Exhibit A

Applicant Information

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by

Tetra Tech, Inc.
This page intentionally left blank
**Table of Contents**

1.0 Introduction .................................................................................................................................................................. 1

2.0 Applicant Contact Information – OAR 345-021-0010(1)(a)(A) ................................................................. 1

3.0 Other Participants – OAR 345-021-0010(1)(a)(B) .......................................................................................... 2

4.0 Corporation Status – OAR 345-021-0010(1)(a)(C) .................................................................................... 4

5.0 Ownership – OAR 345-021-0010(1)(a)(D) .................................................................................................... 4

6.0 Association/Joint-Venture Information – OAR 345-021-0010(1)(a)(E) ...................................................... 5

7.0 Public/Government Entity Information – OAR 345-021-0010(1)(a)(F) ...................................................... 5

8.0 Individual Applicant – OAR 345-021-0010(1)(a)(G) .................................................................................. 5


**List of Attachments**

Attachment A-1. Articles of Incorporation

Exhibit A. Applicant Information

Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Applicant</th>
<th>EE West End Solar LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rules</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit A was prepared to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(a).

2.0 Applicant Contact Information – OAR 345-021-0010(1)(a)(A)

OAR 345-021-0010(1)(a) Information about the applicant and participating persons, including:

OAR 345-021-0010(1)(a)(A) The name and address of the applicant including all co-owners of the proposed facility, the name, mailing address, email address and telephone number of the contact person for the application, and if there is a contact person other than the applicant, the name, title, mailing address, email address and telephone number of that person.

Name and Address of Site Certificate Holder

EE West End Solar LLC
c/o Eurus Energy America Corp.
9255 Towne Center Drive, Suite 840
San Diego, California 92121
Attn: Rob Curulla

Contact Information

Rob Curulla
EE West End Solar LLC
c/o Eurus Energy America Corporation
9255 Towne Center Drive, Suite 840
San Diego, California 92121
rcurulla@eurusenergy.com
(858) 717-9201
Sarah Plucinski  
EE West End Solar LLC  
c/o Eurus Energy America Corporation  
9255 Towne Center Drive, Suite 840  
San Diego, California 92121  
splucinski@eurusenergy.com  
(858) 245-2935

Leslie McClain  
Project Manager  
Tetra Tech  
1750 SW Harbor Way, Suite 400  
Portland, OR 97201  
Leslie.McClain@tetratech.com  
(503) 222-4536

Sarah Stauffer Curtiss, Partner  
Stoel Rives LLP  
760 SW Ninth Avenue, Suite 3000  
Portland, OR 97205  
sarah.curtiss@stoel.com  
(971) 533-6215

3.0 Other Participants - OAR 345-021-0010(1)(a)(B)

OAR 345-021-0010(1)(a)(B) The contact name, mailing address, email address and telephone number of all participating persons, other than individuals, including but not limited to any parent corporation of the applicant, persons upon whom the applicant will rely for third-party permits or approvals related to the facility, and, if known, other persons upon whom the applicant will rely in meeting any facility standard adopted by the Council.
EE West End Solar LLC is a wholly owned subsidiary of Eurus Solar Holdings, LLC:

- Eurus Solar Holdings LLC
  9255 Towne Center Drive, Suite 840
  San Diego, California 92121

Eurus Solar Holdings LLC is a wholly owned subsidiary of Eurus Energy America, LLC:

- Eurus Energy America LLC
  9255 Towne Center Drive, Suite 840
  San Diego, California 92121

Eurus Energy America LLC is a wholly owned subsidiary of Eurus Energy America Corporation:

- Eurus Energy America Corporation
  9255 Towne Center Drive, Suite 840
  San Diego, California 92121

Rob Curulla
EE West End Solar LLC
c/o Eurus Energy America Corp.
9255 Towne Center Drive, Suite 840
San Diego, California 92121
rcurulla@eurusenergy.com
(858) 717-9201

Sarah Plucinski
EE West End Solar LLC
c/o Eurus Energy America Corp.
9255 Towne Center Drive, Suite 840
San Diego, California 92121
splucinski@eurusenergy.com
(858) 245-2935
4.0 Corporation Status – OAR 345-021-0010(1)(a)(C)

OAR 345-021-0010(1)(a)(C) If the applicant is a corporation:

(i) The full name, official designation, mailing address, email address and telephone number of the officer responsible for submitting the application;

(ii) The date and place of its incorporation;

(iii) A copy of its articles of incorporation and its authorization for submitting the application; and

(iv) In the case of a corporation not incorporated in Oregon, the name and address of the resident attorney-in-fact in this state and proof of registration to do business in Oregon;

The Applicant is not a corporation. Therefore, this is not applicable.

5.0 Ownership – OAR 345-021-0010(1)(a)(D)

OAR 345-021-0010(1)(a)(D) If the applicant is a wholly owned subsidiary of a company, corporation or other business entity, in addition to the information required by paragraph (C), it shall give the full name and business address of each of the applicant’s full or partial owners.

EE West End Solar LLC is a wholly owned subsidiary of Eurus Solar Holdings LLC:

Eurus Solar Holdings LLC
9255 Towne Center Drive, Suite 840
San Diego, California 92121

Eurus Solar Holdings LLC is a wholly owned subsidiary of Eurus Energy America LLC:

Eurus Energy America LLC
9255 Towne Center Drive, Suite 840
San Diego, California 92121

Eurus Energy America LLC is a wholly owned subsidiary of Eurus Energy America Corporation:

Eurus Energy America Corporation
9255 Towne Center Drive, Suite 840
San Diego, California 92121
6.0  **Association/Joint-Venture Information – OAR 345-021-0010(1)(a)(E)**

OAR 345-021-0010(1)(a)(E) If the applicant is an association of citizens, a joint venture or a partnership, it shall give:

(i) The full name, official designation, mailing address, email address and telephone number of the person responsible for submitting the application;

(ii) The name, business address and telephone number of each person participating in the association, joint venture or partnership and the percentage interest held by each;

(iii) Proof of registration to do business in Oregon;

(iv) A copy of its articles of association, joint venture agreement or partnership agreement and a list of its members and their cities of residence; and

(v) If there are no articles of association, joint venture agreement or partnership agreement, the applicant shall state that fact over the signature of each member.

The Applicant is not an association/joint-venture. Therefore, this rule is not applicable.

7.0  **Public/Government Entity Information – OAR 345-021-0010(1)(a)(F)**

OAR 345-021-0010(1)(a)(F) If the applicant is a public or governmental entity, it shall give:

(i) The full name, official designation, mailing address, email address and telephone number of the person responsible for submitting the application; and

(ii) Written authorization from the entity’s governing body to submit an application.

The Applicant is not a public/government entity. Therefore, this rule is not applicable.

8.0  **Individual Applicant – OAR 345-021-0010(1)(a)(G)**

OAR 345-021-0010(1)(a)(G) If the applicant is an individual, the individual shall give his or her mailing address, email address and telephone number.

The Applicant is not an individual. Therefore, this rule is not applicable.

OAR 345-021-0010(1)(a)(H) If the applicant is a limited liability company, it shall give:

(i) The full name, official designation, mailing address, email address and telephone number of the officer responsible for submitting the application;

The officer responsible for submitting the Application for Site Certificate is as follows:

Hidenori Mitsuoka, President
EE West End Solar LLC
c/o Eurus Energy America Corp.
9255 Towne Center Drive, Suite 840
San Diego, California 92121
rcurulla@eurusenergy.com
(858) 638-7115

(ii) The date and place of its formation;

EE West End Solar LLC was formed in the State of Delaware on September 12, 2018.

(iii) A copy of its articles of organization and its authorization for submitting the application;

and

A copy of the Limited Liability Company Agreement, and an internal corporate resolution setting forth the officer's authorization is provided in Attachment A-1.

(iv) In the case of a limited liability company not registered in Oregon, the name and address of the resident attorney-in-fact in this state and proof of registration to do business in Oregon.

Attachment A-2 is a copy of the e-filed Application for Authority from the Corporation Division of the Oregon Secretary of State, providing proof of registration to do business in Oregon. The resident attorney-in-fact is as follows:

Sarah Stauffer Curtiss, Partner
Stoel Rives LLP
760 SW Ninth Avenue, Suite 3000
Portland, OR 97205
sarah.curtiss@stoel.com
(971) 533-621
Attachment A-1. Articles of Organization and Authorization
LIMITED LIABILITY COMPANY AGREEMENT
OF
EE WEST END SOLAR LLC
A DELAWARE LIMITED LIABILITY COMPANY

PREAMBLE

This Limited Liability Company Agreement ("Agreement") of EE West End Solar LLC, is entered into by Eurus Solar Holdings LLC, a Delaware limited liability company, as sole Member.

NOW, THEREFORE, the undersigned, as sole member, hereby declares the following to be the Limited Liability Company Agreement of the Company as of the Effective Date.

ARTICLE I
DEFINITIONS AND TERMS

SECTION 1.01. Definitions. Unless the context otherwise requires, the following terms shall have the following meanings for the purposes of this Agreement:

"Act" means the Delaware Limited Liability Company Act, 6 Del C. §§ 18-101, et seq., as amended from time to time (or any corresponding provisions of succeeding law).

"Agreement" means this Limited Liability Company Agreement, as the same may be amended from time to time.

"Assets" means, at any time, any real property and other assets owned or leased by the Company from time to time.

"Certificate" means, the Certificate of Formation filed with the Secretary of State of the State of Delaware on the Effective Date to form the Company pursuant to the Act, as originally executed by Deborah A. Abernathy (as an authorized person within the meaning of the Act) and as amended, modified, supplemented, or restated from time to time, as the context requires.

"Company" means the limited liability company formed pursuant to this Agreement.

"Effective Date" shall have the meaning set forth in Section 2.02.

"Interest" means the ownership interest in the Company at any time, including the right of the Member to any and all benefits to which the Member may be entitled as provided in this Agreement, together with the obligations of the Member to comply with all the terms and provisions of this Agreement.
“Member” means Eurus Solar Holdings LLC, a Delaware limited liability company, and any other member or members admitted to the Company in accordance with this Agreement or any amendment or restatement hereof.

“Person” has the meaning set forth in the Act.

SECTION 1.02. Terms Generally. The definitions in Section 1.01 shall apply equally to both the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine, and neuter forms. All references herein to Articles, Sections, and Exhibits shall be deemed to be references to Articles and Sections of, and Exhibits to, this Agreement unless the context shall otherwise require. The words “include”, “includes”, and “including” shall be deemed to be followed by the phrase “without limitation.”

ARTICLE II

FORMATION

SECTION 2.01. Name. The name of the Company shall be as set forth in the Preamble hereof. All business of the Company shall be conducted under such name and title to all property, real, personal, or mixed, owned by, or leased to the Company shall be held in such name. Notwithstanding the preceding sentence, the Member may change the name of the Company or adopt such trade or fictitious names as it may determine.

SECTION 2.02. Term. The term of the Company commenced on the date of filing of the Certificate in the Office of the Secretary of State of the State of Delaware (the “Effective Date”). The term of the Company shall continue until terminated as provided in Article VII.

SECTION 2.03. Principal Place of Business. The principal place of business of the Company shall be located at 9255 Towne Centre Drive, Suite 840, San Diego, California 92121. Member may establish other offices at other locations.

SECTION 2.04. Registered Agent. The Corporation Trust Company shall be the registered agent of the Company upon whom process against it may be served. The address of such agent within the State of Delaware is: 1209 Orange Street, Wilmington, Delaware 19801.

SECTION 2.05. Purposes of the Company. The Company has been organized to engage in any lawful act or activity for which a Delaware limited liability company may be formed.

SECTION 2.06. Admission/Withdrawal of Member. Simultaneously with the execution of this Agreement, Eurus Solar Holdings, a Delaware limited liability company, shall be admitted as the Member of the Company.
ARTICLE III
LIMITATION ON LIABILITY

SECTION 3.01. Limitation on Liability. The liability of the Member shall be limited to its Interest in the Company, and the Member shall not have any personal liability to contribute money to, or in respect of, the liabilities or the obligations of the Company, except as set forth in the Act.

ARTICLE IV
DISTRIBUTIONS

SECTION 4.01. Distributions. Except as otherwise provided in the Act, distributions may be made to the Member at such times and in such amounts as the Member shall determine.

ARTICLE V
BOOKS AND RECORDS

SECTION 5.01. Books and Records. The Member shall keep or cause to be kept complete and accurate books of account and records that shall reflect all transactions and other matters and include all documents and other materials with respect to the Company's business that are usually entered into and maintained by Persons engaged in similar businesses. All Company financial statements shall be accurate in all material respects, shall fairly present the financial position of the Company and the results of its operations and transactions in its reserve accounts, and shall be prepared in accordance with generally accepted accounting principles, subject, in the case of quarterly statements, to year-end adjustments. The books of the Company shall at all times be maintained at the principal office of the Company or at such other location as the Member decides.

ARTICLE VI
MANAGEMENT OF THE COMPANY

SECTION 6.01. Management. The management of the Company shall be under the direction of the Member or managers designated by Member, who may, from time to time, designate one or more persons to be managers or officers of the Company, with such titles as the Member or managers may determine, including those positions set forth in Section 6.02. The initial managers and officers designated by the Member are listed on Schedule A hereto.

SECTION 6.02. Officers. Such of the following officers shall be elected as the Member or managers deems necessary or appropriate: a President, one or more Executive Vice Presidents, one or more Senior Vice Presidents, one or more Vice Presidents, a Secretary, a Treasurer, a Controller, one or more Assistant Vice Presidents, Assistant Secretaries, Assistant Treasurers, and Assistant Controllers, and such other officers with such titles and powers and/or duties as the Member or managers shall from time to time determine. Officers may be designated for particular areas of responsibility and simultaneously serve as officers of subsidiaries or divisions. Any officer so elected may resign at any time upon written notice to the Member. Such
resignation shall take effect at the time specified therein, and unless otherwise specified therein, no acceptance of such resignation shall be necessary to make it effective. Any officer may be removed, with or without cause, by the Member. Any such removal shall be without prejudice to the contractual rights of such officer, if any, with the Company, but the election or appointment of any officer shall not of itself create contractual rights. Any number of offices may be held by the same person. Any vacancy occurring in any office by death, resignation, removal, or otherwise may be filled for the unexpired portion of the term by the Member.

(a) **President.** The President shall have general control of the business, affairs, operations, and property of the Company, subject to the supervision of the Member. He may sign or execute, in the name of the Company, all deeds, mortgages, bonds, contracts, or other undertakings or instruments, except in cases where the signing or execution thereof shall have been expressly delegated by the Member to some other officer or agent of the Company. He shall have and may exercise such powers and perform such duties as may be provided by law or as are incident to the office of President of a company (as if the Company were a Delaware corporation) and such other duties as are assigned from time to time by the Member.

(b) **Vice Presidents.** Each Executive Vice President, Senior Vice President, Vice President, and Assistant Vice President shall have such powers and perform such duties as may be provided by law or as may from time to time be assigned to him, either generally or in specific instances, by the Member or the President. Any Executive Vice President or Senior Vice President may perform any of the duties or exercise any of the powers of the President at the request of, or in the absence or disability of, the President or otherwise as occasion may require in the administration of the business and affairs of the Company.

Each Executive Vice President, Senior Vice President, Vice President, and Assistant Vice President shall have authority to sign or execute all deeds, mortgages, bonds, contracts, or other instruments on behalf of the Company, except in cases where the signing or execution thereof shall have been expressly delegated by the Member to some other officer or agent of the Company.

(c) **Secretary.** The Secretary shall keep the records of the Company, in books provided for the purpose; he shall be custodian of the seal or seals of the Company; he shall see that the seal is affixed to all documents requiring same, the execution of which, on behalf of the Company, under its seal, is duly authorized, and when said seal is so affixed he may attest same; and, in general, he shall perform all duties incident to the office of the secretary of a company (as if the Company were a Delaware corporation), and such other duties as from time to time may be assigned to him by the Member or the President or as may be provided by law. Any Assistant Secretary may perform any of the duties or exercise any of the powers of the Secretary at the request of, or in the absence or disability of, the Secretary or otherwise as occasion may require in the administration of the business and affairs of the Company.

(d) **Treasurer.** The Treasurer shall have charge of and be responsible for all funds, securities, receipts, and disbursements of the Company, and shall deposit, or cause to be deposited, in the name of the Company, all moneys or other valuable effects in such banks, trust companies or other depositories as shall, from time to time, be selected by or under authority of
the Member; if required, he shall give a bond for the faithful discharge of his duties, with such surety or sureties as the Member may determine; he shall keep or cause to be kept full and accurate records of all receipts and disbursements in books of the Company and shall render to the Member or the President, whenever requested, an account of the financial condition of the Company (as if the Company were a Delaware corporation); and, in general, he shall perform all the duties incident to the office of treasurer of a company, and such other duties as may be assigned to him by the Member or the President or as may be provided by law.

(e) **Controller.** The Controller shall be the chief accounting officer of the Company. He shall keep full and accurate accounts of the assets, liabilities, commitments, receipts, disbursements, and other financial transactions of the Company; shall cause regular audits of the books and records of account of the Company and supervise the preparation of the Company’s financial statements; and, in general, he shall perform the duties incident to the office of controller of a company (as if the Company were a Delaware corporation) and such other duties as may be assigned to him by the Member or the President or as may be provided by law. If no Controller is elected by the Member, the Treasurer shall perform the duties of the office of controller.

**ARTICLE VII**
**DISSOLUTION AND TERMINATION**

SECTION 7.01. **Dissolution.** The Company shall be dissolved and its business wound up upon the decision made at any time by the Member to dissolve the Company, or upon the occurrence of any event of dissolution under the Act.

SECTION 7.02. **Liquidation.** Upon dissolution, the Company’s business shall be liquidated in an orderly manner. The Member shall wind up the affairs of the Company pursuant to this Agreement and in accordance with the Act, including, without limitation, Section 18-804 thereof.

SECTION 7.03. **Distribution of Property.** If in the discretion of the Member it becomes necessary to make a distribution of Company property in kind in connection with the liquidation of the Company, such property shall be transferred and conveyed to the Member.

**ARTICLE VIII**
**MISCELLANEOUS**

SECTION 8.01. **Amendments and Consents.** This Agreement may be modified or amended only by the Member.

SECTION 8.02. **Benefits of Agreement.** This Agreement shall not confer any rights or remedies upon, and none of the provisions of this Agreement shall be enforceable by, any person or entity apart from the Member and its respective successors and permitted assigns.
SECTION 8.03. Integration. This Agreement constitutes the entire agreement pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements in connection therewith. No covenant, representation, or condition not expressed in this Agreement shall affect, or be effective to interpret, change, or restrict, the express provisions of this Agreement.

SECTION 8.04. Headings. The titles of Articles and Sections of this Agreement are for convenience only and shall not be interpreted to limit or amplify the provisions of this Agreement.

SECTION 8.05. Severability. Each provision of this Agreement shall be considered separable and if for any reason any provision or provisions hereof are determined to be invalid and contrary to any existing or future law, such invalidity shall not impair the operation of or affect those portions of this Agreement, which are valid.

SECTION 8.06. Applicable Law. This Agreement shall be construed in accordance with, and governed by, the laws of the State of Delaware, without regard to its conflict of law principles.

[Remainder of page intentionally left blank]
IN WITNESS WHEREOF, this Limited Liability Company Agreement has been duly executed by Eurus Solar Holdings LLC, as sole Member, effective as of the Effective Date.

EURUS SOLAR HOLDINGS LLC,
a Delaware Limited Liability Company

By:  

Name: Bradley S. White  
Title: Sr. Vice President and Secretary
SCHEDULE A

INITIAL MANAGERS

1. Satoshi Takahata
2. Bradley S. White

INITIAL OFFICERS

1. Satoshi Takahata       President
2. Bradley S. White       Senior Vice President and Secretary
Attachment A-2. Authorization to Conduct Business in Oregon
This page intentionally left blank
REGISTRY NUMBER
172382393

TYPE
FOREIGN LIMITED LIABILITY COMPANY

1. ENTITY NAME
EE WEST END SOLAR LLC

2. MAILING ADDRESS
9255 TOWNE CENTRE DR STE 840
SAN DIEGO CA 92121 USA

3. NAME & ADDRESS OF REGISTERED AGENT
00329227 - C T CORPORATION SYSTEM
780 COMMERCIAL ST SE STE 100
SALEM OR 97301 USA

4. MANAGEMENT
This Limited Liability Company will be member-managed by one or more members

5. DATE OF ORGANIZATION
09-12-2018

6. DURATION
PERPETUAL

7. JURISDICTION
DE

8. PRIMARY PHYSICAL LOCATION
9255 TOWNE CENTRE DR STE 840
SAN DIEGO CA 92121 USA
I declare, under penalty of perjury, that this document does not fraudulently conceal, fraudulently obscure, fraudulently alter or otherwise misrepresent the identity of the person or any officers, managers, members or agents of the limited liability company on behalf of which the person signs. This filing has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete. Making false statements in this document is against the law and may be penalized by fines, imprisonment, or both.

By typing my name in the electronic signature field, I am agreeing to conduct business electronically with the State of Oregon. I understand that transactions and/or signatures in records may not be denied legal effect solely because they are conducted, executed, or prepared in electronic form and that if a law requires a record or signature to be in writing, an electronic record or signature satisfies that requirement.

ELECTRONIC SIGNATURE

NAME
YASUYUKI KANEKO

TITLE
PRESIDENT

DATE SIGNED
09-25-2020
Exhibit B

Project Description and Schedule

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
This page intentionally left blank
# Table of Contents

1.0 Introduction ................................................................................................................................. 1

2.0 Project Description – OAR 345-021-0010(b)(A) ........................................................................... 1

3.0 Description of Related and Supporting Facilities – OAR 345-021-0010(b)(B) ............................... 5

4.0 Approximate Dimensions – OAR 345-021-0010(b)(C) ................................................................ 7

5.0 Pipelines and Transmission Line Corridor Assessment – OAR 345-021-0010(b)(D) ................. 7

6.0 Description of Pipelines and Transmission Lines – OAR 345-021-0010(b)(E) ............................... 7

7.0 Project Construction Schedule – OAR 345-021-0010(b)(F) ............................................................ 7
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>alternating current</td>
</tr>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>ASC</td>
<td>Application for Site Certificate</td>
</tr>
<tr>
<td>DC</td>
<td>direct current</td>
</tr>
<tr>
<td>EFSC</td>
<td>Energy Facility Siting Council</td>
</tr>
<tr>
<td>kV</td>
<td>kilovolt</td>
</tr>
<tr>
<td>MW</td>
<td>megawatt</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>operations and maintenance</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rules</td>
</tr>
<tr>
<td>ORS</td>
<td>Oregon Revised Statutes</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. On December 17, 2020, Oregon Department of Energy (ODOE) determined that the Applicant’s request for expedited review satisfied the requirements of Oregon Administrative Rules (OAR) 345-015-0300(2) and granted the expedited review for the proposed small capacity energy facility under OAR 345-015-0300(1). The original request was for a proposed 45-megawatt (MW), small capacity energy facility. However, the Applicant is including a request for small capacity energy facility with generating capacity of up to 50 MW. As this generating capacity is under 100 MW, the proposed facility is still eligible for expedited review.

This Exhibit B was prepared to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(b).

2.0 Project Description – OAR 345-021-0010(b)(A)

Information about the proposed facility, construction schedule and temporary disturbances of the site, including:

OAR 345-021-0010(b)(A) A description of the proposed energy facility, including as applicable:

(i) The nominal electric generating capacity and the average electrical generating capacity, as defined in ORS 469.300.

The Project will be a photovoltaic solar energy facility with an estimated nominal and average generating capacity\(^1\) of 50 megawatts (MW) of alternating current (AC). The Project may include an energy storage system with a capacity of up to 70 MW. The Project Site Boundary is 324 acres. The Applicant is requesting approval to site a range of photovoltaic energy generation and associated supporting facility technology within a micrositing corridor, which is equivalent to the Site Boundary. This micrositing flexibility accommodates perpetual changes in photovoltaic and battery storage technologies, offers maximum efficiency in terms of use of space, and provides development flexibility for varying market requirements from potential customers. Therefore, Exhibit B provides a representative description of components and the accompanying analysis for the maximum footprint of approximately 324 acres in order to address the maximum potential impacts. Because technological advancements can increase the MW generation capabilities of the site, the actual nominal and average generating capacity may be more than 50 MW although will be less than 100 MW. The information summarized in this exhibit and described in the Application for Site

\(^1\) Based on Oregon Revised Statutes (ORS) 469.300(4) definition of average generating capacity for all energy facilities besides wind and geothermal.
Certificate (ASC) demonstrates that the Project can be designed, engineered, constructed, operated, and retired in a manner that satisfies the applicable Energy Facility Siting Council (EFSC) standards.

(ii) Major components, structures and systems, including a description of the size, type and configuration of equipment used to generate electricity and useful thermal energy.

The major components of the Project are the solar arrays (composed of solar modules), collector line system, energy storage system, Project collector substation, switchyard substation, operations and maintenance (O&M) enclosure, and access roads. All components will be within the approximately 324-acre Site Boundary which is also the micrositing corridor. Because the Site Boundary and micrositing corridor are the same for the Project, only the Site Boundary terminology is used in this ASC, although the micrositing flexibility for facility components still applies. The entire Site Boundary will be a permanent impact within the Project fence line for the purposes of this ASC.

The layout of the Project has not been finalized and may vary depending on project size, technology, and other constraints. Moreover, there are two existing transmission line rights-of-way that run southeast to northwest through the Site Boundary: Bonneville Power Administration’s McNary to Roundup 230-kilovolt (kV) line and PacifiCorp’s Pendleton to Hermiston 69-kV line. In addition, there is a Umatilla Electric Cooperative 115-kV line that parallels the eastern edge of the Site Boundary. See Exhibit C, Figure C-2 for locations of existing transmission lines. All three existing transmission lines provide interconnection capabilities within or immediately adjacent to the Site Boundary, eliminating the need for a Project transmission line. Although it is anticipated that interconnection will occur at the Umatilla Electric Cooperative 115-kV line, the Applicant seeks interconnection micrositing flexibility for all or part of the Project to the Umatilla Electric Cooperative, Bonneville Power Administration, and PacifiCorp transmission lines. Because the solar arrays, energy storage, related and associated equipment, and layout of the Project have not been finalized, the following description of major components is based on the best available design information at this time. It reflects the largest anticipated footprint, but may not reflect the final design.

Solar modules use mono- or poly-crystalline cells to generate electricity by converting sunlight into direct current (DC) electrical energy. The electrical generation from a single module varies by module size and the number of cells per module. The crystalline cells are contained within antireflective glass panels linked together with factory-installed wire connectors. The modules will be connected in series to form long rows. The rows of modules are then electrically connected via cables. The configuration of multiple rows (also referred to as an “array”) can vary depending on the equipment type and topography. The Applicant anticipates approximately 300,000 modules. It will vary depending on final design.

Strings of solar modules will be mounted on single-axis tracker systems that optimize electricity production by rotating the solar modules to follow the path of the sun throughout the day. The length of each tracker row may vary by topography. The tracker system, will be specifically designed to withstand wind, snow, and seismic loads anticipated at the site. The number of modules
that the tracker can hold and the actual number of tracker systems will depend on the system selected.

Each tracker system will be supported by multiple steel posts, which could be round hollow posts or pile-type posts (i.e., H-pile, C-pile, S-pile) or helical. Post depth may vary depending on soil conditions, but the posts are typically installed 4 to 8 feet below the surface and protrude 4 to 7 feet above grade. Posts at the end of tracker rows are usually installed to greater depth to withstand wind uplift. In some soil conditions, concrete backfill is required for each post.

The DC electrical energy collected from the solar modules must be converted into AC before connecting to the collector substation. Inverters serve the function of converting DC electricity to AC electricity in accordance with electrical regulatory requirements. The AC electrical energy from the inverters will be routed to transformers that will increase the output voltage from the inverter to the desired substation feed voltage. Transformers could be co-located with the inverters associated with each tracker row, or centrally located. The final number of inverters and transformers will vary depending on the actual generation output of the solar array. The inverter and transformer specification will comply with the applicable requirements of the National Electric Code and Institute of Electrical and Electronics Engineers standards. The collector line system will link transformers throughout the solar array to the proposed collector substation. The collector line system will be buried often adjacent to access roads within the solar arrays.

A switchyard substation will also be constructed adjacent to the collector substation. The switchyard substation will be constructed and owned by the utility and will facilitate the Project’s interconnection with the electric grid. The switchyard substation will have similar equipment as the Project’s collector substation.

The solar array will be within the perimeter fence line depicted in Exhibit C, Figure C-4. The maximum height of the solar array will be 16 feet when the modules are tilted on the tracker system. Chain-link perimeter fencing, up to 10 feet in height, will enclose the Site Boundary.

(iii) A site plan and general arrangement of buildings, equipment and structures.

The Project is located entirely on private land in Umatilla County, Oregon (see Exhibit C, Figure C-1). The final layout of the Project infrastructure has not yet been determined; however, the anticipated Project layout, with the general arrangement of equipment and structures is shown in Exhibit C, Figure C-4. The collector substation is anticipated to be located on the east side of the site, near the Umatilla Electric Cooperative 115-kV line. The Project’s O&M enclosure are anticipated to be located adjacent to the substation. The energy storage enclosures may be located at the end of each tracking row, adjacent to inverters, or adjacent to the Project’s collector substation. As noted above, a preliminary general site plan is provided for the purposes of the ASC analysis; although the final Project design and layout may differ from the preliminary site plan provided, all Project components will be within the Site Boundary.
(iv) Fuel and chemical storage facilities, including structures and systems for spill containment

The Project does not require fuel for the generation or storage of electricity. No extremely hazardous materials (as defined by 40 CFR 355) are anticipated to be produced, used, stored, transported, or disposed of at this Project during operation. The Project will use transformers to increase the electricity voltage. These will be ground-mounted, constructed on concrete or gravel pads. Secondary spill containment traps will be used to minimize the possibility of accidental leakage as required by state or federal law. Transformers typically use mineral or seed oil that is considered nontoxic. Transformer coolant does not contain polychlorinated biphenyls or compounds listed as extremely hazardous by the U.S. Environmental Protection Agency. The small quantity and nontoxic nature of the oils, combined with the fact that the transformers will have secondary containment, or placed on concrete pads, will minimize risk effects of potential spills on soils. In the unlikely event of a spill, the Applicant will follow response measures outlined in its operations Spill Prevention, Control, and Countermeasures Plan, as required under 40 Code of Federal Regulations 112. Small quantities of lubricants, degreasers, herbicides, or other chemicals may be stored in the O&M enclosure and used on the Project site. Storage and use of these chemicals will follow label instructions. No underground storage tanks will be installed at the Project. During construction, on-site fuel storage may be placed in designated areas within temporary staging areas. Secondary containment and refueling procedures for on-site fuel storage will follow the contractor's Spill Prevention, Control, and Countermeasures Plan.

(v) Equipment and systems for fire prevention and control.

The Project components will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards and will not pose a significant fire risk. The solar array will have shielded electrical cabling, as required by applicable code, to prevent electrical fires. In addition, the collector system and substation will have redundant surge arrestors to deactivate the Project during unusual operational events that could start fires. The collector substation will have also sufficient spacing between equipment to prevent the spread of fire. Vegetation within the fence line will be managed as needed to reduce fuels for fire. Project access roads will be sufficiently sized for emergency vehicle access. The fenced areas around the collector substation and energy storage system will be graveled, with no vegetation present. Smoke/fire detectors will be placed around the site that will be tied to the supervisory control and data acquisition system and will contact local firefighting services. The limited vegetation present within the Site Boundary during operations will also help to minimize spread of fire. Any potential fires inside the Site Boundary will be controlled by trained staff who will be able to access the Project around the clock. These measures will help keep external fires out or internal fires in.

The Project may include a lithium-ion energy storage system. The lithium-ion energy system will be comprised of multiple modular energy storage units or enclosures, each roughly the size of a large residential refrigerator/freezer. Multiple individual units may be linked together to form an energy storage string. The strings may be located at various locations throughout the Project site or largely
congregated at the Project substation. The lithium-ion ESS will have the following fire prevention features and controls:

- Each unit will be tested to meet UL9540A requirements.
- Individual units will be designed to meet a 60-minute fire wall rating and have pressure relief panels on the roof.
- A selection of monitoring systems and fire suppression methods designed to meet state and federal safety standards will be utilized.
- Adherence to the requirements and regulations, personnel training, safe interim storage, and segregation from other potential waste streams will minimize any public hazard related to transport, use, or disposal of batteries.

An Emergency Management Plan will be developed for the Project that will contain policies and procedures for preparing for and responding to a range of potential emergencies, including fires. The plan will cover response procedures that take into account the dry nature of the region and address risks on a seasonal basis. The plan will also specify communication channels the Applicant intends to pursue with local fire protection agency personnel, for example, annual meetings to discuss emergency planning, and invitations to observe any emergency drill conducted at the Project. At the beginning of Project operations, a copy of the site plan indicating the arrangement of the Project structures and access points will be provided to the local fire district. Exhibit U provides additional information regarding local public service providers.

Transportation of lithium-ion batteries is subject to 49 Code of Federal Regulations 173.185 ("Lithium cells and batteries") under the Pipeline and Hazardous Materials Safety Administration, Department of Transportation. This regulation contains requirements for preventing a dangerous evolution of heat; short-circuits; damage to the terminals; and batteries coming into contact with other batteries or conductive materials. Project staff and contractors will be trained and obligated to comply with all applicable requirements.

### 3.0 Description of Related and Supporting Facilities – OAR 345-021-0010(b)(B)

*OAR 345-021-0010(b)(B) A description of major components, structures and systems of each related or supporting facility.*

The related or supporting facilities described in this response include the, energy storage system, collector substation, switchyard substation, O&M enclosure, service roads, security fencing and gates, and construction areas. Figure C-4 in Exhibit C shows the general layout of these facilities within the Site Boundary. The Project’s energy storage system and O&M enclosure are anticipated to be located adjacent to the collector substation.
• **Energy Storage System:** The Applicant proposes the option to construct an energy storage system. Lithium-ion batteries is the anticipated energy storage type. The energy storage system could be comprised of multiple modular energy storage units or enclosures, each roughly the size of a large residential refrigerator/freezer. Multiple individual units may be linked together to form an energy storage string. The strings may be located at various locations throughout the Project site or largely congregated at the Project substation (within the substation fence line) (Exhibit C, Figure C-4). The energy storage system will be capable of storing and later deploying 70 MW/180 MW-hours of energy generated by the Project. The energy storage system will be constructed in compliance with State of Oregon structural and electrical code requirements, to the extent applicable, and in compliance with applicable site certificate conditions.

• **Project Collector Substation:** The Project collector substation will combine and step up the voltage of energy generated by the Project to the desired transmission voltage via the Project’s main power transformer. The substation will be located on a graveled, fenced area within the Site Boundary near a transmission line corridor (the anticipated location is shown on Figure C-4). Transformers will use non-polychlorinated biphenyl oil. Additional substation equipment may include circuit-breakers, electrical buses and insulators, disconnect switches, relaying, battery and charger, surge arresters, alternating current and direct current supplies, control enclosure, metering and control equipment, grounding, and associated control wiring. Any additional equipment will be located within the fenced substation area.

• **Switchyard Substation:** A switchyard substation will likely be constructed adjacent to the Project collector substation but will be separately fenced. The switchyard will be owned and operated by the utility the Project interconnects with (e.g., Umatilla Electric Cooperative, Bonneville Power Administration, or PacifiCorp). The switchyard will be located on a graveled, fenced area and will have equipment similar to the Project collector substation but will not have a main power transformer.

• **O&M Enclosure:** The O&M enclosure will consist of a single, 20-foot-tall, 600-square-foot, dry-storage shed located near the collector substation and will include a workspace and storage area. Restroom facilities will be provided in the form of temporary portable-toilets, while any required water will be trucked in from offsite sources (see Exhibit O). Electric power will be provided via local service providers. A gravel parking and storage yard will be located adjacent to the enclosure.

• **Temporary Staging Area:** During construction, temporary staging areas located within the Site Boundary will be used to support construction, as well as store supplies and equipment. The temporary construction areas will be within the perimeter fence line. The staging areas will consist of a crushed gravel surface and will be considered a permanent impact, reclaimed at the Applicant’s discretion.
4.0 Approximate Dimensions – OAR 345-021-0010(b)(C)

OAR 345-021-0010(b)(C) The approximate dimensions of major facility structures and visible features.

The most notable features of the Project are: (1) the various components of the solar array; (2) the energy storage system; (3) the substations; and (4) the O&M enclosure. Ultimately, the solar modules will not be higher than 16 feet at full tilt and will cover the majority of the Site Boundary (approximately 95 percent). Each modular energy storage units or enclosures will be approximately the size of a residential refrigerator and may be located at various locations throughout the Project or largely congregated at the Project's collector substation (within the substation fence line). The substations and O&M enclosure will be sited together, most likely on the eastern end of the Site Boundary on approximately 15 acres. The O&M enclosure will have a maximum height of 20 feet and the substations a maximum height of 30 feet. Ultimately, the vendor, size, number, and arrangement of the various components have not yet been determined.

5.0 Pipelines and Transmission Line Corridor Assessment – OAR 345-021-0010(b)(D)

OAR 345-021-0010(b)(D) If the proposed energy facility is a pipeline or a transmission line or has, as a related or supporting facility, a transmission line or pipeline that, by itself, is an energy facility under the definition in ORS 469.300, a corridor selection assessment explaining how the applicant selected the corridor(s) for analysis in the application...

The Project is not a pipeline or a transmission line, nor does it have a pipeline or a transmission line as a related or supporting facility.

6.0 Description of Pipelines and Transmission Lines – OAR 345-021-0010(b)(E)

OAR 345-021-0010(b)(E) If the proposed energy facility is a pipeline or transmission line or has, as a related or supporting facility, a transmission line or pipeline of any size:...

The Project is not a pipeline or a transmission line, nor does it have a pipeline or a transmission line as a related or supporting facility.

7.0 Project Construction Schedule – OAR 345-021-0010(b)(F)

OAR 345-021-0010(b)(F) A construction schedule including the date by which the applicant proposes to begin construction and the date by which the applicant proposes to complete...
construction. Construction is defined in OAR 345-001-0010. The applicant shall describe in this exhibit all work on the site that the applicant intends to begin before the Council issues a site certificate. The applicant shall include an estimate of the cost of that work. For the purpose of this exhibit, “work on the site” means any work within a site or corridor, other than surveying, exploration or other activities to define or characterize the site or corridor, that the applicant anticipates or has performed as of the time of submitting the application.

The Applicant anticipates beginning construction by Quarter 1 2025 (depending on when EFSC issues a site certificate for the Project) and may construct the Project in phases. The Project will be completed within 3 years of construction commencement. The typical construction timeline is 9-12 months. No work that meets the definition of construction under OAR 345-001-0010 will occur prior to site certificate issuance.
Exhibit C

Project Location and Maps

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
Exhibit C: Project Location and Maps

Table of Contents

1.0 Introduction ................................................................................................................................................................ 1
2.0 General Location – OAR 345-021-0010(1)(c)(A) ............................................................................................................ 1
3.0 Specific Location of Major and Supporting Facilities – OAR 345-021-0010(1)(c)(B) .................. 2
4.0 Energy Generation Facilities – OAR 345-021-0010(1)(c)(C) .............................................................. 3

List of Figures

Figure C-1. Vicinity Map
Figure C-2. Site Boundary (Micrositing Corridor)
Figure C-3. Energy Facilities within 10 Miles of the Site Boundary
Figure C-4. Preliminary Site Plan
<table>
<thead>
<tr>
<th><strong>Acronyms and Abbreviations</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
</tr>
<tr>
<td>OAR</td>
</tr>
<tr>
<td>Project</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct and operate the West End Solar Project (Project). Exhibit C was prepared to meet the submittal requirements for Oregon Administrative Rules (OAR) 345-021-0010(1)(c).

The Project will be a photovoltaic solar energy facility with an estimated nominal and average generating capacity\(^1\) of 50 megawatts of alternating current. The Project may include an energy storage system. Other Project components include electrical collection lines, a collector substation, switchyard substation, site access roads, one operations and maintenance enclosure, and temporary construction yards. These facilities are all described in greater detail in Exhibit B.

There are two existing transmission line rights-of-way that run southeast to northwest through the Site Boundary: Bonneville Power Administration's McNary to Roundup 230-kilovolt line and PacifiCorp's Pendleton to Hermiston 69-kilovolt line. In addition, there is a Umatilla Electric Cooperative 115-kilovolt line that parallels the eastern edge of the Site Boundary. All three existing transmission lines provide interconnection capabilities within or immediately adjacent to the Site Boundary, eliminating the need for a Project transmission line.

2.0 General Location – OAR 345-021-0010(1)(c)(A)

OAR 345-021-0010(1)(c) Information about the location of the proposed facility, including:

(A) A map or maps showing the proposed locations of the energy facility site, all related or supporting facility sites and all areas that might be temporarily disturbed during construction of the facility in relation to major roads, water bodies, cities and towns, important landmarks and topographic features, using a scale of 1 inch = 2000 feet or smaller when necessary to show detail.

The Project lies entirely in northwestern Umatilla County, approximately 1 mile east of the city limits of Hermiston, Oregon and 1 mile north of the city limits of Stanfield, Oregon. Figure C-1 shows the state and county boundaries, major roads, cities, water bodies, and other recognizable features within approximately 30 miles of the Project. Figure C-2 is a map depicting the proposed Site Boundary in relation to nearby major roads, airports, water bodies, and other geographic features. Figure C-3 shows other energy generation facilities that are known to be operating or proposed within 10 miles of the proposed Site Boundary. Figure C-4 provides a preliminary site plan within the 324-acre Site Boundary. The Applicant is requesting approval to site a range of photovoltaic energy generation and associated supporting facility technology within a micrositing corridor that is equivalent to the Site Boundary.

---

\(^1\) Based on Oregon Revised Statutes 469.300(4) definition of average generating capacity for all energy facilities besides wind and geothermal.
3.0 Specific Location of Major and Supporting Facilities – OAR 345-021-0010(1)(c)(B)

OAR 345-021-0010(1)(c)(B) A description of the location of the proposed energy facility site, the proposed site of each related or supporting facility and areas of temporary disturbance, including the total land area (in acres) within the proposed site boundary, the total area of permanent disturbance, and the total area of temporary disturbance. If a proposed pipeline or transmission line is to follow an existing road, pipeline or transmission line, the applicant shall state to which side of the existing road, pipeline or transmission line the proposed facility will run, to the extent this is known.

The proposed Site Boundary encompasses a total of approximately 324 acres of privately owned land located within Section 20, in Township 4 North and Range 29C East. The site is located just east of Canal Road, west of S. Edwards Road, and north of Feedville Road.

The 324-acre Site Boundary will encompass all Project facilities including the solar modules, collector lines, inverters, substation, switchyard substation, the energy storage system, operations and maintenance enclosure, and service roads, along with security fencing and gates. Construction laydown (also known as staging) areas will be located within the Site Boundary. The layout of the Project has not been finalized and may vary depending on project size, technology, and other constraints. Therefore, Figure C-4 provides a representative layout with a maximum solar array footprint in order to address the maximum potential impacts. The site plan is subject to change at the time of construction, with impacts less than or equal to the impacts presented in the Application for Site Certificate.

For the purpose of analyzing potential impacts to resources, the entire area within the Site Boundary (324 acres) should be considered subject to temporary and/or permanent disturbance. However, it should be noted that the right-of-way associated with the existing transmission lines that cross the Site Boundary may be temporarily disturbed during construction, but will not likely contain permanent fixtures, facilities, and equipment, with the exception of access roads and collector lines. However, this area is included as permanent disturbance to maximize flexibility in final design of the Project. The Applicant requests flexibility in the final orientation of Project components within the Site Boundary during final design before the start of construction, provided that the permanently and temporarily disturbed acres do not exceed 324 acres.
4.0 Energy Generation Facilities – OAR 345-021-0010(1)(c)(C)

OAR 345-021-0010(1)(c)(C) For energy generation facilities, a map showing the approximate locations of any other energy generation facilities that are known to the applicant to be permitted at the state or local level within the study area as defined in OAR 345-001-0010 for impacts to public services.

Figure C-3 shows the location of the Project in relation to other energy generation facilities that are known by the Applicant to currently be operating or that are proposed at the state or local level within 10 miles of the Site Boundary. Within 10 miles of the Site Boundary, there is one operating solar facility and four proposed solar facilities, a portion one operating wind farm (Echo Wind Farm), a portion of two proposed wind farms (Wheatridge Renewable Energy Facility East [currently under construction] and Nolin Hills Wind Farm). Other currently operating energy facilities in the study area include two hydropower plants and two natural gas plants, as well as several in-service transmission lines. Additional proposed facilities within the study area include two hydropower projects, two natural gas projects, four solar projects, and one proposed transmission line (Figure C-3). Figure C-3 also shows facilities identified outside of the 10-mile study area.
Figures
This page intentionally left blank
Figure C3

Energy Facilities within 10 Miles of the Site Boundary

- Proposed Site Boundary
- Analysis Area (10-mile Buffer)
- County Boundary
- State Boundary
- Transmission Line Status, kV Class
  - In Service, Under 100
  - In Service, 100-161
  - In Service, 230-300
  - In Service, 345
  - In Service, 500
  - In Service, Step-Up
- Electrical Generating Plant
  - Hydro (Operating)
  - Natural Gas (Proposed)
  - Natural Gas (Operating)
  - Solar (Proposed)
  - Solar (Operating)
  - Wind (Proposed)
  - Wind (Operating)
  - Operating Wind
  - Proposed Wind
GENERAL NOTES:
1. PV PROJECT
   • 65.746 MW-DC
2. PITCH DISTANCE: 16.4042 FEET
3. TOTAL NUMBER OF 84-MODULE TRACKERS: 1,757
4. TOTAL NUMBER OF 56-MODULE TRACKERS: 228
5. TOTAL NUMBER OF 410W MODULES: 160,356
6. TOTAL LENGTH OF PERIMETER FENCE: 15,400 LF
7. TOTAL LENGTH OF ACCESS ROAD: 18,100 LF
8. TOTAL AREA WITHIN FENCE: 285 ACRES

LEGEND
- PROJECT BOUNDARY
- PROPERTY BOUNDARY
- SINGLE AXIS TRACKER
- PROPOSED FENCE
- PROPOSED ACCESS ROAD
- SUBSTATION
- 12' WIDE ACCESS ROAD
- OVERHEAD LINE WITH 75' BUFFER ON EACH SIDE
- OVERHEAD LINE WITH 15' BUFFER ON EACH SIDE

West End Solar Project
Umatilla County, Oregon
Overall Site Plan
Figure C-4

NOT FOR CONSTRUCTION
Date: 02/21/2020
Scale: 1" = 500'

Westwood Professional Services, Inc.
Phone: (608) 821-6600 1800 Deming Way, Suite 102
Middleton, WI 53562
dwq.com
Exhibit D

Applicant’s Organizational Expertise

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
This page intentionally left blank
Table of Contents

1.0 Introduction .......................................................................................................................................................... 1

2.0 Applicant’s Previous Experience – OAR 345-021-0010(1)(d)(A) ................................................................. 1

3.0 Qualifications of Applicant’s Personnel – OAR 345-021-0010(1)(d)(B) ......................................................... 2

4.0 Qualifications of Known Contractors – OAR 345-021-0010(1)(d)(C) .......................................................... 3

5.0 Applicant’s Past Performance – OAR 345-021-0010(1)(d)(D) ..................................................................... 4

6.0 Warranty to Secure Necessary Expertise – OAR 345-021-0010(1)(d)(E) ...................................................... 4

7.0 ISO Certified Program – OAR 345-021-0010(1)(d)(F) ................................................................................. 4

8.0 Mitigation – OAR 345-021-0010(1)(d)(G) ..................................................................................................... 4

List of Tables

Table D-1. Summary of Projects Developed and/or Operated by the Applicant’s Parent Company in the United States ................................................................................................................................................ 1
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>MW</td>
<td>megawatts</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rules</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. This Exhibit D was prepared to meet the submittal requirements of Oregon Administrative Rules (OAR) 345-021-0010(1)(d). This exhibit provides evidence of compliance with the Organizational Expertise standard of OAR 345-022-0010.

