Exhibit I Soil Conditions

Sunstone Solar Project June 2023

Prepared for



GETTING SOLAR DONE

Sunstone Solar, LLC

Prepared by



Tetra Tech, Inc.

Table of Contents

1.0	Introd	uction1				
 2.0 Analysis Area						
3.0	Identi	fication and Description of Soil Types1				
4.0	Curren	nt Land Use within the Analysis Area4				
5.0	Facilit	y Soil Impacts4				
	5.1	Construction				
	5.2	Operation5				
	5.3	Decommissioning				
6.0	Mitiga	tion Measures5				
7.0	Monitoring Program					
8.0	Conclu	isions6				
9.0	Submi	ttal Requirements and Approval Standards7				
	9.1	Submittal Requirements				
	9.2	Approval Standards7				
10.0	Refere	ences8				

List of Tables

Table I-1. General Description of Mapped Soil Units in the Analysis Area	2
Table I-2. Submittal Requirements Matrix	7
Table I-3. Approval Standard	7

List of Figures

Figure I-1. NRCS Soil Map

List of Attachments

Attachment I-1. Draft NPDES 1200-C Erosion and Sediment Control Plan

i

Applicant Sunstone Solar, LLC, a subsidiary of Pine Gate Renewables, LLC BMP best management practice ESCP Erosion and Sediment Control Plan Sunstone Solar Project Facility K factor erosion factor that indicates the susceptibility of a soil to sheet and rill erosion by water 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 Countermeasure Plan

Acronyms and Abbreviations

1.0 Introduction

Sunstone Solar, LLC, a subsidiary of Pine Gate Renewables, LLC (Applicant), proposes to construct and operate the Sunstone Solar Project (Facility), a photovoltaic solar energy generation facility and related or supporting facilities in Morrow 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 defined in the Project Order as "the area within the site boundary" (ODOE 2022). 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;

The Natural Resources Conservation Service (NRCS) Web Soil Survey describes the 13 major soil types found within the analysis area (NRCS 2023). Table I-1 below summarizes the details relevant to the construction of the Facility.

Map Unit Symbol	Soil Unit	Approximate Thickness	Formation Setting	Permeability	Runoff	Hazard for Erosion	Acres	Wind Erosion Rating	K factor
13D	Gravden very gravelly loam, 5 to 20 percent slopes	5 feet	Gravelly alluvium and colluvium	Very High	Low	Slight	103.98	3	0.15
13E	Gravden very gravelly loam, 20 to 40 percent slopes	5 feet	Eolian sands and alluvium	Very High	Low	Slight	221.01	3	0.15
28E	Lickskillet very stony loam, 7 to 40 percent slopes	>7 feet	Gravelly alluvium and colluvium	Low	High	Moderate	0.32	7	0.20
45A	Ritzville silt loam, 0 to 2 percent slopes	>7 feet	Gravelly alluvium and colluvium	Low	High	Severe	117.08	7	0.49
45B	Ritzville silt loam, 2 to 7 percent slopes	43	Loess mixed with colluvium from basalt	Low	High	Moderate	87.96	7	0.49
70B	Warden very fine sandy loam, 2 to 5 percent slopes	0	Loess mixed with colluvium from basalt	Low	High	Severe	0.31	No Data	0.55
71A	Warden silt loam, 0 to 2 percent slopes	>7 feet	Loess mixed with small amounts of volcanic ash	High	Moderately Low	Moderate	3138.09	5	0.55
71B	Warden silt loam, 2 to 5 percent slopes	>7 feet	Loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	195.57	5	0.55
71C	Warden silt loam, 5 to 12 percent slopes	>7 feet	Loess mixed with small amounts of volcanic ash	High	Moderately Low	Severe	35.52	5	0.55

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

Map Unit Symbol	Soil Unit	Approximate Thickness	Formation Setting	Permeability	Runoff	Hazard for Erosion	Acres	Wind Erosion Rating	K factor
71E	Warden silt loam, 20 to 40 percent slopes	>7 feet	Loess over calcareous lacustrine deposits	High	Moderately Low	Moderate	90.44	3	0.55
75B 75C	Willis silt loam, 2 to 5 percent slopes	>7 feet	Loess over calcareous lacustrine deposits	High	Moderately Low	Slight	516.12	3	0.55
	Willis silt loam, 5 to 12 percent slopes	>7 feet	Loess over calcareous lacustrine deposits	High	Moderately Low	Moderate	998.32	3	0.55
78	Xeric Torriorthents, nearly level	>7 feet	Loess over calcareous lacustrine deposits	High	Moderately Low	Severe	23.89	3	0.24

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;

The land uses within the analysis area consist of private agricultural land used for a dryland winter wheat/chemical fallow agricultural rotation with a vegetated (uncultivated) dry wash that runs through the middle of the analysis area. Additional discussion of soil class and farmland designations are provided in Exhibit K.

5.0 Facility 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 of the solar arrays will require a variety of activities that have the potential for adversely impacting soils. Activities that may result in potential adverse soil impacts include the following:

- Clearing and grubbing of vegetation in temporary construction areas, solar array, and new access roads;
- Grading and excavation activities;
- Constructing new access roads;
- Hauling heavy equipment and other truck traffic for the delivery of aggregates, concrete, water, solar components, and construction supplies; and
- Fueling or maintaining construction equipment or vehicles.

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 practicable 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 would be limited through the following:

- Avoiding sensitive soil areas to the extent practicable;
- Maintaining a Spill Prevention, Control, and Countermeasure Plan (SPCC Plan);
- Implementing a Fugitive Dust Control Plan prior to construction;

- Segregating, protecting, and replacing topsoil disturbed by grading and excavation activities;
- Implementing the erosion and sediment control best management practices (BMPs) 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) 1200-C Construction Stormwater Discharge General permit (see draft application in Attachment I-1); and
- Implementing appropriate site restoration practices following construction, including decompaction, as described in the ESCP (Attachment I-1) and the Draft Revegetation Plan (see Exhibit P, Attachment P-4).

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 Draft Revegetation Plan (see Exhibit P, Attachment P-4) will provide for long-term soil stability and restoration 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). 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 and soil impact 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, minimize soil compaction, prevent spills, and 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; and

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

- **Existing Vegetation Preservation Measures** To the extent practicable, existing vegetation will be preserved. Where vegetation clearing is necessary, root systems would be conserved if possible.
- Soil Health Measures Soil health will be protected by implementing measures to minimize impacts to soil compaction (e.g., maintaining traffic and hauling on established access routes and avoiding excavation activities in saturated conditions) and to soil health (e.g., segregating, protecting, and replacing topsoil).
- **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 Facility-specific ESCP and the 1200-C Construction Stormwater Discharge General Permit (see draft application in Attachment I-1).
- **Reclamation and Revegetation Measures** 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 Draft Revegetation Plan (see Exhibit P, Attachment P-4).
- **Pollutant Management Measures** During construction, source control measures will be implemented to reduce the potential of chemical pollution to surface water or groundwater during construction. SPCC plans for construction and operation will be prepared for each phase of the Facility 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 1200-C Construction Stormwater Discharge General Permit. The Applicant will monitor the restoration success of temporarily disturbed areas according to the Draft Revegetation Plan (see Exhibit P, Attachment P-4) and criteria in the ESCP. As described in the Draft Revegetation Plan, a long-term monitoring plan will be developed in coordination with Oregon Department of Energy and Oregon Department of Fish and Wildlife based on the initial 5 years of annual monitoring.

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 1200-C Construction Stormwater Discharge General Permit. Subsequent revegetation efforts identified in the Draft Revegetation Plan (see Exhibit P, Attachment P-4) will provide for long-term soil stability during operation. 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

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; and	Section 6.0
(E) The applicant's proposed monitoring program, if any, for adverse impact to soils during construction and operation.	Section 7.0

