

**EXHIBIT A**  
**APPLICANT INFORMATION**  
OAR 345-021-0010(1)(a)

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- A-1 Articles of Organization and Authorization
- A-2 Proof of Registration to do Business in Oregon



**A.1 APPLICANT AND CONTACT PERSONS**

(A) *Information about the applicant and participating persons, including:*

**OAR 345-021-0010(1)(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;*

**Response:****Name and mailing address of Applicant:**

Boardman Solar Energy LLC  
 c/o Invenergy Solar Development LLC  
 One South Wacker Drive, Suite 1800  
 Chicago, IL 60606

**Applicant contact persons with mailing address, email address, and telephone number:**

Laura Miner  
 Boardman Solar Energy LLC  
 c/o Invenergy Solar Development LLC  
 1001 SE Division Street, Suite 3  
 Portland, OR 97202  
 lminer@invenergyllc.com  
 (503) 964-8900

Michael Baird  
 Boardman Solar Energy LLC  
 c/o Invenergy Solar Development LLC  
 2580 West Main Street, Suite 200  
 Littleton, CO 80120  
 mbaird@invenergyllc.com  
 (303) 797-5472

**Contact persons other than the Applicant:**

Paul Seilo, Project Manager  
 CH2M HILL Engineers, Inc.  
 2020 SW 4th Avenue, Suite 300  
 Portland, OR 97201  
 Paul.Seilo@CH2M.com  
 (503) 736-4012

Sarah Stauffer Curtiss, Partner  
 Stoel Rives LLP  
 760 SW Ninth Avenue, Suite 3000  
 Portland, OR 97205  
 sarah.curtiss@stoel.com  
 (503) 294-9829



## A.2 PARTICIPATING ENTITIES

**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.*

**Response:** Boardman Solar Energy LLC is a wholly owned subsidiary of Invenergy Solar Development LLC:

Invenergy Solar Development LLC  
One South Wacker Drive, Suite 1800  
Chicago, IL 60606

Invenergy Solar Development LLC is a wholly owned subsidiary of Invenergy LLC:

Invenergy LLC  
One South Wacker Drive, Suite 1800  
Chicago, IL 60606

### **Contact Name, Mailing Address, Email Address, and Telephone Number:**

Laura Miner  
Boardman Solar Energy LLC  
c/o Invenergy Solar Development LLC  
1001 SE Division Street, Suite 3  
Portland, OR 97202  
lminer@invenergyllc.com  
(503) 964-8900

Michael Baird  
Boardman Solar Energy LLC  
c/o Invenergy Solar Development LLC  
2580 West Main Street, Suite 200  
Littleton, CO 80120  
mbaird@invenergyllc.com  
(303) 797-5472

## A.3 CORPORATION STATUS

**OAR 345-021-0010(1)(a)(C).** *If the applicant is a corporation, it shall give:*

- (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.*

**Response:** The Applicant is not a corporation. Therefore, this rule is not applicable.



**A.4 OWNERSHIP**

**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;*

**Response:** Boardman Solar Energy LLC is a wholly owned subsidiary of Invenergy Solar Development LLC. The full name and business address are as follows:

Invenergy Solar Development LLC  
One South Wacker Drive, Suite 1800  
Chicago, IL 60606  
(312) 224-1400

**A.5 ADDITIONAL APPLICANT INFORMATION**

**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;*

**Response:** The Applicant is not an association of citizens, a joint venture, or a partnership. Therefore, this rule is not applicable.

**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 the application;*

**Response:** The Applicant is not a public or governmental entity. Therefore, this rule is not applicable.

**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.*

**Response:** 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;*



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

Michael Baird, Vice President  
Boardman Solar Energy LLC  
c/o Invenergy Solar Development LLC  
2580 West Main Street, Suite 200  
Littleton, CO 80120  
mbaird@inveneryllc.com  
(303) 797-5472

(ii) *The date and place of its formation;*

**Response:** Boardman Solar Energy LLC was formed in the State of Delaware on July 18, 2016.

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

**Response:** A copy of the articles of organization and 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.*

**Response:** 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  
(503) 294-9829

Proof of registration to do business in Oregon is provided in Attachment A-2.



Attachment A-1  
Articles of Organization and  
Authorization



**OPERATING AGREEMENT**  
**OF**  
**BOARDMAN SOLAR ENERGY LLC**  
**a Delaware limited liability company**



**OPERATING AGREEMENT OF  
BOARDMAN SOLAR ENERGY LLC**

**A DELAWARE LIMITED LIABILITY COMPANY**

THIS OPERATING AGREEMENT is made as of the 18th day of July, 2016 (the **"Effective Date"**) by Invenergy Solar Development LLC, a Delaware limited liability company (**"Member"** and **"Manager"**), and Boardman Solar Energy LLC, a Delaware limited liability company (the **"Company"**).

**ARTICLE 1  
DEFINITIONS**

The following terms used in this Operating Agreement shall have the meanings set forth below (unless otherwise expressly provided herein):

(a) **"Act"** shall mean the version of the Limited Liability Company Act adopted by the State of the Delaware.

(b) **"Entity"** shall mean any general partnership, limited partnership, limited liability company, corporation, joint venture, trust, estate, business trust, cooperative or association.

(c) **"Operating Agreement"** shall mean this Operating Agreement as originally executed and as amended from time to time.

(d) **"Person"** shall mean any individual or Entity, and the heirs, executors, administrators, legal representatives, successors, and assigns of such Person where the context so admits.

**ARTICLE 2  
FORMATION OF COMPANY**

2.1 **Formation.** On July 18, 2016, the Company was organized as a Delaware limited liability company under and pursuant to the Act.

2.2 **Name.** The name of the Company is Boardman Solar Energy LLC, a Delaware limited liability company.

2.3 **Principal Place of Business.** The principal place of business of the Company within the State of Illinois shall be at One South Wacker Drive, Suite 1800, Chicago, Illinois 60606. The Company may locate its places of business and registered office at any other place or places as the Manager may from time to time deem advisable.



2.4 **Registered Office and Registered Agent.** The Company's registered office shall be at the office of its registered agent at 1209 Orange Street, Wilmington, Delaware 19801 and the name of its initial registered agent at such address shall be The Corporation Trust Company.

2.5 **Certificate of Formation.** The Certificate of Formation is hereby adopted and incorporated by reference in this Operating Agreement. In the event of any inconsistency between the Certificate of Formation and this Operating Agreement, the terms of the Certificate of Formation shall govern.

2.6 **Term.** The term of the Company shall be perpetual, unless the Company is earlier dissolved in accordance with either the provisions of this Operating Agreement or the Act.

### **ARTICLE 3** **BUSINESS OF THE COMPANY**

3.1 **Permitted Businesses.** The Company is hereby authorized to undertake any and all lawful acts or activities for which limited liability companies may be formed under the Act.

### **ARTICLE 4** **BOOKS, RECORDS, AND ACCOUNTING**

4.1 **Books and Records.** The Manager shall maintain books of account that accurately record all items of income and expenditure relating to the business of the Company and that accurately and completely disclose the results of the operations of the Company. Such books of account shall be maintained on the method of accounting selected by the Manager.

4.2 **Bank Accounts.** The Manager shall establish and maintain one or more separate accounts in the name of the Company in one or more federally insured banking institutions of its choosing into which shall be deposited all funds of the Company and from which all Company expenditures and other disbursements shall be made. Funds may be withdrawn from such accounts on the signature of such Person or Persons that the Manager shall from time to time determine.

### **ARTICLE 5** **MANAGEMENT**

The business and affairs of the Company shall be managed by the Manager, except that the Manager does not have the authority to direct the day-to-day operations of the Company, including operations involving the sale of power, such activities being hereby vested by in the Officers of the Company.



## **ARTICLE 6**

### **OFFICERS**

6.1 **Number.** The Officers of the Company shall be a President, a Secretary and any number of Vice Presidents or Assistant Secretaries or other officers (each an “**Officer**” and collectively “**Officers**”) as may be elected by the Manager. Any two or more offices may be held by the same person.

6.2 **Election and Term of Office.** The Officers of the Company shall be elected or appointed by the Manager. Vacancies may be filled or new offices created and filled by the Manager. Each Officer shall hold office until his successor shall have been duly elected or appointed and shall have qualified or until his death or until he shall resign or shall have been removed in the manner hereinafter provided. Election of an Officer shall not of itself create contract rights.

6.3 **Vacancies.** A vacancy in any office because of death, resignation, removal, disqualification or otherwise, may be filled by the Manager for the unexpired portion of the term.

6.4 **Removal.** Any Officer elected or appointed by the Manager may be removed by the Manager whenever in its judgment the best interests of the Company would be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the person so removed.

6.5 **President.** The President shall be the principal officer of the Company. Subject to the direction and control of the Manager, he shall be in charge of the business of the Company; he shall see that the resolutions and directions of the Manager are carried into effect except in those instances in which that responsibility is specifically assigned to some other person by the Manager; and, in general, he shall discharge all duties as may be prescribed by the Manager from time to time. Except in those instances in which the authority to execute is expressly delegated to another officer or agent of the Company or a different mode of execution is expressly prescribed by the Manager or this Operating Agreement, he may execute for the Company any contracts, deeds, mortgages, bonds, or other instruments which the Manager has authorized to be executed, and he may accomplish such execution either individually or with any other officer thereunto authorized by the Manager according to the requirements of the form of the instrument. He may vote all securities which the Company is entitled to vote except as to the extent such authority shall be vested in a different officer or agent of the Company by the Manager.

6.6 **The Vice Presidents.** The Vice President (or in the event there be more than one Vice President, each of the Vice Presidents) shall assist the President in the discharge of his duties as he may direct, and shall perform such other duties as from time to time may be assigned to him by the President or by the Manager. In the absence of the President or in the event of his inability or refusal to act, the Vice President (or in the event there be more than one Vice President, the Vice Presidents in the order designated by the Manager, or if the Manager has not made such a determination, or in the absence of any designation, then in the order of seniority of tenure as Vice President) shall perform the duties of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. Except in those instances in which the authority to execute is expressly delegated to another officer or agent of the Company or a different mode of execution is expressly prescribed by the Manager or this Operating Agreement, the Vice



President (or each of them if there are more than one) may execute for the Company any contracts, deeds, mortgages, bonds or other instruments, which the Manager has authorized to be executed, and he may accomplish such execution either individually or with any other officer thereunto authorized by the Manager according to the requirements of the form of the instrument.

6.7 **Secretary.** The Secretary shall keep a register of the post office address of each Member which shall be furnished to the Secretary by such Member. The Secretary shall have the authority to certify this Agreement, resolutions of the Manager, and other documents of the Company as true and correct copies thereof, and in general to perform all duties incident of the office of the Secretary and such other duties as from time to time may be assigned to him or her by the President and any of the Vice Presidents or by the Manager. If the Manager chooses to appoint an Assistant Secretary or Assistant Secretaries, the Assistant Secretaries, in the order of their seniority, in the absence, disability or inability to act of the Secretary, shall perform the duties and exercise the powers of the Secretary, and shall perform such other duties as the Manager may from time to time prescribe.

6.8 **Salaries.** The salaries and other compensation of the Officers shall be fixed from time to time by the Manager.

6.9 **Indemnification of Officers.**

(a) To the greatest extent allowed by the Act, the Officers shall not be liable to the Member because any taxing authorities disallow or adjust income, deduction or credits in the Company tax returns. Furthermore, the Officers shall not have any liability for the repayment of the capital contributions of the Member. In addition, the doing of any act or the omission to do any act by the Officers the effect of which may cause or result in loss or damage to the Company, if done in good faith and otherwise in accordance with the terms of this Operating Agreement, shall not subject the Officers or their successors and assigns to any liability to the greatest extent allowed by the Act. To the greatest extent allowed by the Act, the Company will indemnify and hold harmless the Officers and their successors, delegees and assigns from any claim, loss, expense, liability, action or damage resulting from any such act or omission, including, without limitation, reasonable costs and expenses of litigation and appeal of such litigation (including reasonable fees and expenses of attorneys engaged by any of the Officers in defense of such act or omission), but the Officers shall not be entitled to be indemnified or held harmless due to, or arising from, their fraud, gross negligence, bad faith or willful malfeasance. The foregoing indemnification is limited to the assets of the Company, and nothing contained herein is intended to create personal liability for the Member.