2.0 Applicant’s Previous Experience – OAR 345-021-0010(1)(d)(A)

OAR 345-021-0010(1)(d) Information about the organizational expertise of the applicant to construct and operate the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0010, including:

(A) The applicant’s previous experience, if any, in constructing and operating similar facilities.

The Applicant and its parent company, Eurus Energy America Corporation, are able to demonstrate previous experience constructing and operating renewable energy generation facilities. The Applicant is based in San Diego, California and has considerable experience developing and operating renewable energy facilities throughout the United States. In an effort to expand their portfolio, the Applicant has been involved in solar generation for the last decade. The Applicant and its parent companies have developed over 700 megawatts (MW) of renewable energy generation in the United States (Table D-1) and more than 3,100 megawatts (MW) of renewable energy generation worldwide.

Table D-1. Summary of Projects Developed and/or Operated by the Applicant’s Parent Company in the United States

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Type</th>
<th>Location</th>
<th>Capacity</th>
<th>Operational Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waianae</td>
<td>Solar</td>
<td>Waianae, HI</td>
<td>27.6 MW</td>
<td>2017</td>
</tr>
<tr>
<td>Avenal</td>
<td>Solar</td>
<td>Avenal, CA</td>
<td>45 MW</td>
<td>2011</td>
</tr>
<tr>
<td>Spearville 3</td>
<td>Wind</td>
<td>Dodge City, KS</td>
<td>100.8 MW</td>
<td>2012</td>
</tr>
<tr>
<td>Combine Hills II</td>
<td>Wind</td>
<td>Milton-Freewater, OR</td>
<td>63 MW</td>
<td>2009</td>
</tr>
<tr>
<td>Bull Creek</td>
<td>Wind</td>
<td>Borden County, TX</td>
<td>180 MW</td>
<td>2009</td>
</tr>
<tr>
<td>Combine Hills I</td>
<td>Wind</td>
<td>Milton-Freewater, OR</td>
<td>41 MW</td>
<td>2003</td>
</tr>
<tr>
<td>California Desert</td>
<td>Wind</td>
<td>Tehachapi and Mojave, CA</td>
<td>250 MW</td>
<td>1987-2004</td>
</tr>
</tbody>
</table>
3.0 Qualifications of Applicant's Personnel – OAR 345-021-0010(1)(d)(B)

OAR 345-021-0010(1)(d)(B) The qualifications of the applicant’s personnel who will be responsible for constructing and operating the facility, to the extent that the identities of such personnel are known when the application is submitted.

Hidenori Mitsuoka, President and Chief Executive Officer

Mr. Mitsuoka joined Eurus Energy America as President and CEO in September 2021. Prior to this role, Mr. Mitsuoka served as Managing Director of Eurus Energy Europe. Previously, Mr. Mitsuoka served as General Manager, Overseas Business Development of Eurus Energy Holdings Corporation (Eurus Energy Europe’s parent company and a joint venture between Tokyo Electric Power Company and Toyota Tsusho Corporation), and has worked for wind and solar projects in Asia, Oceania, and Africa. Mr. Mitsuoka has 20 years of experience in the wind energy industry from all over the world. In 1999, he served 5 years as the vice president of wind power development in the United States for Tomen Power Corporation in San Diego. In 2008, he served as director wind power developments in Europe for Eurus Energy UK in London for another 4.5 years. Mr. Mitsuoka graduated from Waseda University in Japan in 1989 with a degree in law.

Nick Henriksen, Vice President, Development

Nick Henriksen joined Eurus Energy America in May 2015 as Vice President, Development. He is responsible for managing the project development team, strategic direction, existing project execution, and new business development for both wind and solar opportunities. Mr. Henriksen also worked at Eurus Energy America from 2007-2010.

Prior to his current position, Mr. Henriksen worked for Gamesa, a Spanish wind turbine manufacturer in both turbine sales and project development roles. As a sales engineer, Mr. Henriksen was responsible for relationship management for key sales accounts throughout the United States. As part of Gamesa’s development arm, Gamesa Energy, Mr. Henriksen also led a multifunction team developing projects within the United States, Mexico, and Canada. Mr. Henriksen graduated from Haverford College in 2002 where he received his Bachelor of Arts in History and Psychology. He earned a Master of Arts in International Affairs at Johns Hopkins University’s Paul H. Nitze School of Advanced International Studies (SAIS), concentrating in International Economics and Japan Studies. While at SAIS, Mr. Henriksen worked at Tokyo Electric Power Company, one of Eurus’ shareholders.

Sergio Moya, Assistant Vice President, Development Engineering

Mr. Moya’s responsibilities as Assistant Vice President, Development Engineering at Eurus Energy include coordinating and managing project engineering, interconnection applications, procurement,
permits, BOP contracting, construction management, and project planning and scheduling for both wind and solar projects.

Mr. Moya has 15 years of construction management experience. Before joining Eurus Energy, Mr. Moya worked in the Energy Division of Mortenson Construction where he provided pre-construction, construction and equipment management support for 27 wind projects across the United States. Previously, Mr. Moya performed different project management and estimating roles in connection with the construction of several large commercial buildings, industrial facilities, hospitals, and stadiums. Mr. Moya received a Bachelor of Science in Civil Engineering from the Autonomous University of Guadalajara in Mexico. Mr. Moya also received a Master of Science degree in Construction Management from Arizona State University and a Master of Engineering degree from Stanford University.

Anthony Cresap, Senior Counsel

Mr. Cresap manages the company's matters relating to regulatory compliance, permitting, real estate, and environmental law. He also works in general corporate compliance and all project transactional matters. Mr. Cresap joined Eurus in 2007, bringing more than 15 years of experience as a land use attorney and planner and a substantial working knowledge of project development and public agency operating processes. He has worked in both the public and private sectors.

From 2015 to 2018, Mr. Cresap was assigned to work in the Amsterdam offices of Eurus Energy Europe, where he managed general corporate legal matters, and also acted as lead in-house counsel in the acquisition of 12 windfarms. Mr. Cresap received his law degree from the University of Wisconsin Law School (emphasizing public, environmental and administrative law), and a Bachelor of Arts from Columbia University (majoring in geography and environmental planning), and studied geography, planning and economics at the London School of Economics in the UK.

4.0 Qualifications of Known Contractors – OAR 345-021-0010(1)(d)(C)

OAR 345-021-0010(1)(d)(C) The qualifications of any architect, engineer, major component vendor, or prime contractor upon whom the applicant will rely in constructing and operating the facility, to the extent that the identities of such persons are known when the application is submitted.

The Applicant has not yet selected engineers, manufactures, or contractor. However, the Applicant has relationships with premier civil and electrical engineers, solar module and battery manufacturers, and contractor firms. Vendors and contractors will be selected from a highly qualified pool of candidates for final engineering and construction of the Project.
5.0 Applicant’s Past Performance – OAR 345-021-0010(1)(d)(D)

OAR 345-021-0010(1)(d)(D) The past performance of the applicant, including but not limited to the number and severity of any regulatory citations in constructing or operating a facility, type of equipment, or process similar to the proposed facility.

Neither the Applicant nor its parent company, Eurus Energy America Corporation, has received any complaints or citations in connection with the development, construction, or operation of any of its solar projects.

6.0 Warranty to Secure Necessary Expertise – OAR 345-021-0010(1)(d)(E)

OAR 345-021-0010(1)(d)(E) If the applicant has no previous experience in constructing or operating similar facilities and has not identified a prime contractor for construction or operation of the proposed facility, other evidence that the applicant can successfully construct and operate the proposed facility. The applicant may include, as evidence, a warranty that it will, through contracts, secure the necessary expertise.

The Applicant has the necessary experience of constructing and operating large scale solar facilities. Therefore, this rule is not applicable.

7.0 ISO Certified Program – OAR 345-021-0010(1)(d)(F)

If the applicant has an ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate the facility according to that program, a description of the program.

The Applicant does not propose to design, construct, and operate the Project according to an International Organization for Standardization (ISO) 9000 or ISO 14000 certified program.

8.0 Mitigation – OAR 345-021-0010(1)(d)(G)

OAR 345-021-0010(1)(d)(G) If the applicant relies on mitigation to demonstrate compliance with any standards of Division 22 or 24 of this chapter, evidence that the applicant can successfully complete such proposed mitigation, including past experience with other projects and the qualifications and experience of personnel upon whom the applicant will rely, to the extent that the identities of such persons are known at the date of submittal.
Mitigation for the construction, operation, and maintenance of the Project may be required, in particular for potential impacts to wildlife habitat.

Applicant and its parent company have experience coordinating with agencies and stakeholders and identifying solutions to satisfy the needs of multiple stakeholder groups. The Applicant will develop and implement meaningful mitigation projects and will engage with third parties with specific mitigation experience to design and execute these projects.
Exhibit E
Permits for Construction and Operation

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
Exhibit E: Permits for Construction and Operation

Table of Contents

1.0 Introduction ................................................................................................................................................................ 1

2.0 Identification and Description of Required Permits – OAR 345-021-0010(1)(e)(A)(B) ........................................ 1
   2.1 Federal Permits ..................................................................................................................................................... 1
   2.2 State Permits Not Federally Delegated ....................................................................................................... 2
   2.3 State Permits Federally Delegated ................................................................................................................ 4
   2.4 Third Party Federally Delegated Permits ....................................................................................................... 4
   2.5 Local Permits ......................................................................................................................................................... 4

3.0 Permit Applications Not Federally Delegated – OAR 345-021-0010(1)(e)(C)(i)(ii) .............................................. 5

4.0 Permit Applications Federally Delegated – OAR 345-021-0010(1)(e)(D) ......................................................... 6

5.0 Third Party State or Local Permits – OAR 345-021-0010(1)(e)(E) ................................................................. 6


7.0 Monitoring – OAR 345-021-0010(1)(e)(G) ....................................................................................................... 8

List of Tables

Table E-1. Federal Permits .................................................................................................................................................. 1
Table E-2. State Permits Not Federally Delegated ..................................................................................................... 2
Table E-3. State Permits Federally Delegated .............................................................................................................. 4
Table E-4. Local Permits ....................................................................................................................................................... 5
**Acronyms and Abbreviations**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACDP</td>
<td>Air Contaminant Discharge Permit</td>
</tr>
<tr>
<td>Applicant</td>
<td>Eurus Energy America, LLC</td>
</tr>
<tr>
<td>DOGAMI</td>
<td>Department of Geology and Mineral Industries</td>
</tr>
<tr>
<td>EFSC</td>
<td>Energy Facility Siting Council</td>
</tr>
<tr>
<td>ESA</td>
<td>Endangered Species Act</td>
</tr>
<tr>
<td>FAA</td>
<td>Federal Aviation Administration</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rule</td>
</tr>
<tr>
<td>ODEQ</td>
<td>Oregon Department of Environmental Quality</td>
</tr>
<tr>
<td>ODOT</td>
<td>Oregon Department of Transportation</td>
</tr>
<tr>
<td>ORS</td>
<td>Oregon Revised Statute</td>
</tr>
<tr>
<td>OWRD</td>
<td>Oregon Water Resources Department</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
<tr>
<td>SHPO</td>
<td>State Historic Preservation Office</td>
</tr>
<tr>
<td>UCDC</td>
<td>Umatilla County Development Code</td>
</tr>
<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>WPCF</td>
<td>Water Pollution Control Facilities</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit E was prepared to meet the submittal requirements of Oregon Administrative Rule (OAR) 345-021-0010(1)(e) paragraphs (A) through (G). While OAR 345 Division 22 does not provide an approval standard specific to Exhibit E, permits identified in this exhibit are identified in each applicable exhibit.

2.0 Identification and Description of Required Permits – OAR 345-021-0010(1)(e)(A)(B)

OAR 345-021-0010(1)(e) Information about permits needed for construction and operation of the facility, including:

(A) Identification of all federal, state and local government permits related to the siting of the proposed facility, a legal citation of the statute, rule or ordinance governing each permit, and the name, mailing address, email address and telephone number of the agency or office responsible for each permit.

(B) A description of each permit, the reasons the permit is needed for construction or operation of the facility and the applicant’s analysis of whether the permit should or should not be included in and governed by the site certificate.

2.1 Federal Permits

Table E-1 identifies and describes the federal permits potentially required for construction and operation of the Project, as required to meet the submittal required of OAR 345-021-0010(1)(e) paragraphs (A) and (B).

<table>
<thead>
<tr>
<th>Permit</th>
<th>Agency Name and Contact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice of Proposed Construction or Alteration (Form 7460-1)</td>
<td>Federal Aviation Administration (FAA) Attn: Dan Shoemaker Airspace Specialist Seattle Obstruction Evaluation Group 2200 S 216th Street Des Moines, WA 98198 (206) 231-2989 <a href="mailto:Dan.shoemaker@faa.gov">Dan.shoemaker@faa.gov</a></td>
<td>Federal Aviation Act of 1958 (14 USC § 44718); 14 CFR § 77 Description: Required for construction of any object over 200 feet above ground level at the location of the proposed action, and for construction of structures within specified distances of runways or helipads. No permit is issued by the FAA. Therefore, this permit should not be included in and governed by the Site Certificate.</td>
</tr>
</tbody>
</table>
Table E-1. Federal Permits

<table>
<thead>
<tr>
<th>Permit</th>
<th>Agency Name and Contact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAA</td>
<td>Attn: Dan Shoemaker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Airspace Specialist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seattle Obstruction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evaluation Group</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2200 S 216th Street</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Des Moines, WA 98198</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(206) 231-2989</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:Dan.shoemaker@faa.gov">Dan.shoemaker@faa.gov</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Federal Aviation Act of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1958 (14 USC § 44718;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14 CFR § 77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description: Submission</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of the Supplemental</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Notice of Actual</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction or Altera-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tion form must be filed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>within five days after</td>
<td></td>
</tr>
<tr>
<td></td>
<td>construction reaches</td>
<td></td>
</tr>
<tr>
<td></td>
<td>its greatest height as</td>
<td></td>
</tr>
<tr>
<td></td>
<td>specified in the No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hazard Determination.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No permit is issued by</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the FAA. Therefore, this</td>
<td></td>
</tr>
<tr>
<td></td>
<td>permit should not be</td>
<td></td>
</tr>
<tr>
<td></td>
<td>included in and governed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>by the Site Certificate.</td>
<td></td>
</tr>
</tbody>
</table>

2.2 State Permits Not Federally Delegated

Table E-2 identifies and describes the state permits not federally delegated that are potentially required for construction and operation of the Project, as required to meet the submittal required of OAR 345-021-0010(1)(e) paragraphs (A) and (B).

Table E-2. State Permits Not Federally Delegated

<table>
<thead>
<tr>
<th>Permit</th>
<th>Agency Name and Contact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Facility Site Certificate</td>
<td>Oregon Department of Energy and Energy Facility Siting Council (EFSC) Attn: Kellen Tardaewether 550 Capitol Street NE #1 Salem, OR 97301 (503) 373-0214 <a href="mailto:Kellen.Tardaewether@oregon.gov">Kellen.Tardaewether@oregon.gov</a></td>
<td>Oregon Revised Statutes (ORS) 469.300 et seq.; OAR Chapter 345, Divisions 1, 21-24 Description: This Site Certificate is the subject of this Application for Site Certificate.</td>
</tr>
<tr>
<td>Oversize Load Movement Permit/Load Registration</td>
<td>Oregon Department of Transportation (ODOT) Attn: Thomas Lapp ODOT District 12 Permit Specialist 1327 SE Third Street Pendleton, OR 97801 (541) 278-3450</td>
<td>ORS 818.030; OAR Chapter 734, Division 82 Description: Authorization for oversized loads. Movement of construction cranes and other equipment and materials may require this permit. If required, the Applicant’s third-party contractor will obtain the permit directly from ODOT. Therefore, this permit should not be included in and governed by the Site Certificate.</td>
</tr>
</tbody>
</table>
### Table E-2. State Permits Not Federally Delegated

<table>
<thead>
<tr>
<th>Permit</th>
<th>Agency Name and Contact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaeological Excavation Permit</td>
<td>Oregon Parks and Recreation Department, State Historic Preservation Office (SHPO) SHPO Clearinghouse 724 Summer Street NE, Suite C Salem, OR 97310 <a href="mailto:orshpo.clearance@oregon.gov">orshpo.clearance@oregon.gov</a></td>
<td>ORS Chapter 97, 358, and 390; OAR Chapter 736, Division 51 Description: Ground-disturbing activity that may affect a known or unknown archaeological resource on public or private lands requires a permit issued by the Oregon Parks and Recreation Department. No ground-disturbing activity is planned to affect archaeological resources. If required, the Applicant’s third-party contractor will obtain this permit directly from the SHPO. Therefore, this permit should not be included in and governed by the Site Certificate.</td>
</tr>
<tr>
<td>Building Permit for construction in Umatilla County (Issued by the State Building Codes Agency)</td>
<td>Oregon Department Consumer and Business Services, Building Codes Division Attn: Permit Technician 800 SE Emigrant Ave, Suite 360 Pendleton, OR 97801 (541) 276-7814</td>
<td>OAR 734, Division 51 Description: A building permit is required prior to beginning construction of the Project. Umatilla County does not have its own building department, so building permits are issued by the Oregon State Building Codes Agency. A building permit will be obtained by the third-party construction contractor prior to construction of each component for which a building permit would be required; therefore, this permit should not be included in or governed by the Site Certificate.</td>
</tr>
<tr>
<td>Aeronautical Study of Obstruction Standards</td>
<td>Oregon Department of Aviation Matt Lawyer 3040 25th Street, SE Salem, OR 97302-1125 (503) 378-4880</td>
<td>OAR Chapter 738, Division 70 Description: The Oregon Department of Aviation provides an aeronautical study and determination letter following review of Form 7460-1 for structures greater than 500 feet above ground surface. No permit is issued by the Oregon Department of Aviation. The aeronautical study is useful in understanding the 7460-1 process but is outside EFSC jurisdiction. Therefore, this permit should not be included in and governed by the Site Certificate.</td>
</tr>
</tbody>
</table>
2.3 State Permits Federally Delegated

Table E-3 identifies and describes the state permits federally delegated that are required for construction and operation of the Project, to meet the submittal requirements of OAR 345-021-0010(1)(e) paragraphs (A) and (B).

<table>
<thead>
<tr>
<th>Permit</th>
<th>Agency Name and Contact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPDES Stormwater Discharge Permit 1200-C</td>
<td>ODEQ Attn: Jackie Ray Eastern Region 800 SE Emigrant, Suite 330 Pendleton, OR 97801 (541) 278-4605 <a href="mailto:Ray.Jackie@deq.state.or.us">Ray.Jackie@deq.state.or.us</a></td>
<td>Clean Water Act, Section 402 (33 USC § 1342); 40 CFR § 122; ORS 468 and 468B; OAR Chapter 340, Division 45 Description: NPDES permit is required for construction activities that will disturb more than one acre of land. The Applicant will obtain this permit directly from ODEQ as it is outside the jurisdiction of the Council and therefore should not be included in or governed by the Site Certificate.</td>
</tr>
</tbody>
</table>

2.4 Third Party Federally Delegated Permits

The Applicant may rely on its construction contractors to obtain some required federally delegated permits. The federally designated ACDP may be obtained by the construction contractor and is described in Section 2.3.

2.5 Local Permits

Table E-4 identifies and describes the local permits required for construction and operation of the Project, as required to meet the submittal required of OAR 345-021-0010(1)(e) paragraphs (A) and (B).
### Table E-4. Local Permits

<table>
<thead>
<tr>
<th>Permit</th>
<th>Agency Name and Contact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditional Use Permit and Zoning Permit</td>
<td>Umatilla County Department of Land Use Planning</td>
<td>Umatilla County Comprehensive Plan and Development Code, Section 152.060 Description: The Applicant elects to demonstrate compliance with local land use criteria through the Site Certificate process. The Applicant elects to obtain a Council determination under ORS Chapter 469.504(1)(b). Under ORS 469.401(3), following issuance of the Site Certificate, the County, upon the Applicant’s submission or the proper application and fee, shall issue the permits addressed in the Site Certificate, subject only to the conditions set forth in the Site Certificate and without hearings or other proceedings.</td>
</tr>
<tr>
<td>Installation of Utilities on County and Public Roads Permit and Construction of Road Approaches and Private Road Crossings Permit</td>
<td>Umatilla County Public Works Department</td>
<td>ORS 374.305 to 374.325 Description: A Utility Crossing permit is required any time a utility is constructed within or across a public right-of-way. Access Permits may be required if the Project access roads intersect with public roads, or if necessary, upgrades to existing access roads affect a public road. These permits will be obtained by the construction contractor prior to construction. Therefore, this permit should not be included in or governed by the Site Certificate.</td>
</tr>
</tbody>
</table>

### 3.0 Permit Applications Not Federally Delegated – OAR 345-021-0010(1)(e)(C)(i)(ii)

**OAR 345-021-0010(1)(e)(C)** For any state or local government agency permits, licenses or certificates that are proposed to be included in and governed by the site certificate, evidence to support findings by the Council that construction and operation of the proposed facility will comply with the statutes, rules and standards applicable to the permit. The applicant may show this evidence:

(i) In Exhibit J for permits related to wetlands.

No impacts to wetlands and waters of the state or of the U.S. are anticipated. Therefore, no permits related to wetlands are required. Please see Exhibit J for further details, in accordance with OAR 345-021-0010(1)(e)(C)(i).
(ii) In Exhibit O for permits related to water rights.

Water for construction and operation, including periodic solar panel washing, will be obtained from an existing municipal water source with valid water rights and trucked to the site. Please see Exhibit O for further details.

4.0 Permit Applications Federally Delegated – OAR 345-021-0010(1)(e)(D)

OAR 345-021-0010(1)(e)(D) For federally-delegated permit applications, evidence that the responsible agency has received a permit application and the estimated date when the responsible agency will complete its review and issue a permit decision.

The U.S. Environmental Protection Agency has delegated authority to the ODEQ to issue NPDES stormwater discharge permits for construction and operations activities. The Applicant will obtain an NPDES permit prior to construction. The permit would authorize the discharge of construction storm water from construction activities that disturb more than 1 acre of land. The Applicant will obtain a NPDES permit based on final design directly from the ODEQ as it is outside the jurisdiction of EFSC.

5.0 Third Party State or Local Permits – OAR 345-021-0010(1)(e)(E)

OAR 345-021-0010(1)(e)(E) If the applicant relies on a state or local government permit or approval issued to a third party, identification of any such third-party permit and for each:

(i) Evidence that the applicant has, or has a reasonable likelihood of entering into, a contract or other agreement with the third party for access to the resource or service to be secured by that permit.

The Applicant typically relies on its construction contractors to obtain third-party permits. The Applicant maintains relationships with reputable construction firms with a successful track record.

(ii) Evidence that the third party has, or has a reasonable likelihood of obtaining, the necessary permit.

The construction contractor will be a reputable firm with proven experience in the industry that has a reasonable likelihood of securing permits and completing compliant work.

(iii) An assessment of the impact of the proposed facility on any permits that a third party has obtained and on which the applicant relies to comply with any applicable Council standard.
The Applicant has experience working in various permitting regimes across the United States, and has worked with experienced solar power contractors for projects such as the 20-MW Sun City Solar Facility, 19-MW Sand Drag Solar Facility, and the 6-MW Avenal Park Solar Facility located in California, which all commenced operations in 2011. The contractors utilized had experience constructing renewable energy facilities, including obtaining building permits and sewage disposal permits in relevant jurisdictions. The Applicant would hire a contractor of similar caliber and experience for the proposed Project.

The Applicant may rely on its third-party contractors to obtain some required permits. Additional permits that may be obtained either by the contractor or other designated third party include NPDES 1200-A permit, an Umatilla County Conditional Use Permit and Zoning Permit, Oversize Load Movement Permit, and an Umatilla County Road Access Permit.

A General Water Pollution Control Permit WPCF-1000 from ODEQ would be required for the management of wastewater collection, treatment, control, and disposal for any concrete batch plant or gravel quarry. As no on site concrete batch plant or gravel quarry will be used, no General Water Pollution Control Permit WPCF-1000 will be required.

DOGAMI requires an Operating Permit for material extractions that exceed 1 acre of disturbance or 5,000 cubic yards of excavation over a period of a year. As no onsite gravel quarry will be used no Operating Permit will be required.

The Applicant understands that an Oversize Load Movement Permit from ODOT may be required for the movement of cranes and construction materials to the Project site, and a Road Access Permit from Umatilla County if Project access roads intersect with public roads or if necessary, upgrades to existing access roads affect a public road. The contractors would be responsible for acquiring both of these permits prior to construction.


OAR 345-021-0010(1)(e)(F) If the applicant relies on a federally-delegated permit issued to a third party, identification of any such third-party permit and for each:

(i) Evidence that the applicant has, or has a reasonable likelihood of entering into, a contract or other agreement with the third party for access to the resource or service to be secured by that permit.

(ii) Evidence that the responsible agency has received a permit application.

(iii) The estimated the date when the responsible agency will complete its review and issue a permit decision.

The Applicant will not rely on a federally-delegated permit issued to a third party.
7.0 Monitoring – OAR 345-021-0010(1)(e)(G)

OAR 345-021-0010(1)(e)(G) The applicant’s proposed monitoring program, if any, for compliance with permit conditions.

The Applicant will comply with monitoring requirements from the EFSC and other jurisdictional agencies responsible for granting Project permits or approvals. Specific monitoring measures for compliance with permit conditions are discussed in the relevant exhibits.
This page intentionally left blank
Exhibit F will be completed when the Oregon Department of Energy authorizes the Applicant to do so, after completeness review.
This page intentionally left blank
Table of Contents

1.0 Introduction ................................................................................................................................................................1

2.0 Materials Inventory – OAR 345-021-0010(1)(g)(A) .................................................................................. 1

  2.1 Construction Materials .......................................................................................................................... 1

  2.2 Operational Materials Inventory ........................................................................................................... 4

3.0 Hazardous Materials Handling and Management – OAR 345-021-0010(1)(g)(B) ......................... 6

4.0 Non-Hazardous Waste Management – OAR 345-021-0010(1)(g)(C) ................................................... 7

List of Tables

Table G-1. Inventory of Construction Materials .......................................................................................... 3

Table G-2. Materials Inventory for Operations ......................................................................................... 5
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rules</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant) proposes to construct and operate the West End Solar Project (Project), a solar generating facility and related or supporting facilities in Umatilla County, Oregon. This Exhibit G was prepared to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(g).

2.0 Materials Inventory – OAR 345-021-0010(1)(g)(A)

OAR 345-021-0010(1)(g) A materials analysis including:

OAR 345-021-0010(1)(g)(A) An inventory of substantial quantities of industrial materials flowing into and out of the proposed facility during construction and operation.

2.1 Construction Materials

Construction will include land clearing; minimal grading; installation of concrete foundations for a collector substation; switchyard substation; construction of pads for transformers, inverters, and energy storage containers; construction of an operations and maintenance enclosure; and installation of electrical controls and associated components. Typical materials needed for construction of the Project include rock and gravel aggregate, water, cement, steel, aluminum, copper, and assorted electrical equipment and materials, as well as smaller quantities of other materials such as fuels and oils. Rock and aggregate materials will be needed for access road construction, substation, and for other permanent and temporary gravel-surfaced areas. Aggregate suppliers in the vicinity of the Project will be determined by the construction contractor.

In addition to the above listed construction materials, the Project will include photovoltaic solar modules that use mono- or poly-crystalline silicon cells that will be supported by galvanized steel and aluminum components. The crystalline silicon cells are insulated and protected from the elements on both sides by sheets of polymers and glass. The glass is tempered and covered with a protective plastic layer that gives the glass added strength and ensure that if the glass were to crack or break it would stay intact. Thus, damaged panels generally do not break into pieces but remain together in one piece. Therefore, the modules will be inert and will not introduce any hazardous materials to the Project. The photovoltaic modules will measure approximately 16 feet in height when tilted on a single-axis tracking system. The length of each tracker row may vary by topography. The tracker system, will be specifically designed to withstand wind, snow, and seismic loads anticipated at the site. The number of modules that the tracker can hold and the actual number of tracker systems will depend on the system selected. Each tracker system will be supported by multiple steel posts, which could be round hollow posts or pile-type posts (i.e., H-pile, C-pile, S-pile) or helical. Post depth may vary depending on soil conditions, but the posts are typically installed 4 to 8 feet below the surface and protrude 4 to 7 feet above grade. Posts at the
end of tracker rows are usually installed to greater depth to withstand wind uplift. In some soil conditions, concrete backfill is required for each post.

The Applicant is considering including a lithium-ion energy storage system. The use of this type of energy storage system may require additional materials onsite. The batteries will be manufactured offsite and will be shipped to the site as self-enclosed prefabricated modules, which will be installed and connected onsite. Lithium-ion battery systems are either air or liquid cooled. Liquid cooled lithium-ion batteries use coolant similar to automotive antifreeze. The coolant, if used, is recirculated through a closed system to cool the batteries. Each prefabricated module will contain a group of lithium-ion battery packs electrically connected inside the enclosure. Each enclosure measures roughly 8 x 10 x 10 feet (w, d, h). It is estimated that 200 battery enclosures will be required for the 70-megawatt storage system. However, the final energy storage design and system has not been selected, and therefore it is not possible to determine which materials and in what quantities, including any solutions associated with fire suppression systems, might be present onsite. The Applicant will provide materials estimates to the Oregon Department of Energy in coordination with the relevant authorities, including the Umatilla County Fire Department, once it is known what quantities of batteries and other materials will be needed to achieve the desired storage duration. The Applicant will provide an estimate of both hazardous and nonhazardous materials before construction as a condition of approval of the Site Certificate.

During construction, temporary trailers and storage facilities will be required and most materials that are not in use will be stored in temporary staging areas within the Site Boundary. Industrial materials flowing into the Project include fuels and lubricants associated with construction equipment. These materials will be stored in the temporary staging areas. Oils, lubricants, and solvents will be stored within covered containers such as work trailers and Conex boxes to prevent incidental spills or drips from reaching the environment. Fuels will be stored in mobile, double-walled tanks to be parked in the construction staging area. The primary location for fueling will occur offsite at local gas stations, and the mobile tanks will only be used to fuel equipment that cannot travel off-site (such as excavators). On-site refueling will occur only within the staging areas.

A majority of material that will be used at the Project site will be rock and gravel to be used for road and parking construction. Water will be used for site preparation including dust suppression. Volumes of water are discussed in Exhibit O. The solar photovoltaic modules and steel racking will also be a part of the material brought to the site.

Table G-1 provides a list of industrial materials that would be used during Project construction, based on current engineering estimates. This is a rough estimate, and actual quantities may vary. Solid wastes generated and flowing out of the Project during construction are outlined in Exhibit V.
## Table G-1. Inventory of Construction Materials

<table>
<thead>
<tr>
<th>Material</th>
<th>Purpose</th>
<th>Ultimate Disposition</th>
<th>Units</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate Base</td>
<td>Access road base; substation and operations and maintenance enclosure</td>
<td>Remains on-site as yard rock until useful life of Project has expired</td>
<td>tons</td>
<td>16,200</td>
</tr>
<tr>
<td>Concrete</td>
<td>Foundations for inverters, transformers, energy storage system, substation, operations and maintenance enclosure</td>
<td>Remains on-site as structure footings until decommissioning then will be removed within 3 feet of ground surface</td>
<td>cubic yards</td>
<td>200</td>
</tr>
<tr>
<td>Concrete</td>
<td>Concrete backfill for solar module posts</td>
<td>Remains on-site as structure footings until decommissioning then will be removed within 3 feet of ground surface</td>
<td>cubic yards</td>
<td>2,000</td>
</tr>
<tr>
<td>Steel</td>
<td>Steel posts supporting solar modules</td>
<td>Remains on-site until decommissioning then will be removed within 3 feet of ground surface</td>
<td>tons</td>
<td>2,500</td>
</tr>
<tr>
<td>Steel</td>
<td>Battery storage containers and battery racks for lithium-ion battery technology</td>
<td>Remains on-site until decommissioning</td>
<td>tons</td>
<td>225</td>
</tr>
<tr>
<td>Solar photovoltaic modules, steel mounting racks, and steel trackers</td>
<td>Photovoltaic modules</td>
<td>Remains on-site until decommissioning</td>
<td>Modules</td>
<td>300,000</td>
</tr>
<tr>
<td>Electrical cabling (underground)</td>
<td>Underground collector line cabling</td>
<td>Remains on-site until decommissioning</td>
<td>miles</td>
<td>15</td>
</tr>
<tr>
<td>Inverters</td>
<td>Convert direct current output from photovoltaic modules to alternating current</td>
<td>Remains on-site until decommissioning</td>
<td>inverters</td>
<td>36</td>
</tr>
<tr>
<td>Transformers</td>
<td>Main step-up and distributed pad mounted</td>
<td>Remains on-site until decommissioning</td>
<td>transformers</td>
<td>40</td>
</tr>
<tr>
<td>Substation</td>
<td>Step-up voltage for interconnection</td>
<td>Remains on-site until decommissioning</td>
<td>Various pieces of equipment described in Section 3.0, Exhibit B</td>
<td></td>
</tr>
</tbody>
</table>
### 2.2 Operational Materials Inventory

During operations, industrial materials such as grease, oil, solvents, and cleaners will be used and stored on site. Some electrical equipment such as transformers, breakers and switches contain grease for lubrication and dielectric mineral oils for cooling. These greases and oils are contained within the electrical equipment. During periods of maintenance and or repairs specialty contractors and equipment will be hired who will perform any necessary work while at the same time containing, changing and shipping the greases and oils out for recycling and or disposal.

All greases, oils, solvents, cleaners, herbicides and pesticides will be stored in an operations and maintenance enclosure. Quantities of each product will very throughout the year with none exceeding 5 gallons. These greases, oils, solvents and cleaners needed for maintenances and repairs will be delivered by a licensed contractor on an as-needed basis.

As part of normal operations solar modules and electrical equipment will need to be repaired or replaced over the lifetime of the project. Minor maintenances, repairs and replacement events will generate less material to be recycled or disposed of than larger events. The project will establish service provers that will recycle and or dispose of all panels, equipment and spent consumable such
as greasy/oily rags, empty solvent containers in accordance with all federal, state and municipal regulations and industry best practices.

Solar modules will require periodic washing to minimize the effects of solar module dust and dirt on energy production (referred to as soiling). Water quantities estimated for operations are discussed in Exhibit O.

If the Project decides to include a lithium-ion energy storage system, the lithium-ion batteries will require a regular change out of batteries as they degrade over time. Lithium-ion batteries will be replenished at a rate dependent on usage. For example, batteries cycle frequently will degrade faster than ones that are used less often. For this analysis, it is assumed that the battery will be fully discharged each day and that all batteries will need to be replaced every 10 years, or three times over the life of the Project (30 years). This assumption overestimates the number of batteries that will be replaced for the duration of the Project's life, since not all batteries will be replaced during each replenishment cycle (e.g., fewer batteries will need replacing early in the Project's life). Table G-2 provides a list of materials estimated for use during operation and maintenance of the Project. Actual quantities may vary.

**Table G-2. Materials Inventory for Operations**

<table>
<thead>
<tr>
<th>Material</th>
<th>Purpose</th>
<th>Ultimate Disposition</th>
<th>Units</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformer Oil</td>
<td>Substation transformers</td>
<td>Within transformer boxes for cooling. (No extra oil stored outside of transformers. Additional oil only required due to failure, provided on an as-needed basis.)</td>
<td>Gallons</td>
<td>15,000</td>
</tr>
<tr>
<td>Transformer Oil</td>
<td>Pad-mounted transformers in solar array areas</td>
<td>Within transformer boxes for cooling. (No extra oil stored outside of transformers. Additional oil only required due to failure, provided on an as-needed basis.)</td>
<td>Gallons</td>
<td>9,900 (550 gallons per station)</td>
</tr>
<tr>
<td>Light lubrication oil</td>
<td>Small equipment lubrication</td>
<td>Unused oil to be recycled if possible or disposed of at appropriate facility</td>
<td>Gallons</td>
<td>5</td>
</tr>
<tr>
<td>Non-petroleum based solvents</td>
<td>Cleaning of equipment</td>
<td>Unused solvents to be recycled if possible or disposed of at appropriate facility</td>
<td>Gallons</td>
<td>5</td>
</tr>
</tbody>
</table>
### 3.0 Hazardous Materials Handling and Management – OAR 345-021-0010(1)(g)(B)

**OAR 345-021-0010(1)(g)(B)** The applicant’s plans to manage hazardous substances during construction and operation, including measures to prevent and contain spills.

As shown in Tables G-1 and G-2, hazardous materials used at the Project may include fuels, paint, spent oils, solvents, and pesticides. During construction, small quantities of a few hazardous materials may be utilized or stored in the construction yards. Such materials may include cleaners, insecticides or herbicides, paint, or solvents. None will be present in substantial, reportable quantities, the amounts present (if any) will be no greater than household quantities\(^1\) of up to a few gallons each.

The hazardous materials used during the Project’s construction and maintenance will be stored according to the U.S. Environmental Protection Agency and U.S. Occupational Safety and Health Administration regulation, as applicable. Safety data sheets of each hazardous material will be stored onsite. Project personnel will receive guidelines and will be trained on the handling, storage, transport, and disposal of hazardous materials.

The construction contractor will be required to develop a Spill Prevention, Control and Countermeasure Plan prior to the beginning of construction of the Project. This plan would apply during construction and outlines preventative measures and practices to reduce the likelihood of an accidental release of a hazardous or regulated liquid and, in the event such a release occurs, to expedite the response to and the remediation of the release. Disposal practices for hazardous waste materials will follow applicable regulations and will depend on the type of waste. Any oily waste, rags, or dirty or hazardous solid waste will be collected in sealable drums at the construction yards, to be removed for recycling or disposal by a licensed contractor.

In the unlikely event of an accidental hazardous materials release, any spill or release will be cleaned up and the contaminated soil or other materials disposed of and treated according to applicable regulations. See Exhibit CC for a listing of applicable regulations. Spill kits containing

---

\(^1\) “Household quantity” refers to container sizes designed for consumer use, which are sized such that each container would hold less than a reportable quantity of any constituent hazardous chemical.
items such as absorbent pads will be located on equipment and in on site temporary storage facilities to respond to accidental spills, if any were to occur. Employees handling hazardous materials will be instructed in the proper handling and storage of these materials, as well as to the locations of spill kits.

Regarding battery storage, as stated in Section 2.1, the Applicant will provide materials estimates to the Oregon Department of Energy in coordination with the relevant authorities, including the Umatilla County Fire Department, once it is known what quantities of batteries will be needed to achieve the desired storage duration. The Applicant will provide an estimate of both hazardous and nonhazardous materials before construction as a condition of approval of the Site Certificate.

4.0 Non-Hazardous Waste Management – OAR 345-021-0010(1)(g)(C)

OAR 345-021-0010(1)(g)(C) The applicant’s plans to manage non-hazardous waste materials during construction and operation.

Solid waste generated during construction will include general construction debris such as scrap steel and packing materials from delivery components, plastics, glass, cardboard, paint, electrical debris, waste concrete, and excavated soil. Excavated soil will be used on-site as fill or will be transported off-site for disposal. The Applicant will aim to recycle as much solid waste as possible during construction and operation of the Project. Construction debris that is unable to be recycled will be transported by a local commercial hauler to the Finely Buttes Landfill.

Waste concrete will be disposed of as solid waste, recycled, or used onsite as fill. Concrete truck chutes will be washed out in a dedicated area onsite, where the concrete will be allowed to harden.

Portable toilets will be provided for on-site sanitary waste management during construction and operation of the Project. The portable toilets will be maintained by a local contractor. Water for the Project will be trucked in. Sanitary wastewater will be treated offsite. Solar panel and equipment wash water that contains no added cleaning solutions will be discharged by evaporation and seepage into the ground. Nonhazardous solid waste generated during operation will be recycled or disposed of as municipal waste, as described in Exhibit V.
# Table of Contents

1.0 Introduction ........................................................................................................................................................................ 1

2.0 Geologic Report and Evidence of Consultation with DOGAMI – OAR 345-021-0010(1)(h)(A) and (B) ................................................................. 1
   2.1 Topographic Setting ........................................................................................................................................................................ 2
   2.2 Geologic Setting ........................................................................................................................................................................ 2

3.0 Site-Specific Geotechnical Investigation – OAR 345-021-0010(1)(h)(C) ....................................................................................... 3

4.0 Transmission Lines and Pipelines – OAR 345-021-0010(1)(h)(D) ........................................................................................................ 4

5.0 Seismic Hazard Assessment – OAR 345-021-0010(1)(h)(E) ........................................................................................................ 4
   5.1 Methods ...................................................................................................................................................................................... 4
   5.2 Maximum Considered Earthquake Ground Motion under IBC 2015 .......................................................... 5
      5.2.1 Earthquake Sources .............................................................................................................................................................. 6
      5.2.2 Recorded Earthquakes ........................................................................................................................................................... 6
      5.2.3 Hazards Resulting from Seismic Events ................................................................................................................................. 7
      5.2.4 Seismic Shaking or Ground Motion ................................................................................................................................ 7
      5.2.5 Fault Rupture ......................................................................................................................................................................... 8
      5.2.6 Liquefaction .......................................................................................................................................................................... 8
      5.2.7 Seismically Induced Landslides ........................................................................................................................................... 8
      5.2.8 Subsidence ............................................................................................................................................................................. 8
      5.2.9 Seismic Hazard Mitigation ................................................................................................................................................. 9

6.0 Non-Seismic Geological Hazards – OAR 345-021-0010(1)(h)(F) ......................................................................................... 9
   6.1 Landslides .................................................................................................................................................................................... 10
   6.2 Volcanic Activity .................................................................................................................................................................... 10
   6.3 Erosion ..................................................................................................................................................................................... 10
   6.4 Flooding .................................................................................................................................................................................. 11
   6.5 Shrinking and Swelling Soils .................................................................................................................................................. 11

7.0 Disaster Resilience ................................................................................................................................................................. 12

8.0 Climate Change ............................................................................................................................................................................. 13

9.0 Conclusions ............................................................................................................................................................................... 13

10.0 References ........................................................................................................................................................................... 14
List of Tables
Table H-1. Seismic Design Parameters—Maximum Considered Earthquake ................................................ 5

List of Figures
Figure H-1. Geologic Map
Figure H-2. Historical Seismicity and Potentially Active Faults
Figure H-3. Special Flood Hazard Areas

List of Attachments
Attachment H-1. Record of correspondence with DOGAMI
Attachment H-2. Probabilistic Seismic Hazard Deaggregation – 475-Year Return Time
Attachment H-3. Probabilistic Seismic Hazard Deaggregation – 2,475-Year Return Time
Attachment H-4. Historical Earthquakes within 50 Miles of the Project Site Boundary
Attachment H-5. Response Spectrum – Site Class D "Stiff Soil"
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>BMP</td>
<td>best management practices</td>
</tr>
<tr>
<td>DOGAMI</td>
<td>Oregon Department of Geology and Mineral Industries</td>
</tr>
<tr>
<td>ESCP</td>
<td>Erosion and Sediment Control Plan</td>
</tr>
<tr>
<td>FEMA</td>
<td>Federal Emergency Management Agency</td>
</tr>
<tr>
<td>IBC</td>
<td>International Building Code</td>
</tr>
<tr>
<td>NRCS</td>
<td>Natural Resources Conservation Service</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rules</td>
</tr>
<tr>
<td>OSSC</td>
<td>Oregon Structural Specialty Code</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
<tr>
<td>USGS</td>
<td>U.S. Geological Survey</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit H was prepared to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(h).

2.0 Geologic Report and Evidence of Consultation with DOGAMI – OAR 345-021-0010(1)(h)(A) and (B)

OAR 345-021-0010(1)(h) Information from reasonably available sources regarding the geological and soil stability within the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0020, including:

OAR 345-021-0010(1)(h)(A) A geologic report meeting the Oregon State Board of Geologist Examiners geologic report guidelines. Current guidelines must be determined based on consultation with the Oregon Department of Geology and Mineral Industries, as described in paragraph (B) of this subsection.

OAR 345-021-0010(1)(h)(B) A summary of consultation with the Oregon Department of Geology and Mineral Industries regarding the appropriate methodology and scope of the seismic hazards and geology and soil-related hazards assessments, and the appropriate site-specific geotechnical work that must be performed before submitting the application for the Department to determine that the application is complete.

The Applicant consulted with the Oregon Department of Geology and Mineral Industries (DOGAMI) on June 10, 2021. The general details of the Project and the analysis area terrain and geology were discussed. Discussion focused on geological features within the provided figures and identification of other data sources that DOGAMI would like the Applicant to discuss in Exhibit H and display on the figures. The meeting notes of the consultation discussion were used to support development of this exhibit and are included as Attachment H-1.

Exhibit H provides an analysis of geologic hazards and soil stability for the Project as required to meet the structural standard in OAR 345-022-0020 and the submittal requirements in OAR 345-021-0010(1)(h) paragraphs (A) through (I). To prepare this exhibit, existing published information was reviewed and used to characterize the current geologic conditions and potential seismic hazards in the vicinity of the Project site. These materials included local, state, and federal government aerial photography, site photographs, published geologic maps, and geotechnical data reports. The findings are described in the following sections.

Subsurface explorations, testing, and engineering analysis will be conducted prior to design and construction as described in Section 3.0. When site-specific geotechnical exploration is complete, a
report meeting the current Oregon State Board of Engineering Geology Reports guidelines will be submitted to DOGAMI and the Oregon Department of Energy.

The Analysis Area for geologic and soil stability is the area within the proposed Site Boundary (see Figure H-1). The Analysis Area for historical seismic and potentially active faults included a 50-mile buffer around the proposed Site Boundary (see Figure H-2). The Site Boundary is defined in detail in Exhibits B and C and is shown on Figure H-1.

