAN AREA 4
ESC-5	EROSION AND SEDIMENT CONTROL PLAN AREA 5
ESC-6	EROSION AND SEDIMENT CONTROL PLAN AREA 6
ESC-7	EROSION AND SEDIMENT CONTROL PLAN AREA 7
ESC-8	EROSION AND SEDIMENT CONTROL PLAN AREA 8
ESC-9	EROSION AND SEDIMENT CONTROL PLAN AREA 9
ESC-10	EROSION AND SEDIMENT CONTROL DETAILS

EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

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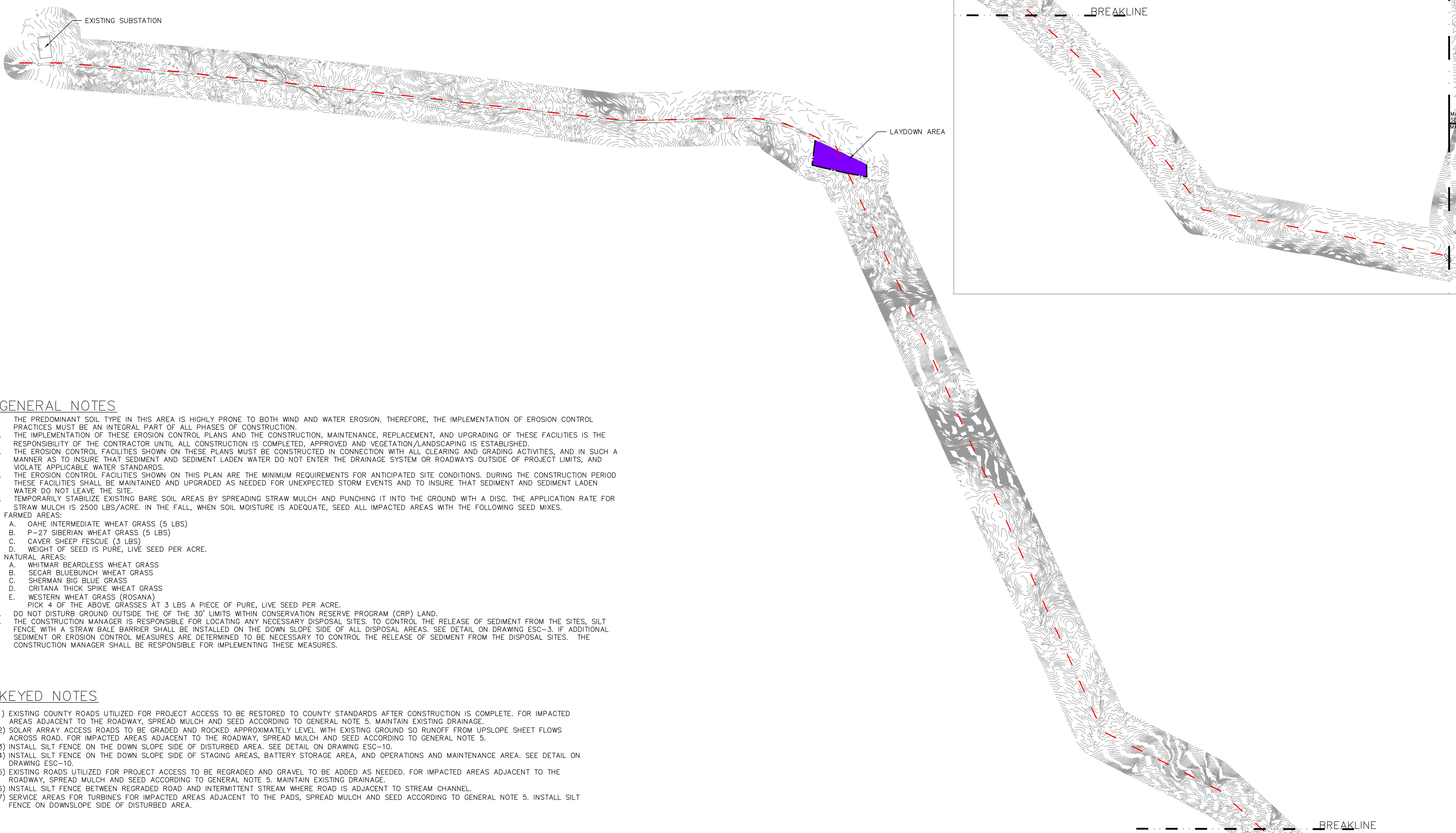
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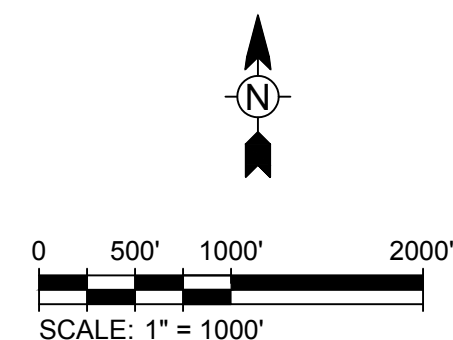
GENERAL NOTES