(b) The Company may purchase and maintain insurance on behalf of any Person who is or was an Officer, employee, or agent of the Company, or who is or was serving at the request of the Company as a director, manager, officer, trustee, employee, or agent of another limited liability company, corporation, partnership, joint venture, trust, or other enterprise, against any liability asserted against the Person and incurred by the person in any capacity, or arising out of the Person's status as such, whether or not the Company would have the power to indemnify the Person against the liability under the provisions of this Section 6.9.



**ARTICLE 7**  
**RIGHTS AND OBLIGATIONS OF MEMBER**

7.1 **Limitation of Liability.** The Member's liability shall be limited as set forth herein and in the Act and other applicable law.

7.2 **Company Debt Liability.** The Member will not personally be liable for any debts or losses of the Company, except as provided in the Act.

**ARTICLE 8**  
**DISSOLUTION AND TERMINATION**

8.1 **Dissolution.** The Company shall be dissolved upon the occurrence of any of the following events ("**Dissolution Event**"):

- (a) the expiration of the term of the Company as provided in Section 2.6;
- (b) by the written resolution of the Member;
- (c) upon the death, retirement, resignation, bankruptcy, court declaration of incompetence with respect to, or dissolution of the Member (a "**Withdrawal Event**");
- (d) entry of a decree of judicial dissolution under Section 18-802 of the Act; or
- (e) administrative dissolution under Section 18-801 of the Act.

8.2 **Distribution of Assets Upon Dissolution.** In settling accounts after dissolution, the liabilities of the Company shall be entitled to payment in the following order:

- (a) to creditors, including the Member if it is a creditor, in the order of priority as provided by law; and
- (b) to the Member.

8.3 **Certificate of Dissolution.** When all debts, liabilities and obligations have been paid and discharged or adequate provisions have been made therefor and all of the remaining property and assets have been distributed to the Member, a certificate of dissolution shall be executed and verified by the Person signing the certificate, which certificate shall set forth the information required by the Act.

8.4 **Filing of Certificate of Dissolution.**

- (a) A certificate of dissolution shall be delivered to the Delaware Secretary of State.



(b) Upon the filing of the certificate of dissolution, the existence of the Company shall cease, except for the purpose of suits, other proceedings and appropriate action as provided in the Act.

## **ARTICLE 9**

### **MISCELLANEOUS PROVISIONS**

9.1 **Notices.** Any notice or communication required or permitted to be given by any provision of this Agreement, including but not limited to any consents, shall be in writing and shall be deemed to have been given and received by the Person to whom directed (a) when delivered personally to such Person or to an officer or partner of the Person to which directed, (b) twenty-four (24) hours after transmitted by facsimile, evidence of transmission attached, to the facsimile number of such Person who has notified the Company and the Manager of its facsimile number, or (c) three (3) business days after being posted in the United States mails if sent by registered or certified mail, return receipt requested, postage and charges prepaid, or one (1) business day after deposited with overnight courier, return receipt requested, delivery charges prepaid, in either case addressed to the Person to which directed at the address of such Person as it appears in the records of the Company or such other address of which such Person has notified the Company and the Manager.

9.2 **Application of Delaware Law.** This Operating Agreement, and the application of interpretation hereof, shall be governed exclusively by its terms and by the laws of the State of Delaware, and specifically, the Act.

9.3 **Construction.** Whenever the singular number is used in this Operating Agreement and when required by the context, the same shall include the plural, and the masculine gender shall include the feminine and neuter genders and vice versa.

9.4 **Headings.** The headings in this Operating Agreement are inserted for convenience only and are in no way intended to describe, interpret, define, or limit the scope, extent or intent of this Operating Agreement or any provision hereof.


9.5 **Severability.** If any provision of this Operating Agreement or the application thereof to any Person or circumstance shall be invalid, illegal or unenforceable to any extent, the remainder of this Operating Agreement and the application thereof shall not be affected and shall be enforceable to the fullest extent permitted by law.

[signature page attached.]

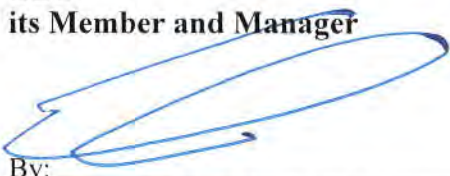


**IN WITNESS WHEREOF**, the undersigned has executed this Operating Agreement as of the date first set forth above.

**BOARDMAN SOLAR ENERGY LLC**

By:   
Steven Ryder, Vice President

**INVENERGY SOLAR DEVELOPMENT  
LLC  
its Member and Manager**

By:   
Steven Ryder, Vice President



## EXHIBIT A

### MEMBERS

THIS SCHEDULE MAY BE AMENDED FROM TIME TO TIME TO REFLECT THE ADDITION OF NEW MEMBERS, THE ISSUANCE OF NEW MEMBERSHIP INTERESTS, THE SALE OR EXCHANGE OF MEMBERSHIP INTERESTS, OR OTHER SHIFTS OF MEMBERSHIP INTERESTS PURSUANT TO THE OPERATING AGREEMENT OR A CHANGE OF ADDRESS OR FACSIMILE NUMBER OF A PERSON FOR WHICH NOTICE WAS GIVEN TO THE COMPANY PURSUANT TO THIS OPERATING AGREEMENT.

Name and Address	Facsimile Number	Percentage Interest
Invenenergy Solar Development LLC One S. Wacker Drive Suite 1800 Chicago, Illinois 60606	(312) 224-1444	100%
TOTALS		100%



# Delaware

The First State

Page 1

*I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF  
DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT  
COPY OF THE CERTIFICATE OF FORMATION OF "BOARDMAN SOLAR ENERGY  
LLC", FILED IN THIS OFFICE ON THE EIGHTEENTH DAY OF JULY, A.D.  
2016, AT 5:44 O`CLOCK P.M.*

A handwritten signature of Jeffrey W. Bullock in black ink, written over a horizontal line.

Jeffrey W. Bullock, Secretary of State

6100737 8100  
SR# 20164960574

You may verify this certificate online at [corp.delaware.gov/authver.shtml](http://corp.delaware.gov/authver.shtml)

Authentication: 202687162  
Date: 07-20-16



**CERTIFICATE OF FORMATION**  
**OF**

**BOARDMAN SOLAR ENERGY LLC**

This Certificate of Formation of Boardman Solar Energy LLC is being duly executed and filed by the undersigned, as an authorized person, to form a limited liability company pursuant to Section 18-201 of the Delaware Limited Liability Company Act.

**FIRST:** The name of the limited liability company formed hereby is

**Boardman Solar Energy LLC**

**SECOND:** The address of the registered office of the limited liability company in the State of Delaware is **1209 Orange St.**, in the City of **Wilmington**, County of **New Castle**, Zip Code **19801**. The name of the registered agent at such address upon whom process against this limited liability company may be served is **The Corporation Trust Company**.

**IN WITNESS WHEREOF**, the undersigned has executed this Certificate of Formation on this 18th day of July, 2016.

By: /s/ Kerry Franzen  
Name: Kerry Franzen  
Title: Authorized Person

State of Delaware  
Secretary of State  
Division of Corporations  
Delivered 05:44 PM 07/18/2016  
FILED 05:44 PM 07/18/2016  
SR 20164960574 - File Number 6100737



**CONSENT OF THE SOLE MANAGER  
OF  
BOARDMAN SOLAR ENERGY LLC**

The undersigned, being the sole Manager of Boardman Solar Energy LLC, a Delaware limited liability company, (the "**Company**"), hereby gives its express written consent to the following resolutions:

RESOLVED: That the following persons are hereby appointed to the offices set forth opposite their respective names to serve until their respective successors are appointed or until the earlier of their resignation or removal:

Michael Polsky	-	President
James Murphy	-	Vice President
James Shield	-	Vice President
Steven Ryder	-	Vice President
Bryan Schueler	-	Vice President
Michael Baird	-	Vice President

FURTHER RESOLVED: That all acts and deeds heretofore done or actions taken by any member or any officer or agent of the Company for and on behalf of the Company, including any act or deed in entering into, executing, acknowledging or attesting any arrangements, agreements, instruments or documents which carry out the terms and intentions of any of the foregoing resolutions are hereby in all respects ratified, approved and confirmed.

Dated as of July 18, 2016.

INVENERGY SOLAR  
DEVELOPMENT LLC, Being the  
sole Manager of the Company



Steven Ryder, Vice President



Attachment A-2  
Proof of Registration to do  
Business in Oregon





Secretary of State  
Corporation Division  
255 Capitol Street NE, Suite 151  
Salem, OR 97310-1327

Phone: (503) 986-2200  
www.filinginoregon.com

**Registry Number:** 1234940-98  
**Type:** FOREIGN LIMITED LIABILITY COMPANY

**Next Renewal Date:** 07/21/2017

C T CORPORATION SYSTEM  
388 STATE ST STE 420  
SALEM OR 97301

### **Acknowledgment Letter**

The document you submitted was recorded as shown below. Please review and verify the information listed for accuracy.

**Document**  
APPLICATION FOR AUTHORITY

**Filed On**  
07/21/2016

**Jurisdiction**  
DELAWARE

**Name**  
BOARDMAN SOLAR ENERGY LLC

**Principal Place of Business**  
1 S WACKER DR STE 1800  
CHICAGO IL 60606

**Registered Agent**  
C T CORPORATION SYSTEM  
388 STATE ST STE 420  
SALEM OR 97301





# Application for Authority to Transact Business - Foreign Limited Liability Company

Secretary of State - Corporation Division - 255 Capitol St. NE, Suite 151 - Salem, OR 97310-1327 - <http://www.FilingInOregon.com> - Phone: (503) 986-2200

FILED

JUL 21 2016

REGISTRY NUMBER:

For office use only

In accordance with Oregon Revised Statute 192.410-192.490, the information on this application is public record. We must release this information to all parties upon request and it will be posted on our website.

OREGON  
SECRETARY OF STATE

For office use only

Please Type or Print Legibly in Black Ink. Attach Additional Sheet if Necessary.

1) NAME: Boardman Solar Energy LLC

NOTE: (Must contain the words "Limited Liability Company" or the abbreviations "LLC" or "L.L.C.") Must be identical to the name of record in home jurisdiction.

2) REGISTRY NUMBER IN HOME JURISDICTION 6100737

OR: CERTIFICATE OF EXISTENCE ☐ (ATTACHED)

(Please provide a web-verifiable registry number from the entity's home jurisdiction. Certain states, such as Delaware and New Jersey, do not provide status information online. Entities from such places must instead attach an official certificate of existence, current within 60 days of delivery to this office.)

3) DATE OF ORGANIZATION: DURATION, IF NOT PERPETUAL:

7/18/2016

4) STATE OR COUNTRY OF ORGANIZATION:

Delaware

5) THIS FOREIGN LIMITED LIABILITY COMPANY SATISFIES THE REQUIREMENTS OF ORS 63.714(3).

6) NAME OF OREGON REGISTERED AGENT:

C T Corporation System

7) REGISTERED AGENT'S PUBLICLY AVAILABLE ADDRESS:

(Must be an Oregon Street Address, which is identical to the registered agent's business office.)

388 State Street, Ste. 420

Salem, OR 97301

8) ADDRESS OF PRINCIPAL OFFICE OF THE BUSINESS:

1 S. Wacker Dr, Suite 1800

Chicago, IL 60606

9) ADDRESS WHERE THE DIVISION MAY MAIL NOTICES:

388 State Street, Ste. 410

Salem, OR 97301

10) HOW WILL THIS LIMITED LIABILITY COMPANY BE MANAGED?

☐ This LLC will be member-managed by one or more members.

☒ This LLC will be manager-managed by one or more managers.

11) EXECUTION: (At least one member or manager must sign.)

By my signature, I declare as an authorized authority, that 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.

Signature:

Printed Name:

Steven Ryder

Title:

Vice President of Manager,

Invenergy Solar Development

LLC

CONTACT NAME: (To resolve questions with this filing.)

Kerry Franzen

PHONE NUMBER: (Include area code.)

312-582-1743

## FEES

Required Processing Fee \$275

Processing Fees are nonrefundable. Please make check payable to "Corporation Division."