Table I-2. Submittal Requirements Matrix

9.2 Approval Standards

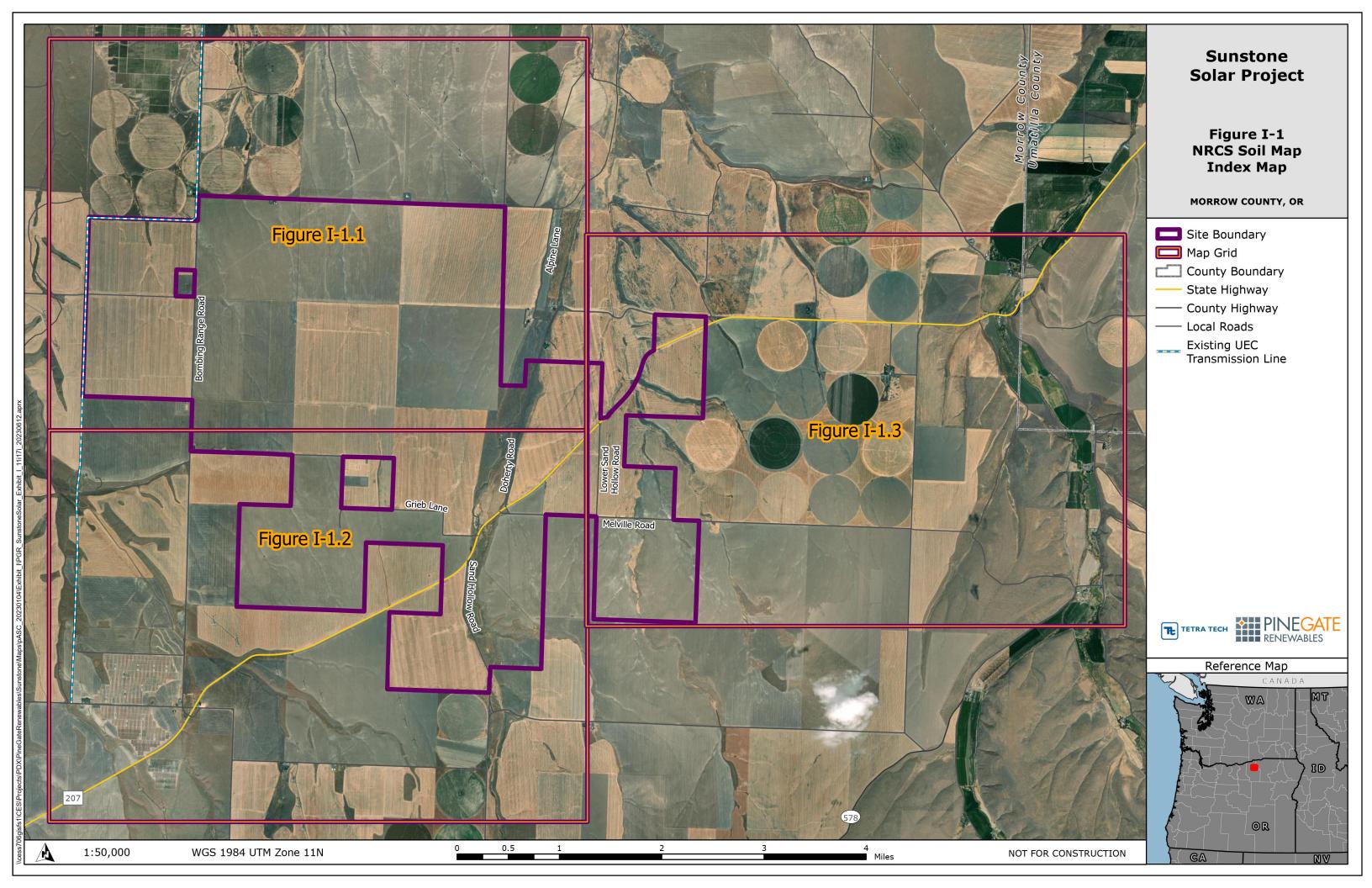
Table I-3. Approval Standard

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

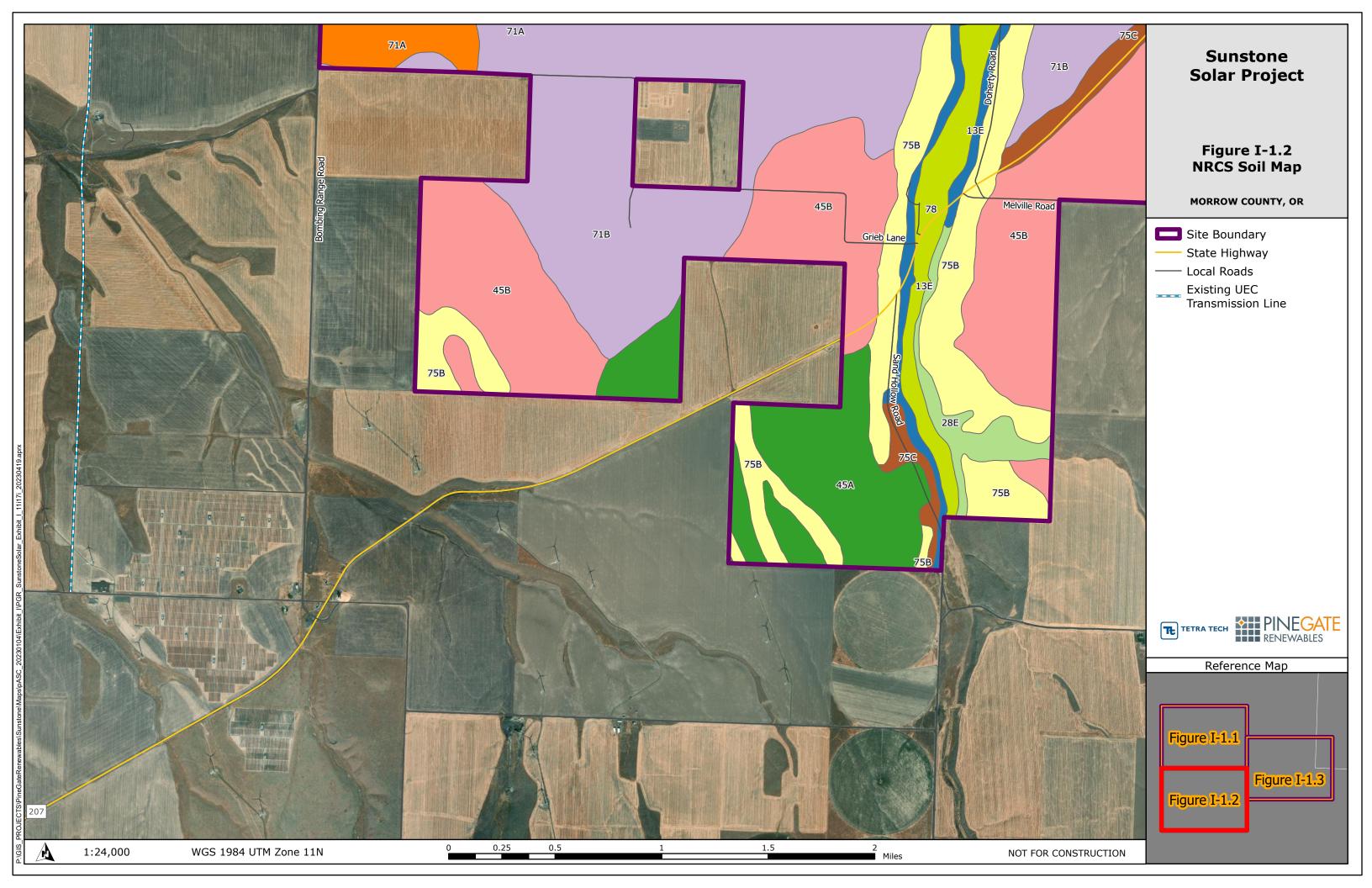
10.0 References

- NRCS (Natural Resource Conservation Service). 2023. Web Soil Survey. Available online at: <u>https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed February</u> <u>2023</u>.
- ODOE (Oregon Department of Energy). 2022. Project Order. In the Matter of the Application for Site Certificate for the Echo Solar Project. Issued by Oregon Department of Energy. September 26, 2022.

Figures



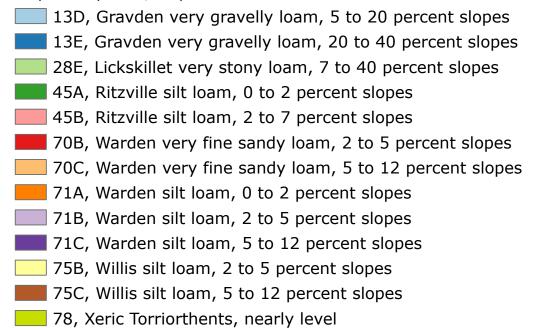


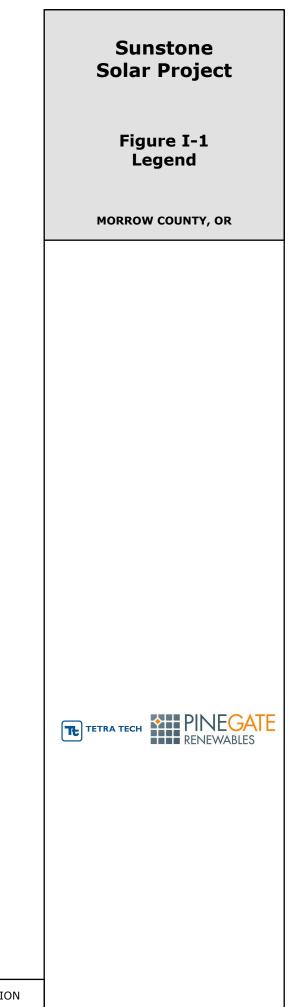




Sunstone Solar Project Figure I-1.3 NRCS Soil Map MORROW COUNTY, OR Site Boundary State Highway - Local Roads TE TETRA TECH PINEGATE RENEWABLES Reference Map Figure I-1.1 Figure I-1.3 Figure I-1.2

Mapunit Symbol, Mapunit Name





Attachment I-1. Draft NPDES 1200-C Erosion and Sediment Control Plan

SUNSTONE SOLAR, LLC SUNSTONE SOLAR PROJECT EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

- Add a processing of polect control in the practice and the induced to the inspector to discuss erosion and sediment control measures and construction limits. (Schedule A 8.c.1(3)) inspection groups the key for polect control in the polect of the inspector to discuss erosion and sediment control measures and construction limits. (Schedule A 8.c.1(3)) inspection groups must be key in accordance with DEO 1500-C permit requirements. Retain a cory of the ESCP and all revisions on site and make it available on request to DEO, Agent, or the local municipality. During inactive periods of greater than seven (7) consecutive calender days, retain 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 sile conditions. During the construction period, upgrade these measures are needed to comply with all applicable local, state, and federal ension and sediment control regulations. (Schedule A 8.c.1(1)(0)) Submission of all ESCP revisions is not required. Submittal 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 to be perserved. Identify weightaive buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved. especially in permiter areas. (Schedule A 3.c.1(1)(3) Pheserve edisting vegatation when practical and revegates open areas. When practical and are vegates to make the negative control weightain in itelas and an easity areas (e.g., wetlands), and other areas to be preserved. especially in permiter areas. (Schedule A 3.c.1(1) (3.C)) Preserve edisting vegatation when practical and revegates open areas. When practicable before and after grading or construction. Leaftry the two edustator and (Schedule A 7.b.1(1) and A.c.) Preserve edisting vegatat