2.1 Topographic Setting

The Project is located in north-central Oregon, an area of rolling hills covered in grasslands and desert vegetation. The Site Boundary is located entirely within Umatilla County, approximately 2 miles southeast of the city of Hermiston and 2 miles north of the city of Stanfield. Umatilla County spans a total area of 3,213 square miles with a total of 16 square miles covered by water. The major topographic features in the area are controlled by the underlying structure of the Columbia River Basalt (USGS 1964).

The Site Boundary occupies slopes ranging from approximately zero to 15 percent, with an average slope of less than 2 percent. Elevations within the Site Boundary range from approximately 665 feet to 732 feet above mean sea level (Google Earth 2021).

2.2 Geologic Setting

The Site Boundary is located on the Columbia Plateau physiographic province, which consists of a large plateau formed by a series of basalt flows. The top of the plateau tends to be relatively flat but has been dissected by ephemeral streams into steep-sided canyons. The Applicant has selected this location for solar development due to its flat topography and southern exposure to the sun. The site is surrounded by farmland; S Edwards Road is located to the east and Canal Road is to the west.

The geologic setting of the Project generally consists of loess and weak sedimentary rocks overlying basalt bedrock. Figure H-1 provides a geologic map of the Project's vicinity, adapted using U.S. Geological Survey (USGS) Geographic Information System data and DOGAMI resources (Madin and Geitgey 2007). In some valley locations within the Site Boundary, catastrophic flood deposits (gravel and cobble bars overlain by silt) have been deposited by ancient floods. The surface geologic units are shown on Figure H-1 and include quaternary surficial deposits Qe Eolian sand and ash (Holocene age) and Qmf Missoula flood deposits (Pleistocene age). Eolian sand and ash is described as eolian deposits, primarily unconsolidated wind-blown sand and silt reworked from older Missoula Flood deposits, and airfall volcanic ash deposits (Madin and Geitgey 2007). Qmf Missoula flood deposits are described as boulder to pebble gravel, sandy gravel, sand, and silt deposited during catastrophic floods caused by the repeated failures of the glacial ice dam that impounded glacial Lake Missoula (Madin and Geitgey 2007). The Missoula flood deposits can reach 150 feet in thickness and the thickness of the Eolian sand and ash is generally less than 4 feet. Beneath the sedimentary deposits at varying depths is the middle Miocene age Wanapum Basalt. The Wanapum Basalt is described as fine- to coarse-grained basalt with reversed magnetic polarity and varies from intact to weathered. In the vicinity of the Site Boundary, this formation consists of
imbricated, basaltic cobble gravel, with interbedded tuffaceous sands and silts that are weakly cemented in places. To the north of the Site Boundary are the Upper/middle Miocene age Saddle Mountain Basalts. The Saddle Mountain Basalts range from 120 to 240 meters in thickness and is interspersed by sedimentary layers of the Ellensburg Formation. These geologic descriptions are summarized from the USGS geologic map prepared for the state of Oregon (Walker et al. 2004).

Groundwater in the Project Site Boundary is estimated to range from 78 to 400 feet below ground surface based on data from wells located approximately 1,500 feet north of the Site Boundary (Well Log UMAT 2867 and 2866) and approximately 1,500 feet south of the Site Boundary (Well Log UMAT 2881)(OWRD 2021).

Exhibit I describes properties of the site surficial soils based on Natural Resources Conservation Service (NRCS) data within the Project Site Boundary, as well as the approximate thickness, formation setting, permeability, runoff potential, and potential hazard for erosion.

3.0 Site-Specific Geotechnical Investigation – OAR 345-021-0010(1)(h)(C)

OAR 345-021-0010(1)(h)(C) A description and schedule of site-specific geotechnical work that will be performed before construction for inclusion in the site certificate as conditions.

At an appropriate stage in the development, additional subsurface explorations will be completed to confirm the anticipated soil conditions and provide final design recommendations. The site-specific geological and geotechnical investigation will address subsurface exploration plans and testing plans. The geotechnical investigation will consist primarily of the following tasks:

- Reviewing available data from previous geotechnical explorations near the Site Boundary;
- Reviewing available geologic information from published sources;
- Reviewing data for evidence of active faults and landslides;
- Conducting a geotechnical field exploration, such as soil borings, test pits, and possibly geophysical testing; and
- Collecting additional soil samples for classification and laboratory testing, if necessary.

Geotechnical analyses will be used to calculate bearing capacity of the soils, conduct stability analyses, and provide engineering recommendations for construction of the Project's structures.
4.0 Transmission Lines and Pipelines – OAR 345-021-0010(1)(h)(D)

OAR 345-021-0010(1)(h)(D) For all transmission lines, and for all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings, dead ends (for transmission lines), corners (for transmission lines), and portions of the proposed route where geologic reconnaissance and other site specific studies provide evidence of existing landslides, marginally stable slopes or potentially liquefiable soils that could be made unstable by the planned construction or experience impacts during the facility's operation.

The proposed Project does not involve construction of a new transmission line, as it will interconnect with an existing transmission line that runs parallel to or through the Site Boundary. Additionally, the Project does not have a pipeline. Therefore, this provision is not applicable.

5.0 Seismic Hazard Assessment – OAR 345-021-0010(1)(h)(E)

OAR 345-021-0010(1)(h)(E) An assessment of seismic hazards, in accordance with standard-of-practice methods and best practices, that addresses all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries described in paragraph (B) of this subsection, and an explanation of how the applicant will design, engineer, construct, and operate the facility to avoid dangers to human safety and the environment from these seismic hazards. Furthermore, an explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters. The applicant must include proposed design and engineering features, applicable construction codes, and any monitoring and emergency measures for seismic hazards, including tsunami safety measures if the site is located in the DOGAMI-defined tsunami evacuation zone.

5.1 Methods

Topographic and geologic conditions and hazards within the Site Boundary were evaluated by reviewing available reference materials such as topographic and geologic maps, aerial photographs, existing geologic reports; and data provided by DOGAMI, the Oregon Water Resources Department, USGS, and the NRCS (see Exhibit I).

This work was based on the potential for regional and local seismic activity as described in the existing scientific literature, and on subsurface soil and groundwater conditions within the Site
Boundary based on desktop evaluations. The seismic hazard analysis consisted of the following tasks:

1. Detailed review of the USGS National Geophysical Data Center (USGS 2020a, USGS 2020b, USGS 2020c) and DOGAMI literature and databases (DOGAMI 2021a);
2. Identification of potential seismic events for their site characterization in terms of a series of design events;
3. Evaluation of seismic hazards, including potential for fault rupture, earthquake-induced landslides, liquefaction and lateral spread, settlement, and subsidence; and
4. Mitigation recommendations based on the characteristics of the subsurface soils and design earthquakes, including specific seismic events that might have a significant effect on the site, potential for seismic energy amplification at the site, and the site-specific acceleration response spectrum for the site (ICC 2019).

5.2 Maximum Considered Earthquake Ground Motion under IBC 2015

The ground motions were developed using a probabilistic seismic hazard analysis from the USGS (2020a) that covered the Project Site Boundary. Though these motions are not considered site-specific, they provide a reasonable estimate of the ground motions within the Site Boundary. For new construction, the site should be designed for the maximum considered earthquake, according to the most recently updated International Building Code (IBC; ICC 2017) as supplemented by the Oregon Structural Specialty Code (OSSC; ICC 2019). The USGS Unified Hazard Tool (USGS 2020a) was run for the Site Boundary and the design event has a 2 percent probability of exceedance in 50 years (or a 2,475-year return period). Probabilistic seismic hazard deaggregation at 475-year intervals are shown in Attachment H-2, and at 2,475-year intervals in Attachment H-3. This event has a peak ground acceleration of 0.198 acceleration from gravity at the bedrock surface, at the center of the site. The values of peak ground acceleration on rock are an average representation of the acceleration most likely to occur at the site for all seismic events (crustal, intraplate, or subduction; ATC 2020).

These desktop seismic design parameters were developed in accordance with the 2015 IBC (ICC 2014). Using the subsurface information currently available, the Project would be designed for Site Class D, according to IBC requirements (Table H-1).

<table>
<thead>
<tr>
<th>Site Class</th>
<th>Peak Horizontal Ground Acceleration on Bedrock</th>
<th>Soil Amplification Factor, $F_a$</th>
<th>Peak Horizontal Ground Acceleration at Ground Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_0$</td>
<td>0.198g</td>
<td>1.499</td>
<td>0.236g</td>
</tr>
</tbody>
</table>

$g$ = acceleration from gravity.

Note: An earthquake magnitude of 6.0 in this table is a mean representation of all known seismic sources for the Site Boundary.
The following additional parameters for the maximum considered earthquake may be used for structural design:

- Short period (0.2-second) spectral response acceleration, \( S_{MS} = 0.563g \) for Site Class SD
- 1-second period spectral response acceleration, \( S_{M1} = 0.323g \) for Site Class SD

The design spectral response acceleration parameters, SDS and SD1, for both short period and 1-second period are determined by multiplying the maximum considered earthquake spectral response accelerations (SMS and SM1) by a factor of 2/3.

### 5.2.1 Earthquake Sources

Seismicity in northern Oregon is generated from the convergence of the Juan de Fuca plate and the North American plate at the Cascadia Subduction Zone. These plates converge at a rate between 1 and 2 inches per year and accumulate large amounts of stress that are released abruptly in earthquake events. The four sources of earthquakes and seismic activity in this region are crustal, intraplate, volcanic, and the Cascadia Subduction Zone (DOGAMI 2010).

Regionally, seismicity has been attributed to crustal deformation resulting from the Cascadia Subduction Zone and volcanism. Faults are considered active if there has been displacement in the last 10,000 years, and potentially active if there has been movement over the Quaternary period (last 1.6 million years). Overall, earthquakes in Oregon are associated with active faults in four regional zones of seismicity: the Cascade Seismic Zone, Portland Hills (Portland, Oregon-Vancouver, Washington metropolitan area) Zone, South-Central (Klamath Falls) Zone, and Northeastern Oregon Zone (Niewendorp and Neuhaus 2003). There are no known or active faults mapped within the Site Boundary, as indicated on Figure H-2. Figure H-2 was created using the DOGAMI Oregon HazVu Statewide Geohazards Viewer earthquake hazard layer (DOGAMI 2021a) and the USGS Geologic Hazards Science Center (USGS 2020b). The site-specific geotechnical investigation will include information on any potentially active faults within the Site Boundary. The investigation will include a description of the potentially active faults, their potential risk to the Project, and any additional mitigation that will be undertaken by the certificate holder to ensure safe design, construction, and operation of the Project.

### 5.2.2 Recorded Earthquakes

Figure H-2 displays the location and approximate magnitude of all recorded earthquakes within 50 miles of the Site Boundary. The historical seismic events are grouped by magnitude and are displayed using different-sized icons based on the strength of the event. Because of the high number of events in the 50-mile analysis area of the Project site, several of the icons overlap in the figure. The National Earthquake Information Center data show no earthquakes within the Site Boundary (Figure H-2). A table listing the recorded historical earthquakes mapped on Figure H-2 and the year they occurred within 50 miles of the Project is provided in Attachment H-4 (Rukstales 2012).
Attachment H-4 and Figure H-2 (DOGAMI 2021a, USGS 2020c) provide a summary of all recorded earthquakes known to have caused Modified Mercalli Intensity (MMI) III shaking intensity or greater within the Project Site Boundary, regardless of epicentral origin. For reference, an intensity of MMI III is associated with shaking that is “noticeable indoors but may not be recognized as an earthquake.” An intensity of MMI V is “felt by nearly everyone; many awakened” (USGS 2020d).

The Ground Response Spectra Assessment in Attachment H-5 lists the design response spectrum based on the 2015 IBC for the maximum considered earthquake at the location of the Project. Separate response spectra modified by the amplification factors for Site Class D are provided. It is possible that areas of shallow bedrock (Wanapum Basalt) may exist in areas of the Site Boundary, where the Site Class B response spectra would apply. The site-specific geotechnical investigation will determine the final Site Class for the Site Boundary area which will be applied to final design.

5.2.3 Hazards Resulting from Seismic Events

Potential seismic hazards associated with a design seismic event for this Project include seismic shaking or ground motion, and fault displacement. These hazard risks are anticipated to be low, as discussed below.

5.2.4 Seismic Shaking or Ground Motion

The design seismic event will have a 2,475-year recurrence interval. The Project structures will be designed for this unlikely event so that no permanent structural damage will occur. The Project’s structures will be designed to withstand the maximum risk-based design earthquake ground motions developed for the Project site. The State of Oregon has adopted the IBC 2018 code for structural design. Specifically, this is Section 1613 (Earthquake Loads) of the 2019 OSSC, which is in Chapter 16. It should be noted that building codes are frequently updated; the IBC specifically is updated every 3 years. The Applicant will design, engineer, and construct the Project in accordance with the current version of the latest IBC, OSSC, and building codes adopted by the State of Oregon at the time of construction. Therefore, it is incumbent on the design engineers to ensure that the designs are in accordance with the current versions of the latest codes as adopted by the State of Oregon at the time of construction.

Based on desktop geotechnical and geological information, a Site Class D (stiff soils) for the soil/bedrock at the site is appropriate for the Project. As stated earlier, the final Site Class assigned to the site will be determined based on results of the site-specific geotechnical investigation and will be applied to final design.

Based on site-specific geotechnical analyses, the original equipment manufacturer will provide the structural engineer with site specific foundation loads and requirements. The structural engineer will then complete the foundation analyses based on the design site-specific parameters. Generally, these include the following loads for solar foundation design: extreme loads, load cases for up-lift, shear failure, tension loads (for pile foundations), earthquake loads, fatigue loads, subsoil properties, spring constants, verification procedures, and maximum allowable inclination.
The geotechnical studies and analyses provide site-specific parameters including, but not necessarily limited to, moisture content and density, soil/bedrock bearing capacity, bedrock depth, settlement characteristics, structural backfill characteristics, soil improvement (if required), and dynamic soil/bedrock properties including shear modulus and Poisson’s Ratio of the subgrade. The foundation design engineer will use these parameters to design a foundation suitable for the Project and will verify that the foundation/soil interaction meets or exceeds the minimum requirements stated by the original equipment manufacturer for the Project.

5.2.5 Fault Rupture

The probability of a fault displacement within the Site Boundary is considered low because of the distance (more than 15 miles away) of known or mapped potentially active faults from the Site Boundary and the absence of faults within the Site Boundary (Figure H-2). Unknown faults could exist, or new fault ruptures could form during a significant seismic event, but the likelihood of either occurrence is low based on the lack of active faults identified during previous geologic investigations.

5.2.6 Liquefaction

Liquefaction is a phenomenon in which saturated, cohesionless soils temporarily lose their strength and liquefy when subjected to dynamic forces such as intense and prolonged ground shaking and seismic activity. The soils in the Site Boundary are not saturated and are generally cohesive in nature. Along with the relatively low seismic event potential, this indicates that the liquefaction of soils within the Site Boundary is considered extremely unlikely. The site-specific geotechnical investigation will determine the soil characteristics to be applied to final design of the Project.

5.2.7 Seismically Induced Landslides

Seismicity in the region has the potential to trigger landslides and mass wasting processes within the Site Boundary; however, the potential is considered low due to the relative flat topographic setting of the site. According to DOGAMI’s HazVu Statewide Geohazards Viewer, there are no historic landslides in or near the Site Boundary and the landslide hazard rating is “Low-Landsliding Unlikely” (DOGAMI 2021a).

5.2.8 Subsidence

Subsidence is the sudden sinking or the gradual downward settling of the land surface, and is often related to groundwater drawdown, compaction, tectonic movements, mining, or explosive activity. Subsidence due to a seismic event is highly unlikely. In most areas, the bedrock is relatively shallow, and the overlying soils are not saturated.
5.2.9 **Seismic Hazard Mitigation**

The State of Oregon uses the 2018 IBC, with current amendments by the OSSC (ICC 2019). Pertinent design codes as they relate to geology, seismicity, and near-surface soil are contained in the IBC Chapter 16, Section 1613, with slight modifications by the current amendments of the State of Oregon. The Project will be designed to meet or exceed the minimum standards required by these design codes.

A site-specific geotechnical exploration will be conducted to collect pertinent data for the design of the Project to mitigate potential hazards that could be created during a seismic event. The hazard of a surficial rupture along a fault trace is anticipated to be low, given the low probability that a fault rupture would actually displace the ground surface at the location of any of the solar panel arrays or transmission structures. No mitigation for potential fault rupture is anticipated; the risk to human safety and the environment will be minimal, as the Project will be located in a sparsely populated area. No structures will be built on steep slopes that could be prone to instability, thus avoiding potential impacts.

6.0 **Non-Seismic Geological Hazards – OAR 345-021-0010(1)(h)(F)**

**OAR 345-021-0010(1)(h)(F)** An assessment of geology and soil-related hazards which could, in the absence of a seismic event, adversely affect or be aggravated by the construction or operation of the facility, in accordance with standard-of-practice methods and best practices, that address all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries described in paragraph (B) of this subsection. An explanation of how the applicant will design, engineer, construct and operate the facility to adequately avoid dangers to human safety and the environment presented by these hazards, as well as:

(i) An explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters.

(ii) An assessment of future climate conditions for the expected life span of the proposed facility and the potential impacts of those conditions on the proposed facility.

Nonseismic geologic hazards in the Columbia Plateau region typically include landslides, volcanic eruptions, collapsing soils, and erosion potential. The area within the Project Site Boundary consists of relatively flat-lying sedimentary surficial deposits consisting of wind-blown sand and ash and flood deposits. The solar arrays and associated equipment will be constructed on flat-lying portions of the Site Boundary and will avoid steep side slopes and drainages that could potentially be subject to landslides and soil creep. A discussion of potential geologic hazards is presented below. The site-specific geotechnical investigation will determine the soils characteristics, including the potential for collapsing soils which will be applied to final design of the Project.
6.1 Landslides

No active landslides are identified in the Statewide Landslide Information Database for Oregon within the Site Boundary (DOGAMI 2021b). The nearest mapped landslides in the Statewide Landslide Information Database for Oregon database are located approximately 20 miles to the southwest of Hermiston, Oregon.

The solar arrays and associated equipment and roads, including the access road and service roads, will be situated on flat-lying areas and avoid steep slopes. If slope stability issues are identified during the final design geotechnical investigations, either the structures will be relocated during the micrositing process or remedial measures to improve slope stability will be implemented.

6.2 Volcanic Activity

Volcanic activity in the Cascade Range is driven by the subduction of the Juan de Fuca plate beneath the North American plate. The closest volcano to the Site Boundary is Mount Adams located approximately 110 miles away to the west. Most of the potential volcanic hazard impacts would occur within a 50-mile radius of the erupting volcano. Depending on the prevailing wind direction at the time of the eruption and the source of the eruption, ash fallout in the region surrounding the Project may occur. Because of the distance to the nearest volcano, impacts to the Project from volcanic activity would be indirect and likely be limited to ash fallout. In addition, the Project is not located near any streams that would likely be subject to pyroclastic flows from a volcanic eruption from these close volcanoes. It is unlikely that there would be any adverse effects from volcanic activity on the construction or operation of the Project.

6.3 Erosion

Erosion can be caused by increasing exposure to wind or water. The erosion factor (K) indicates the susceptibility of a soil to sheet and rill erosion by water. The K-factor is one of six factors used in the Universal Soil Loss Equation and the Revised Universal Soil Loss Equation to predict the average annual rate of soil loss by sheet and rill erosion in tons-per-acre-per-year. The estimates are based primarily on percentage of silt, sand, and organic matter, as well as soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Data from the NRCS Web Soil Survey (NRCS 2018) indicate that the soils within the Site Boundary have a K that ranges from 0.10 to 0.32. For the range of K at the Project, the soils could be considered moderately low to moderately highly erodible, and subject to sheet erosion and rill erosion by water (NRCS 2018). Wind erosion is rated as moderate to severe for the Site Boundary. Severe wind erosion is present within 37 percent of the Site Boundary soils.

To reduce the potential for soil erosion, a construction Erosion and Sediment Control Plan (ESCP) will be developed for the Project. The ESCP will include both structural and nonstructural best management practices (BMP). Examples of structural BMPs include the installation of silt fences or other physical controls to divert flows from exposed soils, or otherwise limit runoff and pollutants from exposed areas within the Project Site Boundary. Examples of nonstructural BMPs include
management practices such as implementation of materials handling, disposal requirements, and spill prevention methods.

The Applicant’s application for a National Pollutant Discharge Elimination System Construction Stormwater Discharge General Permit 1200-C will include an ESCP and both the permit and ESCP will be prepared prior to construction. Exhibit I contains a comprehensive list of mitigation measures to avoid wind and water erosion and soil impacts.

### 6.4 Flooding

To evaluate flood hazards, the DOGAMI Statewide Flood Hazard Database for Oregon (DOGAMI 2021c) – Federal Emergency Management Agency (FEMA), National Flood Hazard data (FEMA 2018), and Flood Insurance Study inundation zones (DOGAMI 2018) were compared to the Site Boundary. The Site Boundary is not within an identified FEMA 100-year or 500-year floodplain (Figure H-3).

Seasonal thunderstorms can result in concentrated stormwater runoff and localized flooding. The engineered access roads and drainages will direct stormwater runoff away from structures and into drainage ditches and culverts as required in the ESCP. The Project will be designed and constructed to meet the requirements of the zoning ordinances and building codes that establish flood protection standards for all construction, to avoid dangers to the infrastructure, as well as human safety and the environment, including criteria to ensure that the foundation will withstand flood forces. Therefore, the risks and potential impacts to the Project as well as human safety and the environment from flood hazards are expected to be low.

### 6.5 Shrinking and Swelling Soils

Changes in soil moisture cause certain clay minerals in soils to either expand or contract. The amount and type of clay minerals in the soil influence the change in volume. Structures or roads built on shrinking or swelling soils could be damaged by the change in volume of the soil. Linear extensibility (shrink-swell potential) refers to the change in length of an unconfined clod as its moisture content is decreased from a moist state to a dry state.

There are no soils identified in the Site Boundary with potential for shrinking and swelling (see Exhibit I). Prior to construction, the Applicant will include, as part of the geotechnical investigation, an investigation of the shrink/swell and collapse potential of loess soil in the Site Boundary. Based on the results of the investigation, the Applicant will include mitigation measures including, as necessary, over-excavating and replacing loess soil with structural fill; wetting and compacting; deep foundations; or avoidance of specific areas.

The solar structures will be supported by steel posts; post depth will vary depending on soil conditions but is typically 4 to 8 feet below the surface. If soil conditions require it, concrete backfill will be used.
7.0 Disaster Resilience

The State of Oregon uses the 2018 IBC, with current amendments by the OSSC (ICC 2019) and local agencies. Pertinent design codes as they relate to geology, seismicity, and near-surface soils are contained in IBC Chapter 16, Section 1613, with slight modifications by the current amendments of the State of Oregon and local agencies. The Project will be designed to meet or exceed the minimum standards required by these design codes. The Applicant acknowledges that DOGAMI encourages, but does not require, applicants to design and build for disaster resilience and future climate conditions using science, data, and community wisdom. With this in mind, the Applicant has extensive experience building energy facilities and from a structural perspective, designs projects to withstand non-seismic geologic hazards such as the potential for changes in rainfall or temperature. Additional elements such as wind speeds, snow, and dust, among others, are also considered in project designs depending on the location in the country.

A qualified engineer will assess and review the seismic, geologic, and soil hazards associated with the construction of the Project. Construction requirements will be modified, as needed, based on the site-specific characterization of seismic, geologic, and soil hazards. The Project will be designed, engineered, and constructed to meet all current standards to adequately avoid potential dangers to human safety presented by seismic hazards. Substation and operations and maintenance building structures will be designed in accordance with the current version of the OSSC. Substation equipment will be specified in accordance with the latest version of the Institute of Electrical and Electronics Engineers 693. The Project will be located in a sparsely populated area; therefore, the risks to human safety and the environment due to seismic hazards will be minimal.

The Project will be designed, engineered, and constructed to meet or exceed all current standards. The Applicant proposes to design, engineer, and construct the Project to avoid dangers to human safety–related and non-seismic hazards in many ways, including conducting site-specific geotechnical evaluations for the facilities. Typical mitigation measures for non-seismic hazards include avoiding potential hazards, conducting subsurface investigations to characterize the soils to adequately plan and design appropriate mitigation measures, creating detailed geologic hazard maps to aid in laying out facilities, and providing warnings in the event of hazards. Solar facilities are designed to be modular, with different circuits and disconnect switches between inverters. This allows for portions of a facility to be taken offline for repair following a disaster, while the remainder of the solar arrays can continue to operate in a reduced capacity. The Applicant plans to follow the industry practice of installing excess cabling between strings to allow for splicing and repairs in the event of a disaster. Should Project elements like the access roads or solar panels be damaged, they will be assessed, and repairs made to recover operations after a major storm event.
8.0 Climate Change

The University of Washington conducted a study to assess climate vulnerability and adaptation in the Columbia River Plateau, the region where the Project is located (Michalak et al. 2014). The study involved downscaling five climate models (CCM3, CGM3.1, GISS-ER, MIROC3.2, and Hadley). Climate projections were downcaled to approximately a 1-kilometer resolution for over 40 different direct (mean annual temperature/precipitation) and derived (number of growing-degree days, actual and potential evapotranspiration) climate variables (Michalak et al. 2014). The downscaling of the climate models for this area led to future projections of greater annual average and summer temperatures, and more severe storm events and wildfires, among other changes. These specific changes are expected to increase stress to power lines in the region.

Reinforcing the local electric grid with solar power, battery storage, and a new transmission line will provide resilience to the overall energy grid in this part of Oregon. This reinforcement will be direct, by upgrading the system, which is anticipated to experience higher loads under rising temperatures and the related increases in power demand for summer cooling. It is also indirect, by supporting the delivery of power generated through a larger variety of sources, minimizing the potential reduction in hydro power's role under future conditions. All aspects of this Project support resiliency in the face of future climate change. In addition, the Project will be designed to withstand extreme events as explained above in Section 7.0.

9.0 Conclusions

The risk of seismic hazards to human safety at the Project is considered low. The Applicant has adequately characterized the seismic hazard risk of the area within the Project Site Boundary and surrounding vicinity in accordance with OAR 345-022-0020(1)(a) and has considered seismic events and amplification for the Project's specific subsurface profile. The probability of a large seismic event occurring while operational staff are on site is very low given the low frequency of onsite operational work required. This very low probability results in minimal risk to human safety. Furthermore, in accordance with OAR 345-022-0020(1)(b), the Applicant has demonstrated that the Project can be designed, engineered, and constructed to avoid dangers to human safety and the environment from the seismic hazards discussed in this Exhibit. Site-specific geotechnical studies will be completed during Project final design which will allow the Applicant to design, engineer, and construct the Project to the most current standards at the time of construction. The Project design will adhere to recently updated IBC requirements. Given the relatively low level of seismic hazard risk for the Project, adherence to the IBC requirements will ensure that appropriate protection measures for human safety are taken.

The Applicant has provided appropriate site-specific information and demonstrated (in accordance with OAR 345-022-0020[1][c]) that the construction and operation of the Project, in the absence of a seismic event, will not adversely affect or aggravate the geological or soil conditions within the
Project Site Boundary or surrounding vicinity. The risks posed by non-seismic geologic hazards such as landslides, volcanic activity, and flooding are considered to be low because of the characteristics/location of the Project site. Non-seismic geologic hazard related to erosion and soil shrinking/swelling or collapsing can be avoided and minimized through Project design. Erosion hazards resulting from water and wind action will be minimized with the implementation of an engineered erosion control plan. Based on the results of the Project's site specific geotechnical investigation that will be completed prior to construction, the Applicant will include appropriate mitigation measures to minimize non-seismic geological hazards as needed.

Accordingly, given the relatively small risks the seismic hazard and non-seismic geological hazards pose to human safety, standard methods of practice (including implementation of the current IBC) will be adequate for the design and construction of the Project.

10.0 References


DOGAMI. 2018. Statewide Flood Hazard Database for Oregon – FEMA Flood Insurance Study inundation zones. Available online at: http://spatialdata.oregonexplorer.info/geoportal/details;id=f2cc36de1f0a42d29b8dfdd71721a7d3


DOGAMI. 2021b. Statewide Landslide Information Database for Oregon (SLIDO). Available online at: https://www.oregongeology.org/slido/data.htm


USGS. 2020b. U.S. Quaternary Fault. USGS Geologic Hazards Center Golden, CO. Available online at: https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf


This page intentionally left blank
Figures
This page intentionally left blank
Figure H-3
Special Flood Hazard Areas

Data Source:

Reference Map
Attachment H-1.
Record of Correspondence with DOGAMI
West End Solar Project
Consultation with Oregon Department of Geology and Mineral Industries (DOGAMI) Summary
Via On-Line Teams Meeting, OR
June 10, 2021

Attendees

- **DOGAMI** – Jason McClaughry, Eastern Oregon Regional Geologist
- **Oregon Department of Energy (ODOE)** – Kellen Tardaewether, Siting Analyst
- **Eurus Energy** – Rob Curulla, Project Developer
- **Tetra Tech** – Leslie McClain, PM; Lucas Kerner, GIT; Rachel Miller, Senior Geologist

**Meeting Purpose**

This meeting was intended to satisfy OAR 345-021-0010(1)(h)(B) that requires pre-application consultation with DOGAMI for new energy facilities. Accordingly, ODOE requested that notes be taken for review and comment by ODOE and DOGAMI and then included into Exhibit H to identify consultation.

**Project Description:**

- Eurus plans to construct and operate a photovoltaic (PV) solar energy facility on approximately 324 acres in Umatilla County, Oregon.
- A KMZ file and site plan map were distributed prior to the meeting. General discussion of the project was shown on provided maps as well as an explanation of the general arrangement of a solar facility.
- Eurus plans to maximize the number of panels on the site. A substation would be located on the eastern side of the project site. There will also be a battery energy storage facility and O&M facility sited near the substation. The site has two existing transmission lines that crisscross the project site and power lines are located along the eastern and western boundaries. The Point of interconnection would be on the east boundary and a generation-tie line is not included.

**Overview of Site Characteristics:**

- Lucas Kerner, Tetra Tech presented three figures showing the surface geology (Figure H-1), the historic seismicity and potential active faults (Figure H-2), and the special flood hazard areas (Figure H-3). Data came from Oregon GIS database (NRCS or DOGAMI sources).
  - DOGAMI requested that all figures (or at a minimum in the exhibit text) clearly provide references to the data sources used for the figures. DOGAMI
recommended using additional sources than those displayed in these maps. More information on this is provided below.

- In this area, the depth of basalt layer is a couple 100 feet below the surface materials that include the Missoula Flood sands and unconsolidated clays.

- Figure H-1. Geologic Map. The Project area is located on former farmland underlaid with Glaciofluvial, Lacustrine, and Pediment Sedimentary Deposits (Qgs). There is no data on soil depths yet, but this will be covered in Exhibit I.
  - DOGAMI noted that the geologic data displayed in this figure is not the most current. DOGAMI recommended using the OGDC v7 data set that was recently published. That data set should show more detail regarding the Missoula Flood deposits and some ridges in the area that have slightly different characteristics.

- Figure H-2. Historical Seismicity and Potentially Active Faults. As shown in the figure, no earthquakes are located within 10 miles of the site and the closest earthquakes were fairly small. Faults are located in southern and eastern portions of the county.
  - DOGAMI noted that the active fault data displayed in this figure is not comprehensive. DOGAMI recommended using the updated USGS Quaternary Fault and Fold database. There are potentially active faults near Milton Freewater and by Arlington and in Horse Heave Hills that should be shown on the Figure with the most comprehensive data source. Northwest structures are common throughout the Columbia plateau area. Figure H-2 should be updated to include these additional faults.
  - The area is likely not in any landslide hazard zone based on data accessed thus far.
  - DOGAMI agreed there would be no landslides in project area/vicinity and that the area is very flat. However, there are local occurrences of sloughing, minor topography, shaking potential, etc. DOGAMI recommended Tetra Tech review the HazVu data set from DOGAMI which puts all geologic hazards together in one dataset. Consider mapping shaking potential for unconsolidated soils.

- Figure H-3. Special Flood Hazards. As shown in the figure, the project is well outside the 500-year flood zone and any floodways.

Exhibit H

- Tetra Tech described the methodology for the seismic hazard assessment being conducted in compliance with OAR 345-021-0010(1)(h)(E) in Exhibit H. Tetra Tech is using Maximum Considered Earthquake Ground Motion under IBC 2015.
The peak horizontal ground acceleration on bedrock is 0.198g, soil amplification Factor of 1.499 Fa, and peak horizontal ground acceleration at ground surface of 0.236g.

- DOGAMI asked how much of the information in Exhibit H will be based on remote data? Will there be any onsite analysis?
  - Tetra Tech responded that all data would be from desktop sources. And agreed that if DOGAMI has any recommendations for further study/considerations, those will be included in a field research plan to be conducted prior to construction.

- ODOE noted that OAR 345-021-0010(1)(h)(A) requires a geologic report meeting the guidelines determined by DOGAMI. However, ODOE clarified that a full geologic report is not always necessary, especially for solar; however, Exhibit H should meet all the requirements/guidelines provided by DOGAMI.

- DOGAMI recommended the following items be included in Exhibit H
  - Clear reference to sources used for data references.
  - Make sure you look at all the appropriate resources and data sources. DOGAMI mentioned several in this meeting but will send a follow up list to Tetra Tech.

**Action Items**

- DOGAMI to send list of data sources to Tetra Tech.
- Tetra Tech will prepare draft consultation meeting notes and share with DOGAMI for review prior to submittal of Exhibit H.
- Kellen asked to be copied on information shared with DOGAMI.
- Jason asked about the schedule. Leslie indicated that Exhibit H will be ready to review in early August.
Attachment H-2.
Probabilistic Seismic Hazard Deaggregation – 475-Year Return Time
This page intentionally left blank
Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

<table>
<thead>
<tr>
<th>^ Input</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Edition</strong></td>
</tr>
<tr>
<td>Dynamic: Conterminous U.S. 2014</td>
</tr>
<tr>
<td><strong>Latitude</strong></td>
</tr>
<tr>
<td>Decimal degrees</td>
</tr>
<tr>
<td>45.816761</td>
</tr>
<tr>
<td><strong>Longitude</strong></td>
</tr>
<tr>
<td>Decimal degrees, negative values for western longitudes</td>
</tr>
<tr>
<td>-119.215081</td>
</tr>
<tr>
<td><strong>Site Class</strong></td>
</tr>
<tr>
<td>537 m/s (Site class C)</td>
</tr>
</tbody>
</table>
Hazard Curve

Hazard Curves

Component Curves for Peak Ground Acceleration

View Raw Data
Deaggregation

Component

Total

- $\varepsilon = (-\infty \ldots -2.5)$
- $\varepsilon = [-2.5 \ldots -2)$
- $\varepsilon = [-2 \ldots -1.5)$
- $\varepsilon = [-1.5 \ldots -1)$
- $\varepsilon = [-1 \ldots -0.5)$
- $\varepsilon = [-0.5 \ldots 0)$
- $\varepsilon = [0 \ldots 0.5)$
- $\varepsilon = [0.5 \ldots 1)$
- $\varepsilon = [1 \ldots 1.5)$
- $\varepsilon = [1.5 \ldots 2)$
- $\varepsilon = [2 \ldots 2.5)$
- $\varepsilon = [2.5 \ldots +\infty)$
## Summary statistics for, Deaggregation: Total

### Deaggregation targets

**Return period:** 475 yrs  
**Exceedance rate:** 0.0021052632 yr⁻¹  
**PGA ground motion:** 0.079195309 g

### Recovered targets

**Return period:** 482.04978 yrs  
**Exceedance rate:** 0.0020744746 yr⁻¹

### Totals

**Binned:** 100 %  
**Residual:** 0 %  
**Trace:** 0.81 %

### Mean (over all sources)

**m:** 6.37  
**r:** 62.65 km  
**ε₀:** 0.14 σ

### Mode (largest m-r bin)

**m:** 5.1  
**r:** 11.93 km  
**ε₀:** -0.12 σ  
**Contribution:** 4.89 %

### Mode (largest m-r-ε₀ bin)

**m:** 5.1  
**r:** 14.64 km  
**ε₀:** 0.24 σ  
**Contribution:** 1.63 %

### Discretization

**r:** min = 0.0, max = 1000.0, Δ = 20.0 km  
**m:** min = 4.4, max = 9.4, Δ = 0.2  
**ε:** min = -3.0, max = 3.0, Δ = 0.5 σ

### Epsilon keys

- **ε0:** [-∞ .. -2.5)  
- **ε1:** [-2.5 .. -2.0)  
- **ε2:** [-2.0 .. -1.5)  
- **ε3:** [-1.5 .. -1.0)  
- **ε4:** [-1.0 .. -0.5)  
- **ε5:** [-0.5 .. 0.0)  
- **ε6:** [0.0 .. 0.5)  
- **ε7:** [0.5 .. 1.0)  
- **ε8:** [1.0 .. 1.5)  
- **ε9:** [1.5 .. 2.0)  
- **ε10:** [2.0 .. 2.5)  
- **ε11:** [2.5 .. +∞]
## Deaggregation Contributors

<table>
<thead>
<tr>
<th>Source Set</th>
<th>Source Description</th>
<th>Type</th>
<th>r</th>
<th>m</th>
<th>ε₀</th>
<th>lon</th>
<th>lat</th>
<th>az</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>WUSmap_2014_fixSm.ch.in (opt)</td>
<td>Grid</td>
<td>11.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>noPuget_2014_fixSm.ch.in (opt)</td>
<td>Grid</td>
<td>11.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WUSmap_2014_fixSm.gr.in (opt)</td>
<td>Grid</td>
<td>11.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>noPuget_2014_fixSm.gr.in (opt)</td>
<td>Grid</td>
<td>11.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>noPuget_2014_adSm.ch.in (opt)</td>
<td>Grid</td>
<td>7.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WUSmap_2014_adSm.ch.in (opt)</td>
<td>Grid</td>
<td>7.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>noPuget_2014_adSm.gr.in (opt)</td>
<td>Grid</td>
<td>7.49</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WUSmap_2014_adSm.gr.in (opt)</td>
<td>Grid</td>
<td>7.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sub0_ch_bot.in</td>
<td>Cascadia Megathrust - whole CSZ Characteristic</td>
<td>Interface</td>
<td>331.46</td>
<td>9.12</td>
<td>0.84</td>
<td>123.413°W</td>
<td>46.300°N</td>
<td>280.93</td>
<td>3.39</td>
</tr>
<tr>
<td>sub0_ch_mid.in</td>
<td>Cascadia Megathrust - whole CSZ Characteristic</td>
<td>Interface</td>
<td>385.04</td>
<td>8.93</td>
<td>1.24</td>
<td>124.137°W</td>
<td>46.300°N</td>
<td>279.82</td>
<td>2.27</td>
</tr>
<tr>
<td>noPuget_2014_adSm_M8.in (opt)</td>
<td>Grid</td>
<td>1.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WUSmap_2014_adSm_M8.in (opt)</td>
<td>Grid</td>
<td>1.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geologic Model Full Rupture</td>
<td>Fault</td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Attachment H-3.
Probabilistic Seismic Hazard Deaggregation – 2,475-Year Return Time
This page intentionally left blank
Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

<table>
<thead>
<tr>
<th>Input</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Edition</strong></td>
</tr>
<tr>
<td>Dynamic: Conterminous U.S. 2014 (u…</td>
</tr>
<tr>
<td><strong>Latitude</strong></td>
</tr>
<tr>
<td>Decimal degrees</td>
</tr>
<tr>
<td>45.816761</td>
</tr>
<tr>
<td><strong>Longitude</strong></td>
</tr>
<tr>
<td>Decimal degrees, negative values for western longitudes</td>
</tr>
<tr>
<td>-119.215081</td>
</tr>
<tr>
<td><strong>Site Class</strong></td>
</tr>
<tr>
<td>537 m/s (Site class C)</td>
</tr>
</tbody>
</table>
^ Hazard Curve

Hazard Curves

Uniform Hazard Response Spectrum

Component Curves for Peak Ground Acceleration

View Raw Data
Deaggregation

Component

Total

% Contribution to Hazard

Magnitude (Mw)

Closest Distance, rRup (km)

Legend:
- $\varepsilon = (-\infty, -2.5]$}
- $\varepsilon = [-2.5, -2)$
- $\varepsilon = [-2, -1.5)$
- $\varepsilon = [-1.5, -1)$
- $\varepsilon = [-1, -0.5)$
- $\varepsilon = [-0.5, 0)$
- $\varepsilon = [0, 0.5)$
- $\varepsilon = [0.5, 1)$
- $\varepsilon = [1, 1.5)$
- $\varepsilon = [1.5, 2)$
- $\varepsilon = [2, 2.5)$
- $\varepsilon = [2.5, +\infty)$

https://earthquake.usgs.gov/hazards/interactive/
### Summary statistics for, Deaggregation: Total

#### Deaggregation targets
- **Return period:** 2475 yrs
- **Exceedance rate:** 0.0004040404 yr\(^{-1}\)
- **PGA ground motion:** 0.19803745 g

#### Recovered targets
- **Return period:** 2558.5249 yrs
- **Exceedance rate:** 0.00039085021 yr\(^{-1}\)

#### Totals
- **Binned:** 100 %
- **Residual:** 0 %
- **Trace:** 0.33 %

#### Mean (over all sources)
- \(m:\) 6.3
- \(r:\) 28.95 km
- \(\varepsilon_0\): 0.54 σ

#### Mode (largest \(m-r\) bin)
- \(m:\) 5.5
- \(r:\) 11.23 km
- \(\varepsilon_0\): 0.36 σ
- **Contribution:** 6.89 %

#### Mode (largest \(m-r-\varepsilon_0\) bin)
- \(m:\) 5.5
- \(r:\) 13.52 km
- \(\varepsilon_0\): 0.74 σ
- **Contribution:** 2.1 %

#### Discretization
- \(r:\) min = 0.0, max = 1000.0, Δ = 20.0 km
- \(m:\) min = 4.4, max = 9.4, Δ = 0.2
- \(\varepsilon:\) min = -3.0, max = 3.0, Δ = 0.5 σ

#### Epsilon keys
- \(\varepsilon0:\) \([-\infty, -2.5)\)
- \(\varepsilon1:\) \([-2.5, -2.0)\)
- \(\varepsilon2:\) \([-2.0, -1.5)\)
- \(\varepsilon3:\) \([-1.5, -1.0)\)
- \(\varepsilon4:\) \([-1.0, -0.5)\)
- \(\varepsilon5:\) \([-0.5, 0.0)\)
- \(\varepsilon6:\) \([0.0, 0.5)\)
- \(\varepsilon7:\) \([0.5, 1.0)\)
- \(\varepsilon8:\) \([1.0, 1.5)\)
- \(\varepsilon9:\) \([1.5, 2.0)\)
- \(\varepsilon10:\) \([2.0, 2.5)\)
- \(\varepsilon11:\) \([2.5, +\infty]\)
## Deaggregation Contributors

<table>
<thead>
<tr>
<th>Source Set</th>
<th>Source Type</th>
<th>Grid</th>
<th>lon</th>
<th>lat</th>
<th>az</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>WUSmap_2014_fixSm.ch.in (opt)</td>
<td>PointSourceFinite</td>
<td>10.27</td>
<td>5.83</td>
<td>0.06</td>
<td>119.215°W</td>
<td>45.902°N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.73</td>
<td>5.65</td>
<td>-0.53</td>
<td>119.215°W</td>
<td>45.839°N</td>
</tr>
<tr>
<td>noPuget_2014_fixSm.ch.in (opt)</td>
<td>PointSourceFinite</td>
<td>10.27</td>
<td>5.83</td>
<td>0.06</td>
<td>119.215°W</td>
<td>45.902°N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.73</td>
<td>5.65</td>
<td>-0.53</td>
<td>119.215°W</td>
<td>45.839°N</td>
</tr>
<tr>
<td>WUSmap_2014_fixSm.gr.in (opt)</td>
<td>PointSourceFinite</td>
<td>10.27</td>
<td>5.83</td>
<td>0.06</td>
<td>119.215°W</td>
<td>45.902°N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.73</td>
<td>5.65</td>
<td>-0.53</td>
<td>119.215°W</td>
<td>45.839°N</td>
</tr>
<tr>
<td>noPuget_2014_fixSm.gr.in (opt)</td>
<td>PointSourceFinite</td>
<td>10.27</td>
<td>5.83</td>
<td>0.06</td>
<td>119.215°W</td>
<td>45.902°N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.73</td>
<td>5.65</td>
<td>-0.53</td>
<td>119.215°W</td>
<td>45.839°N</td>
</tr>
<tr>
<td>noPuget_2014_adSm.ch.in (opt)</td>
<td>Grid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WUSmap_2014_adSm.ch.in (opt)</td>
<td>Grid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>noPuget_2014_adSm.gr.in (opt)</td>
<td>Grid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WUSmap_2014_adSm.gr.in (opt)</td>
<td>Grid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geologic Model Partial Rupture</td>
<td>Fault</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rattlesnake - Wallula system</td>
<td></td>
<td>30.97</td>
<td>6.93</td>
<td>0.77</td>
<td>118.918°W</td>
<td>46.053°N</td>
</tr>
<tr>
<td>Horse Heaven Hills structure (NW trend)</td>
<td>28.08</td>
<td>6.80</td>
<td>0.70</td>
<td>119.001°W</td>
<td>46.051°N</td>
<td>32.46</td>
</tr>
<tr>
<td>WUSmap_2014_fixSm_M8.in (opt)</td>
<td>Grid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>noPuget_2014_fixSm_M8.in (opt)</td>
<td>Grid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>noPuget_2014_adSm_M8.in (opt)</td>
<td>Grid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WUSmap_2014_adSm_M8.in (opt)</td>
<td>Grid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sub0_ch_bot.in</td>
<td>Interface</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cascadia Megathrust - whole CSZ Characteristic</td>
<td></td>
<td>331.46</td>
<td>9.16</td>
<td>1.95</td>
<td>123.413°W</td>
<td>46.300°N</td>
</tr>
<tr>
<td>Geologic Model Full Rupture</td>
<td>Fault</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

https://earthquake.usgs.gov/hazards/interactive/
This page intentionally left blank
Attachment H-4.
Response Spectrum – Site Class D “Stiff Soil”
This page intentionally left blank
## Historical Earthquakes within 50 Miles of the Project Site Boundary