1. THE PREDOMINANT SOIL TYPE IN THIS AREA IS HIGHLY PRONE TO BOTH WIND AND WATER EROSION. THEREFORE, THE IMPLEMENTATION OF EROSION CONTROL PRACTICES MUST BE AN INTEGRAL PART OF ALL PHASES OF CONSTRUCTION.
2. THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED, APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. THE EROSION CONTROL FACILITIES SHOWN ON THESE PLANS MUST BE CONSTRUCTED IN CONNECTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM OR ROADWAYS OUTSIDE OF PROJECT LIMITS, AND VIOLATE APPLICABLE WATER STANDARDS.
4. THE EROSION CONTROL FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD THESE FACILITIES SHALL BE MAINTAINED AND UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.
5. TEMPORARILY STABILIZE EXISTING BARE SOIL AREAS BY SPREADING STRAW MULCH AND PUNCHING IT INTO THE GROUND WITH A DISC. THE APPLICATION RATE FOR STRAW MULCH IS 2500 LBS/ACRE. IN THE FALL, WHEN SOIL MOISTURE IS ADEQUATE, SEED ALL IMPACTED AREAS WITH THE FOLLOWING SEED MIXES.
 FARMED AREAS:
 A. OAHE INTERMEDIATE WHEAT GRASS (5 LBS)
 B. P-27 SIBERIAN WHEAT GRASS (5 LBS)
 C. CAVER SHEEP FESCUE (3 LBS)
 D. WEIGHT OF SEED IS PURE, LIVE SEED PER ACRE.
 NATURAL AREAS:
 A. WHITMAR BEARDLESS WHEAT GRASS
 B. SECAR BLUEBUNCH WHEAT GRASS
 C. SHERMAN BIG BLUE GRASS
 D. CRITANA THICK SPIKE WHEAT GRASS
 E. WESTERN WHEAT GRASS (ROSANA)
 PICK 4 OF THE ABOVE GRASSES AT 3 LBS A PIECE OF PURE, LIVE SEED PER ACRE.
6. DO NOT DISTURB GROUND OUTSIDE THE OF THE 30' LIMITS WITHIN CONSERVATION RESERVE PROGRAM (CRP) LAND.
7. THE CONSTRUCTION MANAGER IS RESPONSIBLE FOR LOCATING ANY NECESSARY DISPOSAL SITES. TO CONTROL THE RELEASE OF SEDIMENT FROM THE SITES, SILT FENCE WITH A STRAW BALE BARRIER SHALL BE INSTALLED ON THE DOWN SLOPE SIDE OF ALL DISPOSAL AREAS. SEE DETAIL ON DRAWING ESC-3. IF ADDITIONAL SEDIMENT OR EROSION CONTROL MEASURES ARE DETERMINED TO BE NECESSARY TO CONTROL THE RELEASE OF SEDIMENT FROM THE DISPOSAL SITES. THE CONSTRUCTION MANAGER SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE MEASURES.

KEYED NOTES

- (1) EXISTING COUNTY ROADS UTILIZED FOR PROJECT ACCESS TO BE RESTORED TO COUNTY STANDARDS AFTER CONSTRUCTION IS COMPLETE. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5. MAINTAIN EXISTING DRAINAGE.
- (2) SOLAR ARRAY ACCESS ROADS TO BE GRADED AND ROCKED APPROXIMATELY LEVEL WITH EXISTING GROUND SO RUNOFF FROM UPSLOPE SHEET FLOWS ACROSS ROAD. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5.
- (3) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF DISTURBED AREA. SEE DETAIL ON DRAWING ESC-10.
- (4) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF STAGING AREAS, BATTERY STORAGE AREA, AND OPERATIONS AND MAINTENANCE AREA. SEE DETAIL ON DRAWING ESC-10.
- (5) EXISTING ROADS UTILIZED FOR PROJECT ACCESS TO BE REGRADED AND GRAVEL TO BE ADDED AS NEEDED. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5. MAINTAIN EXISTING DRAINAGE.
- (6) INSTALL SILT FENCE BETWEEN REGRADED ROAD AND INTERMITTENT STREAM WHERE ROAD IS ADJACENT TO STREAM CHANNEL.
- (7) SERVICE AREAS FOR TURBINES FOR IMPACTED AREAS ADJACENT TO THE PADS, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5. INSTALL SILT FENCE ON DOWNSLOPE SIDE OF DISTURBED AREA.

LEGEND



TETRA TECH
 www.tetrattech.com
 1750 SW HARBOR WAY SUITE 400
 PORTLAND, OREGON, 97201
 PHONE: (503) 221-8636 FAX: (503) 267-1287

MARK	DATE	DESCRIPTION	BY
A	4/7/19	DRAFT	AML

AVANGRID RENEWABLES
 BAKEOVEN SOLAR PROJECT
EROSION AND SEDIMENT CONTROL PLAN
 AREA 1

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP
ESC-1	

Bar Measures 1 inch

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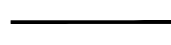
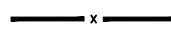
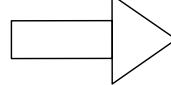






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LEGEND:

-  PROJECT BOUNDARY/FENCE
-  SILT FENCE
-  FLOW DIRECTION
-  SOLAR ARRAY
-  UNDERGROUND COLLECTION LINE
-  ABOVEGROUND COLLECTION LINE
-  230-KV TRANSMISSION LINE
-  ACCESS ROAD
-  EXISTING CONTOUR LINE

E

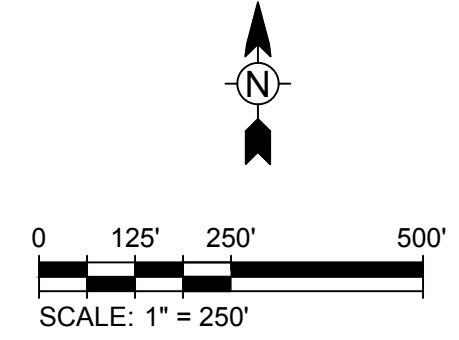
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MATCHLINE SEE ESC-03