- A.8.cii.(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 privot lo land-distruing activities. (Schedule A.7.dii.(1)) Use BMPs to prevent or minimizer stormwater exposure to pollutants from splits; 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.ei.(2)) Implement the following BMPs when applicable: written split prevention and response procedures, employee training on split prevention and progred lapsocal procedures, split kis in all implement the following BMPs when applicable: written split prevention and response procedures, temployee training on split prevention and progred lapsocal procedures and uncle for any solution of the split and the spli wehicles, 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.)
- 7.e.iii.) Use water, soli-binding agent or other dust control technique as needed to avoid wind-blown soli. (Schedule A 7.b.ii) The application rate of fertilizers used to reestabilish 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.iii) if a stormwater treatment system (for example, electro-cosquilation, focculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan
- 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 plut (including system schematic), costant of system, tocation of inici.coards (ischarge 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) Temporarity stabilizes oxis 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 stockplies 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).(2)
- surface waters. (Schedule A 7.e.ii.(2)) Construction activities must avoid or minimize excavation and creation of bare ground during wet weather. (Schedule A.7.a.i)

- Considuant exercise lines around in minimize excertation and creation or part ground outring were weather. (Schedule A.A.a.) Sediment finance: remove trapped sediment before it reaches one third of the above ground height and before finance annoval. (Schedule A.9.c.)) 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.)) Catch basin: clean before refering control 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.) is A.
- 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.1) 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.
- nitie 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 edule A.7.f.)
- (Schediue A.7.1.) (Schediue A.7.1.) 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 tackfiler, loose straw, or an adequate covering of compositivation that work resumes on that portion of the site. (Schedule A.7.1.ii) Provide permanent erosition 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 resolutions 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.7.5.iii(2) and A.8.c.iii)

NARRATIVE DESCRIPTIONS

SEE SHEET ESC-1

PROJECT LOCATION PPROX. 15 MILES NORTHEAST OF LEXINGTON IORROW COUNTY, OREGON SITE SOIL CLASSIFICATION: EXISTING SITE CONDITIONS APPARENT STUBBLED FARM LAND

ITUDE= 45°35'23" N LONGITUDE= 119°33'11" W

PROPERTY DESCRIPTION OCATED BETWEEN LEXINGTON AND PINE CITY IN MORROW COUNTY.

RECEIVING WATER BODIES: WATERBODIES IN THE PROJECT AREA INCLUDE BUTTER CREEK, AND NUMEROUS INTERMITTENT/EPHEMERAL EROSIONAL FEATURES.

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE

SUNSTONE SOLAR, LLC TO CONSTRUCT AND OPERATE THE SUNSTONE SOLAR PROJECT TO CONSIST OF: CONSTRUCTION OF A PHOTOVOLTAIC SOLAR ENERGY FACILITY WITH AN ESTIMATED NOMINAL AND AVERAGE GENERATING CAPACITY OF 1,200 MEGAWATTS OF A TERMATING CHIPPENT

ALTERNATING CURRENT. PROJECT TO BE BUILT OVER SIX PHASES (200MW PER PHASE) DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE BATTERY ENERGY STORAGE SYSTEM, TRANSMISSION LINE, UNDERGROUND ELECTRICAL COLLECTION LINES, DEVELOPING ADDITIONAL COMPONENTS TO INCLUDE ADDITIONAL DI ADD COLLECTOR SUBSTATIONS, SITE ACCESS ROADS, OPERATIONS AND MAINTENANCE BUILDINGS, AND TEMPORARY CONSTRUCTION AREAS

EARING/GRUBBING/ACCESS ROADS (DATES, FROM: TBD & TO: TBD) STALLATION OF PANEL ARRAYS (DATES, FROM: TBD & TO: TBD)

APPROXIMATELY 9.853 ACRES APPROXIMATELY 9.853 ACRES TEMPORARY DISTURBANCE (COLLECTOR AND TRANSMISSION LINES, CONSTRUCTION AREAS PERIMETER FENCING). APPROXIMATELY 9.441.5 ACRES PERMANENT DISTURBANCE (ARRAY AREA, BATTERY STORAGE SYSTEMS, NEW ROADS, SUBSTATIONS, OMB BUILDINGS) OTAL SITE AREA: POTENTIAL MAX DISTURBED AREA:

	SHEET INDEX
ESC-0	EROSION AND SEDIMENT CONTROL COVER SHEET
ESC-1	EROSION AND SEDIMENT CONTROL NOTES CONT'D
ESC-2	EROSION AND SEDIMENT CONTROL PLAN AREA 1
ESC-3	EROSION AND SEDIMENT CONTROL PLAN AREA 2
ESC-4	EROSION AND SEDIMENT CONTROL PLAN AREA 3
ESC-5	EROSION AND SEDIMENT CONTROL PLAN AREA 4
ESC-6	EROSION AND SEDIMENT CONTROL PLAN AREA 5
ESC-7	EROSION AND SEDIMENT CONTROL PLAN AREA 6
ESC-8	EROSION AND SEDIMENT CONTROL PLAN AREA 7
ESC-9	EROSION AND SEDIMENT CONTROL PLAN AREA 8
ESC-10	EROSION AND SEDIMENT CONTROL DETAILS
ESC-11	EROSION AND SEDIMENT CONTROL PLAN DETAILS
ESC-12	EROSION AND SEDIMENT CONTROL PLAN DETAILS
ESC-13	EROSION AND SEDIMENT CONTROL PLAN DETAILS

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.

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, TO DISTURBANCE IS PREMITTED BEYOND THE CLEARING LIMITS. THE OWNERPREMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROVE. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BUNKS THAT MUST BE INSTALLED ARE A GRAVEL CONSTRUCTION SUMMANCE DELINEATION FENCE OR APPROVED EQUAL. AND INLEE PROTECTION. THESE BMPS MUST BE MAINTAINED FOR THE PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BIN'S THAT MUST BE INSTALLED ARE A GRAVEL CONSTRUCTION
- OURATION OF THE PROJECT

- DURATION OF THE PROJECT. IF VECETATIVE SEED MIXES ARE SPECIFICS, SEEDING MUST RELETING TO FORM. FILCE USING TO ELE MAINTALLO TO (THE PROJECTATOR OF SEDINATES ARE SPECIFICS, SEEDING MUST ARE PLACE BETWEEN OCTOBER 15 AND APRIL 30; THE TYPE AND DERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS; ALL PULIPING OF SEDINENT LODEN WATER SHALL BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL EMP LE, (FILTER BAG); THE SEO PLAN MUST E KEPT ON SITE ALL MERSURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERIES. THE SEO PLAN MUST EKEPT ON SITE ALL MERSURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERIES. THE SEO PLAN MUST EKEPT ON SITE ALL MARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS, DURING THE CONSTRUCTION PERIOD THESE MEASURES SHOLL BE UPGRADED AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL STATE AND FEDERAL EROSION CONTROL REGULATIONS CHANGES TO THE APPROVED ESC PLAN MUST BE SUBMITED IN THE FORM OF AN ACTION PLAN TO DED PER THE 1200 C FERMIT. MAREMAS VIECT TO WINGT IN EPOSION. ADROPORATE UNDER MUST BE INSERVICE MUST BE INFORMULTING THE ADRIVICITIES THE ADRIVICIAL MAY NOT THE PLANT ON CONTROL OF THE PROVED ESC PLAN MUST BE DESTINGTED IN THE FORM OF AN ACTION PLANT TO DED PER THE 1200 C FERMIT. MAREMAS VIECT TO WINGT FOR CONTROL REPORTOR DEPOSION ADDITIES MUST BE INSERVICED ADDITIONS. DURING THE
- THE FUND OF AN 2011 ON FLAW TO DEU FER THE 100 C FERMIL. IN AREAS SUBJECT TO WIND ROSION, APPROPRIATE BMPS MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, FLASTIC SHEETING, MULCHING OR OTHER APPROVED MEASURES. ENSURE ALL SOLIS ARE STRALE DURING ALL RAIN EVENTS THROUGHOUT THE YEAR.

								20	25			
BMPS	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pipe Slope Drains												
Energy Dissipaters												
Temporary Diversion Dikes												
Check Dams	x	x	×	×	x	×	x	x	x	×	x	×
Temporary Seeding and Planting											×	×
Permanent Seeding and Planting												
Mycornhizae/Biofertilizer 8												
Mulches (type)							×	×	×	×	×	
Construction Entrance				×								
Compost Blankets												
Compost Socks												
Compost Berm												
Soil Trackifiers											×	×
Sodding Vegetative Buffer Strips												
Sediments Fencing	×	×	×	×	×	×	×	×	×	×	×	×
Erosio Control Blankets & Mts												
Earth Dikes												
Drainage Swales												
Rock Outlet Protection												
Sediments Trap												
Straw Wattles	x	×	x	x	x	×	x	x	x	x	x	x
Storm Drain Inlet Protection												
Temporary or Permanent Sedimentation Basins												
Unpaved Roads Graveled or other BMP on Road												

RATIONALE STATEME

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

DEVELOPER DEVELOPER/COMPANY: SUNSTONE SOLAR, LLC CONTACT: LOGAN STEPHENS ADDRESS: 130 ROBERTS STREET ASHEVILLE, NC 28801 PHONE: (336) 708-5161 EMAIL: LOGANSTEPHENS@PGRENEWABLES.COM

PLANNING/ENGINEERING/

SURVEYING FIRM COMPANY: TETRA TECH

CONTACT: LINNEA FOSSUM ADDRESS: 19803 NORTH CREEK PARKWAY, SUITE 100 BOTHELL, WA 98011 PHONE (425) 482-7823 EMAIL: LINNÉA.FOSSUM@TETRATECH.COM

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

INSPECTION FREQUENCY TRD

SITE CONDITION	MINIMUM FREQUENCY	
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDIGN RUNOFF FROM SNOWMELT, IS OCCURING.	
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 NECESARRY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.	
3. INACTIVE PERIODS GREATER THAN FOURTEEN CONSECTUTIVE 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.