<table>
<thead>
<tr>
<th>Date</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Moment Magnitude (MM)</th>
<th>Estimated MMI Intensity</th>
<th>Miles from Site Boundary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1936-07-16</td>
<td>45.966000</td>
<td>-118.211998</td>
<td>M 5.8</td>
<td>N/A</td>
<td>48.90</td>
</tr>
<tr>
<td>1969-04-19</td>
<td>45.897499</td>
<td>-119.703499</td>
<td>M 2.8</td>
<td>N/A</td>
<td>23.67</td>
</tr>
<tr>
<td>1969-07-31</td>
<td>46.418499</td>
<td>-119.284500</td>
<td>M 2.6</td>
<td>N/A</td>
<td>41.41</td>
</tr>
<tr>
<td>1969-08-31</td>
<td>46.429165</td>
<td>-119.291664</td>
<td>M 2.5</td>
<td>N/A</td>
<td>42.17</td>
</tr>
<tr>
<td>1970-04-04</td>
<td>46.228333</td>
<td>-120.080002</td>
<td>M 2.7</td>
<td>N/A</td>
<td>49.84</td>
</tr>
<tr>
<td>1970-09-29</td>
<td>45.760502</td>
<td>-119.145500</td>
<td>M 2.5</td>
<td>N/A</td>
<td>4.63</td>
</tr>
<tr>
<td>1970-11-07</td>
<td>46.442001</td>
<td>-119.291496</td>
<td>M 2.9</td>
<td>N/A</td>
<td>43.05</td>
</tr>
<tr>
<td>1970-11-14</td>
<td>46.429832</td>
<td>-119.299004</td>
<td>M 2.9</td>
<td>N/A</td>
<td>42.24</td>
</tr>
<tr>
<td>1970-12-09</td>
<td>46.270168</td>
<td>-119.951164</td>
<td>M 2.8</td>
<td>N/A</td>
<td>46.72</td>
</tr>
<tr>
<td>1971-01-04</td>
<td>46.230835</td>
<td>-119.363167</td>
<td>M 3.1</td>
<td>N/A</td>
<td>29.11</td>
</tr>
<tr>
<td>1972-08-21</td>
<td>45.575165</td>
<td>-119.988998</td>
<td>M 2.6</td>
<td>N/A</td>
<td>40.44</td>
</tr>
<tr>
<td>1972-08-27</td>
<td>45.532833</td>
<td>-120.016167</td>
<td>M 2.5</td>
<td>N/A</td>
<td>42.89</td>
</tr>
<tr>
<td>1972-12-09</td>
<td>46.418835</td>
<td>-119.030670</td>
<td>M 2.5</td>
<td>N/A</td>
<td>42.16</td>
</tr>
<tr>
<td>1972-12-09</td>
<td>46.418835</td>
<td>-119.030502</td>
<td>M 2.6</td>
<td>N/A</td>
<td>42.16</td>
</tr>
<tr>
<td>1973-12-29</td>
<td>46.048832</td>
<td>-119.657997</td>
<td>M 2.8</td>
<td>N/A</td>
<td>26.14</td>
</tr>
<tr>
<td>1975-05-09</td>
<td>45.632999</td>
<td>-118.556000</td>
<td>M 2.7</td>
<td>N/A</td>
<td>33.75</td>
</tr>
<tr>
<td>1975-05-09</td>
<td>46.431000</td>
<td>-119.260002</td>
<td>M 2.8</td>
<td>N/A</td>
<td>42.21</td>
</tr>
<tr>
<td>1975-05-22</td>
<td>46.391834</td>
<td>-119.179001</td>
<td>M 2.8</td>
<td>N/A</td>
<td>39.48</td>
</tr>
<tr>
<td>1975-06-15</td>
<td>46.234001</td>
<td>-119.113167</td>
<td>M 3.1</td>
<td>N/A</td>
<td>28.90</td>
</tr>
<tr>
<td>1975-06-28</td>
<td>46.092167</td>
<td>-119.722168</td>
<td>M 2.7</td>
<td>N/A</td>
<td>30.41</td>
</tr>
<tr>
<td>1975-06-28</td>
<td>46.105331</td>
<td>-119.703667</td>
<td>M 3.3</td>
<td>N/A</td>
<td>30.10</td>
</tr>
<tr>
<td>1975-06-28</td>
<td>46.098999</td>
<td>-119.706001</td>
<td>M 3.8</td>
<td>N/A</td>
<td>30.29</td>
</tr>
<tr>
<td>1975-07-01</td>
<td>45.627998</td>
<td>-120.001999</td>
<td>M 3.5</td>
<td>N/A</td>
<td>39.68</td>
</tr>
<tr>
<td>Year</td>
<td>Latitude</td>
<td>Longitude</td>
<td>Magnitude</td>
<td>Depth</td>
<td>Distance</td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>------------</td>
<td>-----------</td>
<td>-------</td>
<td>----------</td>
</tr>
<tr>
<td>1975-07-01</td>
<td>45.605331</td>
<td>-120.016167</td>
<td>M 3.6</td>
<td>N/A</td>
<td>40.86</td>
</tr>
<tr>
<td>1975-07-07</td>
<td>45.951000</td>
<td>-118.233665</td>
<td>M 3.2</td>
<td>N/A</td>
<td>47.68</td>
</tr>
<tr>
<td>1976-07-23</td>
<td>46.085335</td>
<td>-118.749664</td>
<td>M 3.1</td>
<td>N/A</td>
<td>28.55</td>
</tr>
<tr>
<td>1976-07-26</td>
<td>45.646832</td>
<td>-119.973831</td>
<td>M 2.9</td>
<td>N/A</td>
<td>37.97</td>
</tr>
<tr>
<td>1977-03-11</td>
<td>45.899166</td>
<td>-119.665665</td>
<td>M 3.1</td>
<td>N/A</td>
<td>21.92</td>
</tr>
<tr>
<td>1977-03-31</td>
<td>45.901833</td>
<td>-119.654167</td>
<td>M 2.9</td>
<td>N/A</td>
<td>21.43</td>
</tr>
<tr>
<td>1978-02-20</td>
<td>45.896500</td>
<td>-119.650002</td>
<td>M 3.2</td>
<td>N/A</td>
<td>21.14</td>
</tr>
<tr>
<td>1978-03-04</td>
<td>46.060333</td>
<td>-118.855499</td>
<td>M 2.8</td>
<td>N/A</td>
<td>23.61</td>
</tr>
<tr>
<td>1978-12-22</td>
<td>45.891335</td>
<td>-119.328163</td>
<td>M 2.6</td>
<td>N/A</td>
<td>6.97</td>
</tr>
<tr>
<td>1979-02-17</td>
<td>46.164165</td>
<td>-119.932663</td>
<td>M 3.6</td>
<td>N/A</td>
<td>41.50</td>
</tr>
<tr>
<td>1979-03-01</td>
<td>46.047501</td>
<td>-119.905670</td>
<td>M 2.7</td>
<td>N/A</td>
<td>21.29</td>
</tr>
<tr>
<td>1979-04-08</td>
<td>45.991333</td>
<td>-118.399170</td>
<td>M 4.3</td>
<td>N/A</td>
<td>40.58</td>
</tr>
<tr>
<td>1980-03-04</td>
<td>45.939999</td>
<td>-119.664001</td>
<td>M 2.6</td>
<td>N/A</td>
<td>22.70</td>
</tr>
<tr>
<td>1980-03-12</td>
<td>46.124668</td>
<td>-119.025665</td>
<td>M 2.6</td>
<td>N/A</td>
<td>22.71</td>
</tr>
<tr>
<td>1980-12-18</td>
<td>45.833000</td>
<td>-120.007332</td>
<td>M 2.8</td>
<td>N/A</td>
<td>37.76</td>
</tr>
<tr>
<td>1981-07-10</td>
<td>46.295834</td>
<td>-118.444832</td>
<td>M 2.6</td>
<td>N/A</td>
<td>49.11</td>
</tr>
<tr>
<td>1982-10-12</td>
<td>45.995998</td>
<td>-119.288170</td>
<td>M 2.8</td>
<td>N/A</td>
<td>12.50</td>
</tr>
<tr>
<td>1982-10-30</td>
<td>45.999001</td>
<td>-119.287498</td>
<td>M 2.7</td>
<td>N/A</td>
<td>12.69</td>
</tr>
<tr>
<td>1982-11-23</td>
<td>45.997334</td>
<td>-119.288666</td>
<td>M 3.2</td>
<td>N/A</td>
<td>12.60</td>
</tr>
<tr>
<td>1983-03-22</td>
<td>45.992001</td>
<td>-118.403000</td>
<td>M 3.8</td>
<td>N/A</td>
<td>40.42</td>
</tr>
<tr>
<td>1983-10-21</td>
<td>45.660000</td>
<td>-118.915665</td>
<td>M 2.7</td>
<td>N/A</td>
<td>17.53</td>
</tr>
<tr>
<td>1984-01-18</td>
<td>45.359833</td>
<td>-119.664833</td>
<td>M 2.5</td>
<td>N/A</td>
<td>37.86</td>
</tr>
<tr>
<td>1984-03-23</td>
<td>45.995998</td>
<td>-119.292168</td>
<td>M 3.3</td>
<td>N/A</td>
<td>12.55</td>
</tr>
<tr>
<td>1984-04-30</td>
<td>46.040501</td>
<td>-119.878166</td>
<td>M 2.8</td>
<td>N/A</td>
<td>34.93</td>
</tr>
<tr>
<td>1984-05-14</td>
<td>46.123501</td>
<td>-119.204666</td>
<td>M 2.5</td>
<td>N/A</td>
<td>20.93</td>
</tr>
<tr>
<td>1984-06-06</td>
<td>45.973999</td>
<td>-118.436501</td>
<td>M 2.7</td>
<td>N/A</td>
<td>38.52</td>
</tr>
<tr>
<td>1984-06-18</td>
<td>45.230835</td>
<td>-118.687500</td>
<td>M 3.1</td>
<td>N/A</td>
<td>47.40</td>
</tr>
</tbody>
</table>
### Attachment H-4. Historical Earthquakes within 50 Miles of the Project Site Boundary

<table>
<thead>
<tr>
<th>Date</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Magnitude</th>
<th>Depth</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984-08-10</td>
<td>46.125168</td>
<td>-119.787834</td>
<td>M 2.5</td>
<td>N/A</td>
<td>34.30</td>
</tr>
<tr>
<td>1984-09-07</td>
<td>46.074165</td>
<td>-119.607002</td>
<td>M 2.5</td>
<td>N/A</td>
<td>25.40</td>
</tr>
<tr>
<td>1984-10-04</td>
<td>46.105499</td>
<td>-120.025665</td>
<td>M 2.9</td>
<td>N/A</td>
<td>43.28</td>
</tr>
<tr>
<td>1985-01-28</td>
<td>45.967335</td>
<td>-119.911003</td>
<td>M 2.6</td>
<td>N/A</td>
<td>34.58</td>
</tr>
<tr>
<td>1985-01-31</td>
<td>45.954498</td>
<td>-118.836830</td>
<td>M 2.7</td>
<td>N/A</td>
<td>20.01</td>
</tr>
<tr>
<td>1985-01-31</td>
<td>45.964500</td>
<td>-119.902496</td>
<td>M 2.8</td>
<td>N/A</td>
<td>34.13</td>
</tr>
<tr>
<td>1985-02-10</td>
<td>45.704498</td>
<td>-119.634499</td>
<td>M 3.9</td>
<td>N/A</td>
<td>21.14</td>
</tr>
<tr>
<td>1985-02-27</td>
<td>45.961334</td>
<td>-119.906334</td>
<td>M 2.6</td>
<td>N/A</td>
<td>34.24</td>
</tr>
<tr>
<td>1985-03-01</td>
<td>45.805000</td>
<td>-119.015999</td>
<td>M 2.6</td>
<td>N/A</td>
<td>9.13</td>
</tr>
<tr>
<td>1985-03-20</td>
<td>45.963165</td>
<td>-119.904663</td>
<td>M 3.1</td>
<td>N/A</td>
<td>34.20</td>
</tr>
<tr>
<td>1985-04-17</td>
<td>45.879002</td>
<td>-119.315331</td>
<td>M 2.6</td>
<td>N/A</td>
<td>5.93</td>
</tr>
<tr>
<td>1985-04-30</td>
<td>45.881668</td>
<td>-119.953331</td>
<td>M 2.6</td>
<td>N/A</td>
<td>43.55</td>
</tr>
<tr>
<td>1985-10-27</td>
<td>46.409500</td>
<td>-119.181335</td>
<td>M 2.5</td>
<td>N/A</td>
<td>39.95</td>
</tr>
<tr>
<td>1985-10-27</td>
<td>46.398834</td>
<td>-119.192337</td>
<td>M 2.8</td>
<td>N/A</td>
<td>40.70</td>
</tr>
<tr>
<td>1985-11-18</td>
<td>46.251835</td>
<td>-119.618332</td>
<td>M 2.9</td>
<td>N/A</td>
<td>35.28</td>
</tr>
<tr>
<td>1985-12-03</td>
<td>46.165501</td>
<td>-119.603333</td>
<td>M 2.9</td>
<td>N/A</td>
<td>29.98</td>
</tr>
<tr>
<td>1985-12-03</td>
<td>46.165501</td>
<td>-119.613503</td>
<td>M 2.8</td>
<td>N/A</td>
<td>35.05</td>
</tr>
<tr>
<td>1985-12-26</td>
<td>45.988499</td>
<td>-118.427170</td>
<td>M 2.6</td>
<td>N/A</td>
<td>39.24</td>
</tr>
<tr>
<td>1986-01-16</td>
<td>46.251499</td>
<td>-119.617996</td>
<td>M 3.0</td>
<td>N/A</td>
<td>35.26</td>
</tr>
<tr>
<td>1986-01-22</td>
<td>46.459499</td>
<td>-118.997665</td>
<td>M 2.6</td>
<td>N/A</td>
<td>45.24</td>
</tr>
<tr>
<td>1986-01-29</td>
<td>46.452168</td>
<td>-119.007332</td>
<td>M 2.6</td>
<td>N/A</td>
<td>44.65</td>
</tr>
<tr>
<td>1986-01-29</td>
<td>46.254002</td>
<td>-119.615501</td>
<td>M 2.9</td>
<td>N/A</td>
<td>35.34</td>
</tr>
<tr>
<td>1986-02-01</td>
<td>46.452332</td>
<td>-118.997002</td>
<td>M 2.6</td>
<td>N/A</td>
<td>44.76</td>
</tr>
<tr>
<td>1986-02-04</td>
<td>46.043999</td>
<td>-118.809998</td>
<td>M 3.2</td>
<td>N/A</td>
<td>24.49</td>
</tr>
<tr>
<td>1986-02-05</td>
<td>46.253666</td>
<td>-119.616333</td>
<td>M 2.8</td>
<td>N/A</td>
<td>35.34</td>
</tr>
<tr>
<td>1986-03-02</td>
<td>46.311501</td>
<td>-119.783836</td>
<td>M 2.8</td>
<td>N/A</td>
<td>43.26</td>
</tr>
</tbody>
</table>
### Attachment H-4. Historical Earthquakes within 50 Miles of the Project Site Boundary

<table>
<thead>
<tr>
<th>Date</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Magnitude</th>
<th>Depth</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986-12-08</td>
<td>45.976665</td>
<td>-118.953003</td>
<td>M 2.6</td>
<td>N/A</td>
<td>16.24</td>
</tr>
<tr>
<td>1988-02-03</td>
<td>46.223000</td>
<td>-119.734001</td>
<td>M 2.5</td>
<td>N/A</td>
<td>37.04</td>
</tr>
<tr>
<td>1988-02-07</td>
<td>45.355999</td>
<td>-119.621666</td>
<td>M 2.5</td>
<td>N/A</td>
<td>36.95</td>
</tr>
<tr>
<td>1988-02-14</td>
<td>45.577000</td>
<td>-120.149330</td>
<td>M 2.5</td>
<td>N/A</td>
<td>47.59</td>
</tr>
<tr>
<td>1988-02-28</td>
<td>45.571167</td>
<td>-119.884666</td>
<td>M 2.6</td>
<td>N/A</td>
<td>36.01</td>
</tr>
<tr>
<td>1988-03-17</td>
<td>46.132332</td>
<td>-119.782997</td>
<td>M 2.6</td>
<td>N/A</td>
<td>34.42</td>
</tr>
<tr>
<td>1988-03-18</td>
<td>46.350498</td>
<td>-119.268166</td>
<td>M 2.5</td>
<td>N/A</td>
<td>36.67</td>
</tr>
<tr>
<td>1988-03-18</td>
<td>46.350166</td>
<td>-119.265831</td>
<td>M 2.6</td>
<td>N/A</td>
<td>36.64</td>
</tr>
<tr>
<td>1988-08-06</td>
<td>45.435001</td>
<td>-119.882332</td>
<td>M 2.5</td>
<td>N/A</td>
<td>41.17</td>
</tr>
<tr>
<td>1988-08-26</td>
<td>46.070499</td>
<td>-118.768997</td>
<td>M 2.8</td>
<td>N/A</td>
<td>27.18</td>
</tr>
<tr>
<td>1988-09-29</td>
<td>45.849834</td>
<td>-120.259666</td>
<td>M 3.5</td>
<td>N/A</td>
<td>49.97</td>
</tr>
<tr>
<td>1988-10-01</td>
<td>45.139668</td>
<td>-119.138664</td>
<td>M 2.6</td>
<td>N/A</td>
<td>46.62</td>
</tr>
<tr>
<td>1988-10-19</td>
<td>46.040333</td>
<td>-118.700165</td>
<td>M 2.8</td>
<td>N/A</td>
<td>28.66</td>
</tr>
<tr>
<td>1988-02-10</td>
<td>46.113834</td>
<td>-120.024498</td>
<td>M 2.6</td>
<td>N/A</td>
<td>43.49</td>
</tr>
<tr>
<td>1988-02-21</td>
<td>45.738834</td>
<td>-120.030830</td>
<td>M 2.6</td>
<td>N/A</td>
<td>39.25</td>
</tr>
<tr>
<td>1988-04-03</td>
<td>46.486832</td>
<td>-119.261002</td>
<td>M 2.5</td>
<td>N/A</td>
<td>46.06</td>
</tr>
<tr>
<td>1988-12-28</td>
<td>45.481667</td>
<td>-119.489166</td>
<td>M 2.5</td>
<td>N/A</td>
<td>26.21</td>
</tr>
<tr>
<td>1990-03-02</td>
<td>45.642666</td>
<td>-118.928337</td>
<td>M 2.8</td>
<td>N/A</td>
<td>17.81</td>
</tr>
<tr>
<td>1990-06-18</td>
<td>46.018665</td>
<td>-118.338165</td>
<td>M 2.5</td>
<td>N/A</td>
<td>43.94</td>
</tr>
<tr>
<td>1990-08-10</td>
<td>45.960999</td>
<td>-118.243500</td>
<td>M 2.6</td>
<td>N/A</td>
<td>47.35</td>
</tr>
<tr>
<td>1990-08-15</td>
<td>45.255501</td>
<td>-119.071663</td>
<td>M 2.6</td>
<td>N/A</td>
<td>39.05</td>
</tr>
<tr>
<td>1990-08-18</td>
<td>46.011166</td>
<td>-118.225166</td>
<td>M 2.5</td>
<td>N/A</td>
<td>49.01</td>
</tr>
<tr>
<td>1991-03-25</td>
<td>46.124832</td>
<td>-119.801003</td>
<td>M 2.5</td>
<td>N/A</td>
<td>34.79</td>
</tr>
<tr>
<td>1991-04-04</td>
<td>46.081833</td>
<td>-118.833504</td>
<td>M 2.5</td>
<td>N/A</td>
<td>25.41</td>
</tr>
<tr>
<td>1991-08-14</td>
<td>46.003166</td>
<td>-118.342163</td>
<td>M 2.5</td>
<td>N/A</td>
<td>43.44</td>
</tr>
<tr>
<td>1991-11-28</td>
<td>45.989498</td>
<td>-118.317001</td>
<td>M 4.3</td>
<td>N/A</td>
<td>44.35</td>
</tr>
<tr>
<td>1991-12-15</td>
<td>45.994499</td>
<td>-118.328835</td>
<td>M 3.3</td>
<td>N/A</td>
<td>43.90</td>
</tr>
</tbody>
</table>
### Attachment H-4. Historical Earthquakes within 50 Miles of the Project Site Boundary

<table>
<thead>
<tr>
<th>Date</th>
<th>Latitude</th>
<th>Longitude</th>
<th>M</th>
<th>Depth</th>
<th>R distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992-02-07</td>
<td>46.170834</td>
<td>-118.394669</td>
<td>2.7</td>
<td>N/A</td>
<td>45.88</td>
</tr>
<tr>
<td>1992-07-14</td>
<td>45.992668</td>
<td>-118.308998</td>
<td>4.1</td>
<td>N/A</td>
<td>44.78</td>
</tr>
<tr>
<td>1992-08-06</td>
<td>46.002834</td>
<td>-118.405830</td>
<td>2.8</td>
<td>N/A</td>
<td>40.51</td>
</tr>
<tr>
<td>1992-08-07</td>
<td>45.860332</td>
<td>-119.589500</td>
<td>3.9</td>
<td>N/A</td>
<td>17.78</td>
</tr>
<tr>
<td>1992-09-23</td>
<td>45.974998</td>
<td>-118.389664</td>
<td>2.8</td>
<td>N/A</td>
<td>40.72</td>
</tr>
<tr>
<td>1994-05-24</td>
<td>45.809834</td>
<td>-120.188499</td>
<td>2.6</td>
<td>N/A</td>
<td>46.51</td>
</tr>
<tr>
<td>1994-09-05</td>
<td>41.48666</td>
<td>-118.364166</td>
<td>2.6</td>
<td>N/A</td>
<td>46.37</td>
</tr>
<tr>
<td>1994-09-22</td>
<td>45.691502</td>
<td>-120.163330</td>
<td>2.9</td>
<td>N/A</td>
<td>46.11</td>
</tr>
<tr>
<td>1994-09-25</td>
<td>45.530499</td>
<td>-118.800331</td>
<td>2.6</td>
<td>N/A</td>
<td>27.64</td>
</tr>
<tr>
<td>1994-10-06</td>
<td>45.680668</td>
<td>-120.163498</td>
<td>2.7</td>
<td>N/A</td>
<td>46.27</td>
</tr>
<tr>
<td>1994-11-03</td>
<td>45.694000</td>
<td>-120.171837</td>
<td>2.6</td>
<td>N/A</td>
<td>46.49</td>
</tr>
<tr>
<td>1994-11-17</td>
<td>45.701168</td>
<td>-120.177498</td>
<td>2.7</td>
<td>N/A</td>
<td>46.67</td>
</tr>
<tr>
<td>1995-06-12</td>
<td>46.404499</td>
<td>-119.262833</td>
<td>3.3</td>
<td>N/A</td>
<td>40.38</td>
</tr>
<tr>
<td>1995-08-29</td>
<td>46.208168</td>
<td>-119.905502</td>
<td>3.1</td>
<td>N/A</td>
<td>42.29</td>
</tr>
<tr>
<td>1995-09-03</td>
<td>45.902000</td>
<td>-118.219002</td>
<td>2.9</td>
<td>N/A</td>
<td>47.88</td>
</tr>
<tr>
<td>1995-11-02</td>
<td>46.150002</td>
<td>-119.564331</td>
<td>3.1</td>
<td>N/A</td>
<td>28.01</td>
</tr>
<tr>
<td>1996-02-13</td>
<td>45.529999</td>
<td>-119.606499</td>
<td>2.9</td>
<td>N/A</td>
<td>26.88</td>
</tr>
<tr>
<td>1997-03-21</td>
<td>45.643501</td>
<td>-119.487999</td>
<td>2.5</td>
<td>N/A</td>
<td>17.27</td>
</tr>
<tr>
<td>1997-03-26</td>
<td>45.984833</td>
<td>-118.354164</td>
<td>2.6</td>
<td>N/A</td>
<td>42.54</td>
</tr>
<tr>
<td>1997-05-13</td>
<td>45.543167</td>
<td>-119.603333</td>
<td>2.7</td>
<td>N/A</td>
<td>26.11</td>
</tr>
<tr>
<td>1997-07-23</td>
<td>45.992332</td>
<td>-118.497169</td>
<td>2.7</td>
<td>N/A</td>
<td>36.11</td>
</tr>
<tr>
<td>1997-08-17</td>
<td>45.648335</td>
<td>-120.186333</td>
<td>2.8</td>
<td>N/A</td>
<td>47.85</td>
</tr>
<tr>
<td>1997-09-10</td>
<td>45.654335</td>
<td>-120.197998</td>
<td>2.7</td>
<td>N/A</td>
<td>48.30</td>
</tr>
<tr>
<td>1998-02-03</td>
<td>45.813835</td>
<td>-120.192169</td>
<td>3.1</td>
<td>N/A</td>
<td>46.68</td>
</tr>
<tr>
<td>1998-03-01</td>
<td>46.317333</td>
<td>-119.881836</td>
<td>2.6</td>
<td>N/A</td>
<td>46.62</td>
</tr>
<tr>
<td>1998-03-23</td>
<td>46.383835</td>
<td>-118.889664</td>
<td>2.7</td>
<td>N/A</td>
<td>41.75</td>
</tr>
<tr>
<td>1998-04-14</td>
<td>45.480331</td>
<td>-119.539497</td>
<td>2.6</td>
<td>N/A</td>
<td>27.56</td>
</tr>
<tr>
<td>Date</td>
<td>Latitude</td>
<td>Longitude</td>
<td>Magnitude</td>
<td>Depth</td>
<td>Distance</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>-----------</td>
<td>-------</td>
<td>----------</td>
</tr>
<tr>
<td>1998-09-05</td>
<td>45.648167</td>
<td>-119.490837</td>
<td>M 2.9</td>
<td>N/A</td>
<td>17.15</td>
</tr>
<tr>
<td>1999-03-10</td>
<td>45.999168</td>
<td>-118.480499</td>
<td>M 2.6</td>
<td>N/A</td>
<td>37.02</td>
</tr>
<tr>
<td>1999-07-24</td>
<td>45.928165</td>
<td>-119.213669</td>
<td>M 2.6</td>
<td>N/A</td>
<td>7.44</td>
</tr>
<tr>
<td>1999-09-19</td>
<td>46.441334</td>
<td>-119.625832</td>
<td>M 3.1</td>
<td>III</td>
<td>47.00</td>
</tr>
<tr>
<td>1999-12-21</td>
<td>45.754501</td>
<td>-120.000168</td>
<td>M 2.7</td>
<td>N/A</td>
<td>37.65</td>
</tr>
<tr>
<td>2000-01-05</td>
<td>45.704166</td>
<td>-120.049500</td>
<td>M 2.8</td>
<td>N/A</td>
<td>40.54</td>
</tr>
<tr>
<td>2000-01-13</td>
<td>45.690834</td>
<td>-119.934669</td>
<td>M 2.6</td>
<td>N/A</td>
<td>35.31</td>
</tr>
<tr>
<td>2000-02-15</td>
<td>45.687668</td>
<td>-120.079170</td>
<td>M 2.6</td>
<td>N/A</td>
<td>42.17</td>
</tr>
<tr>
<td>2000-02-21</td>
<td>45.682835</td>
<td>-120.124832</td>
<td>M 2.5</td>
<td>N/A</td>
<td>44.40</td>
</tr>
<tr>
<td>2000-09-06</td>
<td>46.075500</td>
<td>-118.364502</td>
<td>M 3.0</td>
<td>III</td>
<td>44.14</td>
</tr>
<tr>
<td>2000-12-29</td>
<td>45.886833</td>
<td>-119.708336</td>
<td>M 2.6</td>
<td>N/A</td>
<td>23.74</td>
</tr>
<tr>
<td>2002-01-31</td>
<td>45.685165</td>
<td>-120.166000</td>
<td>M 2.7</td>
<td>N/A</td>
<td>46.32</td>
</tr>
<tr>
<td>2002-09-16</td>
<td>45.980667</td>
<td>-118.330002</td>
<td>M 2.5</td>
<td>N/A</td>
<td>43.59</td>
</tr>
<tr>
<td>2002-12-30</td>
<td>46.272999</td>
<td>-119.402000</td>
<td>M 2.7</td>
<td>N/A</td>
<td>32.39</td>
</tr>
<tr>
<td>2003-01-17</td>
<td>45.680168</td>
<td>-120.177498</td>
<td>M 2.9</td>
<td>N/A</td>
<td>46.94</td>
</tr>
<tr>
<td>2003-01-24</td>
<td>46.261665</td>
<td>-119.385002</td>
<td>M 2.7</td>
<td>N/A</td>
<td>31.43</td>
</tr>
<tr>
<td>2003-02-23</td>
<td>46.062168</td>
<td>-118.786003</td>
<td>M 2.6</td>
<td>N/A</td>
<td>26.18</td>
</tr>
<tr>
<td>2003-09-12</td>
<td>45.420666</td>
<td>-118.842163</td>
<td>M 2.8</td>
<td>N/A</td>
<td>32.30</td>
</tr>
<tr>
<td>2003-10-16</td>
<td>45.876999</td>
<td>-118.426666</td>
<td>M 2.5</td>
<td>N/A</td>
<td>37.74</td>
</tr>
<tr>
<td>2003-12-01</td>
<td>45.421333</td>
<td>-118.857330</td>
<td>M 2.5</td>
<td>N/A</td>
<td>31.87</td>
</tr>
<tr>
<td>2004-02-28</td>
<td>46.036335</td>
<td>-119.020500</td>
<td>M 3.3</td>
<td>IV</td>
<td>17.35</td>
</tr>
<tr>
<td>2004-03-08</td>
<td>45.642334</td>
<td>-120.200500</td>
<td>M 2.5</td>
<td>N/A</td>
<td>48.61</td>
</tr>
<tr>
<td>2004-03-31</td>
<td>45.694168</td>
<td>-120.167168</td>
<td>M 2.6</td>
<td>N/A</td>
<td>46.26</td>
</tr>
<tr>
<td>2005-02-01</td>
<td>46.276833</td>
<td>-119.545998</td>
<td>M 2.5</td>
<td>N/A</td>
<td>35.09</td>
</tr>
<tr>
<td>2005-07-18</td>
<td>46.266998</td>
<td>-119.391167</td>
<td>M 2.5</td>
<td>N/A</td>
<td>31.86</td>
</tr>
<tr>
<td>2005-11-10</td>
<td>46.146332</td>
<td>-119.931000</td>
<td>M 2.5</td>
<td>N/A</td>
<td>40.75</td>
</tr>
<tr>
<td>2006-12-20</td>
<td>46.094833</td>
<td>-118.513000</td>
<td>M 3.4</td>
<td>IV</td>
<td>38.32</td>
</tr>
</tbody>
</table>
## Attachment H-4. Historical Earthquakes within 50 Miles of the Project Site Boundary

<table>
<thead>
<tr>
<th>Date</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Magnitude</th>
<th>Depth</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-01-08</td>
<td>45.685501</td>
<td>-120.162003</td>
<td>M 2.7</td>
<td>N/A</td>
<td>46.13</td>
</tr>
<tr>
<td>2007-01-31</td>
<td>46.266998</td>
<td>-119.385330</td>
<td>M 2.5</td>
<td>N/A</td>
<td>31.79</td>
</tr>
<tr>
<td>2007-04-16</td>
<td>46.396999</td>
<td>-119.392830</td>
<td>M 2.7</td>
<td>N/A</td>
<td>40.63</td>
</tr>
<tr>
<td>2007-11-30</td>
<td>45.713833</td>
<td>-120.182167</td>
<td>M 2.8</td>
<td>N/A</td>
<td>46.75</td>
</tr>
<tr>
<td>2008-03-31</td>
<td>45.696835</td>
<td>-120.169670</td>
<td>M 2.8</td>
<td>N/A</td>
<td>46.35</td>
</tr>
<tr>
<td>2008-05-02</td>
<td>46.058834</td>
<td>-118.768166</td>
<td>M 2.6</td>
<td>N/A</td>
<td>26.71</td>
</tr>
<tr>
<td>2008-05-18</td>
<td>46.167667</td>
<td>-119.550163</td>
<td>M 3.7</td>
<td>II</td>
<td>28.63</td>
</tr>
<tr>
<td>2009-02-10</td>
<td>46.407833</td>
<td>-119.280167</td>
<td>M 2.5</td>
<td>N/A</td>
<td>40.66</td>
</tr>
<tr>
<td>2009-02-21</td>
<td>46.407665</td>
<td>-119.291664</td>
<td>M 2.9</td>
<td>II</td>
<td>40.69</td>
</tr>
<tr>
<td>2009-03-08</td>
<td>46.410000</td>
<td>-119.277336</td>
<td>M 2.9</td>
<td>III</td>
<td>40.80</td>
</tr>
<tr>
<td>2009-03-12</td>
<td>46.403168</td>
<td>-119.271332</td>
<td>M 2.8</td>
<td>II</td>
<td>40.31</td>
</tr>
<tr>
<td>2009-03-16</td>
<td>46.399666</td>
<td>-119.284836</td>
<td>M 2.6</td>
<td>N/A</td>
<td>40.11</td>
</tr>
<tr>
<td>2009-03-18</td>
<td>46.405666</td>
<td>-119.264999</td>
<td>M 2.9</td>
<td>N/A</td>
<td>40.47</td>
</tr>
<tr>
<td>2009-03-18</td>
<td>46.403999</td>
<td>-119.270332</td>
<td>M 2.9</td>
<td>II</td>
<td>40.37</td>
</tr>
<tr>
<td>2009-04-03</td>
<td>46.407333</td>
<td>-119.288498</td>
<td>M 2.7</td>
<td>III</td>
<td>40.65</td>
</tr>
<tr>
<td>2009-04-04</td>
<td>46.386002</td>
<td>-119.286998</td>
<td>M 2.7</td>
<td>N/A</td>
<td>39.12</td>
</tr>
<tr>
<td>2009-04-04</td>
<td>46.395832</td>
<td>-119.292336</td>
<td>M 2.7</td>
<td>III</td>
<td>39.88</td>
</tr>
<tr>
<td>2009-04-07</td>
<td>46.410999</td>
<td>-119.293167</td>
<td>M 2.5</td>
<td>N/A</td>
<td>40.28</td>
</tr>
<tr>
<td>2009-04-07</td>
<td>46.410999</td>
<td>-119.291496</td>
<td>M 2.5</td>
<td>N/A</td>
<td>40.92</td>
</tr>
<tr>
<td>2009-04-07</td>
<td>46.401501</td>
<td>-119.296997</td>
<td>M 2.7</td>
<td>N/A</td>
<td>40.92</td>
</tr>
<tr>
<td>2009-04-08</td>
<td>46.404999</td>
<td>-119.264832</td>
<td>M 2.6</td>
<td>N/A</td>
<td>40.42</td>
</tr>
<tr>
<td>2009-04-14</td>
<td>46.395668</td>
<td>-119.293335</td>
<td>M 2.6</td>
<td>II</td>
<td>39.87</td>
</tr>
<tr>
<td>2009-05-04</td>
<td>46.413502</td>
<td>-119.272835</td>
<td>M 3.0</td>
<td>III</td>
<td>41.03</td>
</tr>
<tr>
<td>2009-05-05</td>
<td>46.386665</td>
<td>-119.269501</td>
<td>M 2.5</td>
<td>N/A</td>
<td>39.17</td>
</tr>
<tr>
<td>2009-05-06</td>
<td>45.702332</td>
<td>-120.175499</td>
<td>M 2.6</td>
<td>N/A</td>
<td>46.56</td>
</tr>
<tr>
<td>2009-05-10</td>
<td>45.833000</td>
<td>-120.110168</td>
<td>M 2.5</td>
<td>N/A</td>
<td>42.72</td>
</tr>
<tr>
<td>2009-05-13</td>
<td>46.403500</td>
<td>-119.289169</td>
<td>M 2.8</td>
<td>N/A</td>
<td>40.39</td>
</tr>
<tr>
<td>Date</td>
<td>Latitude</td>
<td>Longitude</td>
<td>Magnitude</td>
<td>Depth</td>
<td>Type</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
<td>-----------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>2009-05-13</td>
<td>46.407333</td>
<td>-119.287331</td>
<td>M 2.9</td>
<td>N/A</td>
<td>II</td>
</tr>
<tr>
<td>2009-05-16</td>
<td>46.394669</td>
<td>-119.294334</td>
<td>M 2.7</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2009-05-29</td>
<td>45.915501</td>
<td>-118.556999</td>
<td>M 2.8</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2009-06-04</td>
<td>46.270168</td>
<td>-119.383331</td>
<td>M 2.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2009-07-23</td>
<td>46.413334</td>
<td>-119.267502</td>
<td>M 2.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2009-08-11</td>
<td>45.932999</td>
<td>-119.987999</td>
<td>M 2.6</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2009-08-16</td>
<td>45.932999</td>
<td>-120.104332</td>
<td>M 2.8</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2009-09-11</td>
<td>46.415501</td>
<td>-119.271667</td>
<td>M 2.8</td>
<td>III</td>
<td>41.16</td>
</tr>
<tr>
<td>2009-11-30</td>
<td>45.706165</td>
<td>-120.185165</td>
<td>M 2.6</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2009-12-22</td>
<td>46.415001</td>
<td>-119.263496</td>
<td>M 2.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2010-02-04</td>
<td>46.399334</td>
<td>-119.295998</td>
<td>M 2.7</td>
<td>III</td>
<td>40.13</td>
</tr>
<tr>
<td>2010-03-01</td>
<td>45.708668</td>
<td>-120.227837</td>
<td>M 2.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2010-05-15</td>
<td>45.746166</td>
<td>-118.545670</td>
<td>M 2.7</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2010-05-16</td>
<td>45.732334</td>
<td>-118.542503</td>
<td>M 2.8</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2010-07-29</td>
<td>45.648499</td>
<td>-120.095337</td>
<td>M 2.7</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2010-10-19</td>
<td>45.940498</td>
<td>-120.244835</td>
<td>M 2.6</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2010-10-27</td>
<td>45.934666</td>
<td>-120.242165</td>
<td>M 2.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2011-05-01</td>
<td>46.404499</td>
<td>-119.255333</td>
<td>M 3.3</td>
<td>III</td>
<td>40.37</td>
</tr>
<tr>
<td>2011-08-27</td>
<td>46.407333</td>
<td>-119.261833</td>
<td>M 2.5</td>
<td>III</td>
<td>40.58</td>
</tr>
<tr>
<td>2011-09-04</td>
<td>46.410831</td>
<td>-119.260002</td>
<td>M 3.7</td>
<td>III</td>
<td>40.82</td>
</tr>
<tr>
<td>2011-09-05</td>
<td>46.407166</td>
<td>-119.265999</td>
<td>M 2.8</td>
<td>III</td>
<td>40.58</td>
</tr>
<tr>
<td>2011-10-15</td>
<td>46.408333</td>
<td>-119.262337</td>
<td>M 3.4</td>
<td>III and V</td>
<td>40.65</td>
</tr>
<tr>
<td>2012-02-22</td>
<td>46.492001</td>
<td>-119.473000</td>
<td>M 2.7</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2012-03-12</td>
<td>46.164833</td>
<td>-119.171165</td>
<td>M 2.6</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2012-04-10</td>
<td>46.045502</td>
<td>-118.712334</td>
<td>M 3.2</td>
<td>III</td>
<td>28.36</td>
</tr>
<tr>
<td>2012-10-26</td>
<td>46.259666</td>
<td>-119.384003</td>
<td>M 2.5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2013-11-17</td>
<td>46.411499</td>
<td>-119.270836</td>
<td>M 3.2</td>
<td>III</td>
<td>40.89</td>
</tr>
</tbody>
</table>
## Attachment H-4. Historical Earthquakes within 50 Miles of the Project Site Boundary

<table>
<thead>
<tr>
<th>Year</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Magnitude</th>
<th>Intensity</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-04-07</td>
<td>46.122334</td>
<td>-119.025497</td>
<td>M 2.7</td>
<td>N/A</td>
<td>22.56</td>
</tr>
<tr>
<td>2015-01-23</td>
<td>45.710999</td>
<td>-118.550331</td>
<td>M 3.5</td>
<td>III</td>
<td>32.40</td>
</tr>
<tr>
<td>2017-02-15</td>
<td>45.752834</td>
<td>-118.595337</td>
<td>M 2.9</td>
<td>II</td>
<td>29.73</td>
</tr>
</tbody>
</table>
Attachment H-5.
Response Spectrum – Site Class C “Very Dense Soil and Soft Rock”
Hazards by Location

### Search Information
- **Coordinates:** 45.816761, -119.215081
- **Elevation:** 700 ft
- **Timestamp:** 2021-06-03T21:22:19.658Z
- **Hazard Type:** Seismic
- **Reference:** IBC-2015

### Basic Parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_S$</td>
<td>0.376</td>
<td>$MCE_R$ ground motion (period=0.2s)</td>
</tr>
<tr>
<td>$S_1$</td>
<td>0.146</td>
<td>$MCE_R$ ground motion (period=1.0s)</td>
</tr>
<tr>
<td>$S_{MS}$</td>
<td>0.563</td>
<td>Site-modified spectral acceleration value</td>
</tr>
<tr>
<td>$S_{M1}$</td>
<td>0.323</td>
<td>Site-modified spectral acceleration value</td>
</tr>
<tr>
<td>$S_{DS}$</td>
<td>0.376</td>
<td>Numeric seismic design value at 0.2s SA</td>
</tr>
<tr>
<td>$S_{D1}$</td>
<td>0.215</td>
<td>Numeric seismic design value at 1.0s SA</td>
</tr>
</tbody>
</table>

### Additional Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDC</td>
<td>D</td>
<td>Seismic design category</td>
</tr>
<tr>
<td>$F_a$</td>
<td>1.499</td>
<td>Site amplification factor at 0.2s</td>
</tr>
<tr>
<td>$F_v$</td>
<td>2.217</td>
<td>Site amplification factor at 1.0s</td>
</tr>
<tr>
<td>$C_{RS}$</td>
<td>0.911</td>
<td>Coefficient of risk (0.2s)</td>
</tr>
<tr>
<td>CR&lt;sub&gt;1&lt;/sub&gt;</td>
<td>0.9</td>
<td>Coefficient of risk (1.0s)</td>
</tr>
<tr>
<td>-------------</td>
<td>-----</td>
<td>-------------------------</td>
</tr>
<tr>
<td>PGA</td>
<td>0.159</td>
<td>MCE&lt;sub&gt;G&lt;/sub&gt; peak ground acceleration</td>
</tr>
<tr>
<td>F&lt;sub&gt;PGA&lt;/sub&gt;</td>
<td>1.482</td>
<td>Site amplification factor at PGA</td>
</tr>
<tr>
<td>PGA&lt;sub&gt;M&lt;/sub&gt;</td>
<td>0.236</td>
<td>Site modified peak ground acceleration</td>
</tr>
<tr>
<td>T&lt;sub&gt;L&lt;/sub&gt;</td>
<td>16</td>
<td>Long-period transition period (s)</td>
</tr>
<tr>
<td>SsRT</td>
<td>0.376</td>
<td>Probabilistic risk-targeted ground motion (0.2s)</td>
</tr>
<tr>
<td>SsUH</td>
<td>0.412</td>
<td>Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)</td>
</tr>
<tr>
<td>SsD</td>
<td>1.5</td>
<td>Factored deterministic acceleration value (0.2s)</td>
</tr>
<tr>
<td>S1RT</td>
<td>0.146</td>
<td>Probabilistic risk-targeted ground motion (1.0s)</td>
</tr>
<tr>
<td>S1UH</td>
<td>0.162</td>
<td>Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)</td>
</tr>
<tr>
<td>S1D</td>
<td>0.6</td>
<td>Factored deterministic acceleration value (1.0s)</td>
</tr>
<tr>
<td>PGAd</td>
<td>0.6</td>
<td>Factored deterministic acceleration value (PGA)</td>
</tr>
</tbody>
</table>

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

**Disclaimer**

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.
This page intentionally left blank
Exhibit I: Soil Conditions

Table of Contents

1.0 Introduction ................................................................................................................................................................ 1
2.0 Analysis Area .................................................................................................................................................................. 1
3.0 Identification and Description of Soil Types – OAR 345-021-0010(1)(i)(A) ................................................................. 1
4.0 Current Land Use within the Analysis Area – OAR 345-021-0010(1)(i)(B) ................................................................. 2
5.0 Project Soil Impacts – OAR 345-021-0010(1)(i)(C) ................................................................................................. 3
  5.1 Soil Impacts During Construction ......................................................................................................................... 3
  5.2 Soil Impacts During Operation ............................................................................................................................... 4
  5.3 Soil Impacts During Decommissioning .................................................................................................................. 4
6.0 Mitigation Measures – OAR 345-021-0010(1)(i)(D) ................................................................................................. 4
  6.1 Minimization and Best Management Practices ..................................................................................................... 4
7.0 Monitoring Program – OAR 345-021-0010(1)(i)(E) ............................................................................................... 5
8.0 Conclusions .................................................................................................................................................................. 5
9.0 References .................................................................................................................................................................... 6

List of Tables
Table I-1. General Description of Mapped Soil Units in Project Area .............................................................................. 2

List of Figures
Figure I-1. Soil Maps
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>BMP</td>
<td>best management practices</td>
</tr>
<tr>
<td>ESCP</td>
<td>Erosion and Sediment Control Plan</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rules</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
<tr>
<td>SPCC</td>
<td>Spill Prevention, Control, and Countermeasures Plan</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant) a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar generation facility and related or supporting facilities in Umatilla County, OR. Exhibit I was prepared to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(i).

2.0 Analysis Area

The Analysis Area for soil resources is the area within the Site Boundary. The Site Boundary is defined in detail 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)(A)

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:

OAR 345-021-0010(1)(i)(A) Identification and description of the major soil types in the analysis area.

Based on the Natural Resources Conservation Service Soil Data (NRCS 2019), there are two major soil types in the Analysis Area (Table I-1, Figure I-1). The Adkins fine sandy loam makes up 63 percent of the analysis area and are eolian deposits, consisting of deep, well-drained soils deposited or transported by wind activity. The remainder of the analysis area is composed of Quincy fine sand (37 percent). The Quincy fine sand is both colluvial and alluvial deposits, consisting of very deep excessively drained soils formed in sands on dunes and terraces. The Adkins series typically consists of 4 stratigraphic levels (A, Bw, Bk1, Bk2) of fine sandy loam with increasing moisture content and alkalinity at increasing depth at each of the series’ level. The Quincy series typically consists of two stratigraphic levels (A and C) of fine sand with decreasing root content and an increase in alkalinity at increasing depth. 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 approximately 0.1 to 0.32, which could be considered slight to moderate erodibility (NRCS 2019). However, precipitation is limited in the analysis area, as the historical average of precipitation and snow received in Umatilla, Oregon averages 8.93 inches annually, most of which occurs between October and April (Climate Data 2020). Wind erosion is moderate for the Adkins fine sandy loam and is severe for the Quincy fine sand.
• Adkins fine sandy loam (0 to 5 percent slopes): Deep, well drained soils formed in eolian deposits. Used for production of dryland wheat, irrigated cropland, and range for grazing. The soil has an approximate thickness is greater than 7 feet with a slope of 0 to 5 percent. The hazard for erosion is moderate. This soil has a high permeability and moderately low runoff. Shrink-swell potential is low. The depth to a restrictive feature is more than 80 inches. Wind erodibility is rated as moderate.