 **TETRA TECH**
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 1750 SW HARBOR WAY SUITE 400
 PORTLAND, OREGON, 97201
 PHONE: (503) 221-8636 FAX: (503) 267-1287

MARK	DATE	DESCRIPTION	BY
A	4/7/19	DRAFT	AML

AVANGRID RENEWABLES
 BAKEOVEN SOLAR PROJECT
EROSION AND SEDIMENT CONTROL PLAN
 AREA 2

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP
ESC-2	

Bar Measures 1 inch

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MATCHLINE SEE ESC-02

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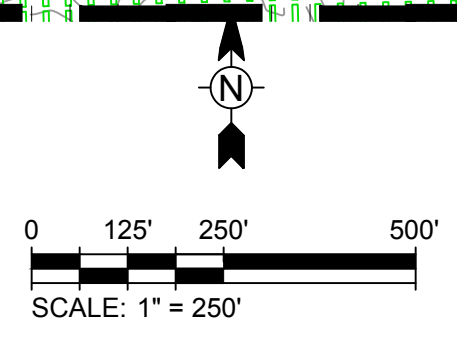
LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- ⇨ FLOW DIRECTION
- ▬ SOLAR ARRAY
- - - UNDERGROUND COLLECTION LINE
- - - ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- - - EXISTING CONTOUR LINE

MATCHLINE SEE ESC-04

LEGEND

- KEYED NOTES (SEE ESC-1)
- ACCESS ROAD
- TRANSMISSION LINE
- OVERHEAD COLLECTION
- UNDERGROUND COLLECTION
- SURFACE FLOW DIRECTION
- EXISTING 2' CONTOUR
- SOLAR ARRAY
- SUBSTATION
- LAYDOWN YARD
- BATTERY STORAGE
- OPERATIONS AND MAINTENANCE
- SILT FENCE
- FENCELINE



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A	4/7/19	DRAFT	AML

NEXTERA ENERGY
 VANSYCLE II WIND ENERGY PROJECT
EROSION AND SEDIMENT CONTROL PLAN
 AREA 3

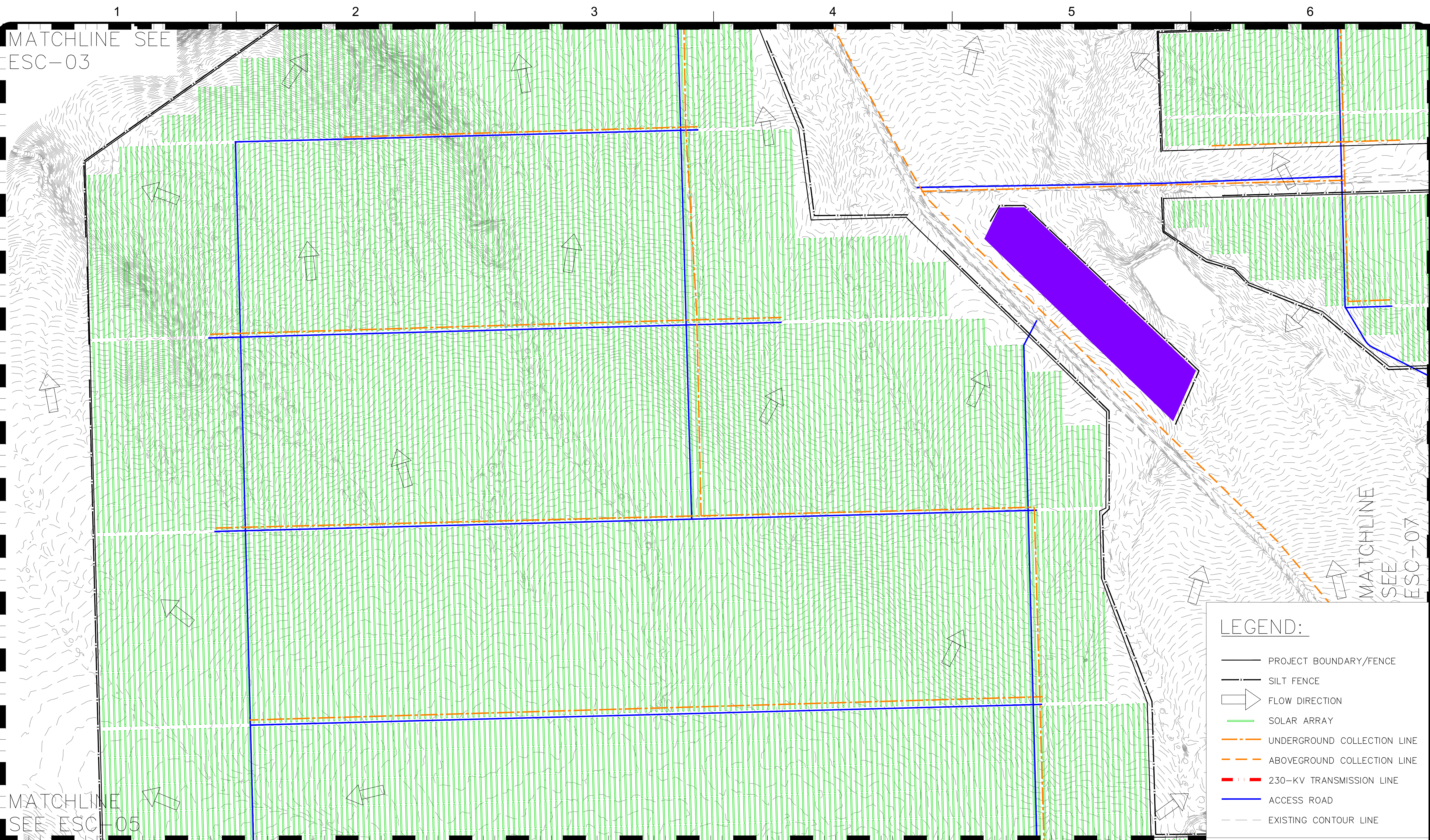
Project No.: 194-6389
 Designed By: ENM
 Drawn By: ENM
 Checked By: JPP