REVSIONS TO THE APPROVED ESC PLAN MUST BE SUBMITTED TO DEQ DR AGENT IN ACCORDANCE WITH CURRENT 1200-C PERMIT

ISSUED:

VICINITY MAP

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1750 S. HARBOR WAY, STE, 400 PORTLAND, OR 97201 (503) 221-8636



www.tetratech.com

PROJECT LOCATION: MORROW COUNTY, OREGON CLIENT INFORMATION:

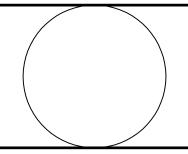
SUNSTONE SOLAR, LLC 130 ROBERTS STREET ASHVILLE, NC 28801

CLIENT PROJECT No .:

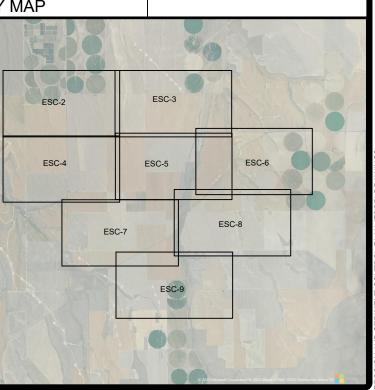
Tt PROJECT No .: 194-1324-0002

PROJECT DESCRIPTION / NOTES

ISSUED FOR DEQ REVIEW







		1	2		3	4	5
ſ	SITE SOIL	_ CLASSIFICATIONS					
	13D 13E		LY LOAM, 5 TO 20 PERCENT SLC LY LOAM, 20 TO 40 PERCENT SL				
	28E	LICKSKILLET VERY STONY	Y LOAM, 7 TO 40 PERCENT SLOP				
		RITZVILLE SILT LOAM, 0 TO RITZVILLE SILT LOAM, 2 TO					
	70B		DY LOAM, 2 TO 5 PERCENT SLO				
	70C 71A	WARDEN VERY FINE SANI WARDEN SILT LOAM, 0 TO	DY LOAM, 5 TO 12 PERCENT SLO	OPES			

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		MARK	DATE	DESCRIPTION	BY	SUNSTONE SOLAR, LLC	Project No.:	194-1324-000	2	
							Designed By:	J	TB	
						SUNSTONE SOLAR PROJECT	Drawn By:	CA	AN F	
www.tetratech.com 1750 S. HARBOR WAY, SUITE 400 PORTLAND, OR 97201								Checked By:	JF	PP .
							EROSION AND SEDIMENT CONTROL PLAN			
							NOTES CONT'D	ES	-C-1	Ċ
	PHONE: (503) 221-8636									/
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75B

75C

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WARDEN SILT LOAM, 2 TO 5 PERCENT SLOPES

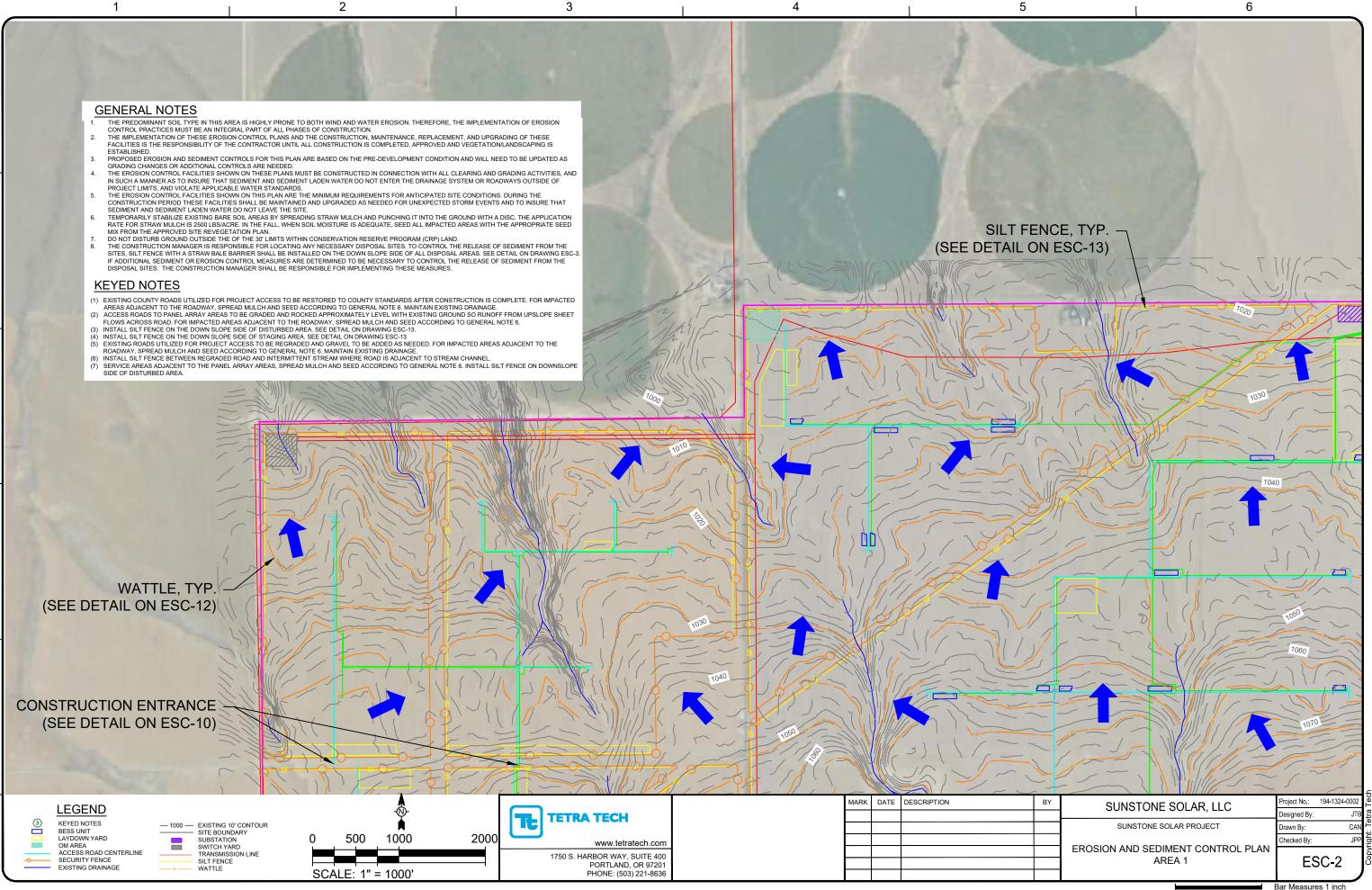
WARDEN SILT LOAM, 5 TO 12 PERCENT SLOPES

WILLIS SILT LOAM, 2 TO 5 PERCENT SLOPES WILLIS SILT LOAM, 5 TO 12 PERCENT SLOPES

XERIC TORRIORTHENTS, NEARLY LEVEL

- RATE FOR STRAW MULCH IS 2500 LBS/ACRE. IN THE FALL, WHEN SOIL MOISTURE IS ADEQUATE, SEED ALL IMPACTED AREAS WITH THE APPROPRIATE SEED

- ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6. MAINTAIN EXISTING DRAINAGE.
- SIDE OF DISTURBED AREA.

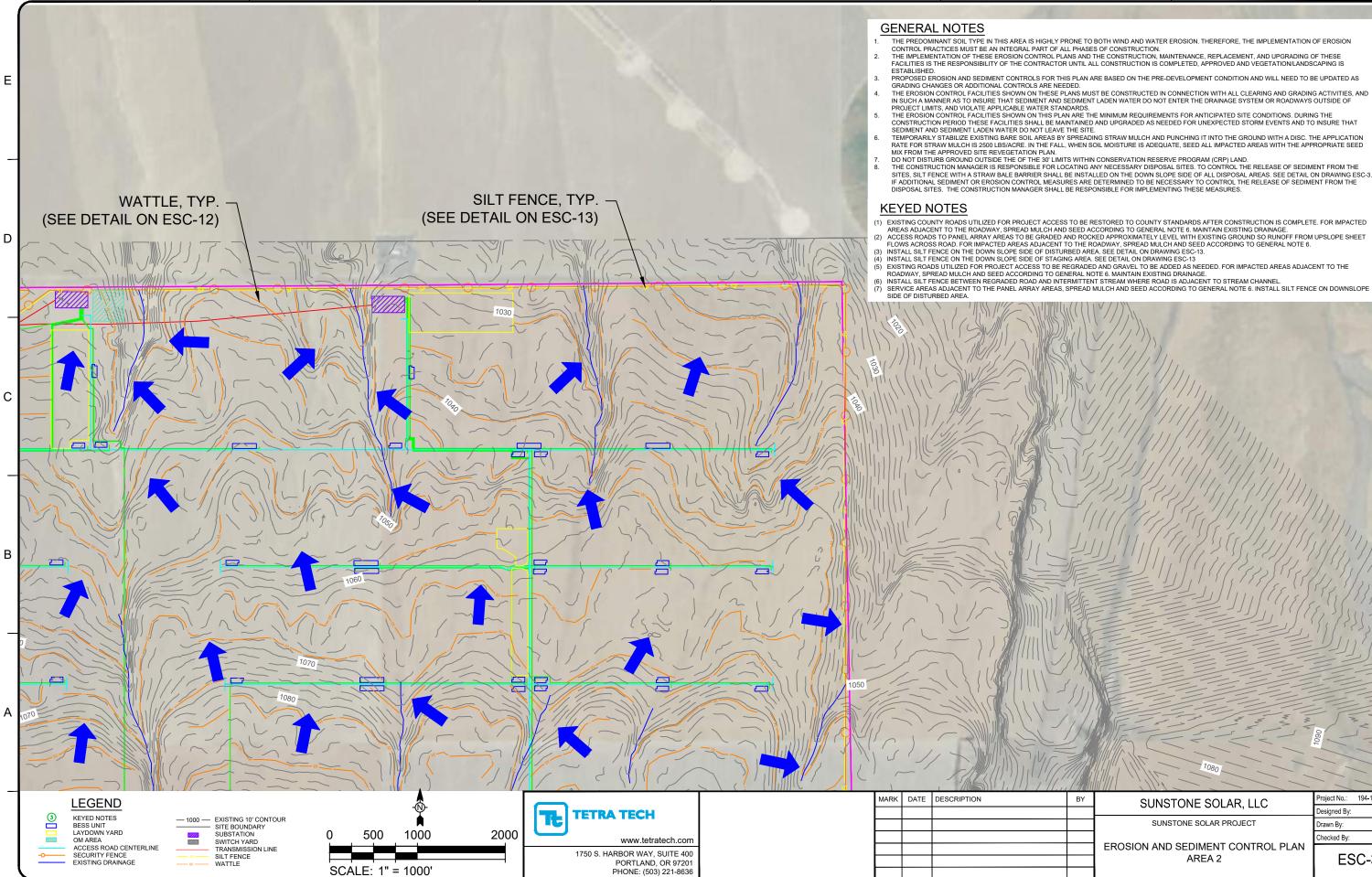


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THE PREDOMINANT SOIL TYPE IN THIS AREA IS HIGHLY PRONE TO BOTH WIND AND WATER EROSION. THEREFORE, THE IMPLEMENTATION OF EROSION