• Quincy fine sand (0 to 5 percent slopes): Very deep, excessively drained soils formed in sands on dunes and terraces. The depth to a restrictive feature is more than 80 inches. Wind erodibility is rated as severe. 4B Quincy fine sand, 0 to 5 percent slopes have an approximate thickness is greater than 7 feet with a slope of 0 to 5 percent. The hazard for erosion is slight. This soil has a very high permeability and low runoff. Shrink-swell potential is low.

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

<table>
<thead>
<tr>
<th>Soil Unit</th>
<th>Setting Within Project Area</th>
<th>Approximate Thickness</th>
<th>Formation Setting</th>
<th>Permeability</th>
<th>Runoff</th>
<th>Hazard for Water Erosion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1B-- Adkins fine sandy loam</td>
<td>0 to 5 percent slopes</td>
<td>&gt;7 feet</td>
<td>eolian sands</td>
<td>High</td>
<td>Moderately Low</td>
<td>Moderate (K factor of 0.32)</td>
</tr>
<tr>
<td>74B-- Quincy fine sand</td>
<td>0 to 5 percent slopes</td>
<td>&gt;7 feet</td>
<td>calcareous sandy alluvium</td>
<td>Very High</td>
<td>Low</td>
<td>Slight (K factor of 0.1)</td>
</tr>
</tbody>
</table>

4.0 Current Land Use within the Analysis Area – OAR 345-021-0010(1)(i)(B)

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 Project Site Boundary encompasses approximately 324 acres. Project facilities are located on private land. Land uses within the Site Boundary consists primarily of fallow agriculture land with two existing transmission lines that pass through the Site Boundary. Land within the Site Boundary is zoned Exclusive Farm Use by the Umatilla County. The Adkins soils are considered prime farmland if irrigated while the Quincy soils are not prime farmland (NRCS 2019).
5.0 Project Soil Impacts – OAR 345-021-0010(1)(i)(C)

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 Soil Impacts During 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:

- Clearing and grubbing of vegetation in temporary construction areas, solar array, and new access roads;
- 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 maintenance of 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. To the extent practicable, existing vegetation will be preserved and open areas will be revegetated or placed with stable ground cover. When practicable, open areas will be revegetated or stabilized before and after grading or construction. Erosion and sediment control and perimeter sediment control measures will be in place before vegetation is disturbed and will remain in place and be maintained, repaired, and promptly implemented for the duration of construction.

For the purpose of analyzing potential impacts to resources, the entire area within the Site Boundary (324 acres) should be considered subject to temporary and/or permanent disturbance. Impacts to soil, such as erosion, resulting from construction activities would be limited through:

- Avoiding sensitive soil areas to the extent practicable;
- Maintaining a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan);
- Implementing the erosion and sediment control best management practices (BMPs) included in the final Erosion and Sediment Control Plan, as required by the Oregon Department of Environmental Quality's National Pollutant Discharge Elimination System (NPDES) 1200-C Construction Stormwater Discharge General permit; and
- Implementing appropriate site restoration practices following construction as described in the Project's Erosion and Sediment Control Plan (ESCP) that will be completed prior to construction.
5.2 Soil Impacts During Operation

Operational activities will not result in impacts to soils as activities will be restricted to access roads and no ground disturbance will occur. Project revegetation efforts 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). 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 Soil Impacts During 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)

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

6.1 Minimization and Best Management Practices

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 would 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 NPDES 1200-C Construction Stormwater Discharge General Permit that will be prepared prior to construction.

- **Revegetation** – The Applicant will provide long-term soil stability by reseeding disturbed areas to reestablish vegetation. At the completion of land-disturbing activities, the site will be revegetated with an appropriate seed mix. The seed will be applied with mulch to protect
the seeds as the grass establishes. Scarifying and reseeding of affected areas will occur after
collection has been completed

- **Pollutant Management** – 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 project that outline the site-specific handling and reporting measures (see
Exhibit G).

- **Haul Truck Traffic** – Before land-disturbing activities begin, BMPs will be in place to
prevent the tracking of sediment onto public or private roads such as using graveled (or
paved) exits and parking areas, placing gravel on unpaved roads onsite, or using an exit tire
wash. Haul truck traffic will be limited to improved access roads and gravel-covered haul
roads, limiting deep soil compaction and disturbance. The loads of the haul trucks and
heavy equipment, and the resulting induced stress, will be distributed through the gravelly
surfacing material, minimizing compaction of the native soils. Mitigation efforts to reduce
impacts from soil compaction will include scarifying and reseeding affected areas after
construction is completed.

- **Fugitive Dust Abatement** – BMPs will be used to control fugitive dust in accordance with
DEQ regulations. Water, soil-binding agents, or other dust control techniques will be
implemented as needed to avoid wind-blown soil. For example, the Project will minimize
temporary and permanent impacts from fugitive dust by using measures that include
applying water to disturbed ground and roads during construction, imposing appropriate
construction

### 7.0 Monitoring Program – OAR 345-021-0010(1)(i)(E)

**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 NPDES 1200-C Construction Stormwater Discharge General Permit.
The Applicant will monitor the restoration success of temporarily disturbed areas according to the
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 Project 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 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 References

Figures
Exhibit J

Wetlands and Other Jurisdictional Waters

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
This page intentionally left blank
Table of Contents

1.0 Introduction ................................................................................................................................................................ 1

2.0 Analysis Area .............................................................................................................................................................. 1

3.0 Wetlands and Other Jurisdictional Waters – OAR 345-021-0010(1)(j)(A) ......................................................... 1
  3.1 Definitions ............................................................................................................................................................... 1
    3.1.1 State .................................................................................................................................................................. 1
  3.2 Jurisdictional Versus Non-Jurisdictional Waters .................................................................................... 2
  3.3 Desktop Study ........................................................................................................................................................ 2
  3.4 Delineation of Wetlands and Other Water Features .............................................................................. 3
    3.4.1 Methods .......................................................................................................................................................... 3
    3.4.2 Results ............................................................................................................................................................. 3

4.0 Effects on Wetlands and Other Jurisdictional Waters of the State – OAR 345-021-0010(1)(j)(B) .......... 3
  4.1 Significance of Impacts – OAR 345-021-0010(1)(j)(C) ................................................................................. 3


6.0 Information Supporting Issuance of Removal-Fill Permit – OAR 345-021-0010(1)(j)(E)........ 4

7.0 Mitigation and Monitoring Program – OAR 345-021-0010(1)(j)(F)................................................................. 4

8.0 References .................................................................................................................................................................... 4

List of Figures

Figure J-1. Overview, NWI, and NHD Map

Figure J-2. NRCS Soils Map

List of Attachments

## Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>NHD</td>
<td>National Hydrography Dataset</td>
</tr>
<tr>
<td>NRCS</td>
<td>Natural Resources Conservation Service</td>
</tr>
<tr>
<td>NWI</td>
<td>National Wetlands Inventory</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rule</td>
</tr>
<tr>
<td>ORS</td>
<td>Oregon Revised Statutes</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
<tr>
<td>WOS</td>
<td>Waters of the State</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit J was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(j).

2.0 Analysis Area

The Analysis Area for wetlands and other jurisdictional waters is the area within the proposed Site Boundary (Figure J-1). The proposed Site Boundary is defined in Exhibits B and C, which includes the information required by OAR 345-021-0010(1)(b) and (c).

3.0 Wetlands and Other Jurisdictional Waters – OAR 345-021-0010(1)(j)(A)

OAR 345-021-0010(1)(j) Information based on literature and field study, as appropriate, about waters of this state, as defined under ORS 196.800, including:

- OAR 345-021-0010(1)(j)(A) A description of all areas within the site boundary that might be waters of this state and a map showing the location of these features.

3.1 Definitions

3.1.1 State

Oregon Revised Statutes (ORS) 196.800(15) defines Waters of the State as:

...all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and non-navigable bodies of water in this state and those portions of the ocean shore, as defined in ORS 390.605, where removal or fill activities are regulated under a state-assumed permit program as provided in 33 United States Code 1344(g) of the Federal Water Pollution Control Act, as amended.

In OAR 141-085-0510(105), the Oregon Department of State Lands defines wetlands as “[t]hose areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”
3.2 Jurisdictional Versus Non-Jurisdictional Waters

Not all wetlands and streams are within the jurisdiction of state regulation. For the Project, several jurisdictional distinctions are important, to estimate impacts only to jurisdictional wetlands and other waters. These include determinations related to the following:

- Ephemeral streams, which are not under state jurisdiction, as distinct from perennial and intermittent.
- Artificially created roadside and farm ditches, which are considered waters of the state (WOS) if they contain food or game fish and are connected to WOS (OAR 141-085-0515(8)).

Ephemeral streams are defined in the Streamflow Duration Assessment Method for the Pacific Northwest (Nadeau 2015) as streams that flow:

...only in direct response to precipitation. Water typically flows only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the stream bed is always above the water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water).

In contrast, intermittent streams are defined by the OARs as “any stream which flows during a portion of every year and which provides spawning, rearing or food-producing areas for food and game fish” (OAR 141-085-0510(46)). Food-producing streams are typically one stream order above a fish-bearing stream.

3.3 Desktop Study

The Applicant conducted a desktop review to determine the potential for the presence of wetlands and other non-wetland waters within the Site Boundary. The desktop study reviewed the National Wetlands Inventory (NWI) database (USFWS 2019, USFWS 2020), National Hydrography Dataset (NHD; USGS 2017), Natural Resources Conservation Service (NRCS) hydric soils data (NRCS 2019, NRCS 2020), and aerial imagery (Google Earth 2019, Google Earth 2020) to identify potential wetlands and other waters that may occur on the Project site. The results of the desktop review of the NWI and NHD found no wetlands or streams that were mapped within the Site Boundary (Figure J-1). Based on the NRCS soil data, the Site Boundary is comprised primarily (236 acres or 73 percent) of Adkins fine sandy loam, 0 to 5 percent slopes, with the remaining portions (88 acres or 27 percent) composed of Quincy fine sand, 0 to 5 percent slopes (Figure J-2). The Adkins fine sandy loam, 0 to 5 percent slopes soil type is considered non-hydric, whereas 1 to 32 percent of the components of the Quincy fine sand, 0 to 5 percent slope soil type meet the criteria for hydric soils (NRCS 2019, NRCS 2020).
3.4 Delineation of Wetlands and Other Water Features

3.4.1 Methods

Field surveys for wetland/non-wetland waters were conducted on July 3, 2019 and June 22, 2020 (Attachment J-1). The surveys were conducted using the methods outlined in the *Wetlands Delineation Manual, Technical Report Y-87-1* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West* (Version 2.0; USACE 2008). Based on the protocols of these manuals, three indicators of wetlands (hydrophytic vegetation, hydric soils, and wetland hydrology) were used for identification in order to determine if wetlands were present. The presence of non-wetland waters was determined based on the methods of the *Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008).

3.4.2 Results

As stated above, three field indicators of wetlands (hydrophytic vegetation, hydric soils, and wetland hydrology) must be present to make a positive wetland determination. Based on these criteria, no wetlands were identified within the Site Boundary. Additionally, no stream features or other features that appear to convey water were identified within the Site Boundary during field surveys (Attachment J-1).

4.0 Effects on Wetlands and Other Jurisdictional Waters of the State – OAR 345-021-0010(1)(j)(B)

OAR 345-021-0010(1)(j)(B) *An analysis of whether construction or operation of the proposed facility would adversely affect any waters of this state.*

OAR 345-021-0010(1)(j)(B) requests the analysis of the impacts from construction and operation of the proposed Project on WOS. No WOS were identified during the desktop and field surveys; therefore, there will be no impacts to WOS.

4.1 Significance of Impacts – OAR 345-021-0010(1)(j)(C)

OAR 345-021-0010(1)(j)(C) *A description of the significance of potential adverse impacts to each feature identified in (A), including the nature and amount of material the applicant would remove from or place in the waters analyzed in (B).*

There are no WOS within the Site Boundary, therefore there will be no significant adverse impacts.

OAR 345-021-0010(1)(j)(D) If the proposed facility would not need a removal-fill authorization, an explanation of why no such authorization is required for the construction and operation of the proposed facility.

A removal-fill authorization is not required because there are no WOS within the Site Boundary.

6.0  Information Supporting Issuance of Removal-Fill Permit – OAR 345-021-0010(1)(j)(E)

OAR 345-021-0010(1)(j)(E) If the proposed facility would need a removal-fill authorization, information to support a determination by the Council that the Oregon Department of State Lands should issue a removal-fill permit, including information in the form required by the Department of State Lands under OAR Chapter 141 Division 85.

A removal-fill authorization is not required because there are no WOS within the Site Boundary.

7.0  Mitigation and Monitoring Program – OAR 345-021-0010(1)(j)(F)

OAR 345-021-0010(1)(j)(F) A description of proposed actions to mitigate adverse impacts to the features identified in (A) and the applicant’s proposed monitoring program, if any, for such impacts.

Mitigation and monitoring are not required because there are no WOS within the Site Boundary.

8.0  References


West End Solar Project

Figure J-2
NRCS Soil

UMATILLA COUNTY, OR

Proposed Site Boundary
Local Roads
NRCS Soil Types

1B - Adkins fine sandy loam, 0 to 5 percent slopes
74B - Quincy fine sand, 0 to 5 percent slopes
GENERAL DISCLAIMER FOR SCIENTIFIC WORK PRODUCTS

This deliverable was prepared in accordance with generally accepted professional practices that are typically utilized for scientific work products. The work was performed within the limitations and assumptions of our approved scope of work, and the descriptive documentation associated with this deliverable. Unless explicitly included in our approved scope of work, information provided in this deliverable has not been prepared to meet industry standards for engineering and should not be used for construction.
Table of Contents

1.0 Introduction ............................................................................................................................................................... 1
2.0 Survey Area ................................................................................................................................................................. 1
3.0 Methods........................................................................................................................................................................ 1
   3.1 Background Review ................................................................................................................................................ 1
   3.2 Target Plant Species ............................................................................................................................................ 2
   3.3 Field Survey Methods ......................................................................................................................................... 3
4.0 Results ......................................................................................................................................................................... 4
   4.1 Botanical Surveys ................................................................................................................................................. 4
   4.2 Target Plant Species ............................................................................................................................................ 5
   4.3 Wetlands and Other Waters of the US ........................................................................................................... 5
5.0 Conclusions and Recommendations .................................................................................................................... 6
6.0 References .................................................................................................................................................................. 6

List of Tables

Table 1. Federal and State Threatened, Endangered, and Candidate Vascular Plant Species with Potential to Occur at the Project................................................................................................................................. 2

List of Figures

Figure 1. Project Area
Figure 2. Locations of ORBIC-tracked Plant Species (Confidential)
Figure 3. NWI and NHD Features within the Vicinity of the Project Area

List of Attachments

Attachment 1. Federal and State-Listed and ORBIC-tracked Vascular Plant Species with the Potential to Occur at the Project
Attachment 2. Vascular Plant Species Observed within the Project Area
Attachment 3. Select Site Photographs
This page intentionally left blank
1.0 Introduction

Eurus Energy America LLC (Eurus) contracted Tetra Tech, Inc. (Tetra Tech) to conduct biological surveys in support of the West End Solar Project (Project), a proposed solar project in Umatilla County, Oregon. This summary report presents the methods and results for the botanical and wetland surveys conducted in July 2019 and June 2020. The purpose of the botanical surveys was to document the presence of federal or state-listed endangered, threatened, or candidate vascular plant species. Concurrent with the botanical surveys, Tetra Tech also assessed the Project for the presence of wetlands and other non-wetland waters. Wildlife and habitat categorization surveys are addressed in a separate report.

2.0 Survey Area

The Project is located on approximately 324 acres of private land within Umatilla County, roughly 1 mile east of the City of Hermiston. The botanical and wetland survey area consisted of the approximately 324-Project Area, which encompasses the proposed solar array and associated facilities (Figure 1).

3.0 Methods

3.1 Background Review

Prior to conducting field surveys, Tetra Tech conducted a desktop review to identify endangered, threatened, or candidate plant species with the potential to occur within the Project Area, and to determine the potential for the presence of wetlands and other non-wetland waters within the Project Area. Sources of information included:

- U.S. Fish and Wildlife Service (USFWS) threatened, endangered, and candidate species lists for Umatilla County (USFWS 2019a, 2020a);
- Oregon Biodiversity Information Center’s (ORBIC) list of Oregon’s rare, threatened, and endangered species (ORBIC 2019);
- ORBIC database of known occurrences of target plant species within the vicinity of the Project area (ORBIC 2018);
- Oregon threatened, endangered, and candidate plants (ODA 2019);
- The Oregon Flora Project (OFP 2019a, OFP 2019b);
- The PLANTS Database (NRCS 2019a);
- Gap Analysis Project /LANDFIRE National Terrestrial Ecosystems data (USGS 2011);
- USFWS National Wetlands Inventory (NWI) (USFWS 2019b, 2020b);
• U.S. Geological Survey National Hydrography Dataset (NHD) (USGS 2016);
• Google Earth Pro – West End Solar Project Area (Google Earth Pro 2019, 2020).
• Web Soil Survey (NRCS 2019b, 2020); and
• The Site Characterization Report for the West End Solar Project (Tetra Tech 2018).

3.2 Target Plant Species

The initial list of potential, primary target species included all vascular plant species listed as endangered, threatened, or candidates for listing by the USFWS under the federal Endangered Species Act, or by the Oregon Department of Agriculture under the Oregon Endangered Species Act. Tetra Tech reviewed this initial list, as well as the sources noted above in Section 3.1, to produce a final list of target species that included all federal and state-listed and candidate plant species that have the potential to occur within or near the Project Area (Table 1). Species were eliminated from consideration if their habitat was likely absent from the Project Area, or their known or suspected range did not overlap with the Project.

Table 1. Federal and State Threatened, Endangered, and Candidate Vascular Plant Species with Potential to Occur at the Project

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Federal Status¹</th>
<th>State Status²</th>
<th>Survey Period</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Astragalus collinus</em> var. <em>laurentii</em></td>
<td>Laurence’s milkvetch</td>
<td>SOC</td>
<td>T</td>
<td>Fruits needed; June - August</td>
</tr>
<tr>
<td><em>Eremothera (Camissonia) pygmaea</em></td>
<td>dwarf evening-primrose</td>
<td>--</td>
<td>C</td>
<td>June - August</td>
</tr>
<tr>
<td><em>Myosurus sessilis</em></td>
<td>sessile mousetail</td>
<td>SOC</td>
<td>C</td>
<td>March - May</td>
</tr>
</tbody>
</table>

1. SOC = Species of Concern
2. T = Threatened, C = Candidate for listing

Tetra Tech also completed a review of existing literature, herbarium records, and other sources (Burke Museum of Natural History and Culture 2019, ODA 2019, OFP 2019a, OFP 2019b, WDNR 2019) prior to field surveys to generate fact sheets for each target species. These fact sheets were used by surveyors in the field and included:

• Photos of each species and its habitat;
• Information detailing habitat associations;
• Range and flowering period;
• Identifying features; and
• Characteristics distinguishing the target species from similar species within its range.

In response to a formal request to ORBIC, Tetra Tech received vascular plant element occurrence records in the vicinity of the Project Area, which included one element occurrence record for the
state threatened Laurence’s milkvetch (*Astragalus collinus* var. *laurentii*), approximately 3 miles south of the Project Area (ORBIC 2018). Tetra Tech visited the location of a known Laurence’s milkvetch element occurrence prior to commencing surveys in order to determine the current phenology of the species, and to provide an identification reference for individuals encountered within the Project Area.

Although not considered target species, Tetra Tech also identified 28 other vascular plant species tracked by ORBIC that have the potential to occur at the Project (Attachment 1). ORBIC-tracked species are not protected under federal or state law, but are species of conservation concern or species for which more information is needed before their status can be determined (ORBIC 2019).

### 3.3 Field Survey Methods

Tetra Tech conducted surveys for botanical resources and wetland/non-wetland waters on July 3, 2019, and June 22, 2020. The survey schedule was chosen to cover the identification period for Laurence’s milkvetch and Dwarf evening-primrose (*Eremothera [Camissonia] pygmaea*). The survey period also coincided with the identification period for the majority of the ORBIC-tracked species that have the potential to occur at the Project. Although the survey period was out of the recommended identification period for sessile mousetail (*Myosurus sessilis*), this species’ vernal pool habitat was considered unlikely to occur in the Project Area, and no vernal pools were observed within the Project Area during field surveys. Additionally, depending on the year, sessile mousetail is sometimes identifiable through early July.

Botanical field surveys were conducted using the Intuitive Controlled survey method, a standard and commonly accepted survey protocol (USFS and BLM 1998). This method incorporates meandering transects that traverse the Project Area, and that target the full array of major vegetation types, aspects, topographical features, habitats, and substrate types. While en route, the surveyors search for target species, and when the surveyors arrive at an area of high potential habitat (that was defined in the pre-field review or encountered during the field visit), they conduct a complete survey for the target species. Complete surveys include an examination of 100 percent of the habitat.

During surveys, Tetra Tech maintained a running list of vascular plant species encountered and made informal collections of unknown species for later identification. Identification was verified by the use of appropriate plant keys; in particular, Flora of the Pacific Northwest (Hitchcock and Cronquist 2018). For quality control, species identifications were compared against location records of known observations and vouchered specimens (OFP 2019a, 2020). Nomenclature follows the Angiosperm Phylogeny Group III system, as used by the Oregon Flora Project (OFP 2019c). The final vascular plant species list for the Project Area is included as Attachment 2.

Concurrent with the botanical surveys, Tetra Tech also surveyed the site for the presence of wetlands and other non-wetland waters. Wetland presence was assessed per methods in the *Wetlands Delineation Manual, Technical Report Y-87-1* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West* (Version 2.0; USACE 2008). As noted in these manuals, three field indicators of wetlands (hydrophytic vegetation, hydric soils, and
wetland hydrology) must be present to make a positive wetland determination. The presence of non-wetland waters was assessed based on methods described in the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008).

### 4.0 Results

#### 4.1 Botanical Surveys

Botanical surveys were conducted within the Project Area on July 3, 2019, and June 22, 2020. Habitat within the Project Area primarily consisted of degraded grassland habitat dominated by non-native invasive grasses and forbs, including cheatgrass (*Bromus tectorum*), bulbous bluegrass (*Poa bulbosa*), cereal rye (*Secale cereale*), yellow starthistle (*Centaurea solstitialis*), prickly lettuce (*Lactuca serriola*), yellow salsify (*Tragopogon dubius*), tall tumblesmustard (*Sisymbrium altissimum*), redstem stork's bill (*Erodium cicutarium*), rush skeletonweed (*Chondrilla juncea*), and prickly Russian thistle (*Salsola tragus*). Scattered shrubs such as rubber rabbitbrush (*Ericameria nauseosa*), and green rabbitbrush (*Chrysothamnus viscidiflorus*) were also occasionally observed within grassland habitat.

Two small areas of shrub-steppe were also observed in the Project Area: one in the northwest corner and one in the south-central portion of the Project Area (Photos 1 and 2, Attachment 3). The northwestern patch of shrub-steppe consisted primarily of an overstory of big sagebrush (*Artemisia tridentata* ssp. *tridentata*), with traces of rubber rabbitbrush, bitterbrush (*Purshia tridentata*), and green rabbitbrush. The understory in this area was dominated by non-native species, including cheatgrass, bulbous bluegrass, prickly lettuce, tall tumblesmustard, and yellow starthistle. Ruderal native species included tall annual willowherb (*Epilobium brachycarpum*), bugloss fiddleneck (*Amsinckia lycopsoides*), and ribseed sandmat (*Chamaesyce glyptosperma*).

Shrub-steppe in the south-central portion of the Project Area was also dominated by an overstory of big sagebrush, with rubber rabbitbrush the subdominant shrub species observed. Scattered individuals of green rabbitbrush were also observed in this area. The understory of the shrub-steppe habitat in this area included a mix of native and non-native grass and forb species including needle-and-thread (*Hesperostipa comata*), Sandberg's bluegrass (*Poa secunda*), Idaho fescue (*Festuca idahoensis*), cereal rye, cheatgrass, bulbous bluegrass, yarrow (*Achillea millefolium*), woolly plantain (*Plantago patagonica*), tall annual willowherb (*Epilobium brachycarpum*), yellow starthistle, prickly lettuce, and yellow salsify.

A total of 56 vascular plant species were observed in the Project Area (Attachment 2). Of the 56 species observed, 29 (52 percent) are non-native species, including six species that are listed as noxious weeds in the State of Oregon and/or Umatilla County. State and county-listed noxious weeds observed within the Project Area include: kochia (*Bassia [Kochia] scoparia*), yellow starthistle, rush skeletonweed, Scotch thistle (*Onopordum acanthium*), cereal rye, and puncturevine (*Tribulus terrestris*). Three of these listed noxious weeds, yellow starthistle, rush skeletonweed, and
cereal rye, were highly abundant throughout the Project Area (Photo 3 and 4, Attachment 3). Attachment 2 includes the state and county noxious weed designations for the six listed noxious weeds that Tetra Tech observed during surveys.

4.2 Target Plant Species

No target species were observed within the Project Area. Additionally, due to the abundance of non-native invasive species and noxious weeds, very little potential suitable habitat for target species was observed within the Project Area. However, Tetra Tech observed two ORBIC-tracked species, Columbia milkvetch (*Astragalus succumbens*) and stalked-pod milkvetch (*Astragalus sclerocarpus*). Surveyors observed Columbia milkvetch in three locations within the Project Area (Figure 2). Only five individuals were observed in these three locations. Columbia milkvetch is listed with a global rank of G4G5 (apparently secure, uncommon but not rare/secure, common, abundant and widespread), a state rank of S4 (apparently secure, not rare in Oregon) and ORBIC List 4 (Watch List) (ORBIC 2019). Photo 5 in Attachment 3 provides a representative photo of a Columbia milkvetch individual observed within the Project Area.

Stalked-pod milkvetch was observed in seven locations within the Project Area, with a total of 26 individuals observed (Figure 2). Stalked-pod milkvetch is listed with a global rank of G5 (secure, common, abundant and widespread), a state rank of S3 (vulnerable, rare, threatened or uncommon in Oregon) and ORBIC List 4 (Watch List) (ORBIC 2019). Photos 6 and 7 in Attachment 3 provide representative photos of Columbia milkvetch individuals and habitat observed within the Project Area.

Although both species are tracked by ORBIC, they are classified as “List 4: Watch.” These species are “of conservation concern but are not currently threatened or endangered” and List 4 includes species “which are very rare (elsewhere) but are currently secure in Oregon, as well as taxa which are declining in numbers but are still too common to be proposed as threatened or endangered” (ORBIC 2019). List 4 species are typically being tracked because further information on their current range and abundance in Oregon is needed before they can either be removed from the ORBIC Watch List, or be considered for listing as threatened or endangered in Oregon.

4.3 Wetlands and Other Waters of the US

Wetland surveys were conducted concurrently with botanical surveys on July 3, 2019, and June 22, 2020. Prior to field work, Tetra Tech reviewed the NWI database (USFWS 2019b, 2020b), NHD (USGS 2017), hydric soils data (NRCS 2019b, 2020), and aerial imagery (Google Earth 2019, 2020) to identify potential wetlands and other waters occurring within the Project Area. Desktop review of NWI and NHD data did not identify any wetlands or stream features mapped by the NWI or NHD within the Project Area (Figure 3). Based on the Natural Resources Conservation Service soil data, the Project Area is comprised primarily (235.8 acres or 73 percent) of Adkins fine sandy loam, zero to 5 percent slopes, with the remaining portions (88.0 acres or 27 percent) composed of Quincy fine sand, zero to 5 percent slopes. The Adkins fine sandy loam, zero to 5 percent slopes soil type is
considered non-hydric, whereas 1 to 32 percent of the components of the Quincy fine sand, zero to 5 percent slope soil type meet the criteria for hydric soils (NRCS 2019b, 2020).

As stated above, three field indicators of wetlands (hydrophytic vegetation, hydric soils, and wetland hydrology) must be present to make a positive wetland determination. Based on these criteria, no wetlands were identified within the Project Area. Additionally, no stream features or other features that appear to convey water were identified within the Project Area during field surveys.

### 5.0 Conclusions and Recommendations

Tetra Tech did not observe any target plant species within the Project Area. Additionally, no wetlands or other non-wetland waters were observed within the Project Area. In general, the Project Area is dominated by non-native, invasive species, including several state or county-listed noxious weeds, and is subject to ongoing human disturbance.

Two ORBIC-tracked plant species, Columbia milkvetch and stalked-pot milkvetch, were observed within the Project Area. As stated above, ORBIC-tracked species are not protected under federal or state law, but are species of conservation concern or species for which more information is needed before their status can be determined. Tetra Tech recommends that Eurus avoid the locations of these two milkvetch species, if possible; however, avoidance of these species is not required.

### 6.0 References


Google Earth Pro. 2020. West End Solar Project Area. Google Earth imagery v. 7.3.3.7699.


ORBIC (Oregon Biodiversity Information Center). 2018. Element Occurrence Record Digital Data Set for rare, threatened or endangered species for the state of Oregon. ORBIC, Institute for Natural Resources, Portland State University. Portland, OR. Received November 2018.


Figures
This page intentionally left blank
Attachment 1. Federal and State-Listed and ORBIC-tracked Vascular Plant Species with the Potential to Occur at the Project
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Federal</th>
<th>State</th>
<th>ORBIC</th>
<th>Habitat</th>
<th>Survey Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abronia mellifera</td>
<td>White sand verbena</td>
<td>3</td>
<td></td>
<td></td>
<td>Dunes and sandy soils at low elevations (328 to 6,562 feet).</td>
<td>May - July</td>
</tr>
<tr>
<td>Achnatherum richardsonii</td>
<td>Richardson needlegrass</td>
<td>2</td>
<td></td>
<td></td>
<td>Intermontane valley grasslands and meadows. Common on hillside dry plants, in open grassland or sagebrush benches, and in bottomlands, swales, and wooded slopes; also found on moraines and gravel outwash associated with streams.</td>
<td>July - September</td>
</tr>
<tr>
<td>Allium robinsonii</td>
<td>Robinson’s onion</td>
<td>2-ex</td>
<td></td>
<td></td>
<td>Rocky or sandy hillsheds, lithosol benches, talus, sand and gravelly soil along rivers, and other well drained, open slopes.</td>
<td>April - May</td>
</tr>
<tr>
<td>Astragalus collinus var. lauricella</td>
<td>Lawrence’s milkvetch</td>
<td>SOC</td>
<td>T</td>
<td></td>
<td>Sandy or rocky soils overlying basalt on dry slopes mostly at elevations between 2,000 to 3,400 feet, although species has been reported at elevations as low as 400 feet.</td>
<td>Fruits needed; late May - August</td>
</tr>
<tr>
<td>Astragalus conjunctus var. conjunctus</td>
<td>Idaho milkvetch</td>
<td>3</td>
<td></td>
<td></td>
<td>Dry rocky slopes, scablands, and hilltops throughout the sagebrush desert, typically above 2,000 feet.</td>
<td>April - June</td>
</tr>
<tr>
<td>Astragalus geyeri var. geyeri</td>
<td>Geyer’s milkvetch</td>
<td>2</td>
<td></td>
<td></td>
<td>Depressions in mobile or stabilized dunes, sandy flats and valley floors.</td>
<td>April - July</td>
</tr>
<tr>
<td>Astragalus sclerocarpus</td>
<td>Stalked pod milkvetch</td>
<td>4</td>
<td></td>
<td></td>
<td>Dunes and sandy barrens at low elevations; dry sandy banks and terraces in the steppe and lower montane zones.</td>
<td>June</td>
</tr>
<tr>
<td>Astragalus succulents</td>
<td>Columbia milkvetch</td>
<td>4</td>
<td></td>
<td></td>
<td>Sagebrush deserts, sandy barrens, and lower foothills.</td>
<td>April - June</td>
</tr>
<tr>
<td>Betasamuchia roseae</td>
<td>Roys balsamroot</td>
<td>2</td>
<td></td>
<td></td>
<td>Dry, rocky slopes at low elevation.</td>
<td>April - May</td>
</tr>
<tr>
<td>Baeoa thelypoda</td>
<td>Carex cordillerana</td>
<td>2</td>
<td></td>
<td></td>
<td>Naturally disturbed, rocky slopes with organic layer and leaf litter in mesic mixed forests, or disturbed, open, grassy slopes.</td>
<td>late May - late July</td>
</tr>
<tr>
<td>Cryptantha rostellata</td>
<td>Beaked cryptantha</td>
<td>3</td>
<td></td>
<td></td>
<td>Usually in scattered patches of a few individuals along dry, open drainages at 600 to 2,900 feet.</td>
<td>late April - mid-June</td>
</tr>
<tr>
<td>Eremothera (Camissonia) pygmaea</td>
<td>Dwarf evening primrose</td>
<td>C</td>
<td>1</td>
<td></td>
<td>Found on dry plains and slopes with unstable soils or on gravel in steep talus, dry washes, and roadsides at elevations of 490 to 1,970 feet.</td>
<td>June - August</td>
</tr>
<tr>
<td>Helianthus nuttallii</td>
<td>Nutall’s sunflower</td>
<td>3</td>
<td></td>
<td></td>
<td>Moist open places, ditches, roadside; meadows and other moist places, low to moderate elevations in the mountains.</td>
<td>July - September</td>
</tr>
<tr>
<td>Heliotropium curassavicum</td>
<td>Salt heliotrope</td>
<td>2</td>
<td></td>
<td></td>
<td>Saline places at low elevations, often in the beds of dried ponds.</td>
<td>June - September</td>
</tr>
<tr>
<td>Ixotes minima</td>
<td>Midget quillwort</td>
<td>1</td>
<td></td>
<td></td>
<td>Grows in depressions that are seasonally wet, drying by mid-summer; vernal pools.</td>
<td>June</td>
</tr>
<tr>
<td>Lepidium acutidens</td>
<td>Veiny peppergrass</td>
<td>3</td>
<td></td>
<td></td>
<td>Alkaline flats, gullies, or fields, saline vernal flats, grassy fields.</td>
<td>February - April</td>
</tr>
<tr>
<td>Lepidium dicitotum</td>
<td>Alkaline peppergrass</td>
<td>2</td>
<td></td>
<td></td>
<td>Open areas where often seasonally moist, such as vernal ponds; tolerant of alkaline soils. Margins of playas, saline areas, meadows, gypsum hills, dried pools, alkaline and clay flats and dinks, near hot springs, roadside, borders of springs and ponds, sandy flats; 0 to 5,250 feet.</td>
<td>March - June</td>
</tr>
<tr>
<td>Leymus flavescens</td>
<td>Sand wildrye</td>
<td>2</td>
<td></td>
<td></td>
<td>Sand dunes, open sandy flats, ditches and road cuts.</td>
<td>June - July</td>
</tr>
<tr>
<td>Lipocarpa aristolata</td>
<td>Aristulate lipocarpia</td>
<td>2</td>
<td></td>
<td></td>
<td>Wet soil and mud, often comprised of fine sand and silt, in bottomlands, sandbars, beaches, shorelines, streambanks, ponds, and ditches; 0 to 500 feet.</td>
<td>June - August</td>
</tr>
<tr>
<td>Lygodium junceae</td>
<td>Rush skeletonplant</td>
<td>3</td>
<td></td>
<td></td>
<td>Dry, open places, often in sandy soil.</td>
<td>June - September</td>
</tr>
<tr>
<td>Marsilea vestita</td>
<td>Hairy water-fern</td>
<td>3</td>
<td></td>
<td></td>
<td>Ponds, vernal pools; floodplains; Widespread and variable; in ponds and wet depressions and on river floodplains; 0 to 7,540 feet.</td>
<td>April - October</td>
</tr>
<tr>
<td>Moysurus sessilis</td>
<td>Sessile mouseetail</td>
<td>SOC</td>
<td>C</td>
<td></td>
<td>Vernal pools and alkaline flats at elevations of 33 to 5,249 feet.</td>
<td>March - May</td>
</tr>
<tr>
<td>Orobanche luidoviciana ssp. luidoviciana</td>
<td>Louisiana broomrape</td>
<td>2</td>
<td></td>
<td></td>
<td>Drier areas, often in sand, low to moderate elevations; paristich. Open sandy areas at low elevations.</td>
<td>July - September</td>
</tr>
<tr>
<td>Penstemon deuthus var. variabilis</td>
<td>Hot-rock penstemon</td>
<td>1</td>
<td></td>
<td></td>
<td>Dry footills and lowlands, on open, dry, thin soils over basalt.</td>
<td>June - July</td>
</tr>
<tr>
<td>Symphyotrichum ericioides var. panum</td>
<td>White heath aster</td>
<td>3</td>
<td></td>
<td></td>
<td>Open, wet or dry places in the valleys and plains; tolerant of alkali.</td>
<td>July - September</td>
</tr>
<tr>
<td>Thelypodium sagittatum ssp. sagittatum</td>
<td>Arrow thelypody</td>
<td>3</td>
<td></td>
<td></td>
<td>Moist swales and meadows in sagebrush plains and scablands and moist alkaline meadows and salt flats that dry by mid-summer.</td>
<td>June - July</td>
</tr>
<tr>
<td>Trifolium dipoglossi</td>
<td>Douglas’ clover</td>
<td>SOC</td>
<td>1</td>
<td></td>
<td>Moist to wet open meadows, forested wetlands, and stream banks.</td>
<td>June - July</td>
</tr>
</tbody>
</table>

**Federal**: SOC = Species of Concern; State: T = Threatened, C = Candidate

**ORBIC List** 1=Threatened or endangered throughout range; 2=Threatened or endangered in Oregon but secure elsewhere; 3=Review; 4=Watch; 2-ex=Extirpated in Oregon, secure or abundant elsewhere

This page intentionally left blank
Attachment 2. Vascular Plant Species Observed within the Project Area
This page intentionally left blank
<table>
<thead>
<tr>
<th>SCIENTIFIC NAME</th>
<th>COMMON NAME</th>
<th>FAMILY</th>
<th>TYPE</th>
<th>Non-native</th>
<th>Noxious Weed Designation State / Umatilla County</th>
<th>Synonyms and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achillea millefolium</td>
<td>yarrow</td>
<td>Asteraceae</td>
<td>Forb</td>
<td>both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis stolonifera</td>
<td>smooth buffalo grass</td>
<td>Poaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astragalus mollis</td>
<td>nodding milkvetch</td>
<td>Fabaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambrosia psilostachya</td>
<td>Russian thistle</td>
<td>Asteraceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anemone occidentalis ssp. occidentalis</td>
<td>Big sagebrush, basin big sagebrush</td>
<td>Asteraceae</td>
<td>Shrub</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artemisia spiciformis var. similis</td>
<td>Angel hair wormwood</td>
<td>Asteraceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artemisia tridentata var. tridentata</td>
<td>Idaho fescue</td>
<td>Poaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biscutella bonariensis</td>
<td>soft strawflower</td>
<td>Caryophyllaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bromus hordeaceus</td>
<td>mouse barley, wall barley, hare barley</td>
<td>Poaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bromus tectorum</td>
<td>cheatgrass</td>
<td>Poaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cenchrus ciliaris</td>
<td>cross-winged brome</td>
<td>Poaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chenopodium album</td>
<td>common pigweed</td>
<td>Amaranthaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chrysanthemum coronarium</td>
<td>purple coneflower</td>
<td>Asteraceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coreopsis tinctoria</td>
<td>tickseed</td>
<td>Asteraceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Descurainia pinnata</td>
<td>mustard</td>
<td>Cruciferae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erodium cicutarium</td>
<td>red campion</td>
<td>Caryophyllaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erigeron pulcherrimus</td>
<td>western coneflower</td>
<td>Asteraceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fistulosa</td>
<td>puncturevine, goat's head</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia glyptosperma</td>
<td>green agoseris</td>
<td>Asteraceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euphorbia fulgens</td>
<td>desert fig</td>
<td>Euphorbiaceae</td>
<td>Forb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- List B - A weed of economic importance which is regionally abundant, but which may have limited distribution in some counties. Recommended action: Limited to intensive control at the state, county or regional level as determined on a site-specific, case-by-case basis. Where implementation of a fully integrated statewide management plan is not feasible, biological control (when available) shall be the primary control method.
- List T - A species selected from either the A or B list (ODA 2019).
- List A - A weed of economic importance which is regionally abundant, but which may have limited distribution in some counties. Where implementation of a fully integrated statewide management plan is feasible, biological control shall be the main control for species for which biological agents are available. Recommended action: Limited to intensive control at state or county level as determined on a case-by-case basis.
Attachment 3. Select Site Photographs
This page intentionally left blank
Photo 1. Shrub-steppe habitat in northwestern portion of Survey Area with abundant yellow starthistle (*Centaurea solstitialis*) in foreground.

Photo 2. Shrub-steppe habitat in south-central portion of Project Area.
Photo 3. Heavy cover of cereal rye (*Secale cereale*) and prickly lettuce (*Lactuca serriola*) in grassland habitat.

Photo 4. Heavy cover of yellow starthistle in grassland habitat (foreground), with shrub-steppe habitat in the background.
Photo 5. Columbia milkvetch (*Astragalus succumbens*) in fruit.

Photo 6. Stalked-pod milkvetch (*Astragalus sclerocarpus*) in foreground and habitat.
Photo 7. Stalked-pod milkvetch with denuded stems and only a few fruits remaining.
This page intentionally left blank
# Table of Contents

1.0 Introduction .................................................................................................................. 1

2.0 EFSC Election – OAR 345-021-0010(1)(k) ................................................................. 2

3.0 Land Use Analysis Area – OAR 345-021-0010(1)(k)(A) .............................................. 2

4.0 Siting and Analysis Approach and Farmland Characteristics ............................... 3
   4.1 Siting and Analysis Approach .................................................................................... 3
   4.2 Existing Land Use Overview ..................................................................................... 3
   4.3 Farmland Characteristics ........................................................................................... 4
      4.3.1 Soil Classifications .............................................................................................. 4
      4.3.2 Existing Water Rights and Irrigation District ......................................................... 6
      4.3.3 High Value Farmland Analysis ............................................................................. 6

5.0 EFSC Determination on Land Use – OAR 345-021-0010 (1)(k)(C) ......................... 8

6.0 Umatilla County – OAR 345-021-0010 (1)(k)(C)(ii) .................................................. 9
   6.1 Compliance with Applicable Substantive Criteria from the Umatilla County Zoning
      Code/UCDC Criteria ..................................................................................................... 9
      6.1.1 EFU, Exclusive Farm Use Zone ............................................................................ 10
      6.1.2 General Provisions ............................................................................................... 14
      6.1.3 Sign Regulations ................................................................................................ 15
      6.1.4 Off-Street Parking and Loading .......................................................................... 16
      6.1.5 Conditional Uses and Land Use Decisions .......................................................... 17
   6.2 Applicable Substantive Criteria from Umatilla County Comprehensive Plan (Policies) . 19
      6.2.1 Chapter 6. Agriculture .......................................................................................... 19
      6.2.2 Chapter 5. Citizen Involvement .......................................................................... 19
      6.2.3 Chapter 8. Open Space, Scenic & Historic Areas, and Natural Areas ................... 20
      6.2.4 Chapter 9. Air, Land, Water Quality ................................................................... 24
      6.2.5 Chapter 10. Natural Hazards .............................................................................. 24
      6.2.6 Chapter 11. Recreation Needs ............................................................................ 25
      6.2.7 Chapter 12. Economy ......................................................................................... 25
      6.2.8 Chapter 14. Public Facilities and Services ............................................................. 26
      6.2.9 Chapter 16. Energy Conservation ........................................................................ 28

7.0 Directly Applicable Statues, Goals, and Administrative Rules– OAR 345-021-0010
   (1)(k)(C)(iii) ....................................................................................................................... 28
Exhibit K: Compliance with Statewide Planning Goals

7.1 Directly Applicable Oregon Administrative Rules .......................................................... 28
  7.1.1 OAR 660-033-0130(5) ............................................................................................................. 28
  7.1.2 OAR 660-033-0130(38) .......................................................................................................... 29

7.2 Applicable Statewide Planning Goals – OAR 345-021-0010 (1)(k)(C)(iv) ......................... 39

8.0 Statewide Planning Goal Exception – OAR 345-021-0010 (1)(k)(C)(v) ................................. 40
  8.1 Demonstration that a "Reasons" Exception is Appropriate ......................................................... 41
  8.2 Evidence that Environmental, Socioeconomic, and Energy Consequences Favor the Exception ....................................................................................................................................... 44
  8.3 Compatibility with Adjacent Land Uses ....................................................................................... 45

9.0 Federal Land Management Plans ............................................................................................ 46

10.0 Summary ........................................................................................................................................ 46

11.0 References ..................................................................................................................................... 46

List of Tables
Table K-1. General Description of Mapped Soil Units in the Site Boundary and Analysis Area .... 5
Table K-2. High-Value Farmland in the Site Boundary and Analysis Area ................................................. 7

List of Figures
Figure K-1. Analysis Area
Figure K-2. Zoning and Comprehensive Plan Designations
Figure K-3. Land Use
Figure K-4. NRCS Soils Map Units
Figure K-5 NRCS Irrigated Soil Capability Class
Figure K-6 NRCS Non-Irrigated Soil Capability Class
Figure K-7 Place of Use Ground Water Rights
Figure K-8. High-Value Farmland

Attachments
Attachment K-1. Landowner Letter from Arthur Prior of Windblown Solar LLC
Attachment K-2. Landowner Letter from Steve and Wanda Scott
Exhibit K: Compliance with Statewide Planning Goals

Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Applicant</th>
<th>EE West End Solar LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC</td>
<td>Application for Site Certificate</td>
</tr>
<tr>
<td>EFSC</td>
<td>Energy Facility Siting Council</td>
</tr>
<tr>
<td>EFU</td>
<td>Exclusive Farm Use</td>
</tr>
<tr>
<td>kV</td>
<td>kilovolt</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>NRCS</td>
<td>Natural Resources Conservation Service</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>operations and maintenance</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rule</td>
</tr>
<tr>
<td>ODFW</td>
<td>Oregon Department of Fish and Wildlife</td>
</tr>
<tr>
<td>ORS</td>
<td>Oregon Revised Statutes</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
<tr>
<td>UCCP</td>
<td>Umatilla County Comprehensive Plan</td>
</tr>
<tr>
<td>UCDC</td>
<td>Umatilla County Development Ordinance or Code</td>
</tr>
</tbody>
</table>
This page intentionally left blank
1.0 Introduction

EE West End Solar LLC (Applicant) proposes to construct and operate the West End Solar Project (Project), a solar generating facility and related or supporting facilities in Umatilla County, Oregon. Exhibit K demonstrates that the Project complies with the Energy Facility Siting Council’s (EFSC) land use standard in Oregon Administrative Rules (OAR) 345-022-0030, which provides, in part:

OAR 345-022-0030, Land Use

(1) To issue a site certificate, the Council must find that the proposed facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission.