ESC-3

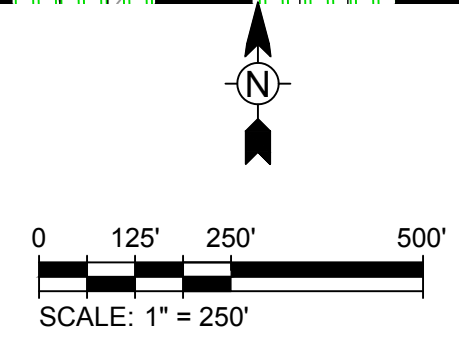
Bar Measures 1 inch

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- LEGEND:**
- PROJECT BOUNDARY/FENCE
 - SILT FENCE
 - ▶ FLOW DIRECTION
 - SOLAR ARRAY
 - - - UNDERGROUND COLLECTION LINE
 - - - ABOVEGROUND COLLECTION LINE
 - - - 230-KV TRANSMISSION LINE
 - ACCESS ROAD
 - - - EXISTING CONTOUR LINE



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AVANGRID RENEWABLES
 BAKEOVEN SOLAR PROJECT
 EROSION AND SEDIMENT CONTROL PLAN
 AREA 4

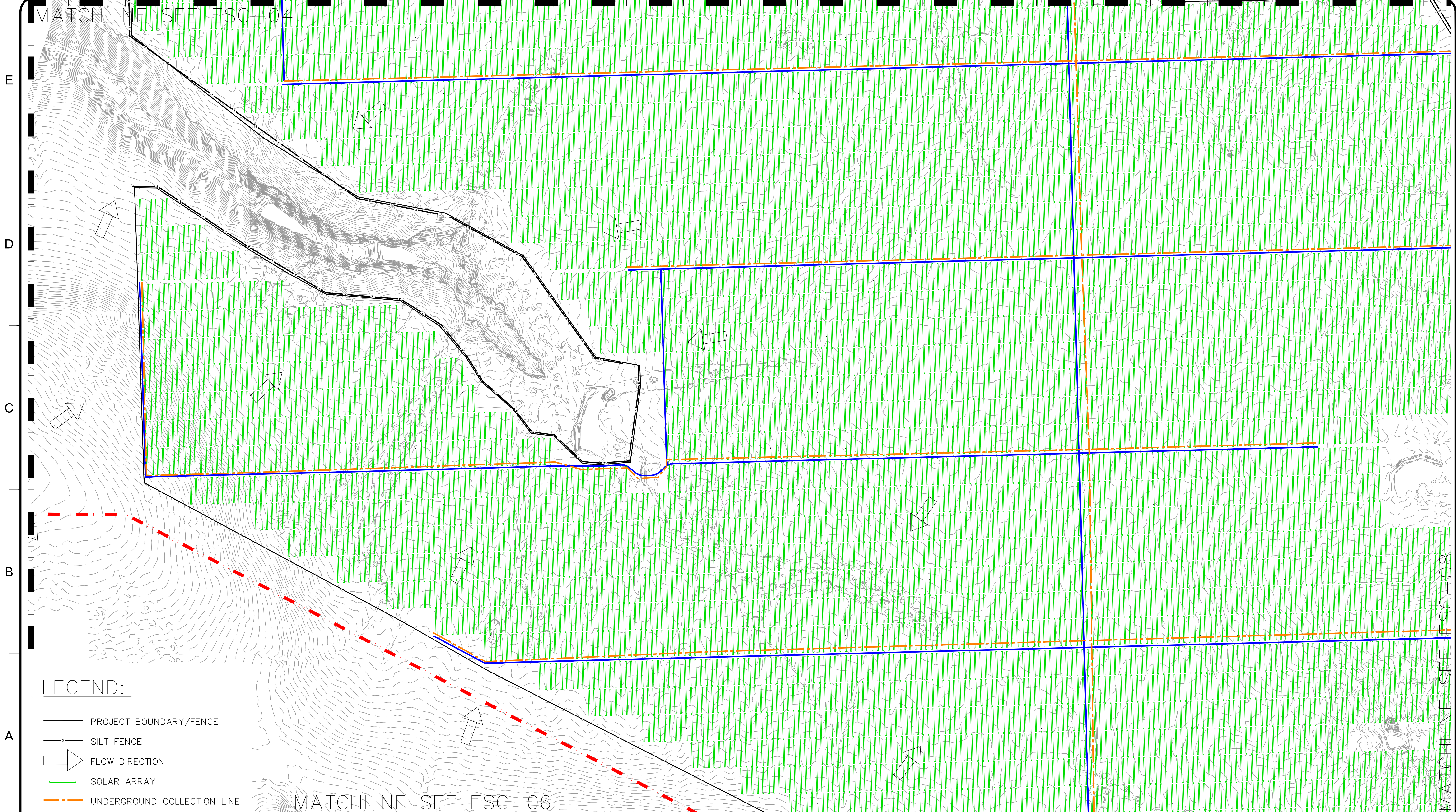
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 Designed By: ENM
 Drawn By: ENM
 Checked By: JPP
ESC-4