Free copies are available at [FilingInOregon.com](http://FilingInOregon.com), using the Business Name Search program.



# Delaware

The First State

Page 1

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "BOARDMAN SOLAR ENERGY LLC" IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE TWENTIETH DAY OF JULY, A.D. 2016.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL FRANCHISE TAXES HAVE BEEN ASSESSED TO DATE.



6100737 8300

SR# 20165003181

You may verify this certificate online at [corp.delaware.gov/authver.shtml](http://corp.delaware.gov/authver.shtml)

A handwritten signature in black ink, appearing to read "JBULLOCK", is written over a horizontal line. Below the line, the text "Jeffrey W. Bullock, Secretary of State" is printed in a small font.

Authentication: 202693657

Date: 07-20-16



**EXHIBIT B**  
**FACILITY DESCRIPTION**  
OAR 345-021-0010(1)(b)

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**FIGURES**

B-1	Vicinity Map
B-2	Example of Module Block Components



**OAR 345-021-0010(1)(b)** *Information about the proposed facility, construction schedule and temporary disturbance of the site, including:*

## **B.1 DESCRIPTION OF PROPOSED FACILITY**

### **B.1.1 Electrical Generating Capacity**

**OAR 345-021-0010(1)(b)(A)(ii)** *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.*

**Response:** Boardman Solar Energy LLC (Applicant) proposes to construct the Boardman Solar Energy Facility (Facility) in unincorporated areas of Morrow and Gilliam counties in Oregon (see Figure B-1 map of vicinity). The Facility will consist of approximately 75 megawatts (MW) of nominal and average electric generating capacity<sup>1</sup>.

### **B.1.2 Major Components, Structures, and Systems**

**OAR 345-021-0010(1)(b)(A)(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.*

**Response:** The Facility will generate electricity using multiple arrays of photovoltaic (PV) solar panels connected to electrical infrastructure. (The term “array” refers to panels wired in series and in parallel.) Solar panels generate electricity by means of a photoelectric effect whereby the materials in the panels absorb the sun’s energy in the form of photons and release electrons. The capture of these free electrons produces an electrical current that can be collected and supplied to the electrical power grid.

**Solar Modules.** The PV solar panels, known in the industry and referenced in this Exhibit and application as modules, will be installed to form 30 2.5-MW module blocks. Module block components will consist of the solar modules themselves, trackers, racks, posts, cabling, inverters, and transformers. Additional detail on each component is provided below. Figure B-2 provides an example illustration of module block components.

**Trackers and Racks.** The solar panel specification used for the Facility design is a 72-cell, 355-watt polycrystalline module on a single-axis tracker. The modules will be manufactured by Jinko Solar or a comparable firm. Each module measures approximately 6.4 by 3.3 feet and will be placed on a nonspecular metal galvanized steel rack with 10 to 30 other modules.

Each set of racked modules will be mounted approximately 4 feet off the ground on a single-axis tracker that rotates 45 degrees to the east and west. The Facility will use a tracker manufactured by NexTracker or a comparable firm. The trackers will be made of nonspecular metal galvanized steel. Refer to Figure B-2 for an example of an installed module with a tracker.

**Posts.** Each tracker will be supported by steel posts; post depth will vary depending on soil conditions but are typically 8 feet below the surface. If soil conditions require it, concrete foundations will be used. For purposes of this application, impact calculations assume the use of concrete foundations for all posts. Approximately 73,125 posts will be installed. Post locations will be determined by the ground coverage ratio (GCR). The planned GCR is 33 percent, meaning that the area occupied by the panels (when tilted horizontally) will be 33 percent of the total area covered. This will minimize the amount of shading from modules onto others.

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<sup>1</sup> Based on the Oregon Revised Statute 469.300(4) definition of average generating capacity for all energy facilities besides wind and geothermal.



**Cabling.** The current produced by solar modules is in the form of direct current (DC). Within each module block, several DC electrical cables on the back of modules will aggregate (also referred to as string) produced electricity from approximately 28 modules each into a combiner box. Approximately 15 combiner boxes will be located throughout each module block for a total of approximately 465 total combiner boxes. A larger DC cable will run between each combiner box and then to the module block inverter. This cable will hang underneath the modules. Refer to Figure B-2 for an example of the cabling. From the inverters, the AC electricity is aggregated via underground 34.5-kilovolt (kV) cables to the Facility substation (see Section B.2.1).

**Inverters.** In order to be sent to the electrical grid, the DC current must be converted into alternating current (AC) power, and inverters serve this function. The conversion is accomplished by rapidly switching the DC power supply. By varying the length of time that the switch is on, as well as the polarity, the positive and negative swells of an AC wave are created. This waveform is then smoothed with an output filter. Inverters employ several advanced control systems, switching algorithms, and ancillary services for both the input and output stages. For the input stage, the inverters can manipulate the DC voltage to ensure maximum power harvest of input, and on the output various sensors ensure that AC power production is in accordance with regulatory requirements. The Facility will use 30 SMA Sunny Central 2500 inverters or similar. The inverter specification will fully comply with the applicable requirements of the National Electrical Code and Institute of Electrical and Electronics Engineers standards.

**Transformers.** The inverter AC output voltage (480 volts) will be stepped up to a higher-voltage (34.5 kV) by pad-mounted transformers designed to integrate with the SMA Sunny Central 2500 inverter. The Facility will have 30 transformers that are co-located with the inverters. The transformers will be mounted on concrete pads. Refer to Figure B-2 for an example of a transformer. Each transformer will contain approximately 650 gallons of oil.

### **B.1.3 Site Plan**

**OAR 345-021-0010(1)(b)(A)(iii)** *A site plan and general arrangement of buildings, equipment and structures.*

**Response:** An overall site plan showing the proposed general arrangement of buildings, equipment, and structures is provided in Figure C-1 (Facility Layout) of Exhibit C. Additional details are provided in Figure C-2 (Facility Layout Details) of Exhibit C.

### **B.1.4 Spill Containment**

**OAR 345-021-0010(1)(b)(A)(iv)** *Fuel and chemical storage facilities, including structures and systems for spill containment*

**Response:** The transformers are the only structures that contain oil and a spill prevention control and countermeasure plan (SPCC plan) will be put in place prior to construction. As part of the SPCC plan, the transformers will be regularly monitored for leaks and measures will be put in place if any are found to quickly control and remove oil. The GSU transformer will have a concrete catchment system sized at approximately 1.25 times the amount of oil inside the transformer.

### **B.1.5 Fire Prevention**

**OAR 345-021-0010(1)(b)(A)(v)** *Equipment and systems for fire prevention and control*

The equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards and will not pose a significant fire risk. Facility roads will be sufficiently sized for emergency vehicle access in accordance with 2014 Oregon Fire Code Section 503 and Appendix D (Fire Apparatus Access Roads). Specifically, roads will be all-weather gravel compacted and 20 feet wide with an internal turning radius of 28 feet and less than 10 percent



grade. A perimeter road with additional space will provide a 50-foot, noncombustible, defensible space clearance, although only a 10-foot clearance is required under 2014 Oregon Fire Code Section 605.12.1. The rest of the ground in the Facility will be managed in accordance with Oregon Fire Code requirements. Under the 2014 Oregon Fire Code Section 605.12.2, the area under and around the installation will have a gravel base or other noncombustible base that is approved by the fire code official and does not create a dust hazard. This requirement is noted on the Facility Layout Details (Exhibit C Figure C-2B), and the base will be kept free of vegetation in accordance with the Revegetation and Noxious Weed Control Plan (Exhibit P Attachment P-6). In the rare event of an electrical fire in the module blocks or substation, it is likely that Facility staff will monitor and contain the fire, but not try to extinguish it. The control house and operations and maintenance (O&M) building will have smoke detectors, fire extinguishers, and eyewash stations to protect the buildings and workers.

#### **B.1.6 Thermal Power and Liquefied Natural Gas Plants**

**OAR 345-021-0010(1)(b)(A)(vi)** *For thermal power plants:*

- (I) *A discussion of the source, quantity and availability of all fuels proposed to be used in the facility to generate electricity or useful thermal energy.*
- (II) *Process flow, including power cycle and steam cycle diagrams to describe the energy flows within the system.*
- (III) *Equipment and systems for disposal of waste heat.*
- (IV) *The fuel chargeable to power heat rate.*

**OAR 345-021-0010(1)(b)(A)(vii)** *For surface facilities related to underground gas storage, estimated daily injection and withdrawal rates, horsepower compression required to operate at design injection or withdrawal rates, operating pressure range and fuel type of compressors*

**OAR 345-021-0010(1)(b)(A)(viii)** *For facilities to store liquefied natural gas, the volume, maximum pressure, liquefaction and gasification capacity in thousand cubic feet per hour.*

**Response:** The Facility is not a thermal power plant nor does it store liquefied natural gas. Therefore, these rules are not applicable.

#### **B.2 RELATED OR SUPPORTING FACILITIES**

**OAR 345-021-0010(1)(b)(B)** *A description of major components, structures and systems of each related or supporting facility.*

Related or supporting facilities consist of the collection system, 34.5-kV/115-kV generator step-up (GSU) transformer and substation, 115-kV transmission line, point of interconnection (POI) line tap, control house, O&M building, a private main access road, private service roads and gates, and a temporary staging area. Figure C-1 in Exhibit C shows the layout of these facilities within the site boundary. Figure C-2 (five sheets) shows additional layout detail.

##### **B.2.1 Collection System**

Underground AC electrical cables, buried to a minimum of 3 feet, will connect the electrical output of the Facility to the Facility substation. The cables will be arranged in several branch circuits, each circuit consisting of three 34.5-kV single conductor cables with jackets that connect solar module blocks at each inverter and transformer to a switch in the substation. The cable lengths will vary given how far the module blocks are from the substation; the three cables are currently estimated at 100 feet, 5,280 feet, and 11,733 feet, respectively. They will be daisy-chained to collect electricity from each transformer in series. The cables will have approximately



14 junction boxes positioned intermittently for voltage control and maintenance. The cable and junction boxes will be under or near private service roads within the module blocks.

### **B.2.2 Generator Step-up Transformer and Substation**

A GSU transformer will be installed in the Facility substation, located in the southeast corner of the Facility site boundary. The GSU transformer will increase the output voltage from the module blocks (34.5 kV) to the voltage of the transmission line (115 kV). The GSU transformer will contain approximately 10,000 gallons of oil.

The substation will include three open-air isolation switches that will connect the collection cables to the main 34.5-kV bus, a 34.5-kV main bus open-air isolation switch, the 34.5- to 115-kV GSU, and a 115-kV circuit breaker and open-air isolation switch. Open-air isolation switches allow visual confirmation that electrical disconnects between components have been made and are used during construction, commissioning, and maintenance. The substation will also include protective relay and metering equipment, utility and customer revenue metering, and a station service transformer to provide power to the substation and control house. The substation yard will be 25,000 square feet and located in the southwestern corner of the Facility. It will be inside the perimeter fence and will have a gate opening in order to access the transmission line from this point.

### **B.2.3 Transmission Line**

A new overhead 115-kV transmission line will connect the Facility substation to the POI with the existing electrical grid. The transmission line will be approximately 2.1 miles long.

### **B.2.4 Point of Interconnection**

The POI will consist of a line tap where the new 115-kV transmission line intersects with the existing Bonneville Power Administration (BPA) Boardman-Alkali 115-kV transmission line. The line tap includes three 115-kV disconnect switches on poles in approximately 10,000 square feet of unfenced land just north of the Boardman-Alkali line. The POI is considered a substation for purposes of restoration in Exhibit W, but it is a simpler structure because there is no GSU transformer. The POI installation work will be completed by BPA.

### **B.2.5 Control House**

A control house will be installed next to the substation to store protective relay and communications equipment. The control house will be a custom-designed, weatherproof structure with exterior walls and interlocking roof panels. The structural base and floor will be designed for applicable loading to allow the structure to be lifted and transported with most of the interior equipment installed. The size of the control house will be approximately 360 square feet. The control house will have fire and safety equipment such as smoke detectors, fire extinguishers, and an eyewash station. The control house will come with a heating, ventilation, and air conditioning system.