(2) The Council shall find that a proposed facility complies with section (1) if:

(a) The applicant elects to obtain local land use approvals under ORS 469.504(1)(a) and the Council finds that the facility has received local land use approval under the acknowledged comprehensive plan and land use regulations of the affected local government; or

(b) The applicant elects to obtain a Council determination under ORS 469.504(1)(b) and the Council determines that:

(A) The proposed facility complies with applicable substantive criteria as described in section (3) and the facility complies with any Land Conservation and Development Commission administrative rules and goals and any land use statutes directly applicable to the facility under ORS 197.646(3);

(B) For a proposed facility that does not comply with one or more of the applicable substantive criteria as described in section (3), the facility otherwise complies with the statewide planning goals or an exception to any applicable statewide planning goal is justified under section (4); or

(C) For a proposed facility that the Council decides, under sections (3) or (6), to evaluate against the statewide planning goals, the proposed facility complies with the applicable statewide planning goals or that an exception to any applicable statewide planning goal is justified under section (4).

(3) As used in this rule, the "applicable substantive criteria" are criteria from the affected local government’s acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. If the special advisory group recommends applicable substantive criteria, as described under OAR 345-021-0050, the Council shall apply them. If the special advisory group does not recommend applicable substantive criteria, the Council shall decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.
As provided for under OAR 345-022-0030(2)(b), the Applicant has elected to seek an EFSC determination of compliance under Oregon Revised Statutes (ORS) 469.504(1)(b) for the Project and all related and supporting facilities. Exhibit K demonstrates the Project’s compliance with the applicable substantive criteria from the Umatilla County Development Ordinance or Code (UCDC) (Umatilla County 2021) and the Umatilla County Comprehensive Plan (UCCP) (Umatilla County 2018). In addition, Exhibit K demonstrates the Project’s compliance with the Oregon Department of Land and Conservation administrative rules and goals and any land use statutes directly applicable to the Project. Exhibit K also demonstrates that a “reasons” exception to statewide planning Goal 3, agriculture, is justified under ORS 469.504(2). Finally, Exhibit K provides evidence upon which EFSC may find that the proposed Project meets OAR 345-022-0030.

2.0 EFSC Election – OAR 345-021-0010(1)(k)

The Applicant has elected to address EFSC’s land use standard by obtaining a land use determination from EFSC pursuant to ORS 469.504(1)(b) for the Project and all related and supporting facilities.

Upon issuance of an EFSC Site Certificate for the Project, the Applicant will submit conditional use and zoning permit applications to Umatilla County in accordance with UCDC §152.025 and §152.060. After review of the permits, Umatilla County shall issue the permits without further conditions pursuant to ORS 469.401(3).

3.0 Land Use Analysis Area – OAR 345-021-0010(1)(k)(A)

Figure K-1 shows both the Site Boundary and the Analysis Area for this Exhibit. Per OAR 345-021-0010, the Applicant’s definition of “study area” and “analysis area” for submitting an Application for Site Certificate (ASC) under the expedited review process shall be based on OAR 345-001-0010.
OAR 345-001-0010(59)(c) defines the study area for land use impacts as the area within the Site Boundary and the area out to 0.5 miles from the Site Boundary.

Figure K-2 provides Umatilla County’s Comprehensive Plan designation of “North/South Ag Region” and “West County Irrigation District,” and Umatilla County’s zoning designation of Exclusive Farm Use (EFU) and EFU-40 in the Analysis Area. All the land within the Site Boundary is zoned EFU and is within the North/South Ag Region comprehensive plan designation (see Figure K-2). The Analysis Area is outside the City of Stanfield’s Urban Growth Boundary.

### 4.0 Siting and Analysis Approach and Farmland Characteristics

#### 4.1 Siting and Analysis Approach

The Applicant is requesting approval to site a range of technology for photovoltaic energy generation and the associated supporting facilities within a micrositing corridor, which is equivalent to the Site Boundary. The Project Site Boundary is 324 acres. This micrositing flexibility accommodates perpetual changes in photovoltaic and energy storage technologies, offers maximum efficiency in terms of use of space, and provides development flexibility for varying market requirements from potential customers. Exhibit B provides a representative description of components and describes the Project’s maximum footprint of approximately 324 acres in order to address the maximum potential impacts.

There are three existing transmission line rights-of-way that run through and adjacent to the Site Boundary: Bonneville Power Administration’s McNary to Roundup 230-kilovolt (kV) line, PacifiCorp’s Pendleton to Hermiston 69-kV line, and Umatilla Electric Cooperative’s (UEC) 115-kV line (see Figure K-1). All three transmission lines provide interconnection capabilities within or immediately adjacent to the Site Boundary, eliminating the need for a Project transmission line. Although it is anticipated that interconnection will occur at the UEC 115-kV line, the Applicant seeks interconnection micrositing flexibility for all or part of the Project to the UEC, Bonneville Power Administration, and PacifiCorp transmission lines.

Figure C-4 of Exhibit C provides a preliminary site plan for the Project. The layout of the Project has not been finalized and may vary depending on project size, technology, and other constraints. However, for the purpose of analyzing potential impacts to resources, the entire area within the Site Boundary (324 acres) should be considered subject to temporary and/or permanent disturbance.

#### 4.2 Existing Land Use Overview

The Site Boundary is located entirely on private land within Umatilla County’s EFU zone (see Figure K-2) and Umatilla County’s Comprehensive Plan designation of “North/South Ag Region” (see Figure K-2). However, as shown in Figure K-3, the Site Boundary is composed of uncultivated land, the majority of which is considered to be highly disturbed Eastside Grassland habitat. Exhibit P and
Figure P-3 provide more detail on the surveyed habitats and ground cover within the Site Boundary. To comply with EFSC’s land use standard, the Applicant must demonstrate compliance with both state law and the applicable criteria from the local government’s comprehensive plans and land use codes. The applicable local criteria from the UCDC and UCCP are identified and evaluated for compliance in Section 6.0. The applicable state law is identified and evaluated for compliance in Section 7.0 while Section 8.0 demonstrates that an exception to Statewide Planning Goal 3 is justified pursuant to ORS 469.504(2), which provides the controlling criteria for exceptions that are proposed for energy facilities under the jurisdiction of EFSC.

4.3 Farmland Characteristics

To support the responses to the applicable substantive criteria under OAR 660-033-0130(38) (see Section 7.1.2), this section describes the factors that influence whether the land within the Site Boundary and Analysis Area meets the definition of arable land under OAR 660-033-0130(38)(a) and/or meets the definition of high-value farmland under ORS 195.300(10). These factors include:

- The land’s soil types and associated soil classifications;
- Whether the land is within a place of use for a permit, certificate, or decree for the use of water for irrigation issued by the Oregon Water Resources Department or is within the boundaries of an irrigation district (as defined under ORS 540.505); and
- Whether the land is located within the Columbia Valley American Viticulture Area, as described in 27 Code of Federal Regulations 9.74 and meets the elevation, aspect, and slope criteria listed under ORS 195.300(10)(f).

The following subsections investigate each of these factors as they apply to the Site Boundary and Analysis Area.

4.3.1 Soil Classifications

The Natural Resources Conservation Service (NRCS) web-based soil survey (NRCS 2019) identifies near-surface soils in the Analysis Area, as noted in Table K-1 and Figure K-4. The NRCS database includes the physical and chemical properties of the soils in the vicinity and the soil map unit distribution. The NRCS assigns land capability classifications to each soil unit to show, in a general way, the suitability of soils for most kinds of field crops. Soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management (NRCS 2019). Soil classifications depend on whether the soils are irrigated. Table K-1 shows NRCS soil classifications within the Analysis Area and Site Boundary. The NRCS provides the following descriptions for each soil class associated with the soils in the Analysis Area (NRCS 2019):

1 The Applicant may satisfy EFSC’s land use standard by complying with applicable local criteria, by seeking an EFSC determination of compliance with directly applicable statewide land use planning goals, or through the goal exception process.
- Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.
- Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Table K-1. General Description of Mapped Soil Units in the Site Boundary and Analysis Area

<table>
<thead>
<tr>
<th>NRCS Soil Unit</th>
<th>Acreage in Analysis Area</th>
<th>Acreage in Site Boundary</th>
<th>Acreage in Tract 1 (percent of total tract area)</th>
<th>Acreage in Tract 1 (percent of total tract area)</th>
<th>NRCS Irrigated Soil Capability Class</th>
<th>NRCS Non-irrigated Soil Capability Class</th>
<th>NRCS Farmland Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1B-- Adkins fine sandy loam</td>
<td>1,278.0</td>
<td>235.8</td>
<td>102.5 (63.3%)</td>
<td>132.8 (82%)</td>
<td>Class 2</td>
<td>Class 4</td>
<td>Prime if irrigated</td>
</tr>
<tr>
<td>74B-- Quincy fine sand</td>
<td>488.9</td>
<td>87.9</td>
<td>59.5 (36.7%)</td>
<td>29.2 (18%)</td>
<td>Class 4</td>
<td>Class 7</td>
<td>Not prime</td>
</tr>
<tr>
<td>75B – Quincy loamy fine sand</td>
<td>17.5</td>
<td>0</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>Class 4</td>
<td>Class 7</td>
<td>Not prime</td>
</tr>
<tr>
<td>95B – Taunton fine sandy loam</td>
<td>11.7</td>
<td>0</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>Class 4</td>
<td>Class 6</td>
<td>Prime if irrigated</td>
</tr>
</tbody>
</table>

Table K-1 also provides NRCS farmland classifications: prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Arable lands are defined under OAR 660-033-0130(38) as “land in a tract that is predominantly cultivated, or if not cultivated, predominantly comprised of arable soils.” NRCS soil capability classes 1 through 4 are generally considered arable soils (Helms 1992) whereas NRCS soil classes 5 through 8 are generally considered nonarable soils.

The Project Site Boundary consists of two tracts defined by OAR 660-033-0020(14) as “one or more contiguous lots or parcels under the same ownership.” Tract 1 (4N29C0000500) is owned by Windblown Solar LLC and Tract 2 (4N29C0000200) is owned by Steven and Wanda Scott, doing
business as S&W Properties. Although neither Tract 1 nor Tract 2 contain cultivated land (see Figure K-3), the two tracts are both predominantly composed of arable soils as the majority of each tract is composed of Soil Map Unit 1B – Adkins fine sandy loam, 0-5 percent slopes which is considered by the NRCS as Class 2 (if irrigated) or Class 4 (if non-irrigated) soils (see Figures K-5 and K-6).

4.3.2 Existing Water Rights and Irrigation District

According to the Oregon Water Resources Department Water Rights Information System, 670.7 acres of place of use ground water rights are located in the Analysis Area, but none are located within the Site Boundary (Figure K-7). Several irrigation districts operate in west Umatilla County. According to the Umatilla County Irrigation District Zoning Map (Umatilla County 2021), the Site Boundary is located outside the Stanfield Irrigation District boundary but portions of the Analysis Area north, west, and south of the Site Boundary are located inside the Stanfield Irrigation District.

Although not mapped by Umatilla County, the East Improvement District is relatively new irrigation district operating in west Umatilla County. According to the legally recorded landowner’s notice of the establishment of the East Improvement District, neither of the Project tracts are included in the district; however, portions of the Analysis Area (outside the Site Boundary) are within the East Improvement District (Umatilla County 2019).

In summary, there are no place of use water rights associated with either Tract 1 or Tract 2. Furthermore, according to the owner of Tract 1, Arthur Prior of Windblown Solar LLC (see landowner letter in Attachment K-1), Tract 1 has not been used for agricultural enterprise or farming and has never had water rights or been irrigated. Mr. Prior also notes that because of the lack of irrigation, the land is not useful for agricultural purposes. Similarly, the landowners of Tract 2, Steve and Wanda Scott (see landowner letter in Attachment K-2), note that their parcel of land has no water rights for irrigation and without irrigation the soils are not good for farming.

4.3.3 High Value Farmland Analysis

Certain lands within the EFU zone are considered high-value farmland. High-value farmland is defined under ORS 195.300(10) and the provisions of this statute potentially applicable to the Analysis Area are summarized below:

- ORS 195.300(10)(a) relies on land in the EFU zone meeting the description of high-value farmland under ORS 215.710 which describes land in a tract composed predominantly of soils that are irrigated or not irrigated, and classified as prime, unique, Class I, or Class II.
- ORS 195.300(10)(c) relies on the land in the EFU zone being located within a place of use water right, an irrigation district, or a diking district.

2 “Tract” means one or more contiguous lots or parcels under the same ownership.
Exhibit K: Compliance with Statewide Planning Goals

- ORS 195.300(10)(f) relies on the land in the EFU zone being located within the boundaries of the Columbia Valley American Viticulture Area (see 27 Code of Federal Regulations Part 9, Subpart C - Approved American Viticultural Areas, Section 9.74 Columbia Valley)—and meeting certain elevation (below 3,000 feet), slope (between zero and 15 percent), and aspect (between 67.5 and 292.5 degrees) criteria.

Whether the land in the Project's two tracts qualifies as high-value farmland per ORS 195.300(10)(a) depends on whether the soils are irrigated or not. The predominant soil type in both tracts in the Site Boundary is 1B – Adkins fine sandy loam, 0-5 percent slopes which is considered by the NRCS as Class 2 (if irrigated) or Class 4 (if non-irrigated) soils (see Figures K-5 and K-6). As neither of the Project tracts are irrigated or have a history of being irrigated, the land in the Site Boundary would not meet the definition of high-value farmland under ORS 195.300(10)(a). Outside the Site Boundary, the 1B soils located in the Analysis Area that overlap with a place of use irrigation water right or irrigation district would be considered Class 2 soils (Figure K-5) and therefore would be considered high-value farmland per ORS 195.300(10)(a). These same areas would be considered high-value farmland per ORS 195.300(10)(c) (see Figure K-8). As there are no place of use irrigation rights within the Site Boundary and as the two tracts within the Site Boundary are outside the Stanfield Irrigation District and East Improvement District, the area within the Site Boundary would not qualify as high-value farmland per ORS 195.300(10)(c).

Approximately 1,215 acres, or 67.6 percent, of the Analysis Area is classified as high-value farmland under ORS 195.300(10)(f) because of the location within the designated Columbia Valley American Viticulture Area. While the entirety of the Analysis Area is within the Columbia Valley American Viticultural Area, high-value farmland occurs on a patchy basis throughout the Site Boundary and Analysis Area (see Figure K-8) because only certain areas meet the slope and aspect criteria under ORS 195.300(10)(f). See Table K-2 for the breakdown of high-value farmland acreages in the Analysis Area and Site Boundary.

<table>
<thead>
<tr>
<th>Land Type</th>
<th>Acres/Percent in Analysis Area</th>
<th>Acres/Percent in Site Boundary</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-value farmland based on place of use water rights, irrigation district, and high-value soils¹</td>
<td>899/50%</td>
<td>0/0%</td>
</tr>
<tr>
<td>High-value farmland based on American Viticulture Area designation and criteria²</td>
<td>1,215/68%</td>
<td>261/80%</td>
</tr>
</tbody>
</table>

¹ High-value farmland designations per ORS 195.300(10)(a) and (c).
² High-value farmland designations per ORS 195.300(10)(f).

Pursuant to ORS 469.300(11)(a)(D), a solar photovoltaic power generation facility is an “energy facility” subject to the jurisdiction of EFSC if it is located on i) more than 160 acres of high-value...
Exhibit K: Compliance with Statewide Planning Goals

farmland as defined in ORS 195.300, or ii) more than 1,280 acres of land that is either predominantly cultivated, or if not cultivated, predominantly composed of soils that are in capability classes 1 to 4. While analysis in this Exhibit demonstrates that the area within the Project Site Boundary is not cultivated or located on over 1,280 acres of land predominantly composed of Class I through IV soils, over 160 acres of the land within the Site Boundary is considered high-value farmland under ORS 195.300(10)(f). Thus, the Project is an “energy facility” under EFSC’s jurisdiction per ORS 469.300(11)(a)(D).

5.0 EFSC Determination on Land Use – OAR 345-021-0010 (1)(k)(C)

OAR 3450-021-0010(1)(k)(C) If the applicant elects to obtain a Council determination on land use:

(i) Identify the affected local government(s).

Response: The Project and its Analysis Area are entirely within Umatilla County.

(ii) Identify the applicable substantive criteria from the affected local government’s acknowledged comprehensive plan and land use regulations that are required by the statewide planning goals and that are in effect on the date the application is submitted and describe how the proposed facility complies with those criteria.

Response: The applicable substantive criteria from Umatilla County are identified and addressed in Sections 6.1 and 6.2.

(iii) Identify all Land Conservation and Development Commission administrative rules, statewide planning goals and land use statutes directly applicable to the facility under ORS 197.646(3) and describe how the proposed facility complies with those rules, goals and statutes.

Response: Pursuant to OAR 660-033-0120, photovoltaic solar power generation facilities must comply with the standards set forth in OAR 660-033-0130(5) and (38). The standards of OAR 660-033-0130(5) are discussed in Section 6.1.1.2 in response to UCDC §152.061. The standards of OAR 660-033-0130(38) are discussed in Section 7.1.2. For a use located within an EFU zone, the “applicable statewide planning goal” is Goal 3, which is the State’s Agricultural Lands goal. See Section 7.2 for a discussion of the Project’s compliance with this goal.

(iv) If the proposed facility might not comply with all applicable substantive criteria, identify the applicable statewide planning goals and describe how the proposed facility complies with those goals.

Response: The Project does not meet the standards under OAR 660-033-0130(38)(g) and (i) as the Project will permanently occupy more than 12 acres of high-value farmland and 20 acres of arable land for the commercial solar energy facility. Thus, the Project requires an exception to Statewide
Planning Goal 3 pursuant to ORS 469.504(2) and OAR 345-022-0030(4). The Applicant demonstrates in Section 8.0 that an exception to Statewide Planning Goal 3 is justified.

(v) If the proposed facility might not comply with all applicable substantive criteria or applicable statewide planning goals, describe why an exception to any applicable statewide planning goal is justified, providing evidence to support all findings by the Council required under ORS 469.504(2).

Response: As discussed above, the Project’s solar generation facilities would permanently occupy more than 12 acres of high-value farmland and 20 acres of arable land. Pursuant to OAR 660-033-0130(38)(g) and (i), siting of the Project’s solar generation facilities requires an exception to Statewide Planning Goal 3. This exception is justified under ORS 469.504(2), which provides the controlling criteria for exceptions that are proposed for energy facilities under the jurisdiction of EFSC. The Applicant demonstrates that an exception to Statewide Planning Goal 3 is justified for the Project in Section 8.0.

6.0 Umatilla County – OAR 345-021-0010 (1)(k)(C)(ii)

This section includes a demonstration of compliance with the applicable substantive criteria from the UCDC (Umatilla County 2021) and UCCP (Umatilla County 2018)

6.1 Compliance with Applicable Substantive Criteria from the Umatilla County Zoning Code/UCDC Criteria

The following UCDC Sections are applicable substantive criteria to the Project’s commercial solar power generation facility as it is a Conditional Use in Umatilla County:

- EFU, UCDC Sections 152.060(FF), 152.061, and 152.063;
- General Provisions, UCDC Sections 152.010, 152.011, 152.015, and 152.017;
- Sign Regulations, UCDC Sections 152.545 through 152.548;
- Off-Street Parking and Loading, UCDC Sections 152.560 through 152.562;
- Conditional Uses and Land Use Decisions, UCDC Sections 152.611 through 152.615.

While the Project's commercial solar power generation facility could fall under the definition of "commercial utility facilities for the purpose of generating power for public use by sale", which is a conditional use in the EFU Zone per UCDC Section 152.060(F) and subject to the provisions in UCDC Section 152.617(I)(C), the Applicant has chosen to review the Project under the UCDC provision specific to solar power generation on EFU land under UCDC Section 152.060(FF).
6.1.1 EFU, Exclusive Farm Use Zone

6.1.1.1 UCDC §152.060 CONDITIONAL USES PERMITTED

In an EFU zone the following uses may be permitted conditionally via administrative review (§ 152.769), subject to the requirements of this section, the applicable criteria in § 152.061, §§ 152.610 through 152.615, 152.617 and §§ 152.545 through 152.562. A zoning permit is required following the approval of a conditional use pursuant to § 152.025. Existing uses classified as conditional uses and listed in this section may be expanded subject to administrative review and subject to the requirements listed in OAR 660, Division 033.

(FF) Photovoltaic solar power generation facility as provided in OAR 660-033-0130 (38).

Response: The Project meets the definition of “Photovoltaic solar power generation facility” under OAR 660-033-0130(38) and is therefore a conditional use under UCDC §152.060(FF). OAR 660-033-0130(38)(f) states the following:

“Photovoltaic solar power generation facility” includes, but is not limited to, an assembly of equipment that converts sunlight into electricity and then stores, transfers, or both, that electricity. This includes photovoltaic modules, mounting and solar tracking equipment, foundations, inverters, wiring, storage devices and other components. Photovoltaic solar power generation facilities also include electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, all necessary grid integration equipment, new or expanded private roads constructed to serve the photovoltaic solar power generation facility, office, operation and maintenance buildings, staging areas and all other necessary appurtenances.”

The energy storage system, the Project’s collector substation, switchyard substation, and interconnection equipment (including overhead cables connecting the substations to the existing UEC 115-kV line or other existing transmission line within the Site Boundary) are considered part of the photovoltaic solar power generation facility as the energy storage system is part of the storage equipment and the substation and interconnection equipment is part of the grid integration equipment. This interpretation is consistent with the definition of photovoltaic solar power generation facility in OAR 660-033-0130(38)(f) and as described in Exhibit B, Section 2. Therefore, the energy storage system and substations (which are within the Site Boundary) are reviewed as part of the photovoltaic solar power generation facility.

The OAR 660-033-0130(38) criteria for conditionally approving the photovoltaic solar power generation facility in the EFU zone are provided in Section 7.1.2.

Under ORS 469.401(3), following issuance of the Site Certificate, the County, upon the Applicant’s submission of the proper application and fee, shall issue the conditional use and zoning permits addressed in the Site Certificate, subject only to the conditions set forth in the Site Certificate and without hearings or other proceedings.
6.1.1.2 UCDC §152.061 STANDARDS FOR ALL CONDITIONAL USES [IN EFU ZONE]

The following limitations shall apply to all conditional uses in an EFU zone. Uses may be approved only where such uses:

(A) Will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; and

(B) Will not significantly increase the cost of accepted farm or forest practices on lands devoted to farm or forest use.

Response: There is no forest use within the Analysis Area or Site Boundary as shown on Figure K-2. Although the Project Site Boundary contains fallow agricultural land and construction and operation of the Project would remove no acres of land that are currently cultivated, active agricultural uses do occur on lands to the north, south, and west of the Site Boundary.

The impact of the Project will not force a significant change in accepted farm practices or significantly increase the cost of farm practices in the Analysis Area, for the following reasons:

- Most of the land within the Site Boundary currently available for agricultural use would be returned to its current status after Project decommissioning.

- Even if the land within the Site Boundary were assumed to be permanently lost to farm use due to siting of permanent Project improvements, the amount of loss would be a de minimis percentage of the total farm use land in Umatilla County—less than 0.02 percent of the 1,353,241 acres of land in farms (USDA 2017). Therefore, the inability to use the land for farm purposes is not significant.

- Project access roads and other facilities will be constructed and maintained by the Applicant such that the cost burden for maintenance does not fall upon the property owners.

- While some increase in traffic is anticipated during construction, Exhibit U demonstrates that the temporary increase in the level of traffic will not significantly impact level of service on local roads. Therefore, construction traffic will not interfere with harvest time activities such as tractor movement between fields or trucks delivering agricultural products to market.

- The Applicant will sign and record in the deed records for the county a document binding the Project owner and the Project owner’s successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).

- The Project will not limit or impact current or future farm activities on the surrounding land and will not diminish the opportunity for neighboring parcels to expand, purchase, or lease any vacant land available for agricultural uses.
• The Applicant will implement a weed control plan during construction and operation that will reduce the risk of weed infestation in cultivated land and the associated cost to the farmer for weed control.

• The Project will not affect the application of pesticides or fertilizers using aerial or ground-based methods.

The measures above are intended to avoid or minimize the impacts of the Project on farming operations in the Analysis Area, and to mitigate for necessary impacts. The Applicant will consult with area landowners during construction and operation of the Project to determine further measures to reduce or avoid any adverse impacts to farm practices on surrounding lands and to avoid any increase in farming costs.

6.1.1.3 UCDC §152.063 DEVELOPMENT STANDARDS

In the EFU zone, the following dimensional and development standards shall apply:

(A) Minimum parcel frontage. A parcel shall have a minimum street or road frontage of 30 feet.

(B) Front yard setbacks. All buildings shall be set back from front property lines and side or rear property lines adjoining county roads, public roads, state highways, or public or private access easements as follows:

1. At least 30 feet from the property line or easement boundary; or

2. At least 60 feet from the center line of the road, highway, or easement, whichever is greater.

(C) Side and rear yard setbacks. Except as provided in division (B) above, the following standards shall apply for side and rear yard setbacks:

1. The minimum yard setback for farm or non-farm dwellings shall be 20 feet.

2. The minimum yard setback for accessory buildings or structures, for both farm and non-farm uses, shall be five feet, except as otherwise provided in applicable conditions of approval, or as constrained by division (D) below.

3. Special minimum yard setbacks may be established for an approved conditional use to protect the public health, safety and welfare and to mitigate possible adverse impacts to adjacent land uses.

(D) Distance maintained from aggregate mining operations. A dwelling shall not be located within 500 feet of an existing aggregate mining operation unless the owner of the property of the proposed dwelling:

*****

(E) Stream setback. To permit better light, air, vision, stream pollution control, to protect fish and wildlife areas, and to preserve the natural scenic amenities and vistas along the
streams, lakes, and wetlands, and to prevent construction in flood prone areas along
streams not mapped as part of the National Flood Insurance Program, the following
setbacks shall apply:

(1) All sewage disposal installations such as septic tanks and drainfields shall be set
back from the mean water line or mark along all streams, lakes or wetlands a
minimum of 100 feet, measured at right angles to the high water line or mark. In those
cases, where practical difficulties preclude the location of the facilities at a distance of
100 feet, and the DEQ sanitarian finds that a chosen location will not endanger health,
the Planning Director may permit the location of these facilities closer to the stream,
lake, or wetland, but in no case closer than 50 feet.

(2) All structures, buildings or similar permanent fixtures shall be set back from the
high water line along all streams, lakes or wetlands a minimum of 100 feet measured
at right angles to the high water line or mark, except that this setback can be reduced
to 20 feet if all of the following criteria are met:

****

(F) Other development standards. All development shall be subject to the regulations
contained in §§ 152.010 through 152.017, §§ 152.545 through 152.562, and to the
exceptions standards of §§ 152.570 through 152.577, including but not limited to: vision
clearance, signs, off street parking, access, fences, wetland drainage, and maintenance,
removal and replacement of riparian vegetation. (Ord. 2005-02, passed 1-5-05)

Response: The final site layout will comply with the frontage and yard setbacks required in UCDC
§152.063. The Project Site Boundary is not located near an aggregate mining operation nor is it
proposing a residential use; therefore, subpart (D) does not apply. The Project does not propose
any septic tanks or drainfields and the Project Site Boundary contains no streams or wetlands and
is not located adjacent to any streams or wetlands; therefore, subpart (E) does not apply.

Subpart (F) requires that all developments in the EFU Zone are subject to the regulations contained
in §§ 152.010 through 152.017, §§ 152.545 through 152.562, and to the exceptions standards of §§
152.570 through 152.577. The applicable provisions under UCDC General Provisions (§§ 152.010,
152.011, 152.015, 152.017) are discussed in Section 6.1.2. The sign regulations under UCDC §§
152.545 through 152.548 are discussed in Section 6.1.3 and the off-street parking and loading
provisions under UCDC §§ 152.560 through 152.0562 are discussed in Section 6.1.4. The exceptions
standards of §§ 152.570 through 152.577 are not applicable as the Project will not be seeking any
of these exceptions.
6.1.2 General Provisions

6.1.2.1 UCDC §152.010 ACCESS TO BUILDINGS; PRIVATE DRIVEWAYS AND EASEMENTS

(A) Every building hereafter erected or moved shall be on a lot that abuts a public street or a recorded easement. All structures shall be so located on lots as to provide safe and convenient access for servicing, fire protection, and required off-street parking. In commercial and industrial zones, access points shall be minimized. To accomplish this, access shall be limited to one every 200 feet and shall be reviewed during the design review stage or the conditional use hearing. If necessary to accomplish this, driveways may be shared between two lots.

(B) Private driveways and easements that enter onto a public or county road or state or federal highway shall be constructed of at least similar if not the same material as the public or county road or state or federal highway to protect the edge of the road from rapid deterioration. The improvements shall extend at least 25 feet back from the edge of the existing travel lane surface. (Ord. 83-4, passed 5-9-83)

Response: The Project’s proposed driveway of S. Edwards Road will conform with this provision of the UCDC.

6.1.2.2 UCDC §152.011 VISION CLEARANCE

Vision clearance areas shall be provided with the following distance establishing the size of the vision clearance area:

(A) In an Agricultural or Residential Zone, the minimum distance shall be 30 feet or, at intersections including an alley, 10 feet;

(B) In all other zones the minimum distance shall be 15 feet or, at intersections including an alley, 10 feet, except when the angle of intersection between streets is less than 30º the distance shall be 25 feet;

(C) The vision clearance area shall not contain any planting, wall, structure, or obstruction of any kind exceeding two and one-half feet in height measured from the grade of the street centerline. (Ord. 83-4, passed 5-9-83)

Response: The Project design will conform with the vision clearance distance of 30 feet as provided under subparts (A) and (C) of UCDC §152.011.

6.1.2.3 UCDC §152.015 FENCES

Fences are allowed in any zone and do not require a zoning permit for construction unless located in a Special Flood Hazard Area. Fences located in a Special Flood Hazard Area require an approved Floodplain Development Permit and Zoning Permit. Fences must meet vision clearance requirements and zoning height limitation for
structures. Fences shall meet all Oregon Uniform Building Code requirements. (Ord. 83-4, passed 5-9-83; Ord. 2010-05, passed 8-3-10; Ord. 2019-03, passed 4-3-2019).

Response: The Project’s fence will not be located in a Special Flood Hazard Area and will meet the vision clearance requirements (see Section 6.1.2.2). There is no zoning height limitation for structures in the EFU Zone. The fence will meet all Oregon Uniform Building Code requirements.

6.1.2.4 UCDC §152.017 CONDITIONS FOR DEVELOPMENT PROPOSALS

(A) The proposed use shall not impose an undue burden on the public transportation system. Any increase meeting the definition of significant change in trip generation constitutes an undue burden.

(B) For developments likely to generate a significant increase in trip generation, applicant shall be required to provide adequate information, such as a traffic impact study or traffic counts, to demonstrate the level of impact to the surrounding system. The scope of the impact study shall be coordinated with the providers of the transportation facility. Proposals that meet the requirements in §152.019(B) are subject to §152.019(C), Traffic Impact Analysis Requirements.

(C) The applicant or developer may be required to mitigate impacts attributable to the project. Types of mitigation may include such improvements as paving, curbing, bridge improvements, drainage, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways or paths. The determination of impact or effect should be coordinated with the providers of affected transportation facilities.

(D) Dedication of land for roads, transit facilities, sidewalks, bikeways, paths, or accessways may be required where the existing transportation system will be impacted by or is inadequate to handle the additional burden caused by the proposed use. (Ord. 2002-08, passed 8-14-02; Ord. 2012-07, passed 3-13-12)

Response: While some increase in traffic is anticipated during construction, Exhibit U demonstrates that the temporary increase in the level of traffic will not significantly impact level of service on local roads. Traffic generation during operations will be minimal, and most of the time nonexistent as the Project will mostly be operated remotely. Therefore, construction traffic will not impose an undue burden on the public transportation system. See Exhibit U for a discussion of compliance with UCDC § 152.019(B).

6.1.3 Sign Regulations

6.1.3.1 UCDC §152.545 through §152.548

Response: Any signs erected as part of the Project will conform with this provision of the UCDC.
6.1.4 Off-Street Parking and Loading

6.1.4.1 UCDC §152.560 OFF-STREET PARKING REQUIREMENTS

(A) Each use shall provide the following minimum off-street parking spaces. Each parking space shall be a minimum of nine feet wide and 20 feet in length.

(B) Off-street parking requirements.

***

(10) Industrial uses: one space per 200 square feet of public space, plus one space per employee

(11) Conditional uses: additional spaces may be required by the Hearings Officer in the approval of a conditional use.

(C) Bicycle parking requirements.

(1) Applicability. Bicycle parking spaces are required for new development, or changes of use, under the following conditions:

(a) A site with 10 or more off-street vehicle parking spaces.

(b) All properties zoned RSC or LI that have frontage on Highway 395.

(2) Exemptions. This section does not apply to single-family and duplex housing, home occupations, and agricultural uses.

(3) Standards. A minimum of two bicycle spaces for the first 10 motorized vehicle parking areas is required, plus one additional bicycle space for each additional 10 motorized vehicle parking spaces thereafter.

***

Response: UCDC §152.560 specifies off-street parking standards for industrial uses, including one space per 200 square feet of public space, plus one space per employee. No parking standard is provided for a commercial power generating facility. During operation, the Applicant anticipates 2 to 5 employees will be periodically onsite for operations and maintenance parking at the operations and maintenance (O&M) enclosure. Applicant will provide a minimum of 5 parking spaces to accommodate the anticipated number of operational employees. Per the standards under subpart (C), no bicycle parking is required at the Project as it will have less than 10 off-street vehicle parking spaces.

6.1.4.2 UCDC §152.561 OFF-STREET LOADING REQUIREMENTS

(A) Passengers. A driveway designed for continuous forward flow of passenger vehicles for the purpose of loading and unloading children shall be located on the site of any school having a capacity greater than 25 students.
(B) Merchandise. Off-street parking areas used to fulfill the requirements of this chapter shall not be used for loading and unloading operations except during periods they are not required for parking. (Ord. 83-4, passed 5-9-83).

Response: As the Project does not propose a school and does not use off-street parking, UCDC §152.561 is not applicable to the Project.

6.1.4.3 UCDC §152.562 ADDITIONAL OFF-STREET PARKING AND LOADING REQUIREMENTS

Response: The parking associated with the O&M enclosure will meet the applicable design requirements in UCDC §152.562.

6.1.5 Conditional Uses and Land Use Decisions

6.1.5.1 UCDC §152.611 NEW OR ALTERED CONDITIONAL USES AND LAND USE DECISIONS; CONFORMANCE WITH REQUIREMENTS; PERFORMANCE BONDS.

(A) Conditional uses and land use decisions listed in this chapter may be permitted, enlarged or altered contingent upon appropriate authorization, in accordance with the standards and procedures set forth in this subchapter.

(B) In permitting a new or the alteration of an existing conditional use or land use decision, the designated planning authority may impose conditions, which are considered necessary to protect the best interests of the surrounding area or the county as a whole.

(C) In the case of a use existing prior to the effective date of this chapter and classified in this chapter as a conditional use or land use decision, any change in use or in lot area or an alteration of structure shall conform to the requirements for a conditional use or land use decision.

(D) The County may require an applicant to furnish the County with a performance bond or such other form of assurance that the County deems necessary to guarantee development in accordance with the standards established and conditions attached in granting a conditional use or land use decision. (Ord. 83-4, passed 5-9-83; Ord. 2005-02, passed 1-5-05; Ord. 2011-02, passed 3-17-11).

Response: The Applicant has elected to address EFSC’s land use standard by obtaining a land use determination from EFSC pursuant to ORS 469.504(1)(b) for the Project and all related and supporting facilities. Upon issuance of an EFSC Site Certificate for the Project, the Applicant will submit conditional use and zoning permit applications to Umatilla County in accordance with UCDC
§152.025 and §152.060. After review of the permits, Umatilla County shall issue the permits without further conditions pursuant to ORS 469.401(3). In response to OAR 345-022-0050, the Applicant will obtain a bond or letter of credit to restore the Project site to a useful, non-hazardous condition. Exhibit W addresses retirement of the Project.

6.1.5.1 UCDC §152.612 PROCEDURE FOR TAKING ACTION ON A CONDITIONAL USE OR LAND USE DECISION APPLICATION.

****

Response: Upon issuance of an EFSC Site Certificate for the Project, the Applicant will submit conditional use and zoning permit applications to Umatilla County in accordance with UCDC §152.025 and §152.060. After review of the permits, Umatilla County shall issue the permits without further conditions pursuant to ORS 469.401(3).

6.1.5.1 UCDC §152.613 TIME LIMIT ON A CONDITIONAL USE PERMIT AND LAND USE DECISION.

****

Response: Upon issuance of an EFSC Site Certificate for the Project, the Applicant will submit conditional use and zoning permit applications to Umatilla County in accordance with UCDC §152.025 and §152.060. After review of the permits, Umatilla County shall issue the permits without further conditions pursuant to ORS 469.401(3).

6.1.5.1 UCDC §152.614 LIMIT ONE APPLICATION

****

Response: Upon issuance of an EFSC Site Certificate for the Project, the Applicant will submit conditional use and zoning permit applications to Umatilla County in accordance with UCDC §152.025 and §152.060. After review of the permits, Umatilla County shall issue the permits without further conditions pursuant to ORS 469.401(3).

6.1.5.2 UCDC §152.615 ADDITIONAL CONDITIONAL USE PERMIT RESTRICTIONS

In addition to the requirements and criteria listed in this subchapter, the Hearings Officer, Planning Director or the appropriate planning authority may impose the following conditions upon a finding that circumstances warrant such additional restrictions: [list of conditions omitted for brevity]

Response: To the extent any restrictions or conditions of the type listed in Section 152.615 are deemed necessary to mitigate the impacts of the Project, they will be implemented through the EFSC Site Certificate process consistent with ORS 469.401(2).
6.2 Applicable Substantive Criteria from Umatilla County Comprehensive Plan (Policies)

6.2.1 Chapter 6. Agriculture

1. Umatilla County will protect, with Exclusive Farm Use zoning pursuant to ORS 215, lands meeting the definition of farmland in this plan and designated as Agricultural on the Comprehensive Plan Map.

Response: Umatilla County has adopted zoning and allocated lands identified as Agricultural on the Comprehensive Plan Map to the EFU zoning district pursuant to ORS 215. As discussed in Section 6.1 and 7.1.2, the proposed Project meets the applicable substantive criteria of the Umatilla County EFU zone with exception of OAR 660-033-0130(38)(g) and (i) as the Project will permanently occupy more than 12 acres of high-value farmland and 20 acres of arable land for the commercial solar energy facility. Thus, the Project requires an exception to Statewide Planning Goal 3 pursuant to ORS 469.504(2) and OAR 345-022-0030(4). The justification for an exception to Statewide Planning Goal 3 is set forth in Section 8.0.

8. The county shall require appropriate procedures/standards/policies be met in the Comprehensive Plan and Development Ordinance when reviewing non-farm uses for compatibility with agriculture.

Response: Most but not all comprehensive plan policies are implemented by the UCDC. In the case of these agricultural policies, they are implemented by the regulations of the EFU zone including the substantive criteria of the UCDC discussed above in Section 6.1.1.

6.2.2 Chapter 5. Citizen Involvement

1. Provide information to the public on planning issues and programs, and encourage continuing citizen input to planning efforts.

Response: The ASC approval process incorporates opportunities for citizen input on the planning and permitting process, through scoping meetings, official notices to surrounding property owners and solicitation of comments, and the public hearings process. Therefore, this UCCP policy regarding citizen involvement is satisfied.

5. Through appropriate media, encourage those County residents’ participation during both city and County deliberation proceedings.

Response: As noted above, the Site Certificate process with EFSC provides ample opportunity for public review of application materials and input and participation in the planning process, including at least one hearing in the local area. The EFSC process is consistent with Statewide Land Use Planning Goal 1 regarding citizen involvement. Accordingly, the UCCP policies regarding citizen involvement are met.
6.2.3 Chapter 8. Open Space, Scenic & Historic Areas, and Natural Areas

1. (a) The County shall maintain this resource [Open Space] by limiting development mainly to existing built up areas.

Response: As stated in Chapter 8 of the UCCP, Umatilla County has considerable amounts of open space with less than 5 percent of its 2.06 million acres urbanized. The Project is located approximately 0.5 miles from the Stanfield Urban Growth Boundary. Although the Project will be located on uncultivated agriculturally zoned land, it will not significantly alter the rural character of West Umatilla County as it involves a relatively small area of land compared to the surrounding agricultural landscape and is located near the urbanized corridor along Highway 395 and the cities of Stanfield and Hermiston. Additionally, the Project site contains several transmission lines and therefore is already characterized by utility uses.

The impacts of the Project on scenic, protected and recreational areas are discussed in further detail in Exhibits R, L, and T.

5. (a) The County shall maintain rural agricultural lands, Development shall be of low density to assure retention of upland game habitat,

Response: The general wildlife survey and habitat categorization surveys of the Project site determined that the majority of the Project site is composed of Category 4 or 5 Eastside Grassland habitat which is characterized as highly disturbed habit with high percentage of non-native plant species. Category 4 includes a sagebrush component while Category 5 does not. The Category 3 Shrub-steppe habitat within the Project site was limited to 20 acres. Also, the surveys found no wetlands or stream features. For these reasons, the current conditions at the Project site do not provide optimal habitat for upland game birds. However, construction and operation of the Project will result in permanent loss of habitat, which could displace nesting and foraging birds. However, birds using habitat within the Site Boundary are expected to relocate to other suitable habitat in the greater vicinity of the Project. See Exhibit P for more details regarding the Project’s wildlife habitat and species and the Project’s planned avoidance and minimization measures and habitat mitigation plan. Given the Project’s plan for mitigation of permanent habitat the Project complies with this policy.

Regarding the Project’s use of rural agriculturally zoned land in Umatilla County, the Project would develop 0.02 percent of total land in farms in Umatilla County, per the latest U.S. Department of Agriculture Census of Agriculture (USDA 2017). This represents a minimal amount of the County’s total farmland.

Given the Project’s minimal use of the County’s supply of rural agricultural lands and given the minimal impacts to upland game bird habitat, the Project is consistent with this policy.
(b) Land uses should maintain the vegetation along stream banks, fence rows, woodlots, etc. Research ways to reduce harassment and loss of upland game by free roaming dogs and cats.

Response: A survey of the Project site determined there are no stream features or other features that appear to convey water, as further discussed in Exhibit P. There are no characteristics of the Project that would attract or exacerbate the problem of free roaming dogs and cats.

6. (a) Developments or land uses that require drainage, channelization, filling or excessive removal of riparian vegetation in sensitive waterfowl areas should be identified.

Response: The Project does not require drainage, channelization, filling, or excessive removal of riparian vegetation in sensitive waterfowl areas.

8. (a) Setbacks shall be established to protect significant and other wetlands.

Response: A survey of the site determined there are no wetlands identified within the Project Area, as further discussed in Exhibit J.

9. (a) The County shall encourage land use practices which protect and enhance significant wetlands.

Response: A survey of the site determined there are no wetlands identified within the Project Area, as further discussed in Exhibit J.

10. (c) Compatible land use shall maintain the riparian vegetation along streams in the floodplain. Stream bank vegetation shall be maintained along streams outside of the floodplain by utilizing appropriate setbacks.

Response: A survey of the site determined there are no stream features or other features that appear to convey water, as further discussed in Exhibit J.

10. (d) Development or land use that requires channelization, excessive removal of streamside vegetation, alteration of stream banks and filling into stream channels shall be restricted in order to maintain streams integrity.

Response: A survey of the site determined there are no stream features or other features that appear to convey water, as further discussed in Exhibit J.

10. (e) New roads, bridges and access rights-of-way shall be designed to avoid channel capacity, and minimize removal of shoreline vegetation.

Response: A survey of the site determined there are no wetlands, stream features or other features that appear to convey water, as further discussed in Exhibit J. Therefore, the Project will not adversely affect channel capacity.

20. (a) Developments of potentially high visual impacts shall address and mitigate adverse visual effects in their permit application, as outlined in the Development Ordinance standards.

Response: Exhibits L, R, and T provide evidence that the Project will not result in significant adverse visual impacts to protected areas, scenic resources, and recreational resources. Visual impacts are minimized as discussed in Exhibit R. The presence of the Project facilities will be non-
natural elements in locations where they are visible. Development of the Project facilities will result in minimal changes to the existing topography, landforms, and land cover.

20. (b) It is the position of the County that the Comprehensive Plan designations and zoning already limit scenic and aesthetic conflicts by limiting land uses or by mitigating conflicts through ordinance criteria. However, to address any specific, potential conflicts, the County shall insure special consideration of the following when reviewing a proposed change of land use:

1. Maintaining natural vegetation whenever possible.
2. Landscaping areas where vegetation is removed and erosion might result.
3. Screening unsightly land uses, preferably with natural vegetation or landscaping.
4. Limiting rights-of-way widths and numbers of roads intersecting scenic roadways to the minimum needed to safely and adequately serve the uses to which they connect.
5. Limiting signs in size and design so as not to distract from the attractiveness of the area.
6. Siting Developments to be compatible with surrounding area developments and recognizing the natural chrematistics or the location.
7. Limiting excavation and filling only to those areas where alteration of the natural terrain is necessary and re-vegetating such areas as soon as possible.
8. Protection vistas and other views which are important to be recognized because of their limited number and importance to the visual attractiveness of the area.

Response: Exhibit R reviews Project impacts to important scenic resources in Umatilla County. In general, significant impacts on the scenic resources identified in Exhibit R are not anticipated due to the distance from the Project to the respective scenic resources (over 5 miles), intervening topography that blocks views toward the Project from many potential viewing locations within the identified scenic resources, the presence of visual contrast created by existing infrastructure and other landscape modifications, the limited degree of additional contrast created by transmission structures, and the low stature of the proposed solar array (16 feet or less). Conflicts are addressed for a project as part of the substantive criteria applicable to the project. Additionally, the Project does not propose a new transmission line due to the presence of existing transmission lines that cross through or run adjacent to the Site Boundary. The Project will interconnect with one of the three existing transmission lines. Collector lines will generally be underground. Nonetheless, the Project incorporates many of the design guidance elements enumerated in this policy to minimize aesthetic impacts. For example, disturbed areas will be revegetated as soon as practicable following construction to restore the visual quality of the land and to prevent erosion. Project access roads will be reduced to the minimum length needed to develop the Project, and they will be narrowed following construction to a minimum width needed for typical maintenance vehicles. The O&M enclosure will appear similar to existing agricultural structures in the area. Outdoor lighting at the substations and the O&M enclosure will be kept to the minimum required for safety, motion...
22. **The County shall cooperate with state agencies and other historical organizations to preserve historic buildings and sites, cultural areas, and archeological sites and artifacts.**

*Response:* The Project has been designed to avoid significant impacts on historic, cultural, and archaeological resources identified within the Analysis Area. The transmission line historic sites in the Site Boundary have been avoided through Project design, wherein the associated structures of the lines have been avoided. The one identified archaeological resource (historic refuse scatter) will not be avoided, however this impact is not considered a significant impact given the site’s National Register of Historic Places ineligibility. In the event that previously undiscovered sites or artifacts are found during construction, the Applicant will coordinate with the State Historic Preservation Office regarding an appropriate course of action to conserve the resource. Avoidance of impacts to cultural or archaeological resources is discussed in Exhibit S.