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Bar Measures 1 inch

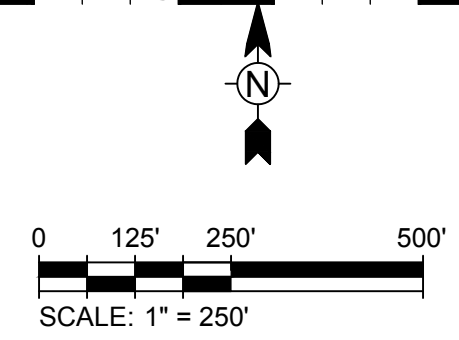
1 2 3 4 5 6



LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- EXISTING CONTOUR LINE

MATCHLINE SEE ESC-06



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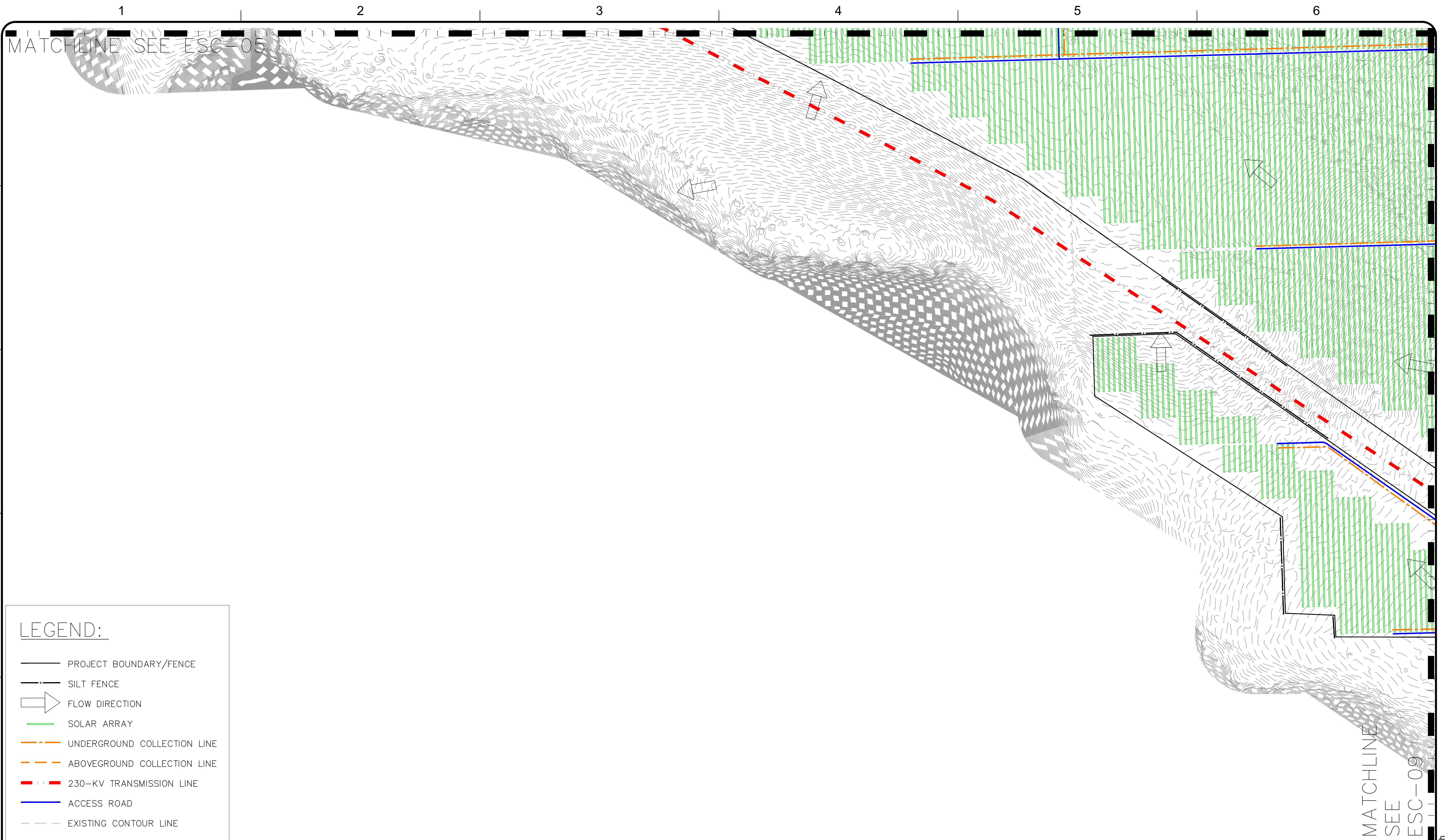
AVANGRID RENEWABLES
 BAKEOVEN SOLAR PROJECT
EROSION AND SEDIMENT CONTROL PLAN
 AREA 5

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP
ESC-5	

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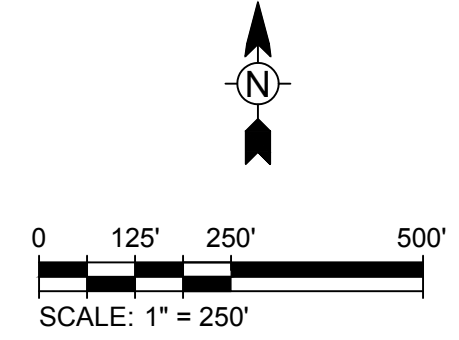
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Bar Measures 1 inch



LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- EXISTING CONTOUR LINE



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EROSION AND SEDIMENT CONTROL PLAN
 AREA 6

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP
ESC-6	

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Bar Measures 1 inch

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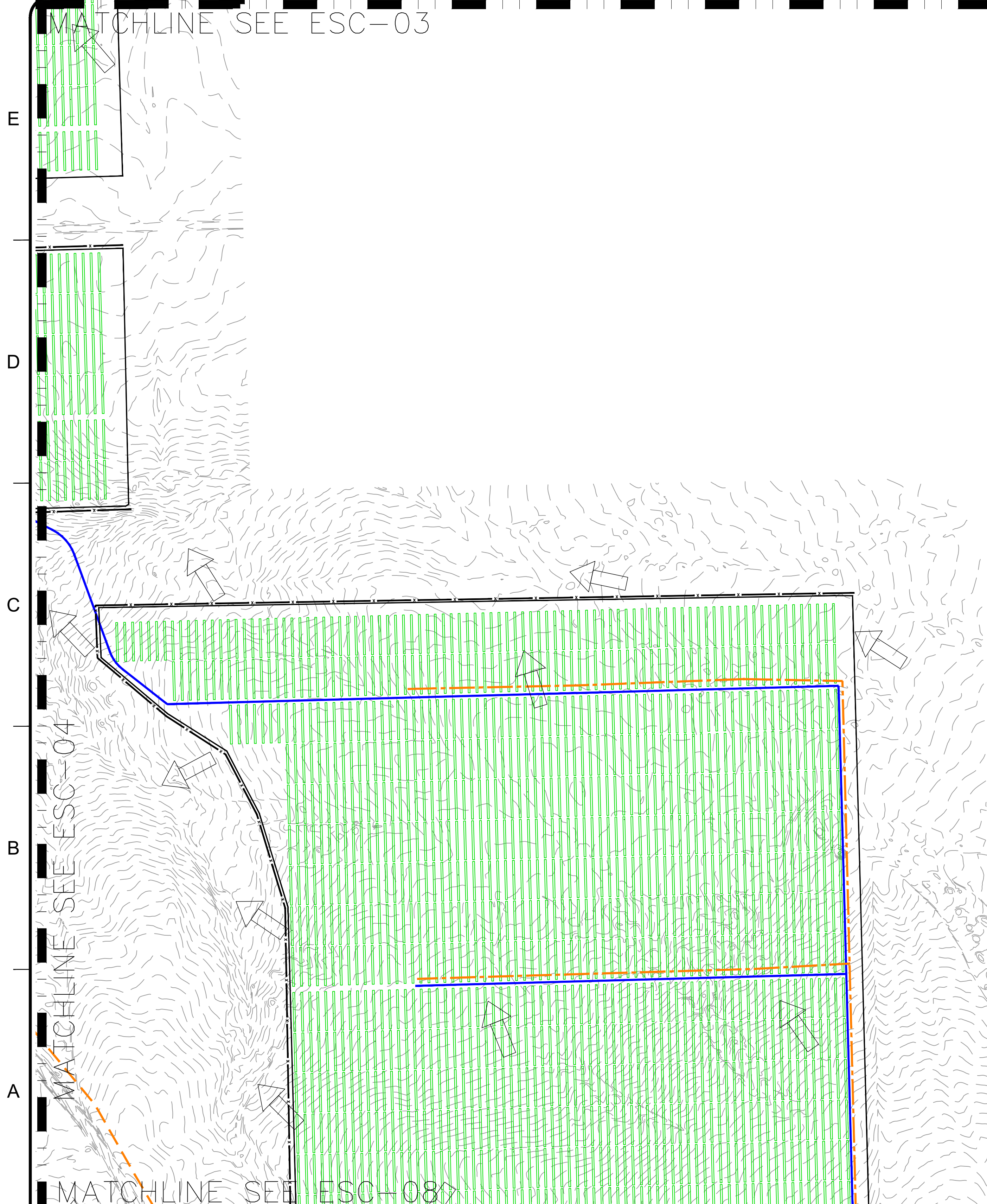
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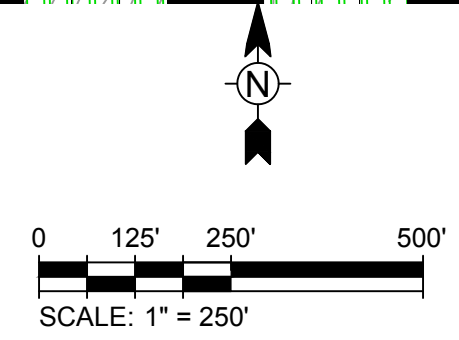
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LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- ▶ FLOW DIRECTION
- SOLAR ARRAY
- - - UNDERGROUND COLLECTION LINE
- - - ABOVEGROUND COLLECTION LINE
- - - 230-KV TRANSMISSION LINE
- ACCESS ROAD
- - - EXISTING CONTOUR LINE