### **B.2.6 Operations and Maintenance Building**

The O&M building will be located in a 10,000-square-foot area just inside the main access gate on the southeastern side of the Facility and will consist of a single-story, approximately 3,000-square-foot structure. The building will vary in height from approximately 10 to 20 feet, with office space, a high bay warehouse area, storage, bathroom, and breakroom facilities. A small well (providing no more than 5,000 gallons per day) may be installed to supply water, or water will be stored in aboveground water tanks if brought in from offsite (see Section O.2, Sources of Water, in Exhibit O).

The bathroom, kitchen, and utility sink will drain into an onsite septic system. Electric and telephone service will be provided by the local service providers and connect to the O&M



building using overhead or underground lines. A graveled parking and storage area for employees, visitors, equipment, and emergency response vehicles will be located adjacent to the building.

#### **B.2.7 Access Road**

Access to the Facility will be from Threemile Canyon Road, which is a paved private road that runs north and south just east of the Facility from Interstate 84 at Exit 151. A turnoff for the Willow Creek Wildlife Area is located 0.5 mile south on the west side of Threemile Canyon Road. Approximately 600 feet of the existing 8-foot-wide dirt road from Threemile Canyon Road will be used for the access road, and it will be upgraded to accommodate construction and operation of the Facility. When the existing road ends, a new portion will be built that continues north another 900 feet to the main access gate. The entire 1,500 feet of the access road are considered impacted by the Facility. As described in Section B.1.5, the access road will be all-weather gravel compacted and 20 feet wide with an internal turning radius of 28 feet and less than 10 percent grade. See Figure C-2D of Exhibit C for the site access plan.

#### **B.2.8 Service Roads and Gates**

Within the Facility, service roads will be constructed to facilitate access for construction and maintenance purposes. As described in Section B.1.5, the access road will be all-weather gravel compacted and 20 feet wide with an internal turning radius of 28 feet and less than 10 percent grade. A perimeter road with additional space will provide a 50-foot, noncombustible, defensible space clearance. The perimeter service road will be bordered by a 7-foot-high chain-link security fence. There will be two locked security entrance gates in the fence, one where the access road meets the Facility in the southeast corner, and one where the transmission line meets the Facility substation in the southwest corner.

#### **B.2.9 Temporary Staging Areas**

A main temporary staging area will be used to store supplies and equipment, and to process rock and mix concrete during construction. This approximate 10-acre area is planned along the access road, south of the O&M building. The area will be graded with a gravel surface and have temporary fencing.

There will also be a 10,000-square-foot temporary staging area for the Facility substation and a 10,000-square-foot temporary staging area for the POI line tap.

All staging areas will be restored in accordance with the *Revegetation and Noxious Weed Control Plan* (Attachment P-6 in Exhibit P).

### **B.3 DIMENSIONS OF MAJOR STRUCTURES AND FEATURES**

**ORAR 345-021-0010(1)(b)(C)** *The approximate dimensions of major facility structures and visible features.*

**Response:** The approximate dimension of each module block, including inverters and transformers, will be approximately 1,200 feet long and 550 wide. Internal service roads will be located throughout the module blocks for construction and maintenance. The maximum height of the modules and inverters will be approximately 10 feet tall. Refer to Figure C-2 in Exhibit C for additional detail.

### **B.4 TRANSMISSION LINE**

**ORAR 345-021-0010(1)(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.*

**Response:** The Facility does not have a pipeline or a transmission line that, by itself, is an energy facility under the definition in ORS 469.300. Therefore, this rule is not applicable.

#### **B.4.1 Length**

**OAR 345-021-0010(1)(b)(E)(i)** *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 of any size: (i) The length of the pipeline or transmission line*

**Response:** The overhead transmission line from the proposed Facility substation to the POI will be approximately 2.1 miles long, depending on the exact routing between the Facility substation and the POI line tap location on the BPA transmission line.

#### **B.4.2 Right-of-Way**

**OAR 345-021-0010(1)(b)(E)(ii)** *The proposed right-of-way width of the pipeline or transmission line, including to what extent new right-of-way will be required or existing right-of-way will be widened*

**Response:** The transmission line will have a new 100-foot-wide right-of-way adjacent to an existing Portland General Electric transmission line right-of-way. Construction will occur in a 150-foot-wide right-of-way.

**OAR 345-021-0010(1)(b)(E)(iii)** *If the proposed transmission line or pipeline corridor follows or includes public right-of-way, a description of where the transmission line or pipeline would be located within the public right-of-way, to the extent known. If the applicant proposes to locate all or part of a transmission line or pipeline adjacent to but not within the public right-of-way, describe the reasons for locating the transmission line or pipeline outside the public right-of-way. The applicant must include a set of clear and objective criteria and a description of the type of evidence that would support locating the transmission line or pipeline outside the public right-of-way, based on those criteria.*

**Response:** The transmission line will not follow or include public right-of-way, as there is none in the general area where the transmission line is proposed. However, it does parallel the existing Portland General Electric transmission line right-of-way.

#### **B.4.3 Rating and Dimensions**

**OAR 345-021-0010(1)(b)(E)(iv)** *For pipelines, the operating pressure and delivery capacity in thousand cubic feet per day and the diameter and location, above or below ground, of each pipeline.*

**Response:** The Facility does not have a pipeline. Therefore, this rule is not applicable.

**OAR 345-021-0010(1)(b)(E)(v)** *For transmission lines, the rated voltage, load carrying capacity, and type of current and a description of transmission line structures and their dimensions.*

**Response:** The proposed overhead transmission line will have a voltage rating of 115 kV and will be able to carry the full 75-MW output of the Facility. The transmission line will be supported by approximately 27 steel monopoles. The monopoles will range from 70 to 135 feet in height and will be spaced approximately 400 feet apart, depending on site conditions.

#### **B.5 CONSTRUCTION SCHEDULE**

**OAR 345-021-0010(1)(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, that the applicant anticipates or has performed as of the time of submitting the application.*

The Applicant proposes to begin construction by October 1, 2018, and complete construction by December 31, 2019. These 15 months constitute the entire construction period as construction is defined by OAR 345-001-0010, but site work will not occur during the entire time. Heavy construction vehicles will be onsite starting in January to largely complete work within 9 months. Peak construction activity, during which most component delivery and installation will occur, will likely begin in March and end within 4 to 6 months.

The following activities have been completed, or will be completed, before the Council issues a site certificate:

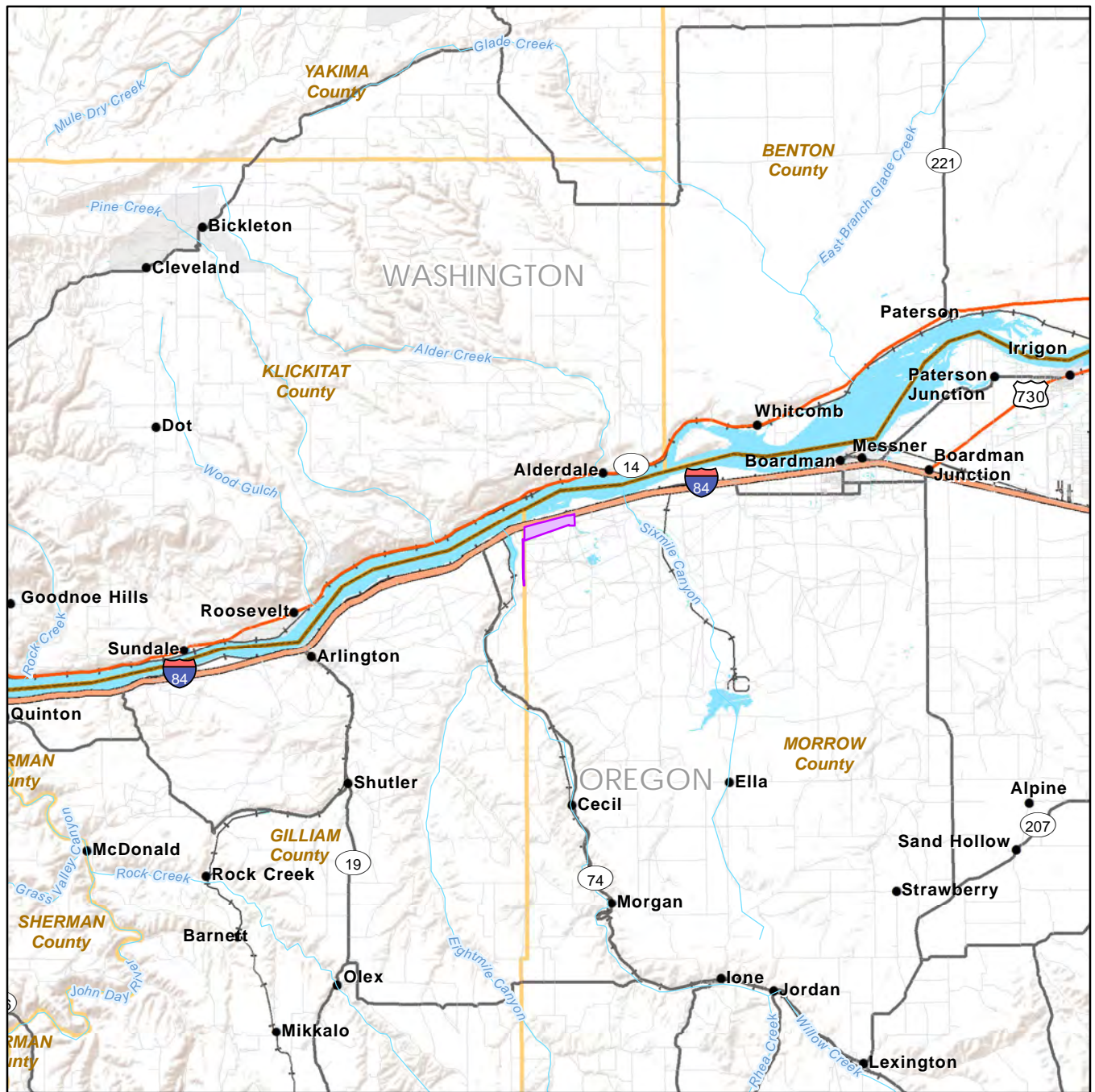
- Geotechnical survey
- Cultural survey
- American Land Title Association survey
- Preliminary design
- Wetland survey
- Solar monitoring station installation
- Habitat characterization
- Rare plant survey
- Avian survey
- Raptor nest survey
- Washington ground squirrel survey
- Interconnection studies
- Land lease

The estimated cost of this work is under \$250,000, in accordance with ORS 469.300(4) and OAR 345-001-0010(11).