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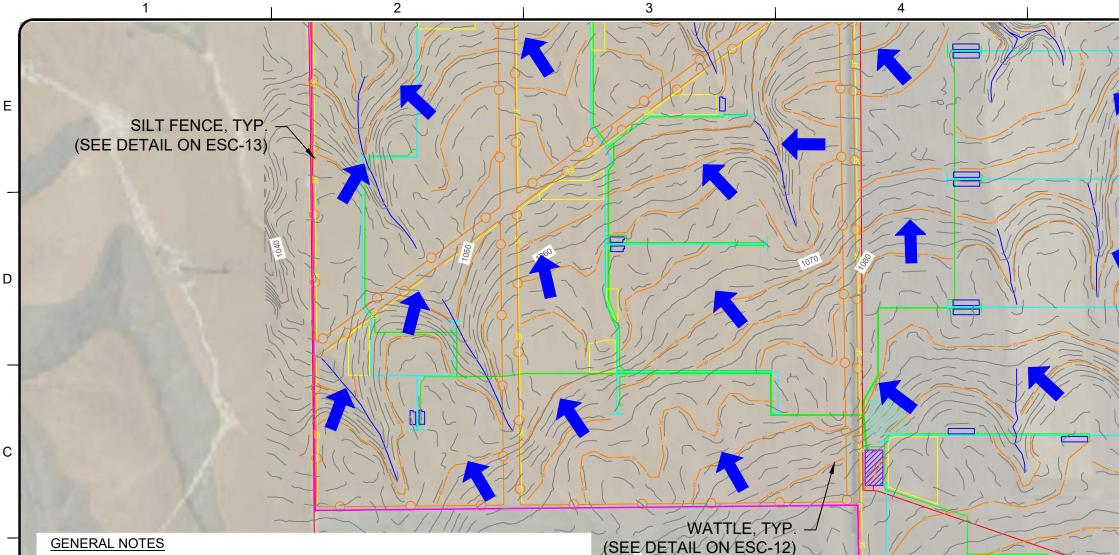
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TEMPORABILY STABILIZE EXISTING BARE SOIL AREAS BY SPREADING STRAW MULCH AND PUNCHING IT INTO THE GROUND WITH A DISC. THE APPLICATION

DO NOT DISTORE BROUND DUTSIDE THE OF THE 30 LIMITS WITHIN CONSERVATION RESERVE PROGRAM (CAP) CAND. 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

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pject No.: 194-1324-00 BY SUNSTONE SOLAR, LLC esigned By: JTI SUNSTONE SOLAR PROJECT CAN Drawn By: ecked By: IDE EROSION AND SEDIMENT CONTROL PLAN AREA 2 ESC-3 Bar Measures 1 incl



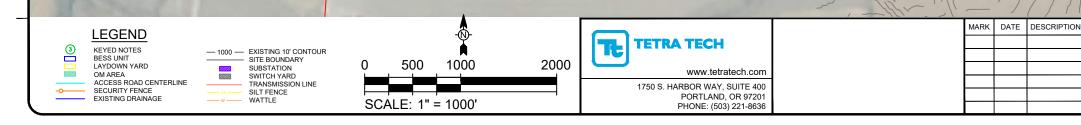
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KEYED NOTES

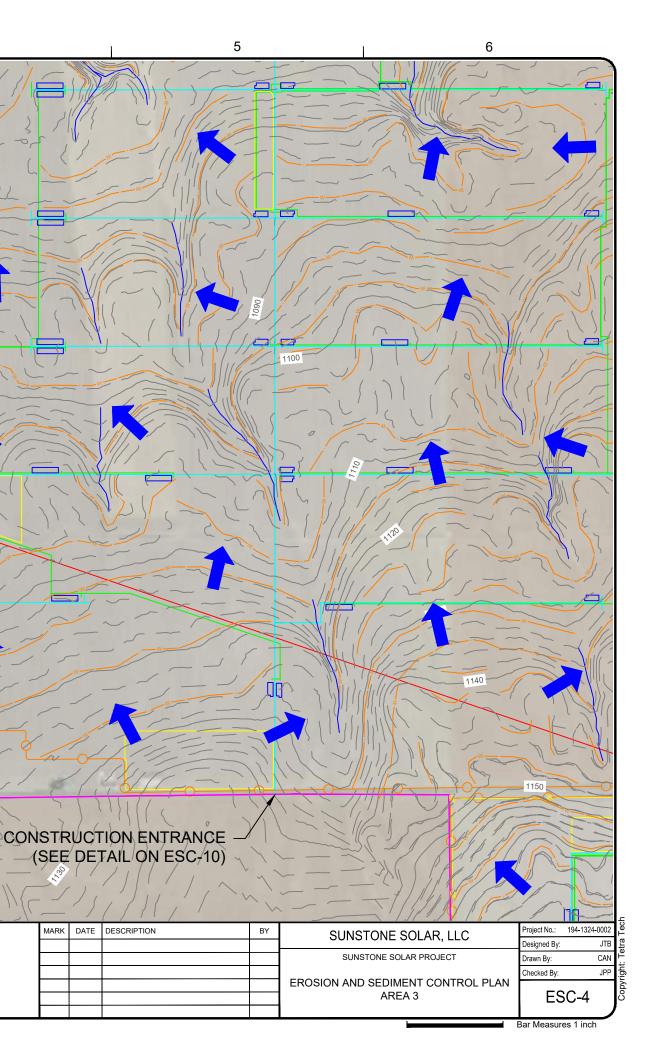
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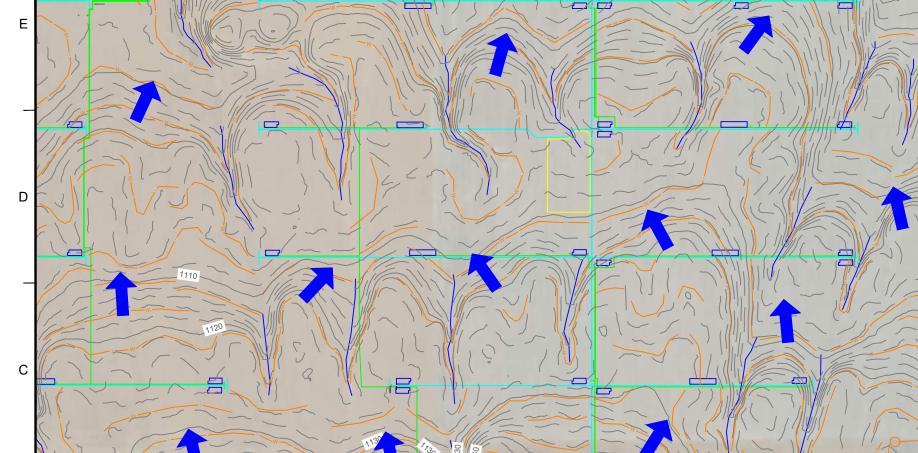
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- SIDE OF DISTURBED AREA



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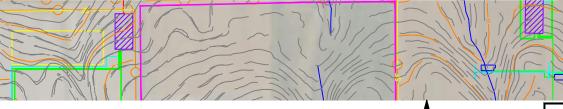


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GENERAL NOTES

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KEYED NOTES

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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 6. MAINTAIN EXISTING DRAINAGE.
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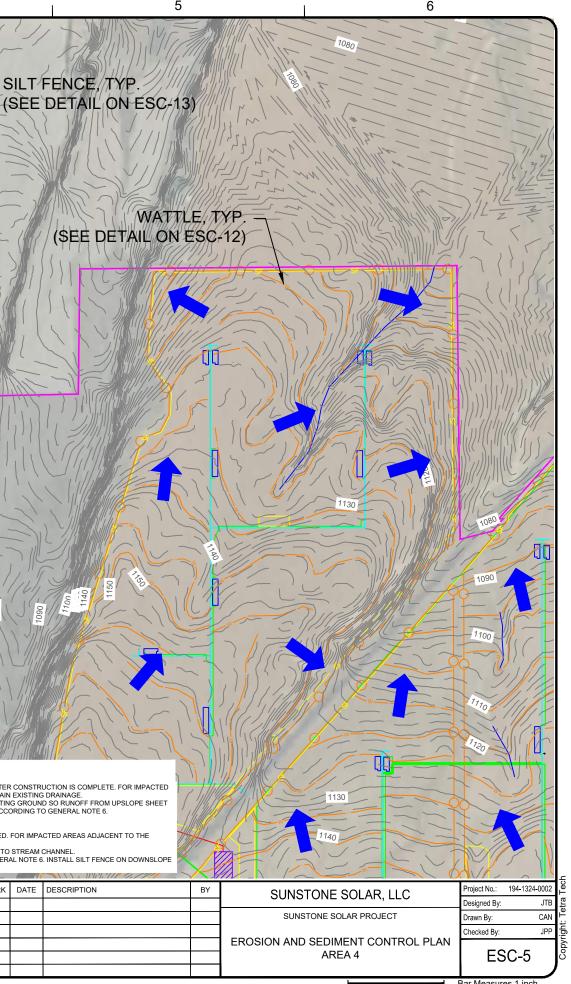
- (1) INFLUED TO THE DATE OF THE DATE OF ACCESS TO BE REGRADED AND GRAVEL TO BE ADDED AS NEEDED. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6. MAINTAIN EXISTING DRAINAGE.
 (6) INSTALL SILT FENCE BETWEEN REGRADED ROAD AND INTERMITTENT STREAM WHERE ROAD IS ADJACENT TO STREAM CHANNEL.
 (7) SERVICE AREAS ADJACENT TO THE PANEL ARRAY AREAS, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6. INSTALL SILT FENCE ON DOWNSLOPE SIDE OF DISTURBED AREA.