23. **(a) Umatilla County shall encourage and cooperate in developing a detailed county-wide historic site inventory.**

*Response:* Any historic site information developed in the course of Project development shall be made available for inclusion in the Umatilla County historic site inventory.

24. **(a) Umatilla County shall protect significant historical and cultural sites from land use activities which diminish their value as historical resources.**

*Response:* As described in Exhibit S, the Site Boundary has been surveyed for historic and cultural resources. Tetra Tech identified a total of three cultural resources within the Analysis Area: one archaeological site and two historic structures (transmission lines). The transmission line historic sites have been avoided through Project design, wherein the associated structures of the lines have been avoided. The one identified archaeological resource (historic refuse scatter) will not be avoided, however this impact is not considered a significant impact given the site’s National Register of Historic Places ineligibility.

26. **The County shall cooperate with the Tribe, Oregon State Historic Preservation Office, and others involved in concern identifying and protecting Indian cultural areas and archeological sites.**

*Response:* The Applicant has cooperated and consulted with the Confederated Tribes of the Umatilla Indian Reservation and will consult with Oregon State Historic Preservation Office through the ASC process regarding cultural and archaeological resources (see Exhibit S). All identified Native American cultural and archaeological sites eligible or potentially eligible for regulatory protection are avoided, as required by applicable standards.

37. **The County shall ensure compatible interim uses provided through Development Ordinance standards, and where applicable consider agriculturally designated land as open space for appropriate and eventual resource or energy facilities use.**
Response: The Project is an energy facility on agricultural designated land, as encouraged by this policy.

42. (a) Encourage development of alternative sources of energy.

Response: This is an alternative energy project that is consistent with and implements this policy.

### 6.2.4 Chapter 9. Air, Land, Water Quality

1. Discharges from existing and future developments shall not exceed applicable environmental standards.

Response: The Project will not discharge any pollutants or other regulated materials in exceedance of environmental standards. The Applicant will obtain and comply with a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharge and shall follow best management practices to minimize discharges and emissions during construction. Once operational, the Project will not discharge pollutants or other materials regulated by environmental law. Waste materials will be managed in compliance with applicable laws and regulations (see Exhibits G and U).

7. Consider cumulative noise impacts and compatibility of future developments, including the adoption of appropriate mitigating requirements of plan updates.

Response: Noise impacts and mitigation are discussed in Exhibit X, which demonstrates that the Project can be operated to comply with state noise regulations. The Applicant has considered the potential for and is not aware of potential future developments that could give rise to cumulative noise impact issues.

8. Recognize that protection of existing wells has priority over development proposals requiring additional subsurface sewage disposal.

Response: There is no subsurface sewage disposal proposed with this project. The restroom facilities at the O&M enclosure will be provided in the form of portable toilets (see Exhibit B).

### 6.2.5 Chapter 10. Natural Hazards

1. The County will endeavor, through appropriate regulations and cooperation with applicable governmental agencies, to protect life and property from natural hazards and disasters found to exist in Umatilla County.

Response: The Project is in an area largely free of natural hazards and will incorporate many features protective of life and property (see Exhibit H). Exhibit H demonstrates that the Project can be designed, engineered, and constructed through standard methods of practice (including implementation of the current IBC) to avoid dangers to human safety and the environment in case of a design seismic event. Exhibit E provides the additional permits that will be obtained to demonstrate compliance.
4. Potentially hazardous major developments (e.g. power plants) must address earthquake hazard possibilities.

Response: There are no known or active faults mapped within the Project Site Boundary (see Exhibit H). The risk of seismic hazards to human safety at the proposed Project is considered low (See Exhibit H). The soils in the Site Boundary are not saturated and are generally cohesive in nature. Along with the relatively low seismic event potential, this indicates that the liquefaction of soils within the Site Boundary is considered extremely unlikely. All foundations will be built to applicable engineering standards for earthquake safety. In Exhibit H, the Applicant has demonstrated that the Project can be designed, engineered, and constructed to avoid dangers to human safety and the environment in case of a design seismic event.

6.2.6 Chapter 11. Recreation Needs

1. Encourage and work with local, state, federal agencies and private enterprise to provide recreational areas and opportunities to citizens and visitors to the County.

Response: The Project will not interfere with or have any influence on the ability of the County to implement this policy. The Project is located in a rural area approximately 0.5 miles outside the City of Stanfield’s urban growth boundary and Project structures will take up a limited area of land with no major waterways, and does not provide any ideal spaces for recreational areas or opportunities especially in consideration of other areas of the County.

6.2.7 Chapter 12. Economy

1. Encourage diversification within existing and potential resource-based industries.

Response: The existing economic use of Project land will not be significantly impacted by the Project, as the area within the Project Site Boundary contains uncultivated land with no history of irrigation and no recent history of active agricultural use. Therefore, the Project will be an addition to and diversification of the County economy.

4. Participate in selected economic development programs and projects applicable to the County desired growth.

Response: The Project is outside of all Urban Growth Boundaries. The Project will make economic use of the solar resource of Umatilla County without detriment to other solar projects or natural resource uses. The Project will generate economic growth and jobs within Umatilla County.

7. Cooperate with development oriented entities in promoting advantageous aspects of the area.

Response: The Project will take advantage of Umatilla County’s abundant solar energy resources and relatively flat lands.

8. Evaluate economic development proposals upon the following:

Will the proposal:
Exhibit K: Compliance with Statewide Planning Goals

**Exhibit K: Compliance with Statewide Planning Goals**

**a. increase or decrease available [water] supplies?**

**b. improve or degrade [water] qualities?**

**c. balance [water] withdrawal with recharge rates?**

**d. be a beneficial use?**

**e. have sufficient [water] quantities available to meet needs of the proposed project and other existing and reassembly anticipated needs?**

**f. reduce other [water] use opportunities and if so, will the loss be compensated by other equal opportunities?**

**Response:** The Project will provide economic growth and jobs within Umatilla County; will have no effect on water supplies or quality; and will be a net beneficial use by reducing the need for carbon-intensive energy sources. Exhibit O demonstrates that construction and operation of the Project will not result in significant adverse impacts to water resources. During construction, the Project will require an anticipated maximum of 12.8 million gallons of water. The primary driver of water use during construction is dust control. The Applicant’s third-party construction contractor can obtain construction water from the City of Hermiston under an existing municipal water right. During operation, the Project will require very limited amounts of water. The Applicant conservatively assumes that solar modules will be washed twice per year, which will require approximately 1.65 million gallons of water per year. Water will be applied via a tanker truck and will not have any cleaning solvents in it. Employee sanitation during operations will be provided in the form of a hand-washing station and portable toilets. Drinking water will be purchased in bottles and stored in the O&M enclosure. Water for solar panel washing will be obtained from the City of Hermiston (see Exhibit O, Attachment O-1).

**6.2.8 Chapter 14. Public Facilities and Services**

1. **The county will control land development in a timely, orderly, and efficient manner by requiring that public facilities and services be consistent with established levels of rural needs consistent with the level of service requirements listed on pages J-27 and J-28 of the Technical Report. Those needs are identified as follows:**

   **a. Fire protection shall be provided consistent with Policies 8,9,10.**

**Response:** Policies 8, 9, and 10 respectively call for the formation or expansion of rural fire districts in areas designated for non-resource use; the provision of adequate fire-fighting water supplies for significant new rural developments in coordination with the appropriate fire district; and assistance by the County in locating satellite fire stations. As described in Exhibit U, Umatilla County Fire District #1 provides fire protection services for the Project Site Boundary area. The Applicant will identify access to the Project and its supporting structures, and mutually assist the fire district in the case of a fire. The Project will be equipped with adequate fire protection in accordance to the Oregon Fire Code. The Applicant has contacted Umatilla County Fire District #1 Division.
Exhibit K: Compliance with Statewide Planning Goals

(Attachment U-3). The Fire Marshall requested training on safely operating around the solar arrays and energy storage system facility.

b. Police protection shall be provided consistent with Policy 7.

Response: Policy 7 calls for the allocation of county funding to maintain at least the state average of 0.34 officers per 1,000 people. During construction, the Applicant will provide on-site security and develop a relationship with the local sheriff’s office to ensure security for the site is met. There would be no new residents to the surrounding communities, therefore not adding an increase demand onto the local sheriff and police forces. Therefore, the Project would not have a significant adverse impact on the ability of the communities to provide law enforcement services.

c. Surface. Water Drainage-Roadside drainage shall be maintained and plans for drainage shall be required in multiple use areas.

Response: Roadside drainage will be maintained on all roads developed or improved for the County, including at locations where Project access roads intersect County roads. The specific requirements for roadside drainage will be determined through the NPDES permit and the associated Erosion and Sedimentation Control Plan that must meet applicable local government erosion and sediment control or stormwater management requirements. The Applicant will coordinate with Umatilla County Public Works to ensure the roadside drainage plans for the Project will meet County specifications.

d. Roads shall be maintained or improved to standards adopted by the County Road Department which are consistent with nationally accepted standards that correlate traffic to desired road conditions.

Response: The Applicant will enter into a road use agreement with Umatilla County to ensure that roads will be maintained or improved to County standards.

2. Require that domestic water and sewage disposal systems for rural areas be provided and maintained at levels appropriate for rural use only. Rural services are not to be developed to support urban uses.

Response: Water supply and sewage disposal plans for the Project are consistent with the rural nature of the site. Once in operation, the Project will not have significant water needs; water for panel cleaning will be applied via a tanker truck and will not have any cleaning solvents in it. Employee sanitation during operations will be provided in the form of a hand-washing station and portable toilets. Drinking water will be purchased in bottles and stored in the O&M enclosure. Construction and operation water will be obtained from municipal water suppliers or from some other permitted source (see Exhibit O) in quantities within the service capacity of those providers and hauled to the Project site.

9. Require adequate water supplies for firefighting as part of significant new developments in rural areas in coordination with the appropriate rural fire district.

Response: The Applicant believes this policy is directed more at occupied development such as residential and commercial buildings. Nonetheless, the Applicant has confirmed the adequacy of
Exhibit K: Compliance with Statewide Planning Goals

fire protection services in Umatilla County as discussed in Exhibit U. Attachment U-3 is a record of correspondence with the Umatilla County Fire District #1. In general, solar projects do not pose a significant fire risk.

19. Where feasible, all utility lines and facilities shall be located on or adjacent to existing public or private rights-of-way so as to avoid dividing existing farm or forest units; and transmission lines should be located within existing corridors as much as possible.

Response: There are no new transmission lines proposed with the Project as it will interconnect to one of the existing transmission lines that cross through or adjacent to the Site Boundary.

6.2.9 Chapter 16. Energy Conservation

1. Encourage rehabilitation/weatherization of older structures and the utilization of locally feasibly renewable energy resources through use of tax and permit incentives.

Response: The Project is a solar energy facility that utilizes locally feasible renewable energy resources, in furtherance of this policy. The Project does not involve the reuse of existing structures that could be considered for rehabilitation or weatherization.

7.0 Directly Applicable Statues, Goals, and Administrative Rules– OAR 345-021-0010 (1)(k)(C)(iii)

7.1 Directly Applicable Oregon Administrative Rules

7.1.1 OAR 660-033-0130(5)

OAR 660-033-0130 Minimum Standards Applicable to the Schedule of Permitted and Conditional Uses

(5) Approval requires review by the governing body or its designate under ORS 215.296. Uses may be approved only where such uses:

(a) Will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; and

(b) Will not significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.

Response: The standards of OAR 660-033-0130(5) are discussed in Section 6.1.1.2 in response to UCDC § 152.061
7.1.2 OAR 660-033-0130(38)

OAR 660-033-0130 Minimum Standards Applicable to the Schedule of Permitted and Conditional Uses

(38) A proposal to site a photovoltaic solar power generation facility shall be subject to the following definitions and provisions:

(a) “Arable land” means land in a tract that is predominantly cultivated or, if not currently cultivated, predominantly comprised of arable soils.

(b) “Arable soils” means soils that are suitable for cultivation as determined by the governing body or its designate based on substantial evidence in the record of a local land use application, but “arable soils” does not include high-value farmland soils described at ORS 195.300(10) unless otherwise stated.

(c) “Dual-use development” means developing the same area of land for both a photovoltaic solar power generation facility and for farm use.

(d) “Nonarable land” means land in a tract that is predominantly not cultivated and predominantly comprised of nonarable soils.

(e) “Nonarable soils” means soils that are not suitable for cultivation. Soils with an NRCS agricultural capability class V–VIII and no history of irrigation shall be considered nonarable in all cases. The governing body or its designate may determine other soils, including soils with a past history of irrigation, to be nonarable based on substantial evidence in the record of a local land use application.

Response: As described in Section 4.3, the Site Boundary, including the two tracts that make up the Site Boundary, is primarily comprised of arable soils and therefore is considered arable land. There will be no dual-use development.

(f) “Photovoltaic solar power generation facility” includes, but is not limited to, an assembly of equipment that converts sunlight into electricity and then stores, transfers, or both, that electricity. This includes photovoltaic modules, mounting and solar tracking equipment, foundations, inverters, wiring, storage devices and other components. Photovoltaic solar power generation facilities also include electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, all necessary grid integration equipment, new or expanded private roads constructed to serve the photovoltaic solar power generation facility, office, operation and maintenance buildings, staging areas and all other necessary appurtenances. For purposes of applying the acreage standards of this section, a photovoltaic solar power generation facility includes all existing and proposed facilities on a single tract, as well as any existing and proposed facilities determined to be under common ownership on lands with fewer than 1320 feet of separation from the tract on which the new facility is proposed to be sited. Projects connected to the same parent company or individuals shall be considered to be in
common ownership, regardless of the operating business structure. A photovoltaic solar power generation facility does not include a net metering project established consistent with ORS 757.300 and OAR chapter 860, division 39 or a Feed-in-Tariff project established consistent with ORS 757.365 and OAR chapter 860, division 84.

Response: The solar array and associated facilities meet the definition of “photovoltaic solar power generation facility.” This includes the energy storage system, Project collector substation, switchyard substation, and interconnection equipment (including overhead cables connecting the substations to the existing UEC 115-kV line or other existing transmission line within the Site Boundary), and O&M enclosure. All Project components will be within the fence line of the solar facility (with possible exception of interconnection cables extending over the fence line to the existing UEC 115-kV line). The energy storage system may be integrated into the solar array electrical collection system to store energy consistent with the definition of photovoltaic solar power generation, above, or in a consolidated area near the O&M enclosure, but still within the solar facility fence line. In addition, the 34.5-kV collector lines are also part of the solar facility as they will collect the energy from the solar modules and transfer it to the Project substation.

(g) For high-value farmland described at ORS 195.300(10), a photovoltaic solar power generation facility shall not use, occupy, or cover more than 12 acres unless:

(A) The provisions of paragraph (h)(H) are satisfied; or

(B) A county adopts, and an applicant satisfies, land use provisions authorizing projects subject to a dual-use development plan. Land use provisions adopted by a county pursuant to this paragraph may not allow a project in excess of 20 acres. Land use provisions adopted by the county must require sufficient assurances that the farm use element of the dual-use development plan is established and maintained so long as the photovoltaic solar power generation facility is operational or components of the facility remain on site. The provisions of this subsection are repealed on January 1, 2022.

Response: As discussed in Section 4.3.3, portions of the Site Boundary area meet the definition of high-value farmland under ORS §195.300(10)(f) The Applicant is not proposing dual use of the area within the Site Boundary and does not meet the requirements of paragraph (h)(H) (see analysis below). As the total area of high-value farmland within the Site Boundary would use, occupy, or cover more than 12 acres, the Applicant seeks a Goal Exception. However, because the Project falls under EFSC’s jurisdiction, it is EFSC’s statutes and rules that govern the goal exception process, ORS 469.504(2) and OAR 345-022-0030(4), rather than ORS 197.732 (see Section 8.0).

(h) The following criteria must be satisfied in order to approve a photovoltaic solar power generation facility on high-value farmland described at ORS 195.300(10).

(A) The proposed photovoltaic solar power generation facility will not create unnecessary negative impacts on agricultural operations conducted on any portion of the subject property not occupied by project components. Negative impacts could include, but are not limited to, the unnecessary construction of...
roads dividing a field or multiple fields in such a way that creates small or isolated pieces of property that are more difficult to farm, and placing photovoltaic solar power generation facility project components on lands in a manner that could disrupt common and accepted farming practices;

Response: As there are no existing agricultural operations on the subject properties, and no such uses are envisioned within the Site Boundary for the life of the Project, the proposed photovoltaic solar power generation facility will not create unnecessary negative impacts on agricultural operations on the subject properties. As the Site Boundary and micro-siting corridor include the entire extent of both Project parcels, the Project will not create any isolated properties that are difficult to farm nor will it create unnecessary negative impacts on the landowner’s future agricultural operations as no current agricultural operations occur on the subject properties and the landowners have no plans to farm the subject properties given the lack of available irrigation water. The Project will not create unnecessary negative impacts on agricultural operations conducted on adjacent properties outside the Site Boundary because:

- The Applicant will sign and record in the deed records for the county a document binding the Project owner and the Project owner’s successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).

- The Project will not limit or impact current or future farm activities on the surrounding land and will not diminish the opportunity for neighboring parcels to expand, purchase, or lease any vacant land available for agricultural uses.

- The Applicant will implement a weed control plan during construction and operation that will reduce the risk of weed infestation in cultivated land and the associated cost to the farmer for weed control.

- The Project will not affect the application of pesticides or fertilizers using aerial or ground-based methods.

(B) The presence of a photovoltaic solar power generation facility will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject property. This provision may be satisfied by the submittal and county approval of a soil and erosion control plan prepared by an adequately qualified individual, showing how unnecessary soil erosion will be avoided or remedied. The approved plan shall be attached to the decision as a condition of approval;

Response: Exhibit I addresses soil erosion. Construction would be performed under a NPDES 1200-C permit, including an Oregon Department of Environmental Quality Erosion and Sediment Control Plan, which will also include erosion and sediment control best management practices. The NPDES 1200-C will be prepared and stamped by a licensed engineer in the State of Oregon. After completing construction in an area, the Applicant will monitor the area to evaluate whether construction-related impacts to soils are being adequately addressed by the mitigation procedures described in the Erosion and Sediment Control Plan.
(C) Construction or maintenance activities will not result in unnecessary soil compaction that reduces the productivity of soil for crop production. This provision may be satisfied by the submittal and county approval of a plan prepared by an adequately qualified individual, showing how unnecessary soil compaction will be avoided or remedied in a timely manner through deep soil decompaction or other appropriate practices. The approved plan shall be attached to the decision as a condition of approval;

Response: As discussed in Section 4.3.3, portions of the area within the Site Boundary qualify as high-value farmland only under ORS 195.300(10)(f), which relies on the land being located within the boundaries of the Columbia Valley American Viticulture Area and meeting certain elevation (below 3,000 feet), slope (between zero and 15 percent), and aspect (between 67.5 and 292.5 degrees) criteria. The soils within the Site Boundary are not considered high-value soils as the site has no irrigation water. Furthermore, the site is composed of uncultivated land that has no history of being irrigated. Therefore, construction or maintenance activities will not reduce the productivity of soil for crop production as the soil within the Site Boundary currently supports no crop production. Furthermore, the landowners of the two tracts within the Site Boundary support the Project (see Attachments K-1 and K-2) and consider the solar energy generation facility a higher and better use of the land than agriculture considering the lack of available irrigation water. At the end of the Project’s useful life, the site will be restored and all disturbed areas will be regraded and reseeding with native plant seed mixes, as directed by the landowner and as consistent with then-applicable County requirements. The Applicant will loosen the soil in disturbed areas to an appropriate depth to reduce the potential effects of compaction.

(D) Construction or maintenance activities will not result in the unabated introduction or spread of noxious weeds and other undesirable weed species. This provision may be satisfied by the submittal and county approval of a weed control plan prepared by an adequately qualified individual that includes a long-term maintenance agreement. The approved plan shall be attached to the decision as a condition of approval;

Response: As discussed in response to UCDC §152.061 (see Section 6.1.1.2), the Applicant will implement a weed control plan in coordination with Umatilla County that will reduce the risk of weed infestation in cultivated land and the associated cost to the farmer for weed control.

(E) Except for electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, the project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(a);

Response: As discussed in Section 4.3.3, the predominant soil type in both tracts in the Site Boundary is 1B – Adkins fine sandy loam, 0-5 percent slopes which is considered by the NRCS as Class 2 (if irrigated) or Class 4 (if non-irrigated) soils (see Figures K-5 and K-6). Neither tract in the Project Site Boundary is irrigated or has a history of being irrigated. Furthermore, neither tract has water rights or is located within an irrigation district (Figures K-7 and K-8). Therefore, the land in
the Site Boundary would not meet the definition of high-value farmland under ORS 195.300(10)(a) and OAR 660-033-0020(8)(a).

(F) The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:

(i) Non high-value farmland soils are not available on the subject tract;

(ii) Siting the project on non high-value farmland soils present on the subject tract would significantly reduce the project’s ability to operate successfully; or

(iii) The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites also located on the subject tract, including those comprised of non high-value farmland soils; and

Response: The area within the Site Boundary does not qualify as high value farmland under OAR 660-033-0020(8)(b) as the tracts have no history of growing the specified perennials including nursery stock, berries, fruit, nuts, Christmas trees, or vineyards. The area within the Site Boundary does not include any of the soils listed in OAR 660-033-0020(8)(c)-(e). However, the Project tracts are composed predominantly of arable soils and therefore the Project will be located on arable soils.

As discussed above, the soils in the Site Boundary do not qualify as high-value farmland soils under OAR 660-033-0020(8)(a) because the soils are considered Class 4 or 7 (see Section 4.3.1). Therefore, the Project is located on non-high value farmland soils defined under OAR 660-033-0020(8)(a) through (e).

Regarding the Project’s placement on arable soils, the Project meets criteria (ii) under this statute as the only non-arable soils located in the Project Site Boundary (the 74B soils) are laid-out in a long narrow pattern across the Project Site Boundary (Figure K-6) and siting Project infrastructure on only these soils would reduce the Project’s ability to operate successfully as the Project’s size would be significantly reduced.

(G) A study area consisting of lands zoned for exclusive farm use located within one mile measured from the center of the proposed project shall be established and:

(i) If fewer than 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the study area, no further action is necessary.

(ii) When at least 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits, either as a single project or as multiple facilities within the study area, the local government or its designate must find that the photovoltaic solar power generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be
Response: No photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the 1-mile study area. Therefore, no further action is necessary.

(H) A photovoltaic solar power generation facility may be sited on more than 12 acres of high-value farmland described in ORS 195.300(10)(f)(C) without taking an exception pursuant to ORS 197.732 and OAR chapter 660, division 4, provided the land:

(i) Is not located within the boundaries of an irrigation district;

Response: As discussed in Section 4.3.2, the Project Site Boundary is not located within the boundaries of an irrigation district.

(ii) Is not at the time of the facility’s establishment, and was not at any time during the 20 years immediately preceding the facility’s establishment, the place of use of a water right permit, certificate, decree, transfer order or ground water registration authorizing the use of water for the purpose of irrigation;

Response: As discussed in Section 4.3.2, neither of the two parcels that make up the Project Site Boundary have place of use water rights and the Applicant is unaware of any historic place of use water rights on these two parcels. The landowners of each parcel have confirmed this is the case (see Attachments K-1 and K-2).

(iii) Is located within the service area of an electric utility described in ORS 469A.052(2);

Response: The Project is located within the UEC service area. The UEC is considered a small electric utility and therefore not described in ORS 469A.052(2). Therefore, the Project does not meet this criterion.

(iv) Does not exceed the acreage the electric utility reasonably anticipates to be necessary to achieve the applicable renewable portfolio standard described in ORS 469A.052(3); and

Response: As the Project does not meet criteria (iii) above, this provision is not applicable.

(v) Does not qualify as high-value farmland under any other provision of law; or
Response: The Project Area does not qualify as high-value farmland except as it relates to the definition under ORS 195.300(10)(f).

In conclusion, the solar power generation facility qualifies under all of the provisions under OAR 660-033-0130(38)(h)(H) except for subparts (iii) and (iv). Therefore, it does not qualify for the “over 12-acre allowance.”

(i) For arable lands, a photovoltaic solar power generation facility shall not use, occupy, or cover more than 20 acres. The governing body or its designate must find that the following criteria are satisfied in order to approve a photovoltaic solar power generation facility on arable land:

Response: As discussed in Section 4.3.1, the area within the Site Boundary is primarily composed of arable soil and therefore qualifies as arable land. As the Project will use more than 20 acres of arable land for a commercial solar energy facility, an exception is being requested pursuant to ORS 469.504(2) and OAR 345-022-0030(4) (see Section 8.0).

(A) Except for electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, the project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(a);

Response: As discussed in Section 4.3.3, the predominant soil type in the Site Boundary is 1B – Adkins fine sandy loam, 0-5 percent slopes which is considered by the NRCS as Class 2 (if irrigated) or Class 4 (if non-irrigated) soils (see Figures K-5 and K-6). Neither tract in the Project Site Boundary is irrigated or has a history of being irrigated. Furthermore, neither tract has water rights or is located within an irrigation district (Figures K-7 and K-8). Therefore, based on current conditions, the 1B soils in the Site Boundary would not meet the definition of high-value farmland soils under ORS 195.300(10)(a) and OAR 660-033-0020(8)(a).

(B) The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:

Response: As stated previously, the area within the Site Boundary does not include any of the soils listed in OAR 660-033-0020(8)(b)-(e) but it is sited on tracts composed predominantly of arable soils.

(i) Nonarable soils are not available on the subject tract;

(ii) Siting the project on nonarable soils present on the subject tract would significantly reduce the project’s ability to operate successfully; or

(iii) The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites also located on the subject tract, including those comprised of nonarable soils;

Response: Figures K-5 and K-6 show that the majority of the soils underlying the Project Site Boundary comprise 1B – Adkins fine sandy loam, which is considered by the NRCS as Class 4 (non-
irrigated) arable soils. The other soil type in the Project Site Boundary are the 74B-- Quincy fine sand, which are considered Class 7 (not irrigated) non-arable soils. Nonarable soils (74B soils) are not available on the subject tract in a quantity or configuration that would allow for construction and operation of the Project in a manner that would avoid arable soils.

(C) No more than 12 acres of the project will be sited on high-value farmland soils described at ORS 195.300(10);

Response: Although the Project will not use high-value farmland soils described under ORS 195.300(10)(a), the Project will use more than 12 acres of high-value farmland defined under ORS 195.300(10)(f) for a commercial solar energy facility. Therefore, an exception is being requested pursuant to ORS 469.504(2) and OAR 345-022-0030(4) (see Section 8.0).

(D) A study area consisting of lands zoned for exclusive farm use located within one mile measured from the center of the proposed project shall be established and:

(i) If fewer than 80 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the study area, no further action is necessary.

(ii) When at least 80 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits, either as a single project or as multiple facilities within the study area, the local government or its designate must find that the photovoltaic solar power generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be materially altered if the overall effect of existing and potential photovoltaic solar power generation facilities will make it more difficult for the existing farms and ranches in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights, or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area; and

Response: No photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the 1-mile study area. Therefore, no further action is necessary.

(E) The requirements of OAR 660-033-0130(38)(h)(A), (B), (C) and (D) are satisfied.

Response: The requirements of OAR 660-033-0130(38)(f)(A), (B), (C) and (D) are discussed above.

(j) For nonarable lands, a photovoltaic solar power generation facility shall not use, occupy, or cover more than 320 acres. The governing body or its designate must find that the following criteria are satisfied in order to approve a photovoltaic solar power generation facility on nonarable land:
Response: As discussed above, Figures K-5 and K-6 show that the majority of the soils underlying the Project Site Boundary comprise arable soils. The Site Boundary contains approximately 88 acres of 74B-- Quincy fine sand, which are considered Class 7 soils if not irrigated. As neither tract in the Project Site Boundary is irrigated, has a history of being irrigated, has not water rights, and are outside the boundary of an irrigation district, the 74B soils within the Site Boundary would be considered non-arable soils. Therefore, the Project will not use, occupy, or cover more than 320 acres of nonarable lands and the Project does not require an exception to Statewide Planning Goal 3 based on impacts to nonarable lands. The Applicant’s demonstration of compliance with the remainder of OAR 660-033-0130(38)(j) is included directly below.

(A) Except for electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, the project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(a);

Response: As stated previously, the Project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)[a].

(B) The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:

(i) Siting the project on nonarable soils present on the subject tract would significantly reduce the project’s ability to operate successfully; or

(ii) The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract as compared to other possible sites also located on the subject tract, including sites that are comprised of nonarable soils;

Response: The Applicant’s responses to OAR 660-033-0130(38)(h)(F) and OAR 660-033-0130(38)(i)(B) demonstrate that the area within the Site Boundary does not include any of the soils listed in OAR 660-033-0020(8)(b)-(e) but it is sited on tracts composed predominantly of arable soils. Nonarable soils are not available on the subject tract in a quantity or configuration that would allow for construction and operation of the solar energy generation facility in a manner that would avoid arable soils.

(C) No more than 12 acres of the project will be sited on high-value farmland soils described at ORS 195.300(10);

(D) No more than 20 acres of the project will be sited on arable soils;

Response: As discussed above, the Project will permanently occupy more than 12 acres of high-value farmland and 20 acres of arable land. Thus, the Project requires an exception to Statewide Planning Goal 3. For projects under EFSC jurisdiction, the standards for approving an exception are set forth in ORS 469.504(2)(c) and an exception is being requested pursuant to ORS 469.504(2) and OAR 345-022-0030(4) (see Section 8.0).
(E) The requirements of OAR 660-033-0130(38)(h)(D) are satisfied;

Response: The requirements of OAR 660-033-0130(38)(h)(D) are discussed above.

(F) If a photovoltaic solar power generation facility is proposed to be developed on lands that contain a Goal 5 resource protected under the county's comprehensive plan, and the plan does not address conflicts between energy facility development and the resource, the applicant and the county, together with any state or federal agency responsible for protecting the resource or habitat supporting the resource, will cooperatively develop a specific resource management plan to mitigate potential development conflicts. If there is no program present to protect the listed Goal 5 resource(s) present in the local comprehensive plan or implementing ordinances and the applicant and the appropriate resource management agency(ies) cannot successfully agree on a cooperative resource management plan, the county is responsible for determining appropriate mitigation measures; and

Response: There are no Goal 5 resources in the Project Site Boundary.

(G) If a proposed photovoltaic solar power generation facility is located on lands where, after site specific consultation with an Oregon Department of Fish and Wildlife biologist, it is determined that the potential exists for adverse effects to state or federal special status species (threatened, endangered, candidate, or sensitive) or habitat or to big game winter range or migration corridors, golden eagle or prairie falcon nest sites or pigeon springs, the applicant shall conduct a site-specific assessment of the subject property in consultation with all appropriate state, federal, and tribal wildlife management agencies. A professional biologist shall conduct the site-specific assessment by using methodologies accepted by the appropriate wildlife management agency and shall determine whether adverse effects to special status species or wildlife habitats are anticipated. Based on the results of the biologist's report, the site shall be designed to avoid adverse effects to state or federal special status species or to wildlife habitats as described above. If the applicant's site-specific assessment shows that adverse effects cannot be avoided, the applicant and the appropriate wildlife management agency will cooperatively develop an agreement for project-specific mitigation to offset the potential adverse effects of the facility. Where the applicant and the resource management agency cannot agree on what mitigation will be carried out, the county is responsible for determining appropriate mitigation, if any, required for the facility.

Response: Professional biologists conducted site-specific assessment using methodologies reviewed and accepted by Oregon Department of Fish and Wildlife (ODFW). Based on these surveys, it was determined there would be no adverse effects to special status species or Category 1 wildlife habitats. Exhibit Q provides information about state-listed threatened endangered plant and wildlife species that may be affected by the proposed Project as required by OAR 345-022-
Exhibit K: Compliance with Statewide Planning Goals

0070. Exhibit P provides information about the fish and wildlife habitats and species, other than the species addressed in Exhibit Q, that could be affected by the Project. These exhibits also outline the agency consultation that has occurred at various stages of Project development and measures to avoid, reduce and mitigation, as necessary, for impacts.

   (k) An exception to the acreage and soil thresholds in subsections (g), (h), (i), and (j) of this section may be taken pursuant to ORS 197.732 and OAR chapter 660, division 4.

Response: As discussed above, the Project will permanently occupy more than 12 acres of high-value farmland and 20 acres of arable land. Thus, the Project requires an exception to Statewide Planning Goal 3. For projects under EFSC jurisdiction, the standards for approving an exception are set forth in ORS 469.504(2)(c) and EFSC’s rule (which mirrors the statute), OAR 345-022-0030(4). The justification for an exception to Statewide Planning Goal 3 is set forth in Section 8.0. The Applicant’s demonstration of compliance with the remainder of OAR 660-033-0130(38)(g), (h), (i), and (j) are included above.

   (l) The county governing body or its designate shall require as a condition of approval for a photovoltaic solar power generation facility, that the project owner sign and record in the deed records for the county a document binding the project owner and the project owner’s successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).

Response: The Applicant understands that EFSC will impose a condition to the site certificate requiring that, before beginning construction of the Project, the certificate holder must record such a document in the deed records of Umatilla County.

   (m) Nothing in this section shall prevent a county from requiring a bond or other security from a developer or otherwise imposing on a developer the responsibility for retiring the photovoltaic solar power generation facility.

Response: Exhibit W provides information on retiring the Project and restoring the site. The Applicant understands the implications of the bonding requirements outlined in this criterion.

7.2 Applicable Statewide Planning Goals – OAR 345-021-0010 (1)(k)(C)(iv)

As discussed in Section 5.0, the Project does not meet the standards under OAR 660-033-0130(38)(g) and (i) as the Project will permanently occupy more than 12 acres of high-value farmland and 20 acres of arable land for the commercial solar energy facility.

Because the Project does not comply with all applicable local land use criteria, this section provides analysis, under ORS 469.504(1)(b)(B), on whether the proposed Project “does otherwise comply with the applicable statewide planning goals.” For a use located within an EFU zone, the “applicable statewide planning goal” is Goal 3, which is the State’s Agricultural Lands goal.
Exhibit K: Compliance with Statewide Planning Goals

Goal 3, Agricultural Lands: “To preserve and maintain agricultural lands.”

Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy expressed in ORS 215.243 and 215.700.

Under Goal 3, nonfarm uses are permitted within a farm use zone as provided under ORS 215.283. OAR Chapter 660, Division 33 are the implementing provisions for ORS 215.283 and the purpose of Division 33 is to preserve and maintain agricultural lands as defined by Goal 3 for farm use. As described Section 7.1, the Applicant demonstrates compliance with most of the provisions under OAR Chapter 660, Division 33 that are applicable to a solar power generation facility but does not meet the standards under OAR 660-033-0130(38)(g) and (i). Thus, the Project requires an exception to Statewide Planning Goal 3 pursuant to ORS 469.504(2) and OAR 345-022-0030(4). The justification for an exception to Statewide Planning Goal 3 is set forth in Section 8.0.

The Goal 3 exception does not seek to permanently remove land from agricultural use. Per the terms of the land lease and the requirements of the mandatory conditions OAR 345-025-0006(7) and (8), the land would be returned to agricultural use following retirement and restoration of the Project (see Exhibit W). Furthermore, as discussed in Section 6.1.1.2, the Project will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; and will not significantly increase the cost of accepted farm or forest practices on lands devoted to farm or forest use.

8.0 Statewide Planning Goal Exception – OAR 345-021-0010 (1)(k)(C)(v)

As discussed above, the Project’s solar generation facilities would permanently occupy more than 12 acres of high-value farmland and 20 acres of arable land. Pursuant to OAR 660-033-0130(38), siting of the Project’s solar generation facilities requires an exception to Statewide Planning Goal 3. In this section, the Applicant demonstrates that an exception to Statewide Planning Goal 3 is justified for the Project under ORS 469.504(2), which provides the controlling criteria for exceptions that are proposed for energy facilities under the jurisdiction of EFSC.

Per ORS 469.504(2), an exception may be taken on any of three grounds:

- That the land is “physically developed to the extent that the land is no longer available for uses allowed by the applicable goal”;
- That the land “is irrevocably committed ... to uses not allowed by the applicable goal”; or
- That certain standards are met because the facility is compatible with existing adjacent uses and other relevant factors are met; or what is referred to as a “reasons” exception.

The Project Site Boundary is not “physically developed” or “irrevocably committed” within the meaning of the rule. Therefore, the Project’s justification for an exception to Statewide Planning
Goal 3 is demonstrated under ORS 469.504(2)(c) and OAR 345-022-0030(4)(c). An exception is warranted to allow a locationally dependent facility that will fulfill important state and county goals by providing renewable energy while minimizing impacts on local farming practices. For purposes of the Goal 3 exception analysis, the Applicant analyzes the acreage within the Site Boundary (324 acres).

8.1 Demonstration that a “Reasons” Exception is Appropriate

ORS 469.504(2)(c)(A); OAR 345-022-0030(4)(c)(A) Reasons justify why the state policy embodied in the applicable goal should not apply;

The state policy embodied in Goal 3 is the preservation and maintenance of agricultural land for farm use. OAR 660-033-0120 allows photovoltaic solar power generation facilities on agricultural land, subject to certain conditions. These conditions limit a photovoltaic solar power generation facility from using more than 12 acres of high value farmland or more than 20 acres of arable soil. Therefore, it is the size of the solar generation facility and not the proposed use that requires an exception be taken. As discussed in Section 6.1.1 and 7.1.2 of this exhibit, the Project will not result in significant adverse impacts on accepted farm practices in the Analysis Area. Moreover, as discussed in Section 6.2.1 of this exhibit, the Project is consistent with the Agricultural policies in the UCCP, which implements the statewide planning goals. Oregon’s Statewide Planning Goals express the state’s policies on land use, which are implemented through the adopted comprehensive plan and the zoning ordinances of the local cities and counties. Statewide Planning Goal 13 encourages local land use plans to consider "as a major determinant the existing and potential capacity of the renewable energy sources to yield useful energy output" and calls for land conservation and development actions to "whenever possible [...] utilize renewable energy sources" (see Goal 13, planning guideline No. 5). The UCCP is consistent with the Statewide Planning Goals, and UCCP Chapter 16: Energy Conservation, has several policies that mirror the planning and implementation guidelines stated under Statewide Planning Goal 13. Chapter 16 of the UCCP provides the following finding:

1. Escalating cost of depleting nonrenewable energy sources make renewable energy source alternatives (e.g. solar, wind) increasingly more economical, and help conserve existing energy supplies.

In addition to responding to the County’s need for development of renewable energy to conserve existing energy supplies, the Project’s solar energy generation facilities respond to the State’s recently-approved 100 percent Clean Energy Standard (Oregon House Bill 2021 (2021)). Under this new standard, Oregon’s large investor-owned utilities and electricity service suppliers must reduce greenhouse gas emissions associated with electricity sold in Oregon compared to a 2010 baseline – 80 percent emissions reductions by 2030, 90 percent by 2035, and 100 percent by 2040 – effectively requiring emission-free electricity by 2040.

Besides the Project being consistent with and implementing local and state energy policies above, the following reasons justify removing approximately 324 acres from commercial agricultural use.
within the Project Site Boundary temporarily (long-term lease), consistent with energy policies of importance within the county and across the state and region:

The solar facility is locationally dependent. The solar facility is locationally dependent as it requires not only sufficient solar resource access (i.e. relatively flat site that is unshaded and located in a region with sufficient solar resource), but also access to the regional transmission system for interconnection and delivery into the regional grid and enough land to develop a facility of sufficient scale to be able to cost-effectively interconnect at a transmission-level voltage. The Project site has a significant comparative advantage due to its location as there are two existing transmission line rights-of-way that run southeast to northwest through the Site Boundary: Bonneville Power Administration’s McNary to Roundup 230-kV line and PacifiCorp’s Pendleton to Hermiston 69-kV line. In addition, there is the UEC 115-kV line that parallels the eastern edge of the Site Boundary. All three existing transmission lines provide interconnection capabilities within or immediately adjacent to the Site Boundary, eliminating the need for a Project transmission line. The Project’s proximity to these existing transmission lines provides for immediate access to the existing regional transmission system and allows for delivery into the regional grid. The Project site features enough land to develop a solar facility of sufficient size in order to be economically feasible at the 230, 115, and 69-kV voltage.

The Project site also avoids sensitive environmental features, including Washington ground squirrel habitat, Federal Emergency Management Agency 100-year floodplains, U.S. Fish and Wildlife Service-designated critical habitat, ODFW-designated big game winter ranges, and any National Hydrography Dataset or National Wetland Inventory-mapped wetlands or waters. Also, the Project Site Boundary is located directly off several existing roads providing access to the local and regional transportation network for construction and operations workers.

Given the fact that the site allows for both a technically and economically feasible interconnection to three potential transmission line interconnection points, and given the site meets other locationally dependent factors such as unimpeded solar access, avoidance of environmentally sensitive features, and access to the existing transportation network, the Project site is uniquely positioned relative to other locations in Umatilla County to maximize generation of solar-powered energy while minimizing cost, environmental impacts, and the need for new transmission infrastructure.

Lack of agricultural use and agricultural value. The land within the Project Site Boundary is currently uncultivated and has no recent history of being cultivated. Based on a review of U.S. Geological Survey historic aerial photography including photos from 1952, 1958, 1970, and 1977, some dry land crop cultivation appeared to have occurred in the Site Boundary in the 1950s and 1970s (USGS 2021). However, according to both Project landowners, dry land farming on these two parcels is not viable and no dry land farming has occurred in the time they have owned the properties (see landowner letters in Attachments K-1 and K-2). As neither tract is located within an irrigation district or has place of use water rights, irrigated
agricultural activities within the Site Boundary are currently not feasible and the potential for
securing new water rights or transferring water rights to the Project site is not feasible due to
capital costs of the required irrigation infrastructure, the power costs of running the
infrastructure, and the cost of obtaining mitigation water from the Columbia River. As noted
by the Governor’s Advisory Committee on Energy and Agriculture in the Umatilla Basin, there
is growing interest by dryland agricultural entities to diversify income streams with
renewable energy development to provide economic buffer against drought and lean years
(State of Oregon 2017). In summary, the Project is proposed for unproductive farmland and
constructing a solar facility on this site facilitates a higher and better use of the land and
concentrates solar development off more productive farmland that has irrigation water rights
or access to irrigation district surface water diversions.

**Minimal impact to agriculture.** After the end of the Project’s useful life, the Project site
will be restored and made available for other uses. Temporary loss of potential agricultural
land (approximately 324 acres) is insignificant when considering the other available
agricultural land in Umatilla County, especially irrigated land. According to the 2017 Census
of Agriculture, this is only 0.01 percent of the winter wheat in Umatilla County and less than
0.02 percent of all cultivated land in Umatilla County (USDA 2017).

As discussed in Section 6.1.1.2, the Project would not force a significant change in accepted
farm practices or significantly increase the cost of farm practices in the vicinity of the
Project. The Project will not necessitate relocating any access routes or farm infrastructure
on neighboring properties within the land use Analysis Area and the Applicant will record a
Covenant Not to Sue against its Project leasehold interests with regard to generally
accepted farming practices on adjacent farmland. Because the Project will not change farm
practices on surrounding lands, the Project will not increase the cost of farm practices on
surrounding lands. As the Project is located on land that is not currently cultivated and has
no recent history of cultivation, it will not displace agricultural jobs and will not impact
ancillary agricultural businesses as there are no ancillary agricultural businesses that
support the Project properties.

**Local Economic Benefits.** According to both Project landowners, farming the Project
properties is not feasible without irrigation water (see landowner letters in Attachments K-1
and K-2). As irrigation water is not available (see Section 4.3.2), the Project properties are
currently and foreseeable not cultivated and therefore provide no economic benefit to the
property owners and no economic benefit to the local agricultural economy (i.e., ancillary
agricultural businesses). In contrast, the Project will provide local economic benefits by
varying means. The Project will have positive economic and social benefits by bringing in
additional revenue to the community by providing full-time jobs, construction jobs,
compensation to landowners via commercial contracts including leases, improvements to
the local road network, taxes, and community service fees. Because much of Umatilla
County is EFU-zoned, these local economic benefits will largely support EFU zoning uses
and agricultural uses.
8.2 Evidence that Environmental, Socioeconomic, and Energy Consequences Favor the Exception

ORS 469.504(2)(c)(B); OAR 345-022-0030(4)(c)(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility;

When considering the environmental, economic, social, and energy consequences, EFSC may take into consideration factors that are also considered under several of EFSC’s review standards already.

**Environmental.** The Project’s environmental consequences are discussed primarily in Exhibit I (Soils), Exhibit J (Wetlands), Exhibit L (Protected Areas), Exhibit P (Fish and Wildlife), Exhibit Q (Threatened and Endangered Species), Exhibit R (Scenic Resources), and Exhibit S (Cultural Resources). These exhibits demonstrate that the Project will not cause significant adverse environmental consequences. The Applicant will mitigate for any unforeseen impacts to wildlife habitat based on habitat categorization, in accordance with ODFW policy (see Exhibit P). The Applicant does not anticipate any significant adverse impacts to soils, wetlands, protected areas, water resources, threatened and endangered species, scenic and aesthetic resources, and historic, cultural, and archaeological resources from the Project. The Project will comply with all anticipated Site Certificate conditions for these resources.

The region has warmed nearly 2 degrees Fahrenheit since 1900 because of increased greenhouse gas emissions (Dalton et al. 2017). This warming includes warmer waters that affect both river and coastal ecosystems, threatening salmon runs and other important marine and freshwater species. Additionally, in eastern Oregon, large mountain areas have been hit by mountain pine beetle infestations, wildfires, or both, causing widespread shifts in forest ecosystems (Dalton et al. 2017). A mission of Oregon’s Climate Action Plan (Executive Order 20-04) is to achieve a reduction in greenhouse gas emissions levels to at least 45 percent below 1990 emissions levels by 2035 at least 80 percent below 1990 emissions levels by 2050. One of the measures identified to accomplish this is through supporting clean energy resources. Therefore, the solar energy generation facility may contribute to the reduction of greenhouse gas emissions, which thereby may result in a beneficial environmental impact.

**Social.** The Project’s social consequences will not be adverse. When considering the social consequences, EFSC takes into consideration factors such as access and impact to resources of importance to the public such as protected areas, recreation, cultural resources, and scenic areas. EFSC also takes into consideration impacts to public and community services. Exhibit L demonstrates that the Project will not adversely impact protected areas within the Analysis Area and, similarly, Exhibits R, S, and T demonstrate the same for scenic resources, cultural resources, and recreation, respectively. Exhibit U demonstrates that the solar array
will not result in adverse impacts on public or community services such as health care, education, housing, water supply, waste disposal, transportation, or fire and safety.