Figures

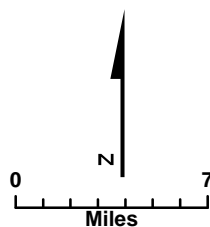




## LEGEND

-  Facility Site Boundary
-  City
-  Major Highway
-  Highway
-  Major Road
-  Local Road
-  Creek
-  Water
-  County Boundary
-  State Boundary

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VICINITY MAP

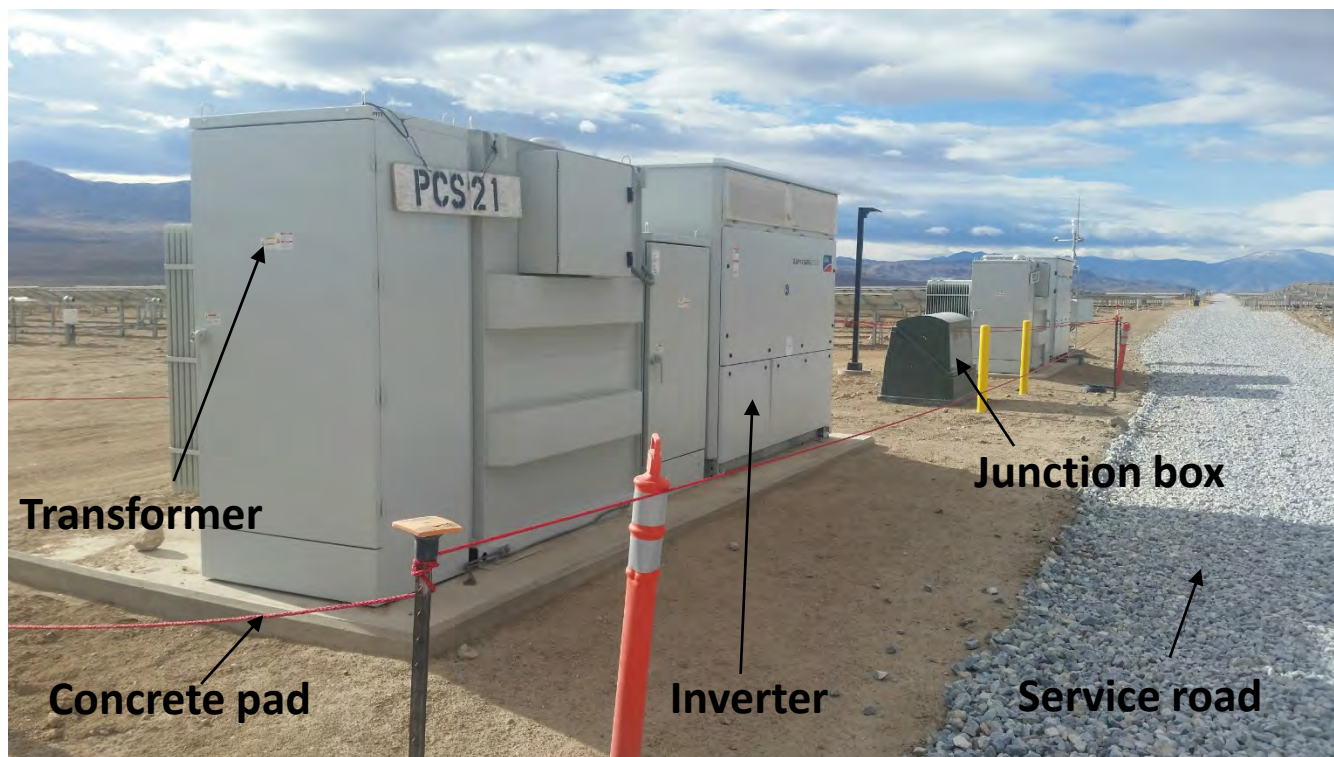
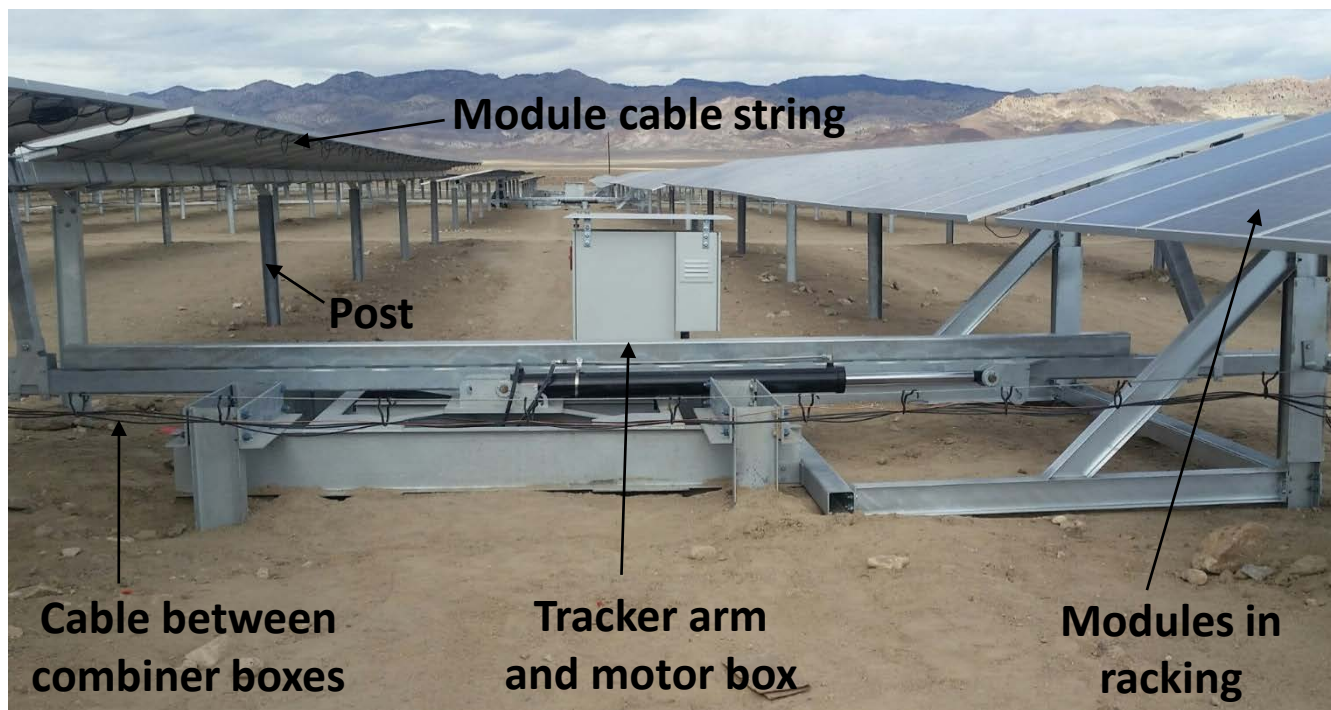


**FIGURE B-1  
Vicinity Map**

Boardman Solar Energy Facility  
Application for Site Certificate  
Morrow and Gilliam Counties, Oregon

**Invenenergy**  
**ch2m**





**Figure B-2.**  
**Example of Module Block Components**

Boardman Solar Energy Facility, Morrow and Gilliam Counties, Oregon



**EXHIBIT C**  
**FACILITY LOCATION**  
OAR 345-021-0010(1)(c)

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

**OAR 345-021-0010(1)(c)(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.*

**Response:** Figure C-1 (Facility Layout) shows the proposed location of the Boardman Solar Energy Facility (Facility), related or supporting facilities, and temporary disturbance areas using a scale of 1 inch = 2,000 feet. Figure C-2 (Facility Layout Details, consisting of five sheets) provides additional detail. Figure C-2A shows the vicinity and provides the abbreviations that are used in Figures C-2B through C-2E. Figure C-2B shows the proposed facilities in Morrow County. Figure C-2C shows a close-up of one solar module block. Figure C-2D shows the site access. Figure C-2E shows the transmission line corridor.

**C.2 LOCATION AND DISTURBANCE AREAS**

**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.*

**Response:** The Facility will be located south of Interstate 84 approximately twelve miles east of Arlington and twelve miles west of Boardman.

All Facility components with the exception of the proposed transmission line will be located in Morrow County, Oregon, in the following sections:

- Township 4 North, Range 23E, Sections 20, 21, 28, 29, 30, 31

The proposed transmission line will be located in Gilliam County, Oregon, in the following sections:

- Township 4 North, Range 22E, Sections 25, 36
- Township 3 North, Range 22E, Sections 1, 12

The proposed transmission line will run parallel to and immediately west of an existing Portland General Electric transmission line.

The Facility site boundary covers approximately 798 acres and encompasses the solar module blocks, collection system, generator step-up transformer and substation, 115-kilovolt transmission line, point of interconnection line tap, control house, operations and maintenance building, a main access road, internal service roads and gates, temporary staging areas, and a temporary concrete batch plant. For the purpose of analyzing potential impacts to resources, Boardman Solar Energy LLC (Applicant) has defined analysis areas based on this site boundary, consistent with OAR 345-001-0010(2) and (59). The analysis areas are identified in each relevant Exhibit (for example, in Exhibit J, Wetlands, and Exhibit P, Fish and Wildlife Habitats and Species). The acres potentially impacted within the site boundary during construction and operation are reflected in Table C-1. The Applicant requests flexibility in the final orientation of



Facility components within the site boundary during final design before the start of construction provided the permanently and temporarily disturbed acres outlined below are not exceeded.

Table C-1 shows temporary and permanent disturbance numbers by county. The permanently disturbed acres represent impacts during construction that will remain during operations, and the temporarily disturbed acres represent additional impacts during construction. Temporarily disturbed acres will be restored following construction, and permanently disturbed acres will be restored following retirement.

**Table C-1. Temporary and Permanent Disturbance by County**

County	Disturbance Type	Permanently Disturbed (acres)	Temporarily Disturbed (acres)	Total Disturbed (acres)
Morrow County	Solar module blocks <sup>a</sup>	453.00	5.93	458.93
	Interior service roads	28.22	0	28.22
	Perimeter fence <sup>b</sup>	0.67	3.41	4.08
	O&M building and parking	0.23	0	0.23
	Substation (with control house) and staging area	0.57	0.23	0.80
	Main staging area and batch plant	0	10.00	10.00
	Access road <sup>c</sup>	0.68	0.21	0.89
Gilliam County	Transmission line road	2.40	0	2.40
	Transmission line <sup>d</sup>	0.02	38.98	39.00
	POI line tap and staging area	0.23	0.23	0.46
<b>Total</b>		<b>486.03</b>	<b>58.99</b>	<b>545.02</b>

<sup>a</sup> Solar module blocks assume the entire block will be cleared for construction and therefore permanently disturbed, even though the ground-coverage ratio is only 33 percent. An additional approximate 6 acres are assumed to be temporarily disturbed for grading during construction.

<sup>b</sup> Perimeter fence assumes approximately 1.4 acres for temporarily disturbed impacts for grading plus about 2 acres (29,275.5 feet by 3 feet) for other construction-related impacts during fence installation.

<sup>c</sup> Access road impacts include the entire 1,500-foot length, even though 600 feet of this is an existing 8-foot-wide road that will be widened and improved. Temporary disturbance is for grading the ascent.

<sup>d</sup> Transmission line right-of-way assumes 27 3-foot-radius poles for permanent disturbance and the entire 150-foot-wide construction right-of-way for temporary disturbance.

### C.3 RELATION TO OTHER ENERGY GENERATION FACILITIES

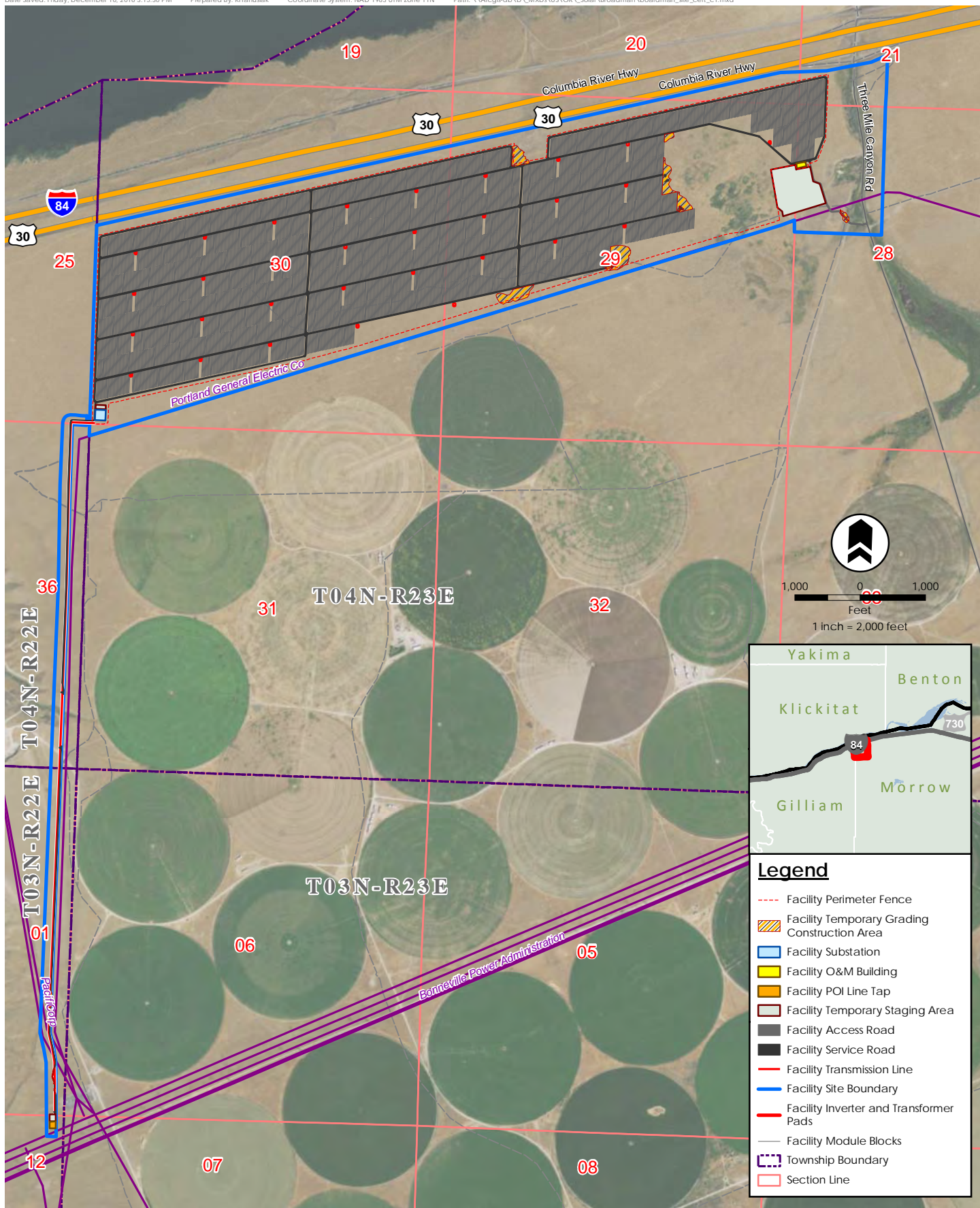
**OAR 345-021-0010(1)(c)(C)** *For energy generation facilities, a map showing the approximate locations of any other energy generation facilities that are known to the applicant to be permitted at the state or local level within the study area as defined in OAR 345-001-0010 for impacts to local services.*

**Response:** Figure C-3 shows the proposed location of the Facility in relation to other energy generation facilities within 10 miles.