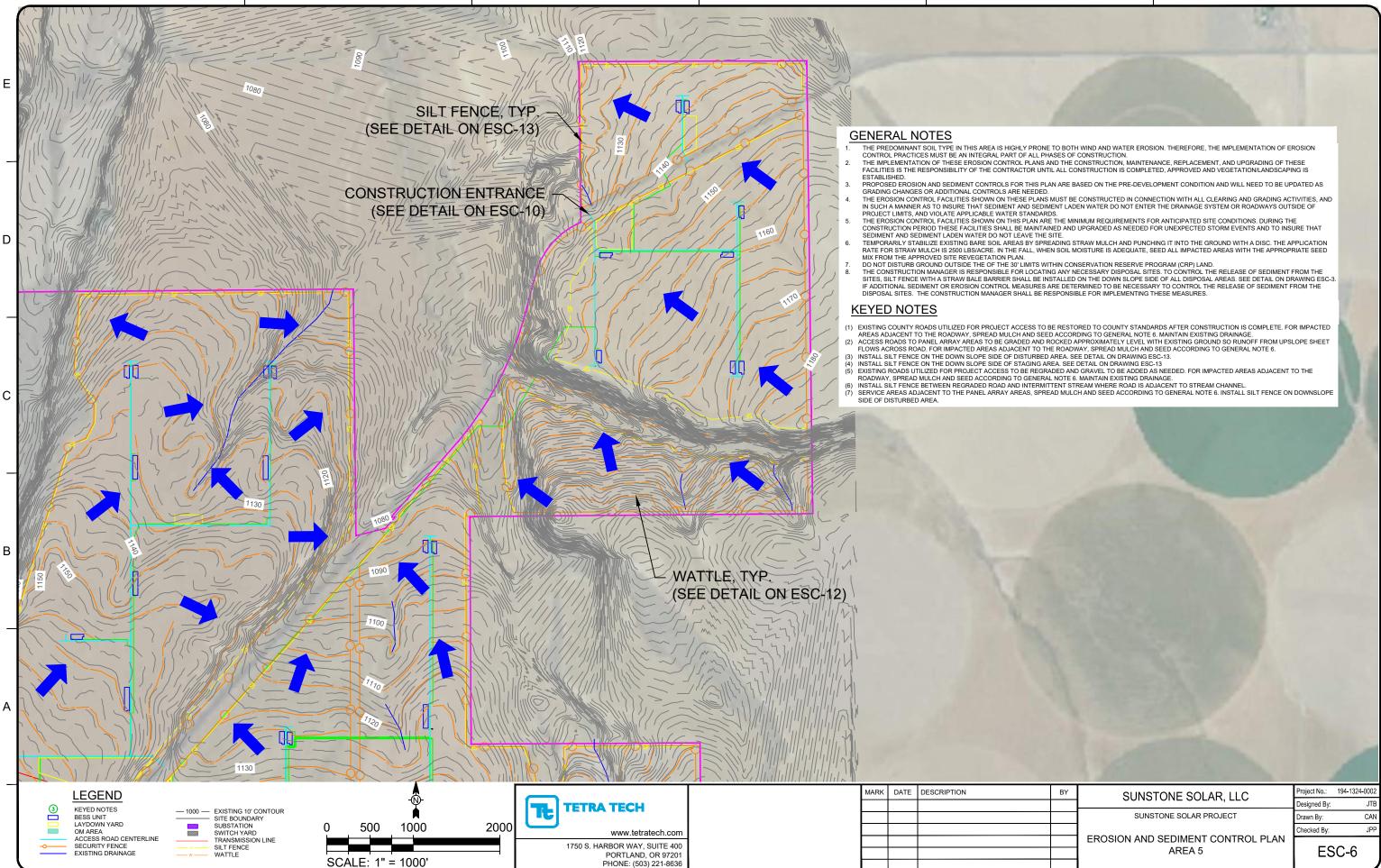
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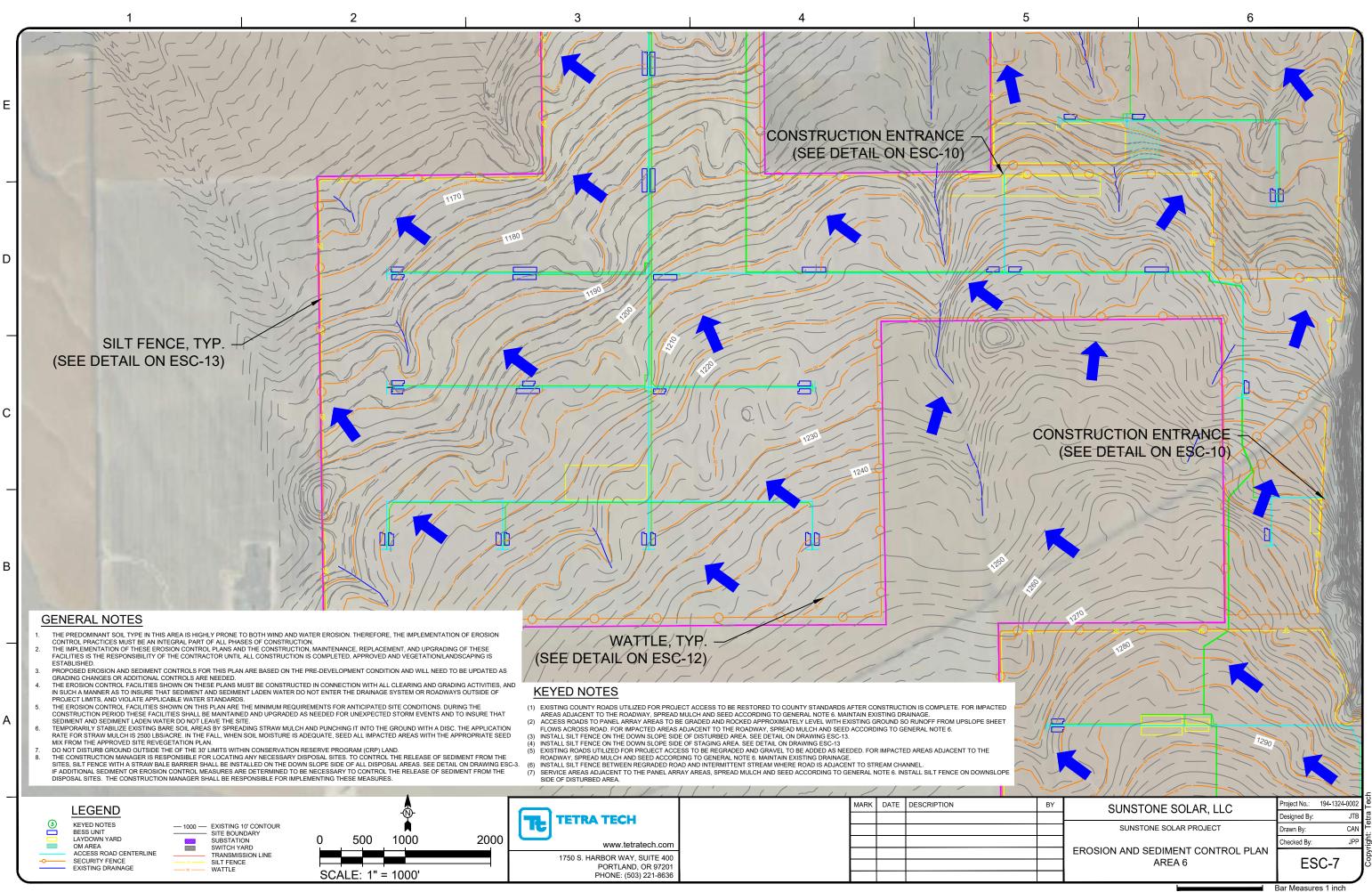




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CONSTRUCTION ENTRANCE (SEE DETAIL ESC-10)

GENERAL NOTES

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- THE PREDOMINANT SOLT YPE 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. 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.
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 INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF DISTURBED AREA. SEE DETAIL ON DRAWING ESC 13.