LEGEND



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 AREA 7

Project No.: 194-6389
 Designed By: ENM
 Drawn By: ENM
 Checked By: JPP

ESC-7

Bar Measures 1 inch

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MATCHLINE SEE ESC-07

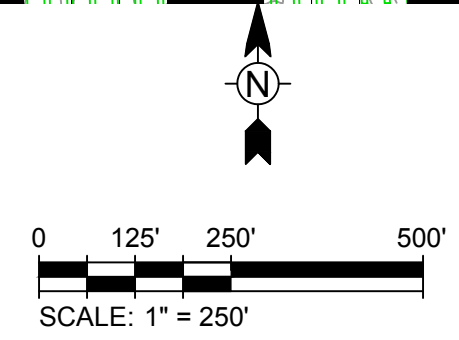
MATCHLINE SEE ESC-05

MATCHLINE SEE ESC-09

LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- EXISTING CONTOUR LINE

LEGEND



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AREA 8

Project No.: 194-6389
Designed By: ENM
Drawn By: ENM
Checked By: JPP
ESC-8

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Bar Measures 1 inch

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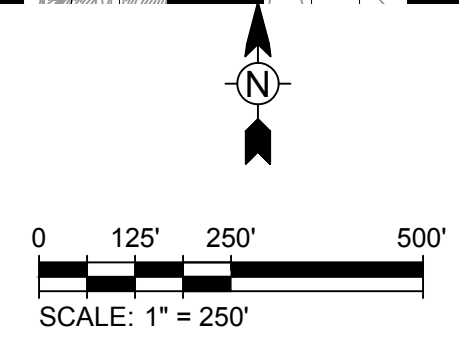


LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- EXISTING CONTOUR LINE

MATCHLINE
 SEE
 ESC-06

LEGEND



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AVANGRID RENEWABLES
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EROSION AND SEDIMENT CONTROL PLAN
 AREA 9

Project No.: 194-6389
 Designed By: ENM
 Drawn By: ENM
 Checked By: JPP

ESC-9

Bar Measures 1 inch

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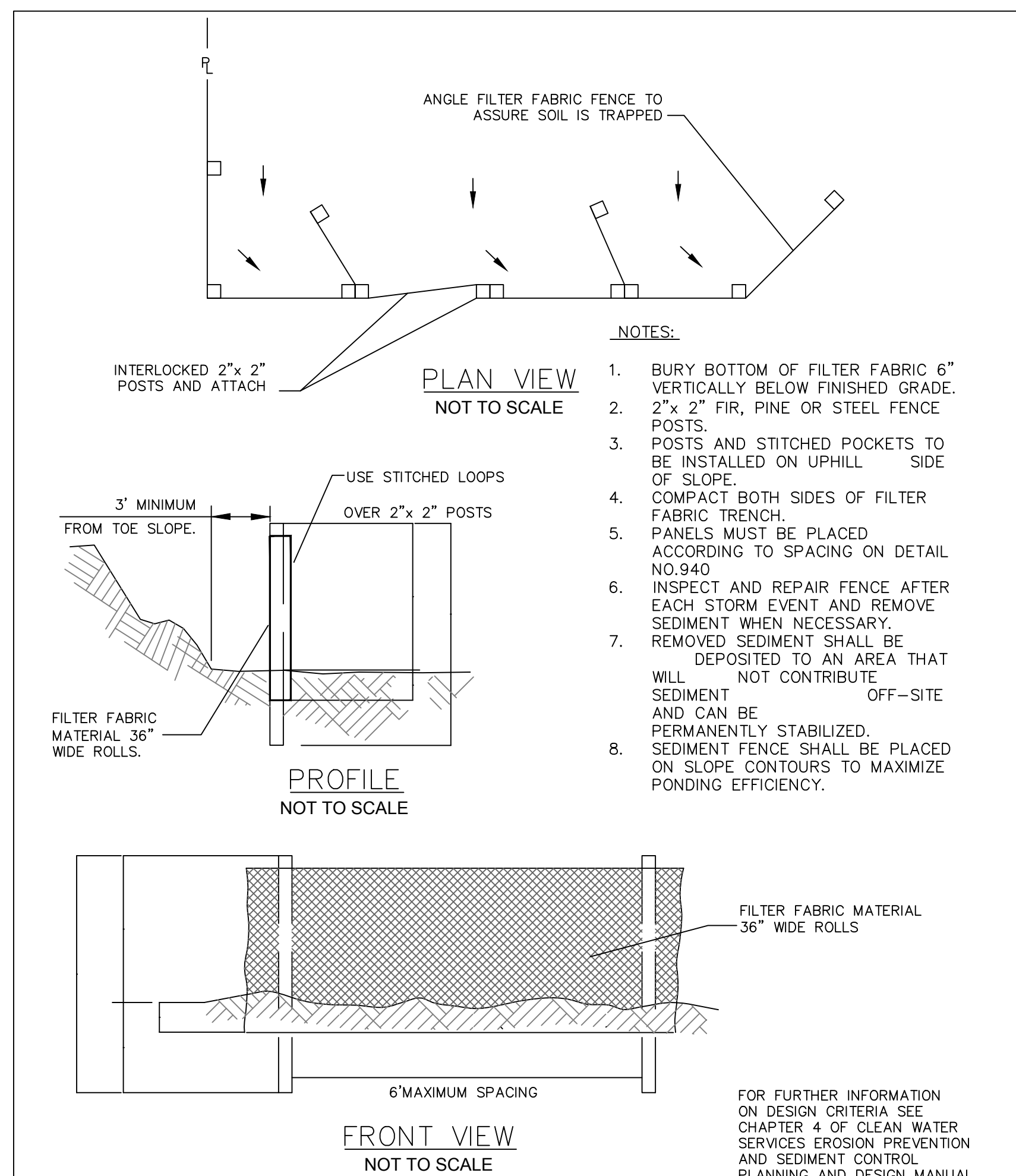
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SEDIMENT FENCE