Figures





**Figure C-1. Facility Layout**

Boardman Solar Energy Facility, Morrow and Gilliam Counties, Oregon

December 19, 2016

Rev. 00

**Invenergy**



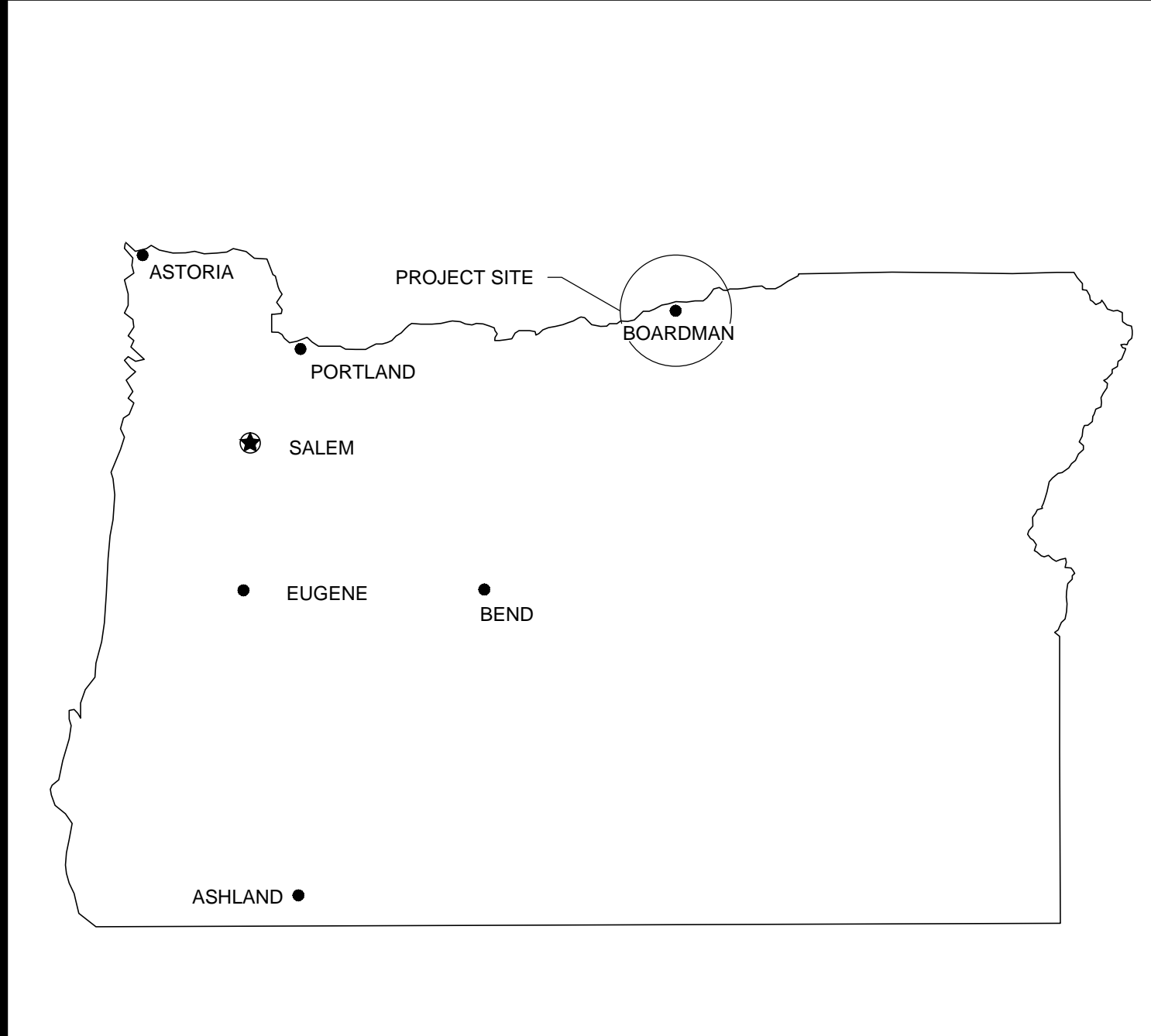


PRELIMINARY DESIGN PLANS

# BOARDMAN SOLAR ENERGY FACILITY

SECTIONS 1, 12, 20, 21, 25, 28, 29, 30, 31, AND 36  
TOWNSHIP 4 NORTH, RANGE 23 EAST MORROW AND GILLIAM COUNTIES, OR

PROJECT LOCATION:



PROJECT SCOPE:

SOLAR ELECTRIC SYSTEM

THE PROJECT ENTAILS THE INSTALLATION OF A SOLAR PHOTOVOLTAIC SYSTEM NEAR BOARDMAN, MORROW COUNTY, OREGON.


THE INSTALLATION CONSISTS OF NEW GROUND MOUNTED STRUCTURES WITH MOUNTED PHOTOVOLTAICS.

STANDARDS AND CONDITIONS:


THESE PRELIMINARY GRADING AND DRAINAGE PLANS SHALL CONFORM TO THE FOLLOWING CODE VERSIONS:

- 2012 INTERNATIONAL BUILDING CODE
- ASCE 7-10: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- 2014 OREGON FIRE CODE
- STATE OF OREGON DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD PLANS AND SPECIFICATIONS, LATEST EDITION

VICINITY MAP:



AERIAL MAP:



SITE INFORMATION:

ZONING:

EFFECTIVE FARM USE (EFU)

ACREAGE:

SITE BOUNDARY AREA: 1.78 ACROSS

ABBREVIATIONS:

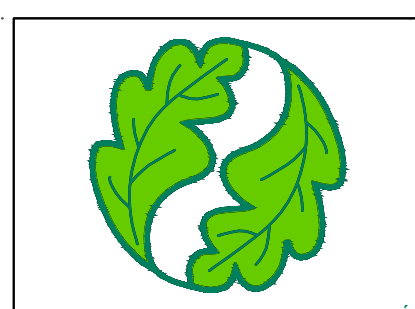
AB	AGGREGATE BASE	ID	IDENTIFICATION
AC	ASPHALT CONCRETE	IRRIG	IRRIGATION
APPROX	APPROXIMATE	JP	JOINT POLE
AVE	AVERAGE	LP	LIGHT POLE
BSL	BUILDING SETBACK LINE	MAX	MAXIMUM
BLDG	BUILDING	MB	MAILBOX
BMP	BEST MANAGEMENT PRACTICE	MH	MAN HOLE
C/L	CENTERLINE	MIN	MINIMUM
CB	CATCH BASIN	(N)	NEW
CONC	CONCRETE	O/H	OVERHEAD LINE
CP	CONTROL POINT	OAE	OR APPROVED EQUIVALENT
DI	DRAIN INLET	ODEQ	OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
EFU	EFFECTIVE FARM USE	ODOT	OREGON DEPARTMENT OF TRANSPORTATION
EG	EXISTING GRADE	P	PAVEMENT
EP	EDGE OF PAVEMENT	P/L	PROPERTY LINE
ELEC	ELECTRICAL	PP	POWER POLE
ESCP	EROSION AND SEDIMENTATION CONTROL PLAN	R	RADIUS
ETW	EDGE OF TRAVELED WAY	RR	RAIL ROAD TIES
(E)	EXISTING	R/W	RIGHT-OF-WAY
FD	FOUND	SCS	SOIL CONSERVATION SERVICE
FG	FINISHED GRADE	SD	STORM DRAIN
FH	FIRE HYDRANT	SF	SILT FENCE
FL	FLOW LINE	SNF	INDICATES SEARCHED FOUND NOTHING
FR	FIBER ROLL	SP	SERVICE POLE
FS	FINISHED SURFACE	SPT	SPOT ELEVATION
GB	GRADE BREAK	SS	SANITARY SEWER
GPR	GROUND PENETRATING RADAR	TC	TOP OF CURB
GV	GAS VALVE	TYP	TYPICAL
HP	HOSE PIPE	WV	WATER VALVE
HT	HEIGHT		

DRAWING INDEX:

DWG NO.	TITLE	REV NO.
C-001	TITLE SHEET	
C-110	PRELIMINARY SITE PLAN - OVERALL	
C-401	SECTIONS & DETAILS	
C-402	SITE ACCESS PLAN & DETAILS	
C-403	TRANSMISSION LINE CORRIDOR	

Figure C-2A.  
Facility Layout Details

Boardman Solar Energy Facility Application  
for Site Certificate  
Morrow and Gilliam Counties, Oregon



BLUE OAK ENERGY  
1560 Drew Avenue  
Davis, CA 95618  
www.blueoakenergy.com  
530.747.2026

CLIENT:

**Invenergy**  
ONE SOUTH WACKER DRIVE SUITE 1900  
CHICAGO, IL 60606

PRELIMINARY  
NOT FOR CONSTRUCTION

DRAWN	LIA	CHKD	SPL	P.L.	PROJECT #	INVO.#	FILE NAME	DATE	BY	PRINTED	DESCRIPTION

PROJECT:  
BOARDMAN SOLAR ENERGY FACILITY  
SECTION 20, 21, 25, 28, 29, 30, 31, AND 36 OF TOWNSHIP 4 NORTH, RANGE 23 EAST, MORROW COUNTY, OREGON