- (3) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF DISTURGED AREA. SEE DETAIL ON DRAWING ESC-13.
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 (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 6. MAINTAIN EXISTING DRAINAGE.
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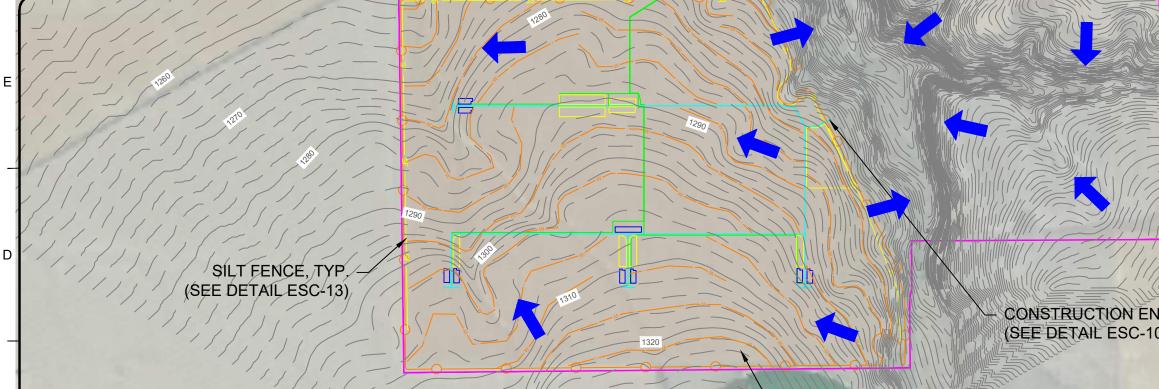
SILT FENCE, TYP. (SEE DETAIL ESC-13)

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CONSTRUCTION ENTRANCE (SEE DETAIL ESC-10)

WATTLE, TYP. (SEE DETAIL ESC-12)

BY	SUNSTONE SOLAR, LLC	Project No.: 194-1324-0002					
	SONSTONE SOLAN, LLC	Designed By:	JTB	etra			
	SUNSTONE SOLAR PROJECT	Drawn By: CAN					
		Checked By:	JPP	iaht			
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	AREA 7	ESC-8					
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WATTLE, TYP. (SEE DETAIL ESC-12)

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GENERAL NOTES

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- 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. 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.
- PROPOSED EROSION AND SEDIMENT CONTROLS FOR THIS PLAN ARE BASED ON THE PRE-DEVELOPMENT CONDITION AND WILL NEED TO BE UPDATED AS 3.
- RROPOSED ERANGES OR ADDITIONAL CONTROLS ARE NEEDED. 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
- CONSTRUCTION PERIOD TEADS FACILITIES STALL BE MAINTAINED AND OPGRAUED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO INSORE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE. 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 LBSIACRE. IN THE FALL, WHEN SOIL MOISTURE IS ADEQUATE, SEED ALL IMPACTED AREAS WITH THE APPROPRIATE SEED MIX FROM THE APPROVED SITE REVEGETATION PLAN. DO NOT DISTURB GROUND OUTSIDE THE OF THE 30' LIMITS WITHIN CONSERVATION RESERVE PROGRAM (CRP) LAND. 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

- EXISTING COUNTY ROADS UTILIZED FOR PROJECT ACCESS TO BE RESTORED TO COUNTY STANDARDS AFTER CONSTRUCTION IS COMPL AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6. MAINTAIN EXISTING DRAINAGE.
 ACCESS ROADS TO PANEL ARRAY AREAS TO BE GRADED AND ROCKED APPROXIMATELY LEVEL WITH EXISTING GROUND SO RUNOFF FR FLOWS ACROSS ROAD. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE
 INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF DISTURBED AREA. SEE DETAIL ON DRAWING ESC-13.
 INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF STAGING AREA. SEE DETAIL ON DRAWING ESC-13.
- EXISTINGENT ENCOUNTING DOWNLOAD ADDITED STORMONDAL OF DEVICE ON DOWNLOAD ELECTION ELECTION ELECTION ELECTION ELECTION ELECTION ELECTION ELECTIO
- SERVICE AREAS ADJACENT TO THE PANEL ARRAY AREAS, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 6. INSTALL SILT F SIDE OF DISTURBED AREA.

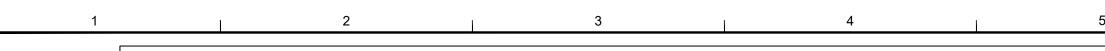
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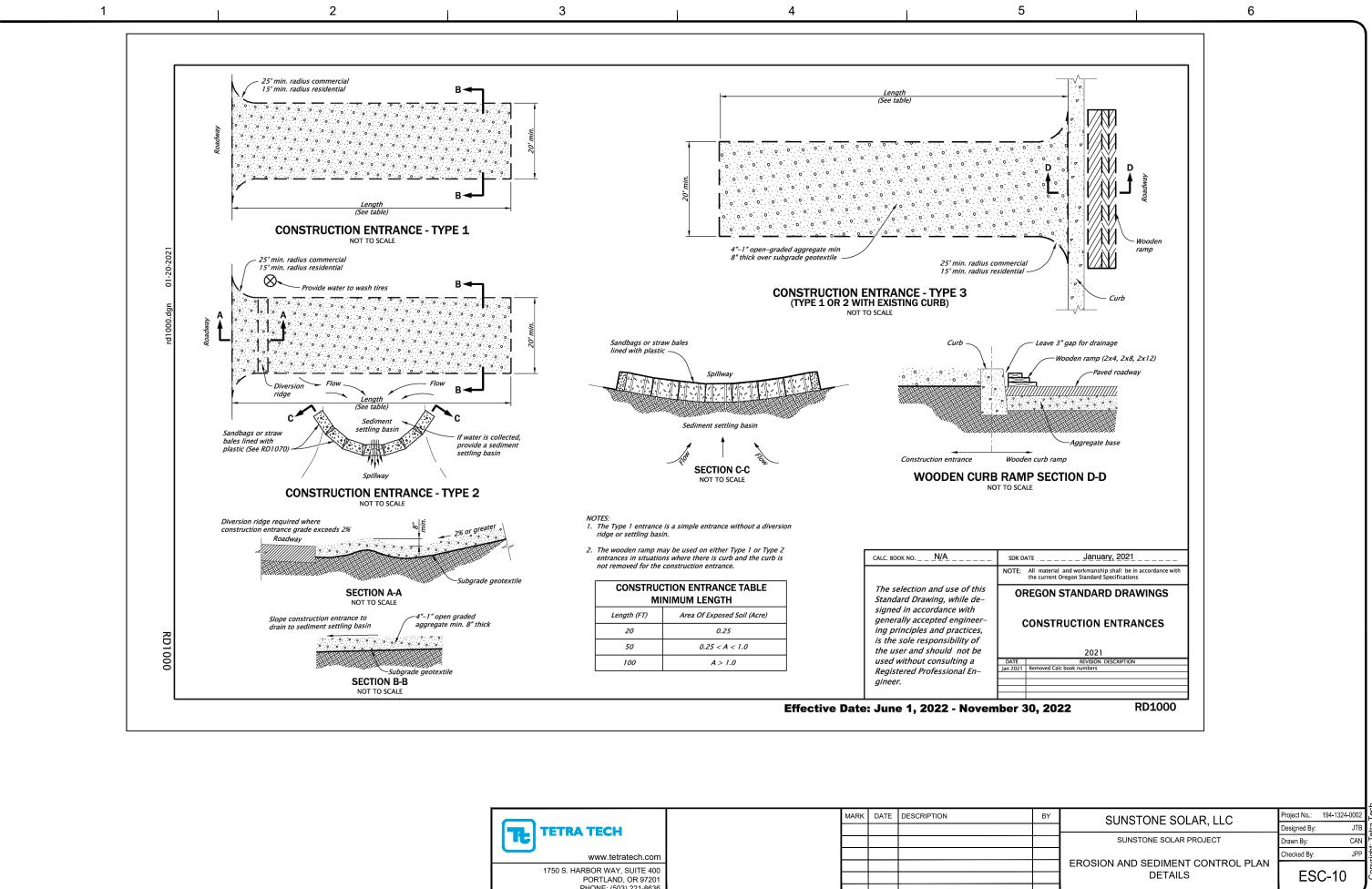
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	EROSION AND SEDIMENT CONTROL PLAN AREA 8	Project No.: 194-1324-0002 Designed By: JTB Drawn By: CAN Checked By: JPP ESC-9
1		Bar Measures 1 inch