DRAWING NO. 875

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

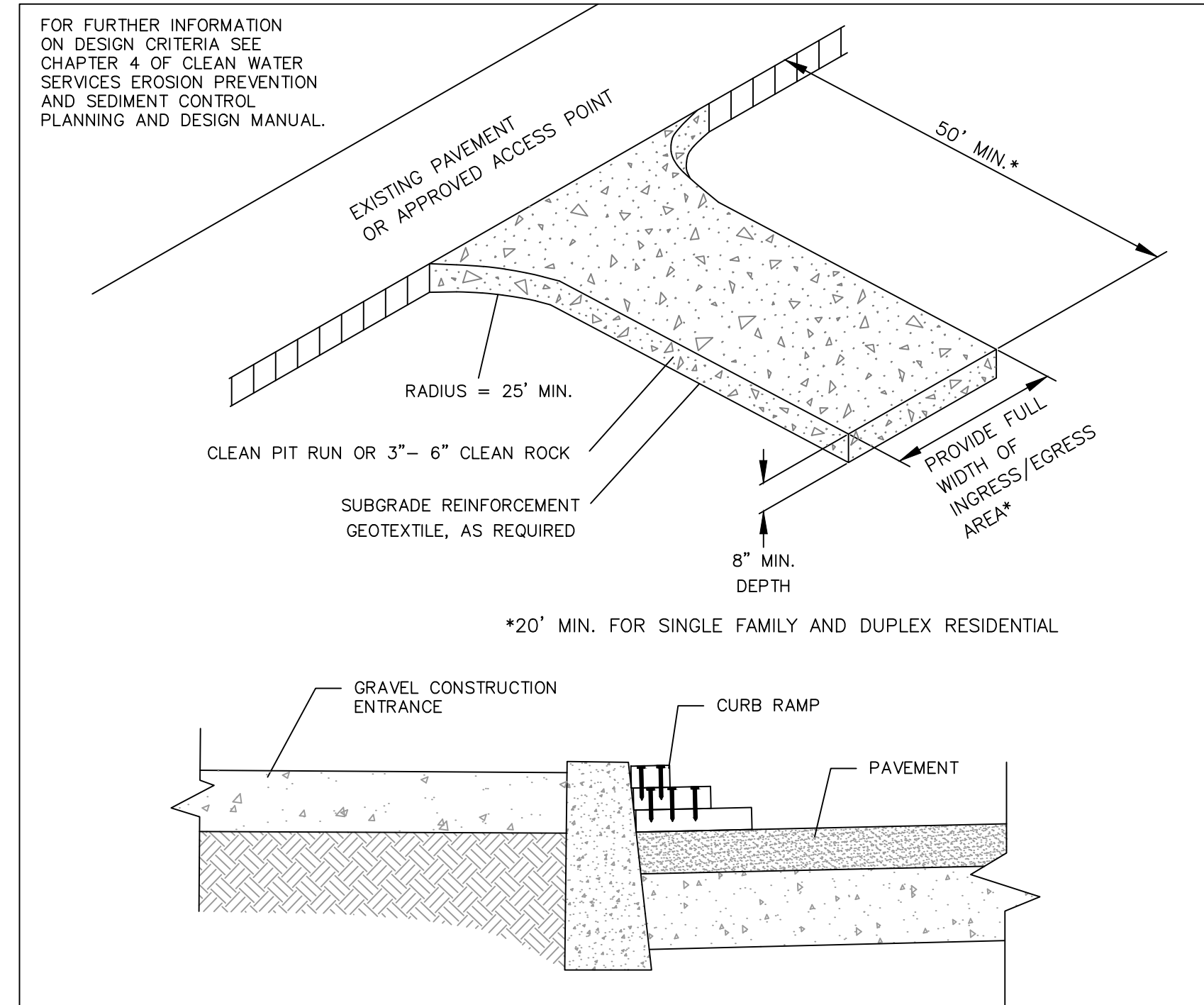
SPACING FOR CHECK DAMS			
DITCH GRADE	6 INCH	12 INCH	18 INCH
	6%	NOT ALLOWED	16 FT O.C.
5%	NOT ALLOWED	20 FT	30 FT
4%	NOT ALLOWED	26 FT	40 FT
3%	15 FT	33 FT	50 FT
2%	25 FT	50 FT	80 FT

BARRIER SPACING FOR GENERAL APPLICATION		
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	SLOPE	MAXIMUM SPACING ON SLOPE
10% OR FLATTER	10:1 OR FLATTER	300 FT
>10% OR <15%	>10:1 OR <7.5:1	150 FT
>15% OR <20%	>7.5:1 OR <5:1	100 FT
>20% OR <30%	>5:1 OR <3.5:1	50 FT
>30% OR <50%	>3.5:1 OR <2:1	25 FT

NOTES:
1. FOR MORE INFORMATION REGARDING THESE TABLES SEE CHAPTER 4 TABLES 4-3 AND 4-7 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL DESIGN MANUAL.

SPACING TABLES

DRAWING NO. 940



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS
SINGLE FAMILY
20' LONG BY 20' WIDE 8" DEEP OF 3/4" MINUS CLEAN ROCK.
COMMERCIAL
50' LONG BY 20' WIDE 3-6" CLEAN ROCK, GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

CONSTRUCTION ENTRANCE

DRAWING NO. 855

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL DETAILS

Project No.:	194-6211
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP
ESC-10	

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