**Economic.** When considering the economic consequences, EFSC takes into consideration factors such as (1) any increased burden on public services, (2) benefits to the rural tax base, (3) job creation, and (4) revenue for area landowners. Exhibit U contains a discussion of the potential impacts on public services, including fire, safety, and transportation. It also provides information on job creation during construction and operation. As discussed above, the Project will create jobs and contribute income to Umatilla County. These benefits should be measured against the fact that no agricultural economic activity is being displaced by the solar energy facility. Tract 1 is owned by a landowner who actively farms other parcels in Umatilla County. The Project will supplement this landowner’s income with lease payments and without significantly reducing the land base available for farming practices. Exhibit W discusses retirement and restoration of the Project and demonstrates that no burden will be placed on the area landowners or the County because the Applicant is obligated to retire and restore the site and will have a financial assurance in place to guarantee such work.

**Energy Consequences.** The Project would provide a reliable renewable source of electricity consistent with state and local goals with no fuel cost and no associated emissions for at least 30 years. As discussed throughout this exhibit, the solar energy facility would not adversely affect any farming operations in the general area. There are no significant adverse economic consequences of constructing and operating the Project, as proposed.

### 8.3 Compatibility with Adjacent Land Uses

*OAR 345-022-0030(4)(c)(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.*

Adjacent lands to the west, north, and south of the Project Site Boundary are used for farming. The parcels to the west of the Site Boundary are owned by the same landowner as the Project Tract 1 landowner. As described in Section 6.1.1.2, the Project’s construction and operation will not limit or negatively impact current or future farm activities and accepted farming practices on the surrounding land nor will it significantly increase the costs of such practices.

As described in Exhibit U, the temporary increase in the level of traffic during construction on the County roads surrounding the Project will not significantly impact level of service on local roads. Construction traffic is not anticipated to interfere with harvest time activities such as tractor movement between fields or trucks delivering agricultural products to market. The Applicant will coordinate with adjacent landowners to minimize and mitigate any traffic impacts to their farming practices during the temporary construction period. Operational traffic will be minimal and will not impact adjacent land uses.

The Applicant will also minimize dust during construction through application of water and other dust control measures and will implement a weed control plan during construction and operation.
that will reduce the risk of weed infestation in cultivated land and the associated cost to the farmer for weed control. Therefore, the Project is compatible with the adjacent land uses.

9.0 Federal Land Management Plans


OAR 3450-021-0010 (1)(k)(D) If the proposed facility will be located on federal land:

(i) Identify the applicable land management plan adopted by the federal agency with jurisdiction over the federal land.

These provisions do not apply. No portion of the area within the Project Site Boundary is located on federal lands.

10.0 Summary

Based on the foregoing analysis, the Project complies with the applicable substantive criteria for Umatilla County. However, the Applicant demonstrates that a Goal 3 exception is warranted under ORS 469.504(2)(c) and OAR 345-022-0030(4)(c). The Goal 3 exception is warranted to allow a locationally dependent facility that will fulfill important state and county goals by providing renewable energy while minimizing impacts on local farming practices. Accordingly, the information contained in this Exhibit provides EFSC with sufficient information to make a determination that the Facility complies with the land use standard set forth in OAR 345-022-0030.

11.0 References


Figures
This page intentionally left blank
Figure K-1
Analysis Area

UMATILLA COUNTY, OR

Proposed Site Boundary
Analysis Area (0.5-mile Buffer)
Existing Transmission Line
Local Roads

NOT FOR CONSTRUCTION
Figure K-6
NRCS Non-Irrigated Soil Capability Class

Proposed Site Boundary
Analysis Area (0.5-mile Buffer)
Tract 1
Tract 2
Local Roads
Taxlot
Soil Map Unit
Nonirrigated Soil Capability Classes
Capability Class - IV
Capability Class - VI
Capability Class - VII

Reference Map
UMATILLA COUNTY, OR
West End Solar Project
NRCS Non-Irrigated Soil Capability Class

NOT FOR CONSTRUCTION

1:10,500
WGS 1984 UTM Zone 11N
Attachment K-1. Landowner Letter from Arthur Prior of Windblown Solar LLC
This page intentionally left blank
June 14, 2021

Kellen Tardaewether, Oregon Department of Energy
550 Capitol St NE
Salem, OR 97301

Subject: West End Solar Energy Facility

Dear Ms Tardaewether,

EE West End Solar LLC proposes to construct and operate a Solar Energy Facility on our privately owned land in Umatilla County, Oregon. The proposed facility will generate approximately 45 megawatts of renewable carbon free energy and will be partially located on our private land. The facility will be located approximately three miles south east of Hermiston on tax lot 500, of which we have already agreed to an exclusive, long term option to lease.

We have not used the proposed facility site for any type of agricultural enterprise or farming operation. The facility site has never had water rights or been irrigated.

We have worked carefully with EE West End LLC to identify a facility site that will not preclude or impair access to farm operations associated with adjacent landowners. I do not see any changes to farm operations on surrounding lands as a result of construction or operation of the proposed facility. Because of the lack of irrigation the land is not useful to us for agricultural purposes. We look forward with great enthusiasm to the construction of this facility as a means of carbon free energy.

Sincerely,
Arthur Prior
Windblown Solar LLC
This page intentionally left blank
Attachment K-2. Landowner Letter from Steve and Wanda Scott
This page intentionally left blank
Date: 07/05/21

TO: Kellen Tardaewether, Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301
Subject: West End Solar Energy Facility

Dear Ms. Tardaewether,

My wife and I own land in Umatilla County and have been in discussions with EE West End Solar LLC about the use of this parcel of land to be part of a project to generate solar energy. We have already entered into a long term lease option with EE West End Solar LLC.

This parcel of land is approximately 160 acres of dry land that has not been suitable for farming. We do not have water rights for irrigation and we do not get enough rain to raise any type of a viable crop. The soil is very sandy and without irrigation is not good for a farming.

We are hopeful to be able to make this property usable, and this solar project would be ideal to make this land productive. This West End Solar project, which our property would be a part of should generate about 45 megawatts of renewable energy and with our 300 plus days of sunshine per year it will be a real plus for the environment and a great use of this land.

Sincerely,
Steve and Wanda Scott
S&W Scott Properties LLC

[Handwritten Signatures]
This page intentionally left blank
Exhibit L

Protected Areas

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
This page intentionally left blank
Table of Contents

1.0 Introduction .................................................................................................................................................................. 1
2.0 Analysis Area ................................................................................................................................................................ 1
3.0 Protected Areas Inventory – OAR 3450-021-0010(1)(l)(A)(B) ................................................................................. 1
4.0 Potential Impacts – OAR 3450-021-0010(1)(l)(C) ................................................................................................. 5
  4.3 Water Use and Wastewater – OAR 3450-021-0010(1)(l)(C)(iii)(iv) ................................................................. 6
    4.4.1 Methodology .................................................................................................................................................. 7
    4.4.2 Visual Assessment Results .......................................................................................................................... 8
5.0 Conclusions ............................................................................................................................................................... 9
6.0 References .................................................................................................................................................................. 10

List of Tables

Table L-1. Protected Areas Inventory and Visual Assessment Results ................................................................. 3

List of Figures

Figure L-1. Protected Areas
Figure L-2. Zone of Visual Influence Analysis
## Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACEC</td>
<td>Area of Critical Environmental Concern</td>
</tr>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>BLM</td>
<td>U.S. Bureau of Land Management</td>
</tr>
<tr>
<td>I-XX</td>
<td>Interstate</td>
</tr>
<tr>
<td>NWR</td>
<td>National Wildlife Refuge</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>Operations and Maintenance</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rule</td>
</tr>
<tr>
<td>OR-XX</td>
<td>Oregon Route</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
<tr>
<td>US-XX</td>
<td>U.S. Route</td>
</tr>
<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>ZVI</td>
<td>zone of visual influence</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit L addresses potential Project impacts to protected areas, in compliance with Oregon Administrative Rules (OAR) 345-021-0010 (1)(l) and OAR 345-022-0040. OAR 345-022-0040 requires that the Project address impacts to protected areas, as defined in OAR 345-022-0040(1)(a)–(p).

2.0 Analysis Area

The Analysis Area for protected areas includes the area within the Site Boundary, as well as 20 miles from the Site Boundary, as defined in OAR 345-001-0010(58)(e). The Site Boundary is described in detail in Exhibits B and C. The Analysis Area is shown on Figure L-1.

3.0 Protected Areas Inventory – OAR 3450-021-0010(1)(l)(A)(B)

OAR 3450-021-0010(1)(l) Information about the proposed facility’s impact on protected areas, providing evidence to support a finding by the Council as required by OAR 345-022-0040, including:

OAR 3450-021-0010(1)(l)(A) A list of the protected areas within the analysis area showing the distance and direction from the proposed facility and the basis for protection by reference to a specific subsection under OAR 345-022-0040(1).

OAR 3450-021-0010(1)(l)(B) A map showing the location of the proposed facility in relation to the protected areas listed in OAR 345-022-0040 located within the analysis area.

Table L-1 provides a description of protected areas as defined under OAR 345-022-0040, along with an inventory of the 12 protected areas within the Analysis Area. The table also indicates the proximity and direction of each protected area relative to the Site Boundary. No protected areas are located within the Site Boundary. This inventory of protected areas was based on review of available Geographic Information System data, maps, and other available information for the categories of protected areas listed in OAR 345-022-0040(1)(a)–(p). These protected areas are identified by name on Figure L-1.
This page intentionally left blank
# Table L-1. Protected Areas Inventory and Visual Assessment Results

<table>
<thead>
<tr>
<th>Protected Areas within Analysis Area</th>
<th>Distance from Site Boundary (miles)</th>
<th>Direction from Site Boundary</th>
<th>Project Potentially Visible?</th>
<th>Visual Analysis Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Parks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[OAR 345-022-0040(1)(a)]</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>National Monuments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[OAR 345-022-0040(1)(b)]</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Wilderness Areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[OAR 345-022-0040(1)(c)]</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>National &amp; State Wildlife Refuges (NWR)</td>
<td>Cold Springs NWR</td>
<td>2.4</td>
<td>NE</td>
<td>Yes</td>
</tr>
<tr>
<td>[OAR 345-022-0040(1)(d)]</td>
<td>McNary NWR</td>
<td>7.9</td>
<td>NE</td>
<td>Yes</td>
</tr>
<tr>
<td>National Coordination Areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[OAR 345-022-0040(1)(e)]</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>National &amp; State Fish Hatcheries</td>
<td>Three Mile Adult Holding (Umatilla Fish Hatchery Satellite Facility)</td>
<td>6.3</td>
<td>NW</td>
<td>No</td>
</tr>
<tr>
<td>[OAR 345-022-0040(1)(f)]</td>
<td>Irrigon Fish Hatchery</td>
<td>14.6</td>
<td>NW</td>
<td>No</td>
</tr>
<tr>
<td>State Parks &amp; Waysides</td>
<td>Hat Rock State Park</td>
<td>6.3</td>
<td>N</td>
<td>Yes</td>
</tr>
<tr>
<td>State Natural Heritage Areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[OAR 345-022-0040(1)(i)]</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Visual Analysis Results**

- **Low to Moderate Impact**: Viewshed analysis indicates potential Project visibility in NWR at a middleground distance of 2.4 miles. Vegetative screening in portions of the NWR and views across developed areas and highways indicate that the Project will not be a prominent feature in the viewshed. Views of the Project will not interfere with designated wildlife viewing locations. This site receives fairly low levels of public use, typically consisting entirely of locals (USFWS 2015). No management direction applicable to preservation of scenic qualities within or outside of refuge; views of the Project will not compromise the purpose of the refuge.

- **Negligible Impact**: Viewshed analysis indicates limited Project visibility in the NWR at a background distance of 7.9 miles. If the Project is visible, the far background viewing distance, vegetative screening within the NWR, and views across developed land uses and highways indicate that the Project would not be a prominent feature in the viewshed. Views of the Project will not interfere with designated wildlife viewing locations. No management direction applicable to preservation of scenic qualities within or outside of refuge; views of the Project will not compromise the purpose of the refuge.

- **No Impact**: Viewshed analysis indicates that none of the Project facilities will be visible from the NWR due to intervening topography. No management direction applicable to preservation of scenic qualities within or outside of refuge; views of the Project will not compromise the purpose of the refuge.
## Protected Areas within Analysis Area

<table>
<thead>
<tr>
<th>Type (as defined under OAR 345-022-0040)</th>
<th>Area Name</th>
<th>Distance from Site Boundary (miles)</th>
<th>Direction from Site Boundary</th>
<th>Project Potentially Visible?</th>
<th>Visual Analysis Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Estuarine Sanctuaries OAR 345-022-0040(1)(j)</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Scenic Waterways/ Wild &amp; Scenic Rivers OAR 345-022-0040(1)(k)</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Experimental Areas (Rangeland Resources Program) OAR 345-022-0040(1)(l)</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Agricultural Experimental Stations OAR 345-022-0040(1)(m)</td>
<td>Oregon State University Agriculture Research and Extension Center, Hermiston</td>
<td>3.2</td>
<td>W</td>
<td>No</td>
<td>No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the center due to intervening topography. No management direction applicable to preservation of scenic qualities within or outside of the facility; views of the Project will not compromise the purpose of the center.</td>
</tr>
<tr>
<td>Research Forests OAR 345-022-0040(1)(n)</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Bureau of Land Management (BLM) Areas of Critical Environmental Concern (ACEC) OAR 345-022-0040(1)(o)</td>
<td>Echo Meadows Site, Oregon Trail ACEC</td>
<td>6.8</td>
<td>SW</td>
<td>Yes</td>
<td>Low Impact. Viewshed analysis indicates limited Project visibility at a background distance of 6.8 miles. Existing views include wind turbines, transmission lines, agricultural structures and center-pivot agricultural irrigation systems. Where Project facilities will be visible, long viewing distance and views across an urbanized area and highways would result in very limited change to the landscape. This site receives fairly low levels of public use, up to a maximum of about 850 visitors per year. When not focused on the Oregon Trail and where not screened by topography, visitors could have background views of Project infrastructure that create negligible contrast in the viewshed. The Project will not compromise the integrity of the remaining evidence of the Oregon Trail at this site. Further, given existing modifications to the natural landscape visible from Echo Meadows and visitors' primary orientation away from the Project, the Project will not significantly impact the user experience.</td>
</tr>
<tr>
<td>BLM Research Natural Areas and Outstanding Natural Areas OAR 345-022-0040(1)(o)</td>
<td>None</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Irrigon Wildlife Area</td>
<td>9.1</td>
<td>NW</td>
<td>No</td>
<td>No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the wildlife area due to intervening topography. No management direction applicable to scenic quality; views of the Project will not interfere with wildlife viewing or compromise the purpose of the wildlife area.</td>
<td></td>
</tr>
<tr>
<td>Power City Wildlife Area</td>
<td>6.0</td>
<td>NW</td>
<td>Yes</td>
<td>Negligible Impact. Viewshed analysis indicates potential Project visibility at a background distance of 6.0 miles. Because existing views include industrial/urbanized areas, highways and transmission lines, the Project would not represent an unusual feature in the viewshed and would not be prominent. No management direction applicable to scenic quality; views of the Project will not interfere with wildlife viewing or compromise the purpose of the wildlife area.</td>
<td></td>
</tr>
<tr>
<td>Coyote Springs Wildlife Area</td>
<td>19.7</td>
<td>W</td>
<td>No</td>
<td>No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the wildlife area due to intervening topography. No management direction applicable to scenic quality; views of the Project will not interfere with wildlife viewing or compromise the purpose of the wildlife area.</td>
<td></td>
</tr>
</tbody>
</table>

N/A = not applicable

1. Indicates potential visibility of any part of constructed Project as determined through viewshed analysis.
2. Use data for the Oregon Trail Echo Meadows ACEC obtained through a personal communication between Rachael Katz, Tetra Tech, and Brian Woolf, BLM Vale District, Baker Office, on August 6, 2018.
4.0 Potential Impacts – OAR 3450-021-0010(1)(l)(C)

OAR 3450-021-0010(1)(l)(C) A description of significant potential impacts of the proposed facility, if any, on the protected areas including, but not limited to, potential impacts such as:


(i) Noise resulting from facility construction or operation;

Exhibit X provides an assessment of the existing acoustical environment and anticipated Project sound levels; the methodology for noise modeling is discussed in detail in that exhibit. Project construction activities have the potential for temporary, localized noise as construction activities progress through certain locations within the Site Boundary. Based on equipment sound levels anticipated for Project construction, and given the closest protected area is over 2 miles away from the Site Boundary, construction noise will not likely be discernible from background noise levels at any protected area.

There will be no significant operational noise from the solar modules themselves. However, there will be some limited noise from associated facilities, such as the substation and cooling equipment associated with both the energy storage system and electrical equipment. Based on the results of acoustic modeling, as detailed in Exhibit X, operational noise will attenuate to a level indistinguishable from the background noise level before reaching any of the protected areas. All protected areas are located more than 2 miles from the Site Boundary, where noise from the Project will be indistinguishable from the background noise level. Therefore, no significant noise impacts are expected from Project construction or operation.


(ii) Increased traffic resulting from facility construction or operation;

The Project’s primary transportation routes includes Interstate 82 (I-82), Interstate 84 (I-84), and U.S. Route 395 (US-395). For deliveries and workers arriving from the northern transportation route via I-82, the route will use a short section of US-730 to access US-395 south and from there will take Country Road (CR) 1000 east (Feedville Road) from US-395, to S. Edwards Road north. For deliveries and workers arriving from the southern transportation route via I-84 (east or west), access is anticipated to be from I-84 exit 188 to US-395, and then to S. Edwards Road. All but one of the protected areas are located north of the Project and I-84, and thus could experience traffic impacts. The sole site located south of I-84 (Echo Meadows ACEC) is not anticipated to be affected by Project traffic.

There are multiple alternate, more direct access routes that can be utilized to access the 11 of the 12 protected areas located north of the Project, as opposed to using the primary transportation route. Coming from western Oregon, visitors can use US-730 I-82, and Oregon Route 207 (OR-207) off of I-84, and local Westland Road and Highland Avenue to access all of the protected areas.
Alternatively, coming from eastern Oregon, visitors can use OR-37, OR-207, and CR 1137, followed by I-82 and US-730 off of I-84 to access all but two of the protected areas (Oregon State University Hermiston Agriculture Research and Extension Center and the Power City Wildlife Area). Therefore, a majority of the protected areas would generally be unaffected by Project traffic.

The two protected areas located along US-395—the Oregon State University Hermiston Agriculture Research and Extension Center and the Power City Wildlife Area—could be affected by Project traffic. However, both of these protected areas have alternate means of access. The Power City Wildlife Area would most likely be accessed via US-730 and I-82 coming from the east; therefore, significant traffic impacts are not anticipated. Similarly, though US-395 is the most direct route to the site off of I-84 coming from the west, there are multiple alternate routes that are similar in duration and milage, such as South Edwards Road immediately off of US-395 and I-84. Because of these alternate routes, minimal Project traffic impacts are anticipated at the protected area.

The most direct route to the Hermiston Agricultural Research Center from both eastern and western Oregon is north off of I-84 onto US-395, and then west on CR 1000 (Feedville Road), directly opposite of the exit east onto CR 1000 to the Project. The intersection of US-395 and CR 1000 does not have a traffic light or stop sign. There could be short-term delays due to increased traffic on US-395, and therefore delayed access to the protected area during the peak construction period. However, because Project-related traffic would be heading east on CR 1000 it is unlikely to affect vehicles turning west on CR 1000. Furthermore, existing, excess daily trip capacity along this rural segment of US-395 would indicate that the added volume from the Project is unlikely to cause any significant slowdown (see Exhibit U for more details). For these reasons, Project traffic will not adversely impact the Hermiston Agricultural Research Center.

Inherently, construction will be intermittent and temporary in nature. With this and the implementation of best management practices (as outlined in Exhibit U), significant traffic impacts to protected areas are not anticipated from Project construction. Similarly, Project operations will not generate amounts of traffic that could adversely impact protected areas. Operation of the Project is expected to employ up to five individuals (see Exhibit U). Therefore, there will be no significant impacts to protected areas due to Project operations traffic.

Potential traffic impacts are addressed in greater detail in Exhibit U, which provides additional information on anticipated traffic volumes, peak construction traffic times, potential delays and temporary road closures, and mitigation measures.


(iii) Water use during facility construction or operation;

No significant water-related impacts to protected areas are anticipated from the Project. Water used in construction processes will be obtained from nearby locations with adequate water rights, such as the City of Hermiston. Therefore, construction of the Project will not have any adverse effect on the availability of water in any protected areas. Water acquired from such sources near the Project will be transported to construction areas, which represents a component of the traffic
impact analysis discussed above and in Exhibit U. No ground or surface water withdrawals will take place for construction of the Project beyond those already permitted for existing water suppliers. During operation, the Project will have minimal water needs that would be obtained from nearby locations with adequate water rights, such as the City of Hermiston. Water used during Project construction and operation will not impact water availability or use at protected areas.

(iv) Wastewater disposal resulting from facility construction or operation;

Wastewater, in this context, refers to stormwater runoff and to sanitation wastewater; no industrial wastewater would be produced during construction or operation of the Project. Stormwater runoff will be managed on-site according to best management practices, as described in Exhibit I, such that no stormwater will leave the Site Boundary. Therefore, no protected area will be affected by stormwater runoff from the Project.

Sanitation wastewater during construction and operation will be contained in portable toilets, to be provided and maintained by a licensed contractor. No protected area would be impacted by sanitation wastewater related to the Project. Exhibit O provides additional information on water use, and Exhibit V provides information on wastewater.


(v) Visual impacts of facility structures or plumes.

4.4.1 Methodology

The potential for adverse visual impacts on protected areas is based primarily on the expected visibility of the constructed features of the Project. The Project will not generate emissions plumes; therefore, no visual impacts from plumes are expected. Likewise, solar modules are treated with an antiglare coating that nearly eliminates the reflection of sunlight off the module face; therefore, glare is not considered a potential impact on distant protected areas (see Exhibit R for additional glare discussion).

In evaluating the visual impacts, the Applicant first determined whether the Project would be visible from each protected area using digital bare earth modeling. To assess the potential visibility of the Project, a zone of visual influence (ZVI) analysis using ArcGIS was performed for aboveground infrastructure, such as the solar arrays and substation (maximum heights of 16 feet and 30 feet, respectively), which based on their footprints and heights encompass the impacts of the remaining aboveground Project facilities (i.e., the O&M enclosure will be a maximum height of 20 feet). The ZVI analysis methodology and overall visual impact assessment approach were the same for protected areas as for scenic resources; additional details are provided in Exhibit R.

It should be noted that this “bare-earth” modeling approach, based only on the effects of terrain on visibility, results in a conservative assessment of potential visibility for several reasons. First, in some areas where the analysis indicates Project structures would be visible, the only visible components might be the substation, which would likely be noticeable only at relatively close viewing distances. In addition, the model does not account for the effects of distance, lighting,
weather, and atmospheric attenuation factors that diminish visibility under actual field conditions. A bare-earth analysis also does not account for the effects of vegetation or buildings, which can in practice block or screen views in some places. Figures L-2 shows the areas from which Project structures will potentially be visible, indicated by color-coding on the figure.

4.4.2 Visual Assessment Results

A viewshed map displaying the results of the ZVI analyses shows the extent to which the Project will potentially be visible from the protected areas identified in Section 3 (Figure L-2). Based on the results of the ZVI analysis, there will be visibility of some portions of the Project from five of the 12 protected areas in the Analysis Area (see Table L-1 and Figure L-2). In some of these protected areas, visibility is characterized as limited, meaning that there will be no views of the Project from a substantial portion of the protected area.

Potential visibility is but one of several factors that comprise an assessment of visual impact to a protected area. Other factors to consider include the viewing distance, other natural and manmade features visible within the view, the likely number and nature of visitors to a protected area, and whether there is any management direction related to the preservation of scenic quality, either within the protected area or outside of it. Table L-1 provides a summary of the visual impact assessment for each of the 12 protected areas.

The visual impact is negligible for most protected areas, primarily due to their distance of 6 to 20 miles from the Site Boundary. Views of the Project for most protected areas would therefore be at a background viewing distance, where the apparent size of the Project is greatly diminished and the Project will occupy only a limited portion of the total viewshed. Existing views from these protected areas include wind farms, transmission lines, and urban and industrial development; therefore, the Project will not introduce an unusual feature to the view. In addition, potential Project views from these distant protected areas will likely be partially to fully screened by vegetation.

Only one of the protected areas will have middleground views of Project facilities, the Cold Springs NWR (from a distance of 0.5 to 5 miles); see Section 4.4.2.1 for more details on this protected area. No protected areas are anticipated to have foreground views of Project facilities (from a distance of up to 0.5 miles).

4.4.2.1 Cold Springs National Wildlife Refuge

The Cold Springs NWR is a 3,102-acre refuge overlaying the Bureau of Reclamation Cold Springs Reservoir, a primary source of water for local agriculture (USFWS 2015). The U.S. Fish and Wildlife Service (USFWS) continues to manage the Cold Springs NWR to preserve the diverse waterfowl and native bird habitat present. To date, no surveys have been conducted to determine the protected area’s usage; however, USFWS (2015) states that use is low and activities are focused around hunting and fishing, followed by birdwatching, horseback riding, and day-use. Nearby residents appear to be the most frequent visitors to the protected area.
The visibility analysis indicates potential visibility of the Project, at a middleground distance of 2.4 miles. As the Cold Springs NWR is just outside of a more developed area, views of the Project will be in context with existing urban/industrial development and nearby highways. The Project will not be a prominent feature in the viewshed. In addition, there is no management or other research direction applicable to scenic quality. Therefore, the Project will not have a significant visual impact on the Cold Springs NWR.

(vi) Visual impacts from air emissions resulting from facility construction or operation, including, but not limited to, impacts on Class I Areas as described in OAR 340-204-0050.

Class I areas, as defined in OAR 340-204-0050, consist of 12 federally-designated wilderness areas in Oregon that were in existence as of August 7, 1977. None of these wilderness areas are located within the Analysis Area. The proposed Project will not generate any emissions plumes, so it will not cause any visual impacts from air emissions. No visual impacts are expected from dust created during construction, which will be similar to existing land uses in the area and minimized by following best management practices for dust control, as detailed in Exhibit O.

5.0 Conclusions

The Project Analysis Area contains all or part of 12 protected areas. The Applicant analyzed potential impacts to these areas and concluded as follows:

- **Noise.** Due to the distance between protected areas and the Project (at least 2 miles), construction and operation noise will not be audible at protected areas. Noise modeling presented in Exhibit X further supports this finding.

- **Traffic.** Project-related traffic will not be sufficiently high, nor located so as to significantly impact any protected areas. Some short-term, intermittent and temporary delays may be experienced by visitors attempting to reach some of the protected areas during Project construction; however, these will be temporary and traffic conditions will return to typical low levels following construction. Therefore, there will be no significant impact to traffic resulting from the operation of the Project.

- **Water.** The Project will not use water in sufficient quantities or from sources that would significantly impact any protected areas. Therefore, there will be no significant impacts to protected areas by water use at the Project.

- **Wastewater.** The Project will manage its very limited quantities of wastewater onsite. Therefore, there will be no significant impacts to protected areas due to wastewater generated at the Project.

- **Visual.** The Project will potentially be visible from five of the 12 protected areas in the Analysis Area. However, due to distance from the Project, existing industrial, urban and agricultural features within view, relatively low user numbers at the nearest sites, and general lack of management direction applicable to scenic quality beyond the boundaries of
each protected area, the Project will not have a significant visual impact on any protected area.

For these reasons, the Energy Facility Siting Council may conclude that the design, construction, and operation of the Project will not result in significant adverse impacts to protected areas and therefore complies with the protected areas standard under OAR 345-022-0040.

### 6.0 References

Figures
This page intentionally left blank
Figure L-1
Protected Areas

- Proposed Site Boundary
- Analysis Area (20-mile Buffer)
- Fish Hatchery (ODFW)
- Research Center (OSU)
- Oregon Parks and Recreation Department Site (OPRD)
- US Fish and Wildlife Service Refuge (USFWS)
- Oregon Department of Fish and Wildlife Wildlife Area (ODFW)
- Areas of Critical Environmental Concern (BLM)
- City/Town
- Interstate Highway
- US Highway
- County Boundary
- State Boundary

Reference Map
UMATILLA COUNTY, OR
West End Solar Project
Figure L-2
Protected Areas with ZVI

- Proposed Site Boundary
- Analysis Area (20-mile Buffer)
- Fish Hatchery (ODFW)
- Research Center (OSU)
- Oregon Parks and Recreation Department Site (OPRD)
- US Fish and Wildlife Service Refuge (USFWS)
- Oregon Department of Fish and Wildlife Area (ODFW)
- Areas of Critical Environmental Concern (BLM)

- City/Town
- Interstate Highway
- US Highway
- County Boundary
- State Boundary
- Viewshed Results
  - Not Visible
  - Solar Facility Potentially Visible

- Reference Map
UMATILLA COUNTY, OR
West End Solar Project

P:\GIS_PROJECTS\Eurus\WestEndSolar\Maps\pASC\Exhibit_L\Eurus_WestEnd_ExhibitL_11i17i_20210518.aprx

NOT FOR CONSTRUCTION
Exhibit M

Applicant’s Financial Capability

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
This page intentionally left blank
Exhibit M Applicant’s Financial Capability

Table of Contents

1.0 Introduction ................................................................................................................................. 1

2.0 Opinion of Legal Counsel – OAR 345-021-0010(1)(m)(A) .......................................................... 1

3.0 Proposed Type and Amount of Financial Instrument – OAR 345-021-0010(1)(m)(B) .......... 2

4.0 Evidence of Reasonable Likelihood of Obtaining Security – OAR 345-021-0010(1)(m)(C) .... 2

5.0 Conclusion .................................................................................................................................... 2

List of Attachments

Attachment M-1. Opinion of Legal Counsel

Attachment M-2. Letter from Financial Institution
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>EFSC</td>
<td>Energy Facility Siting Council</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rules</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit M provides information on the Applicant’s financial capability, as required to meet the submittal requirements of Oregon Administrative Rule (OAR) 345-021-0010(1)(m) paragraphs (A) through (C). This includes the Retirement and Financial Assurance exhibit for the Energy Facility Siting Council (EFSC) to make the appropriate findings under OAR 345-022-0050(2):

345-022-0050 Retirement and Financial Assurance

To issue a site certificate, the Council must find that:

1. The site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.

2. The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

As discussed in Exhibit W, in the event that a permanent cessation of construction or operation of the Project occurs, the site can be restored to a useful, non-hazardous condition. Exhibit M establishes that the Applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to EFSC to restore the site to a useful, non-hazardous condition, as discussed below.

2.0 Opinion of Legal Counsel – OAR 345-021-0010(1)(m)(A)

OAR 345-021-0010(1)(m) Information about the applicant’s financial capability, providing evidence to support a finding by the Council as required by OAR 345-022-0050(2). Nothing in this subsection shall require the disclosure of information or records protected from public disclosure by any provision of state or federal law. The applicant shall include:

OAR 345-021-0010(1)(m)(A) An opinion or opinions from legal counsel stating that, to counsel’s best knowledge, the applicant has the legal authority to construct and operate the facility without violating its bond indenture provisions, articles of incorporation, common stock covenants, or similar agreements.

Attachment M-1 is an opinion from the Applicant’s legal counsel indicating that the Applicant has the legal authority to construct and operate the Project without violating its articles of incorporation or similar agreements.
3.0 Proposed Type and Amount of Financial Instrument – OAR 345-021-0010(1)(m)(B)

OAR 345-021-0010(1)(m)(B) The type and amount of the applicant’s proposed bond or letter of credit to meet the requirements of OAR 345-022-0050;

Prior to beginning construction on the Project, the Applicant will submit one or more bonds or letters of credit to the State of Oregon in an amount equal to the net costs of Project retirement, as detailed in Exhibit W. The bonds or letters of credit will be provided in a form approved by EFSC and will ensure that adequate funds exist for the retirement of the Project and for restoration of the Project site to a useful, non-hazardous condition. The bonds or letters of credit will be adjusted annually for inflation according to the Gross Domestic Product Implicit Price Deflator Index.

4.0 Evidence of Reasonable Likelihood of Obtaining Security – OAR 345-021-0010(1)(m)(C)

OAR 345-021-0010(1)(m)(C) Evidence that the applicant has a reasonable likelihood of obtaining the proposed bond or letter of credit in the amount proposed in paragraph (B), before beginning construction of the facility.

The Applicant has obtained a letter from Sumitomo Mitsui Banking Corporation (Attachment M-2) demonstrating that it has a reasonable likelihood to obtain one or more bonds or letters of credit in an amount equal to or greater than the cost of Project retirement and restoration, as detailed in Exhibit W.

5.0 Conclusion

The evidence provided in this exhibit demonstrates that the Applicant has a reasonable likelihood of obtaining bonds or letters of credit in an amount sufficient to restore the site to a useful, non-hazardous condition as detailed in OAR 345-022-0050(2).
Attachment M-1. Opinion of Legal Counsel
This page intentionally left blank
August 9, 2021

Oregon Department of Energy
550 Capitol St. NE, 1st Floor
Salem, Oregon 97301

Re: Application of EE West End Solar LLC for a Site Certificate

To Whom This May Concern:

I am an attorney for Eurus Energy America Corporation, a Delaware corporation, and its wholly owned subsidiary and affiliate, EE West End Solar LLC (the "Applicant"). I have examined originals or certified copies of the books and records of Applicant and such other documents, limited liability company records, certificates of public officials, and instruments regarding the Applicant as I have deemed necessary and appropriate for the purposes of this opinion letter.

In rendering the opinion expressed below, I have assumed (i) the authenticity of all the documents submitted to me as originals and (ii) the conformity to original documents of all documents submitted to me as copies. As to factual matters, I have relied to the extent deemed proper upon statements and certifications of officers and managers of the Applicant.

Based on the foregoing, to the best of my knowledge, I am of the opinion that, subject to the Applicant's meeting of all applicable federal, state and local laws (including all rules and regulations promulgated thereunder), the Applicant has the legal authority to construct and operate the up to fifty (50) MW nameplate capacity West End Solar Project solar generation facility and associated facilities, proposed to be located in Umatilla County, Oregon (the "Project") without violating its articles of organization, covenants, or similar agreements.

The foregoing opinion is limited strictly to whether the Applicant has the authority under its operating agreements to construct, own, and operate the Project. I express no opinion in this letter regarding any federal, state, or local laws that may apply to the Project’s construction and operation.

Sincerely,

[Signature]
Anthony W. Cresap
Senior Legal Counsel
This page intentionally left blank
Attachment M-2. Letter from Financial Institution
July 7, 2021

Oregon Department of Energy
550 Capitol Street NE
Salem, Oregon 97301

Attention: Todd R. Cornett, Assistant Director for Siting

Dear Mr. Cornett:

Eurus Energy America Corporation ("EEAC") is a valued client of Sumitomo Mitsui Banking Corporation, New York Branch (the "Bank").

It is our understanding that EEAC (as Applicant on behalf of EE West End Solar LLC) may be asked to provide a letter of credit. It is further our understanding that the potential amount of the letter of credit could be up to three million six hundred thousand dollars ($3,600,000.00).

The Bank has an ongoing relationship with EEAC and there is a reasonable likelihood that we will provide a letter of credit for this project should it be required. This is not a commitment as issuance is subject to our regular review and acceptance of the terms and conditions of the final contract and required letter of credit and approval by the Bank.

Furthermore, any arrangement for the letter of credit is a matter between EEAC and the Bank and we assume no liability to third parties or to you if, for any reason, we do not execute said letter of credit.

If you have any questions, please do not hesitate to call me at (213) 452-7841.

Sincerely,

[Signature]

Name: Tadahiro Tsukada
Title: Executive Director
This page intentionally left blank
Exhibit N

Non-generating Facility Information

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
Oregon Administrative Rule (OAR) 345-021-0010(1)(n) requires proponents to provide information demonstrating the need of any non-generating facility. The West End Solar Project is exempt from the requirements of OAR 345-021-010(1)(n), since it is a solar energy generating facility.
This page intentionally left blank
Exhibit O

Water Requirements

West End Solar Project
October 2021

Prepared for
EE West End Solar LLC

Prepared by
Tetra Tech, Inc.
Table of Contents

1.0 Introduction ..................................................................................................................... 1

2.0 Description of Water Use – OAR 345-021-0010(1)(o)(A) .............................................. 1
   2.1 Construction ............................................................................................................. 1
   2.2 Operation ................................................................................................................. 2

3.0 Water Sources – OAR 345-021-0010(1)(o)(B)(C) ...................................................... 2
   3.1 Water Sources ........................................................................................................... 2
   3.2 Amounts .................................................................................................................... 2
      3.2.1 Construction ..................................................................................................... 2
      3.2.2 Operations ........................................................................................................ 3
   3.3 Disposal .................................................................................................................. 3

4.0 Thermal Power Plants – OAR 345-021-0010(1)(o)(D) .................................................. 4

5.0 Explanation of Lack of Need for Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(E) .......................................................................................................................... 4

6.0 Information to Support Issuance of Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(F) .......................................................................................................................... 4

7.0 Mitigation Measures – OAR 345-021-0010(1)(o)(G) .................................................... 5

8.0 Conclusions .................................................................................................................. 5

Attachments

Attachment O-1. Record of Correspondence with the City of Hermiston
### Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Term</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant</td>
<td>EE West End Solar LLC</td>
</tr>
<tr>
<td>Mgal</td>
<td>million gallons</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>operations and maintenance</td>
</tr>
<tr>
<td>OAR</td>
<td>Oregon Administrative Rule</td>
</tr>
<tr>
<td>Project</td>
<td>West End Solar Project</td>
</tr>
</tbody>
</table>
1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit O was prepared to meet the submittal requirements per Oregon Administrative Rule (OAR) 345-021-0010(1)(o), related to water use.

2.0 Description of Water Use – OAR 345-021-0010(1)(o)(A)

OAR 345-021-0010(1)(o) Information about anticipated water use during construction and operation of the proposed facility. The applicant shall include:

OAR 345-021-0010(1)(o)(A) A description of the use of water during construction and operation of the proposed facility.

2.1 Construction

During construction, the Project will require an anticipated maximum of 12.8 million gallons (Mgal) of water. The primary drivers of water use during construction are road construction and dust control. Water trucks will be used to control dust generation in all disturbed areas during road construction, foundation installation, final cleanup, reclamation, and restoration. Water may be used for fire prevention, but such use would be periodic and likely minor; this would involve stationing a water truck at the job site to keep the ground and vegetation moist to be prepared for extreme fire conditions.

For the construction of foundations, concrete will be transported to the site in concrete trucks. Therefore, no water is anticipated to be needed for concrete mixing on site. The Applicant will implement dust control measures at all areas disturbed by construction activities in a manner that avoids erosion and sediment discharge and is consistent with the best management practices presented in the 1200-C Construction Stormwater National Pollutant Discharge Elimination System Permit that will be obtained prior to construction.

During construction, equipment will be cutting, moving, and compacting the subgrade surface; stockpiling soils for later use; and performing decompaction (as needed) and final grading for site revegetation. Depending on weather conditions, water trucks patrolling the site to control dust will make as many as one pass per hour, wetting down disturbed and exposed soils. Once site preparation work is complete, meaning all soil disturbance is completed and the site is ready for revegetation, dust control becomes minimal. Water is not anticipated to be needed for site revegetation, which would instead rely on natural precipitation and native seed types that are adapted to the rainfall regime of the region.
2.2 Operation

During operation, the Project will require very limited amounts of water. The Applicant conservatively assumes that solar modules will be washed twice per year, which will require approximately 1.65 Mgal of water per year. Water will be applied via a tanker truck and will not have any cleaning solvents in it. Employee sanitation during operations will be provided in the form of a hand-washing station and portable toilets. Drinking water will be purchased in bottles and stored in the operations and maintenance (O&M) enclosure.

3.0 Water Sources – OAR 345-021-0010(1)(o)(B)(C)

OAR 345-021-0010(1)(o)(B) A description of each source of water and the applicant’s estimate of the amount of water the facility will need during construction and during operation from each source under annual average and worst-case conditions.

OAR 345-021-0010(1)(o)(C) A description of each avenue of water loss or output from the facility site for the uses described in (A), the applicant’s estimate of the amount of water in each avenue under annual average and worst-case conditions and the final disposition of all wastewater.

3.1 Water Sources

The Applicant’s third-party construction contractor can obtain construction water from the City of Hermiston under an existing municipal water right. Water will most likely be contracted with the Project construction contractor, though the Applicant may contract directly with the supplier. Letters documenting formal commitments from the water supplier will be provided prior to construction. Based on communications with the City of Hermiston (Attachment O-1), the Applicant believes the contacts made to date, which amount to a non-binding commitment to supply up to 18.3 Mgal, will be sufficient for Project construction. Water for solar panel washing will also be obtained from the City of Hermiston, which will amount to significantly less than the up to 18.3 Mgal for Project construction (see Section 3.2 for quantities).

3.2 Amounts

3.2.1 Construction

During construction, the Project will require an anticipated maximum of approximately 12.8 Mgal of water. This water will be used in activities such as road construction, installation of collector lines, and other activities. Water will also be used for dust control on dirt and gravel roads and laydown areas. Water use totals are presented in the format of Project construction taking place in a single 12-month construction period. Thus, under typical environmental conditions, the average monthly water demand will be approximately 1 Mgal.
Water will be required for grading of parking areas and other incidental uses required in the construction of the Project. Approximately 10.5 Mgal of water will be required for civil and site preparation including road compaction and dust control. This water will be applied via tanker truck in a manner that avoids erosion and subsequent sediment discharge, and is consistent with the best management practices presented in the 1200-C Construction Stormwater National Pollutant Discharge Elimination System Permit.

The quantity and frequency of water used for dust suppression will be highly dependent on site and seasonal conditions. Actual dust control water use will vary, depending on the timing of construction and the season, precipitation, soil conditions, temperature, and frequency of repeat disturbance; none of which can be controlled or easily estimated by the contractor. Generally, the quantity of water used for dust suppression, accounting for worst-case dry and dusty conditions, will be 30,000 to 50,000 gal per day, when warranted. Fewer than 50,000 gal will be used for potable drinking water and portable toilet facilities available to construction workers over the 12-month planned construction timeframe.

### 3.2.2 Operations

Once the Project is constructed, there will be limited need for water. Water primarily will be used for cleaning activities such as periodically washing down the solar modules (panels). Bottled water will be used for employee drinking and portable toilets will be used for sanitation during operations.

Depending on the effects of solar module dust and dirt on energy production (referred to as soiling), the solar modules will be washed. For the purpose of this analysis, it is conservatively assumed that they will be washed twice a year, which will require approximately 1.65 Mgal of water per year. This water will be obtained from City of Hermiston under an existing municipal water right. Water will be applied via a tanker truck and will not have any cleaning solvents in it. Employee sanitation during operations will be provided in the form of a portable hand-washing station and portable toilets. Drinking water will be purchased in bottles.

### 3.3 Disposal

The Applicant does not anticipate any discharge of water from the Project. During construction, water loss will occur primarily through evaporation and infiltration from wetted road surfaces. Because of the relatively low rates of water use and application, it is assumed that no run-off will occur outside of the Site Boundary. Water used for foundations will remain in the concrete mix. Panel washing will be performed using chemical free water via mechanical sprayers. Sprayer volumes will be adjusted to a minimum in order to not only clean as many panels as possible per gallon but also to minimize the amount of water that drains on to the ground. Minimizing the amount of water that hits the ground will help reduce the amount of weed growth. No water used for the Project will be discharged into wetlands, lakes, rivers, or streams. During construction, sanitary facilities will be portable toilets that will not require water. Portable toilets will be maintained by a licensed service provider.
4.0 Thermal Power Plants – OAR 345-021-0010(1)(o)(D)

OAR 345-021-0010(1)(o)(D) For thermal power plants, a water balance diagram, including the source of cooling water and the estimated consumptive use of cooling water during operation, based on annual average conditions.

The Project is not a thermal power plant. Thus, OAR 345-021-0010(1)(o)(D) is not applicable.

5.0 Explanation of Lack of Need for Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(E)

OAR 345-021-0010(1)(o)(E) If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility.

The Project does not need any groundwater permits, water rights, or surface water permits. As discussed above, water for construction and operation can be obtained from the City of Hermiston under an existing municipal water right.

6.0 Information to Support Issuance of Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(F)

OAR 345-021-0010(1)(o)(F) If the proposed facility would need a groundwater permit, a surface water permit or a water right transfer, information to support a determination by the Council that the Water Resources Department should issue the permit or transfer of a water use, including information in the form required by the Water Resources Department under OAR Chapter 690, Divisions 310 and 380.

The Project does not need any groundwater permits, water rights, or surface water permits at this time. Thus, OAR 345-021-0010(1)(o)(F) is not applicable.
7.0 Mitigation Measures – OAR 345-021-0010(1)(o)(G)

OAR 345-021-0010(1)(o)(G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources.

No adverse impacts are expected to result from Project water use during construction or operation; therefore, no mitigation measures are proposed.

8.0 Conclusions

The information provided in this exhibit demonstrates that construction and operation of the Project will not result in significant adverse impacts to water resources. Therefore, the Applicant has satisfied the requirements of OAR 345-021-0010(1)(o).
This page intentionally left blank
Attachment O-1. Record of Correspondence with the City of Hermiston
This page intentionally left blank
Kristen,

At this time, it appears the City can still provide the water as the letter states, under normal conditions.

Thank you~Roy

Roy Bicknell
Water Superintendent
City of Hermiston
541-567-5521
We are reaching out to you today to inquire about the possibility of the Hermiston Water Department providing up to 18.3 million gallons of water for construction of West End. This is our current, conservative, estimate of water use anticipated for facility construction over a 9 to 12-month period. Tetra Tech is under contract to Eurus through the Oregon Dept. of Energy’s (ODOE) permitting process. To this end, we will provide to ODOE evidence of consultation with local municipalities that we have been in contact regarding obtaining water for the construction of West End. At this point in the process, Eurus is not required to have entered into a contract with the Hermiston Water Department for water supply, we just need to demonstrate to ODOE that we have been in consultation with the Hermiston Water Department and that yes, you are licensed to supply water to Eurus, how much, your water right permit number(s), and seasonal constraints. Any letter from you to me on this subject does not constitute a contract and you are under no obligation to supply water for the facility, we just need to demonstrate to ODOE that you have water to sell and that we could use as a water supplier if we, at a later date, come to an agreement to do so.

If you could please provide a letter addressing the West End Solar Project as soon as possible, that would be greatly appreciated. It can be a statement on your letterhead with your signature if you like, or even a reply to this email.

Thank you!

Kristen Gulick (she / her) | Environmental Planner
Kristen.Gulick@tetratech.com

Tetra Tech | Portland
1750 S Harbor Way, Suite 400 | Portland, OR 97201 | www.tetratech.com
Direct: 503.721.7216 x 2241 | Fax: 503.227.1287 | Cell: 541.740.3316

PLEASE NOTE: This message, including any attachments, may include confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

Think Green - Not every email needs to be printed.