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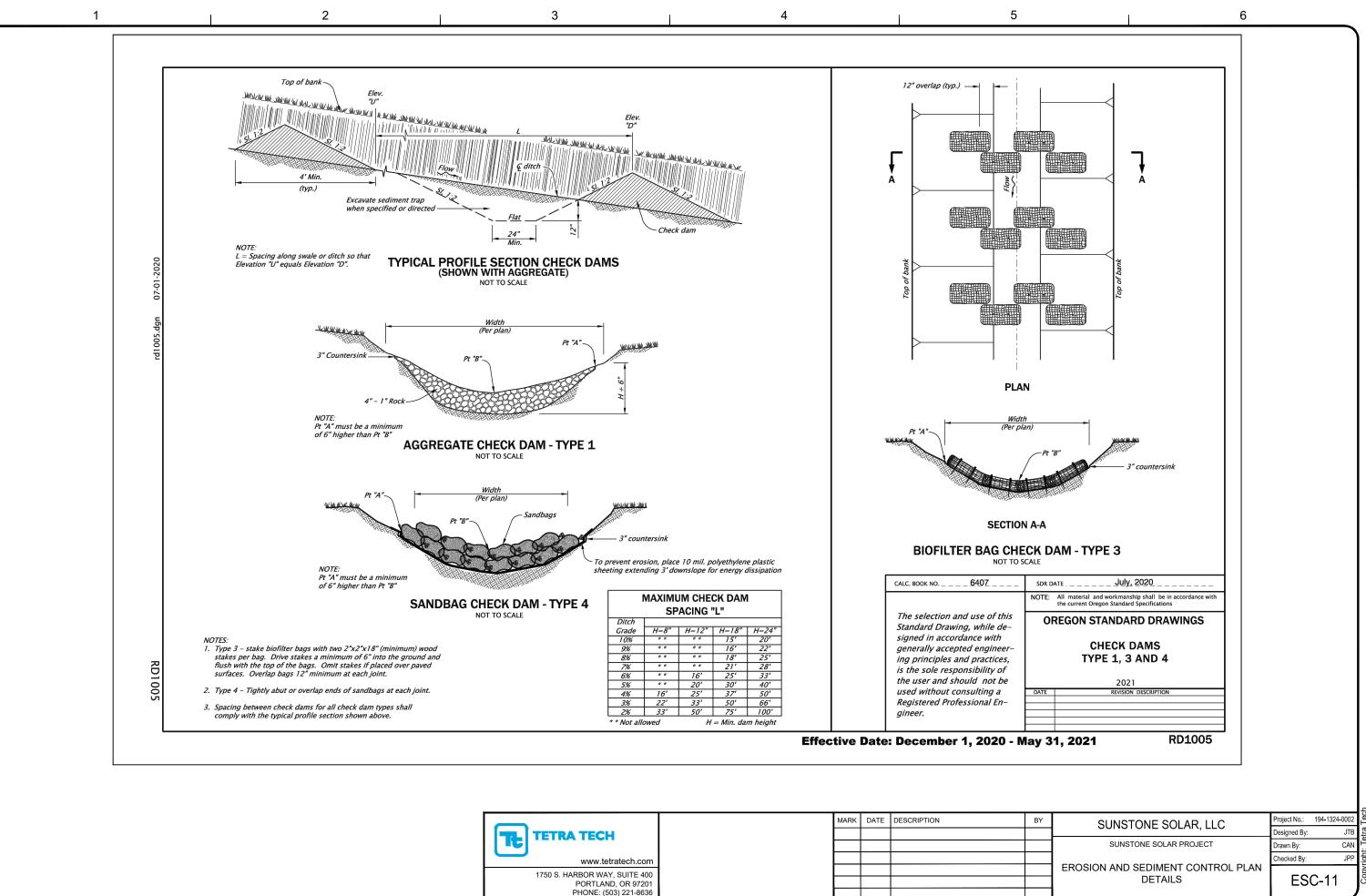
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8" H=24" Standard Drawing, while designed in accordance with generally accepted engineer ing principles and practices, is the sole responsibility of the user and should not be	AM		
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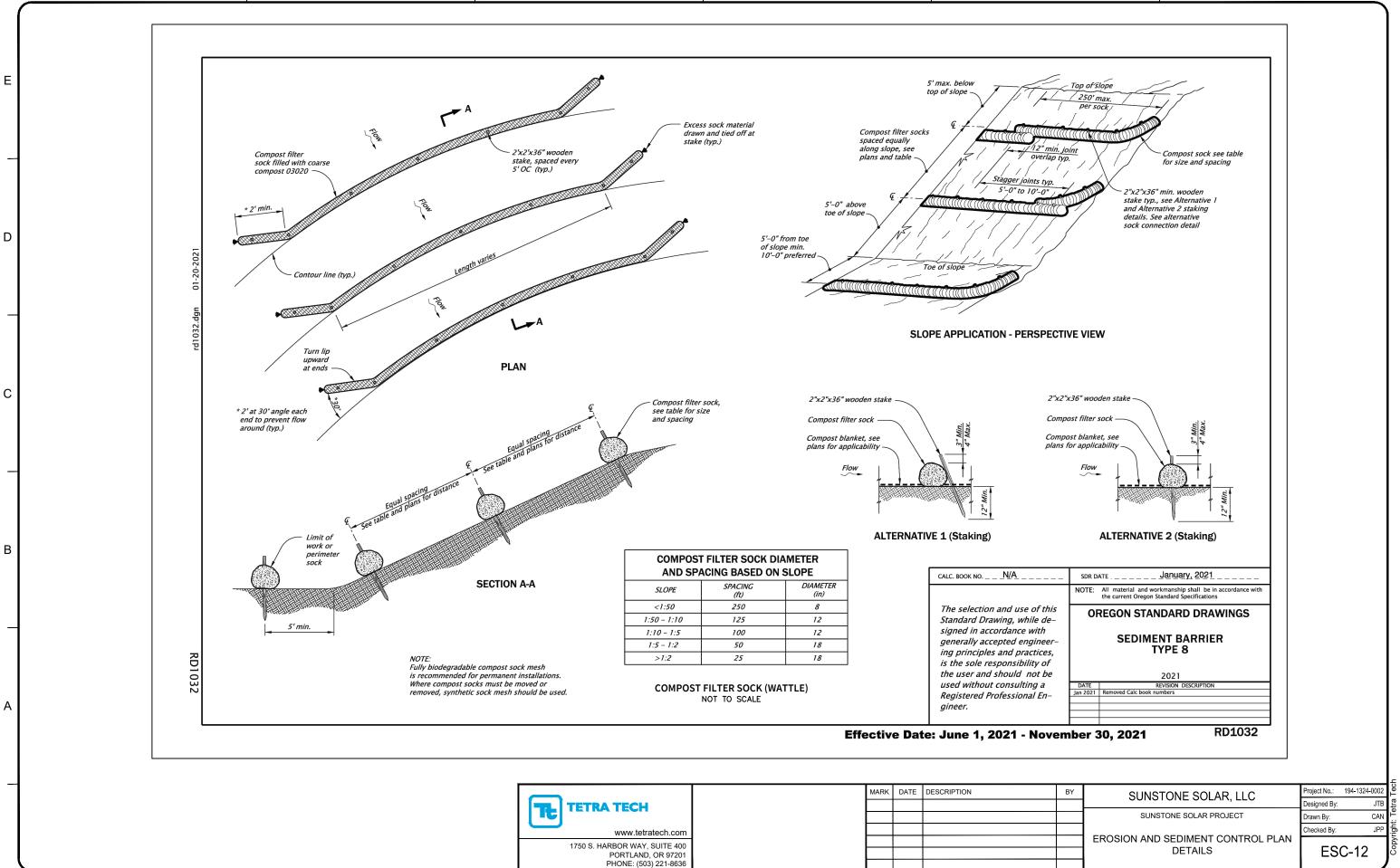
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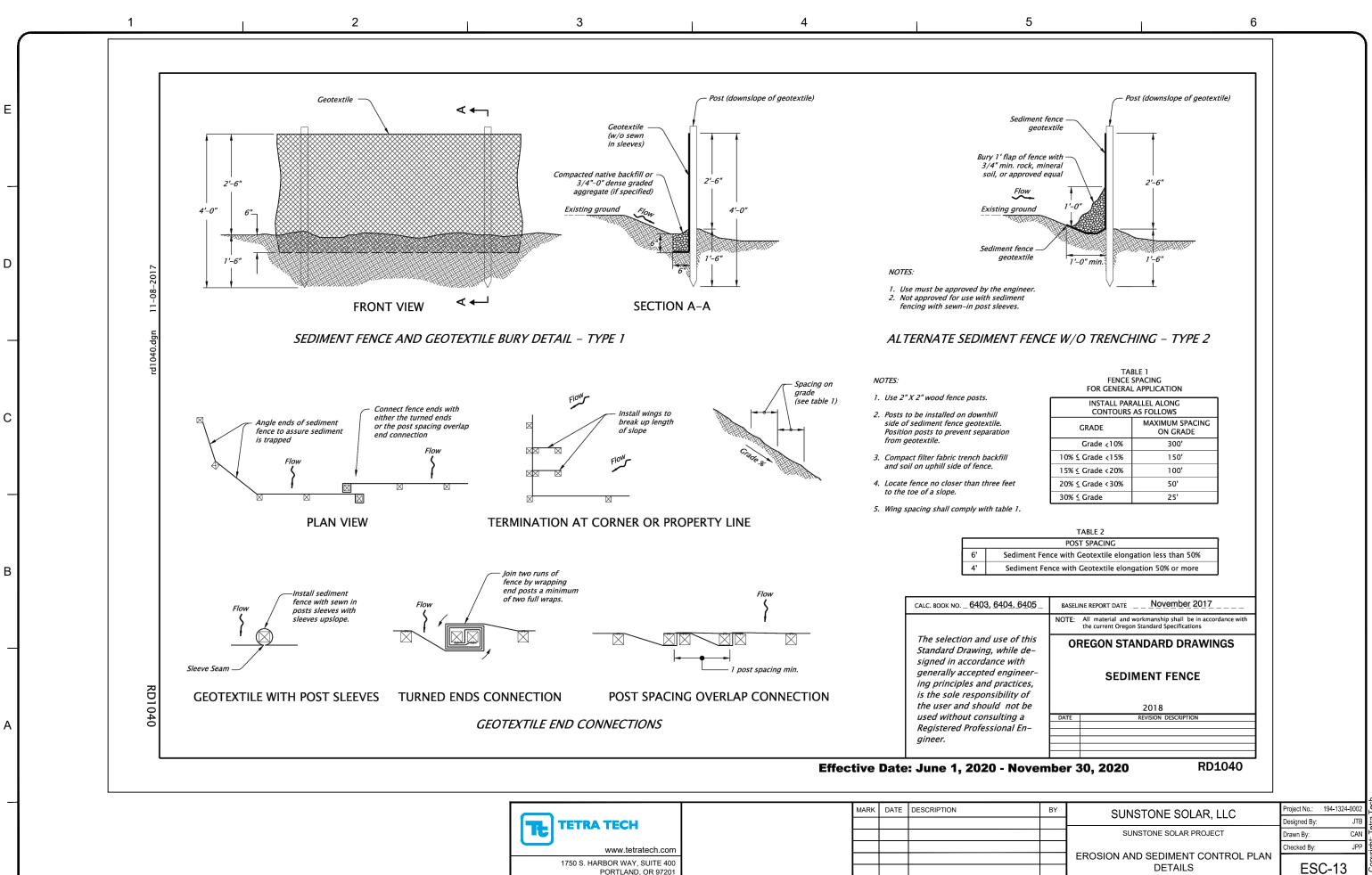
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