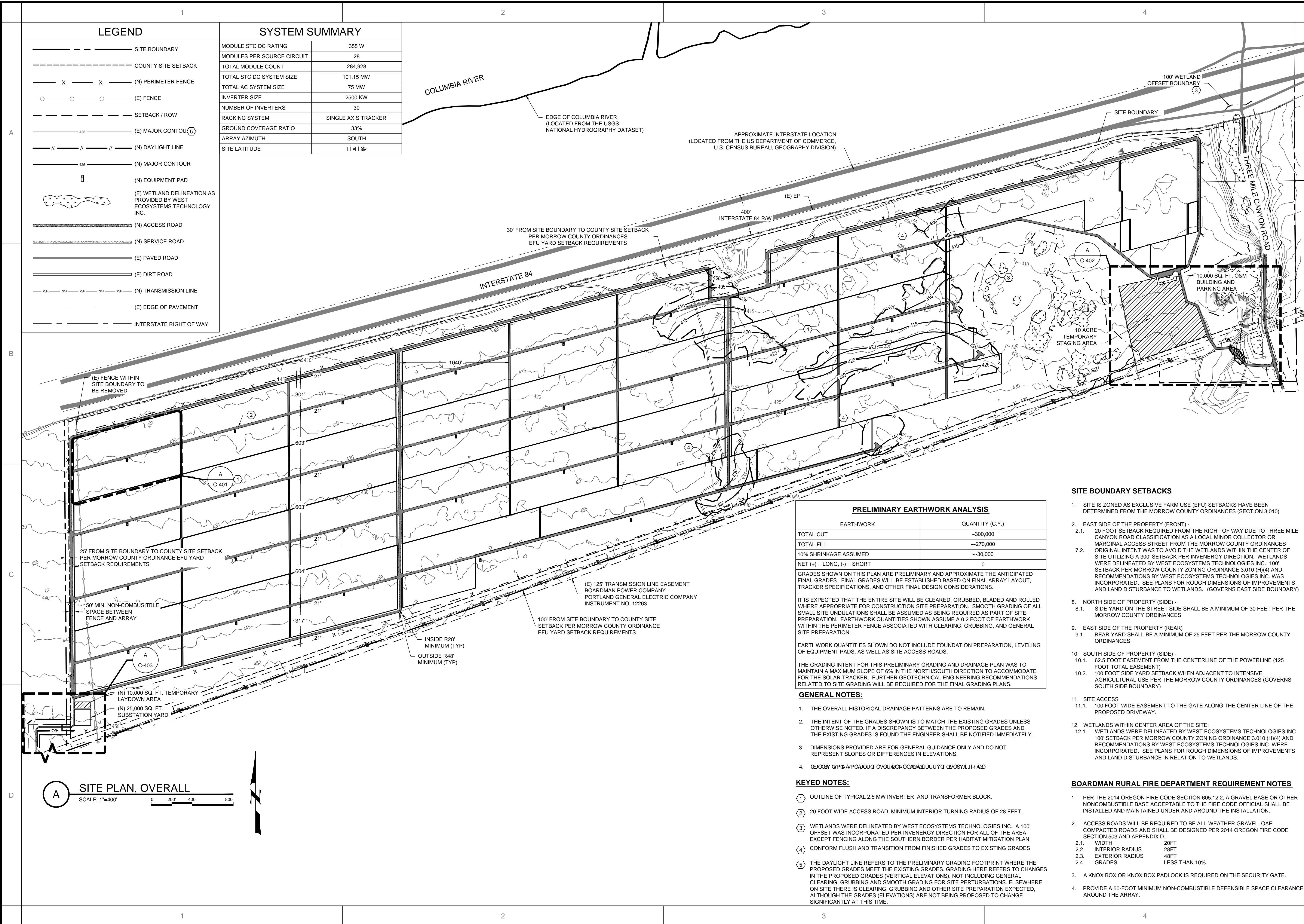
DRAWING TITLE:  
TITLE SHEET

DRAWING NO.  
C-001

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C:\Users\j\Documents\Blue Oak Energy\Projects\Boardman Solar Energy Facility\Drawings\C-110.dwg



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1560 Drew Avenue  
Davis, CA 95618  
www.blueoakenergy.com  
530.747.2026

CLIENT:

**Invenergy**  
ONE SOUTH WACKER DRIVE SUITE 1900  
CHICAGO, IL 60606

**Figure C-2B**

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

INTERNAL USE ONLY		DATE		BY		PRINTED		DESCRIPTION	
DRAWN	LIA	CHKD	SPL	P.L.	PROJECT #	INVO. #	FILE NAME	DATE	DESCRIPTION
							C:\110.dwg	12/08/2016	

PROJECT: **BOARDMAN SOLAR ENERGY FACILITY**  
SECTION 03.21.20.20 OF TOWNSHIP 4 NORTH, RANGE 23 EAST, MORROW COUNTY, OREGON

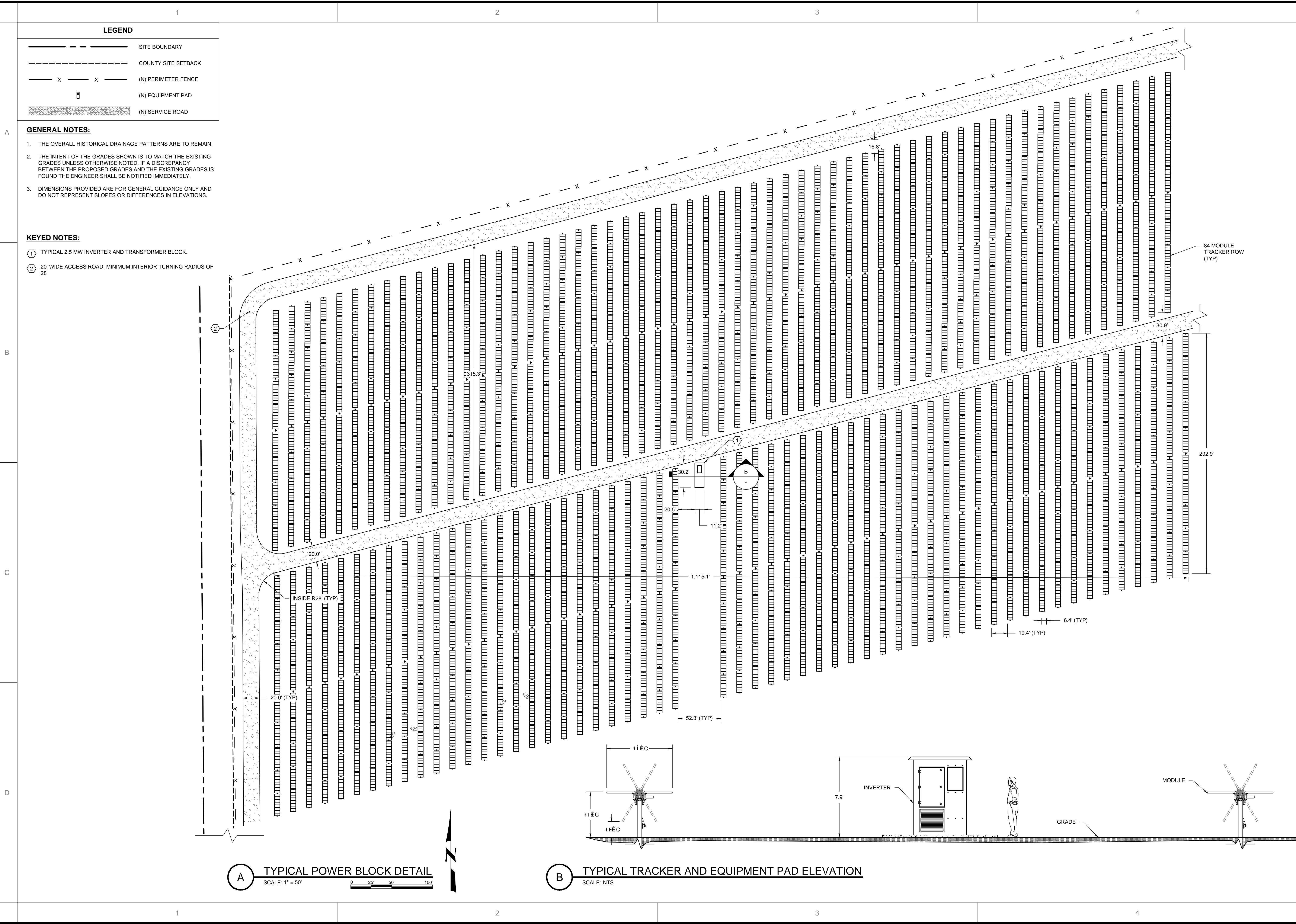
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03/20/2016 10:00:00 AM 10/10/2016 10:00:00 AM 10/10/2016 10:00:00 AM



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1560 Drew Avenue  
Davis, CA 95618  
www.blueoakenergy.com  
530.747.2026

CLIENT:

**Invenergy**  
ONE SOUTH WACKER DRIVE SUITE 1900  
CHICAGO, IL 60606

Figure C-2C

INTERNAL USE ONLY		DATE		BY		PRINTED		DESCRIPTION	
DRAWN	LJA								
CHKD	SPL								
P.M.	SPL								
PROJECT #		INVO #		FILE NAME					
		0400.dwg							

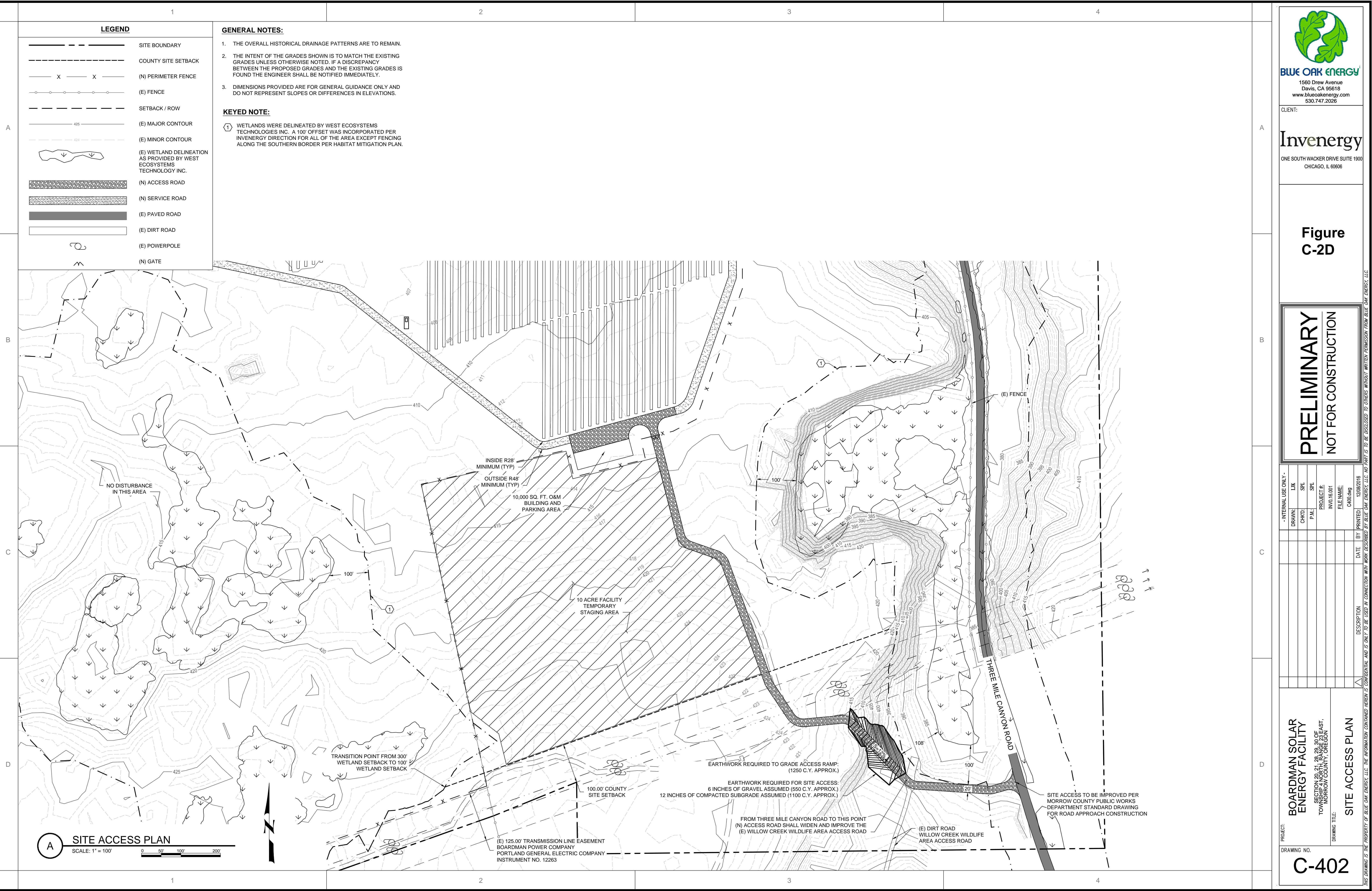
PROJECT: BOARDMAN SOLAR ENERGY FACILITY  
SECTION 20, 21, 22, 23 OF TOWNSHIP 4 NORTH, RANGE 23 EAST, MORROW COUNTY, OREGON


DRAWING NO. C-401

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01/20/2016 10:00:00 AM 1/16/2016 10:00:00 AM 1/16/2016 10:00:00 AM





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1560 Drew Avenue  
Davis, CA 95618  
www.blueoakenergy.com  
530.747.2026

CLIENT:

**Invenergy**  
ONE SOUTH WACKER DRIVE SUITE 1900  
CHICAGO, IL 60606

**Figure C-2D**

INTERNAL USE ONLY		DATE		BY		PRINTED		DESCRIPTION	
DRAWN:	LJA								
CHKD:	SPL								
P.L.:	SPL								
PROJECT #:	INV016.001								
FILE NAME:	C400.dwg								

PROJECT: BOARDMAN SOLAR ENERGY FACILITY  
SECTION 20, 21, 22, 23 OF TOWNSHIP 4 NORTH, RANGE 23 EAST, MORROW COUNTY, OREGON

DRAWING TITLE: SITE ACCESS PLAN

DRAWING NO. C-402

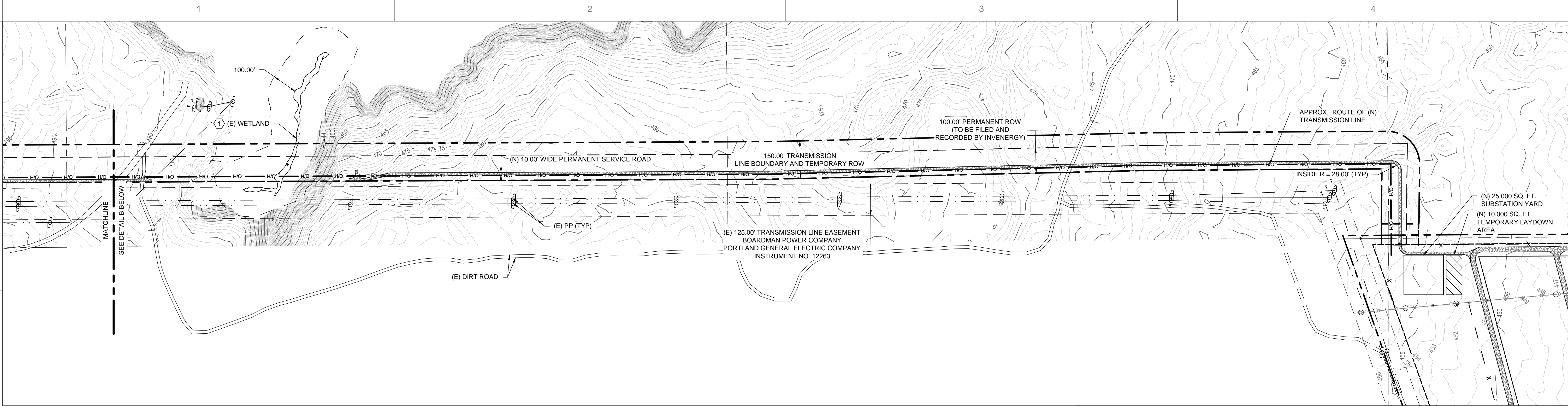
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**Figure  
C-2E**

**PRELIMINARY  
NOT FOR CONSTRUCTION**


INTERNAL USE ONLY -											
DRAWN:	LJK										
CHKD:	SPL										
P.M.	SPL										
PROJECT #											
INVO.16.001											
FILE NAME											
C403.dwg											



**TRANSMISSION LINE PLAN 1 OF 2**

SCALE: 1"=200'

0 100' 200' 400'



**KEYED NOTES**

1 POWER POLE PLACEMENT IN THIS LOCATION TO AVOID (E) WETLANDS.

**GENERAL NOTES**

1. THE OVERALL HISTORICAL DRAINAGE PATTERNS ARE TO REMAIN.

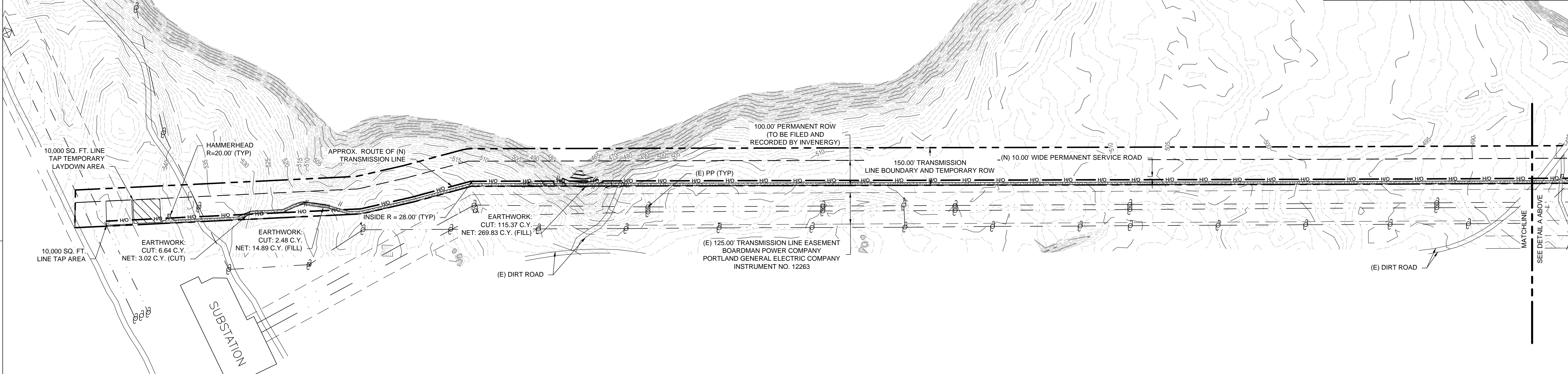
2. THE INTENT OF THE GRADES SHOWN IS TO MATCH THE EXISTING GRADES UNLESS OTHERWISE NOTED. IF A DISCREPANCY BETWEEN THE PROPOSED GRADES AND THE EXISTING GRADES IS FOUND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

3. THE ENTIRE SITE SHALL BE CLEARED AND GRUBBED FOR CONSTRUCTION SITE PREPARATION.

4. DIMENSIONS PROVIDED ARE FOR GENERAL GUIDANCE ONLY AND DO NOT REPRESENT SLOPES OR DIFFERENCES IN ELEVATIONS.

**LEGEND**


	SITE BOUNDARY		(E) PP
	COUNTY SITE SETBACK		(E) TRANSMISSION LINE
	(E) FENCE		(N) TRANSMISSION LINE
	SETBACK / ROW		(E) TRANSMISSION LINE EASEMENT
	(N) PERIMETER FENCE		(E) DIRT ROAD
	(E) MAJOR CONTOUR		(N) SERVICE ROAD
	(E) MINOR CONTOUR		(N) GATE
			(E) WETLAND DELINEATION AS PROVIDED BY WEST ECOSYSTEMS TECHNOLOGY INC.



**TRANSMISSION LINE PLAN 2 OF 2**

SCALE: 1"=200'

0 100' 200' 400'

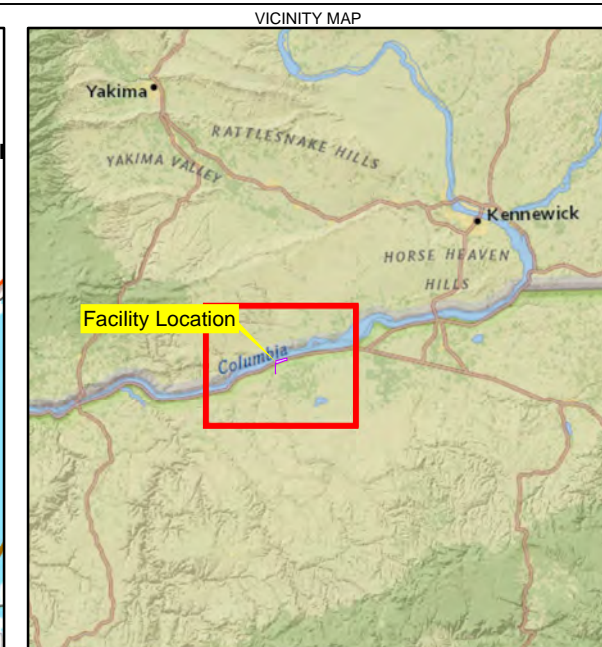
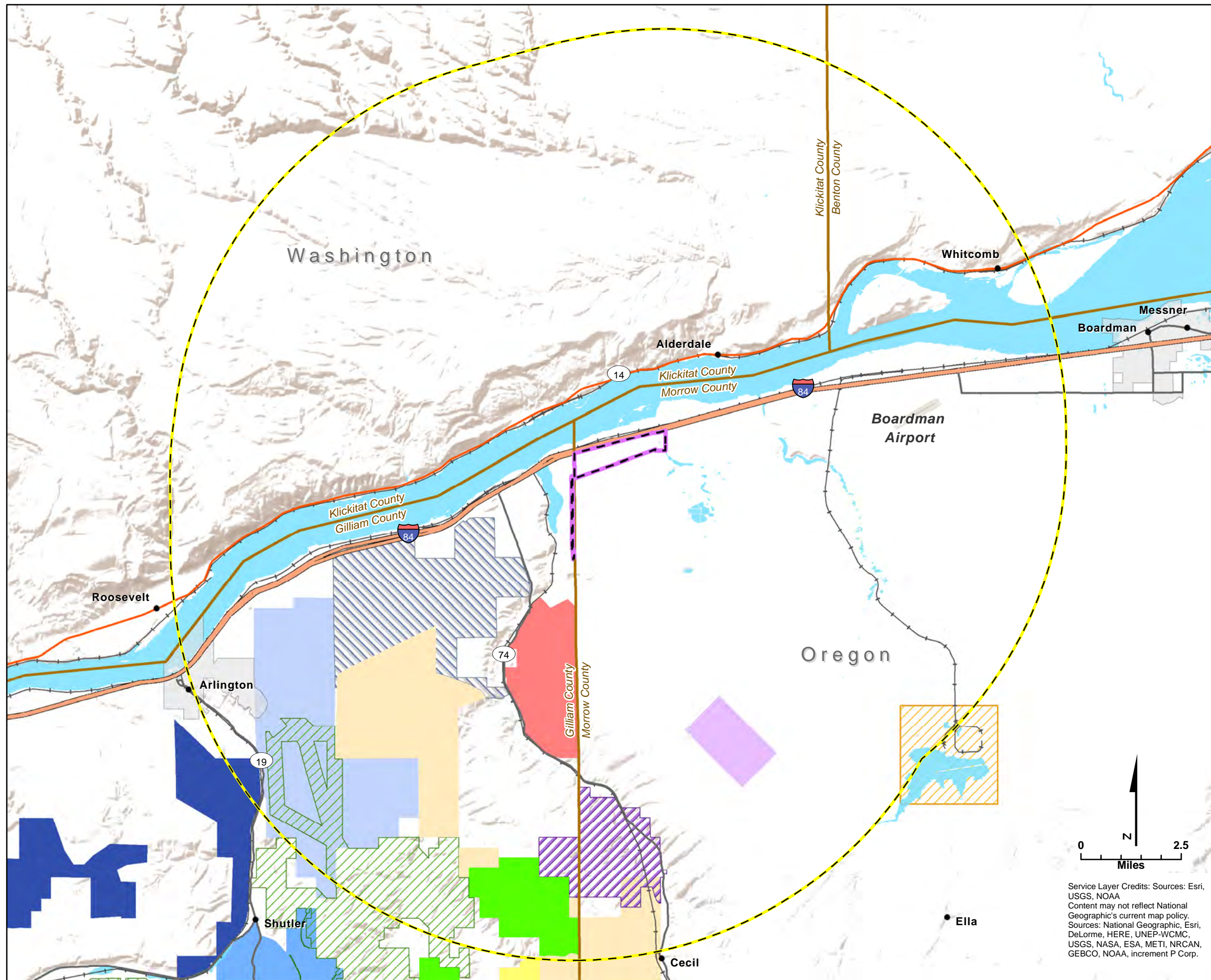


**PROJECT:** BOARDMAN SOLAR ENERGY FACILITY  
**SECTION 03.21.20 OF TOWNSHIP NORTH RANGE 20 EAST, MORROW COUNTY, OREGON**

**DRAWING TITLE:** TRANSMISSION LINE CORRIDOR

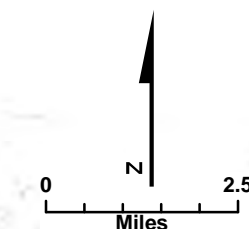
**DRAWING NO.:** C-403





- LEGEND**
- Facility Site Boundary
  - 10 miles from Facility Site Boundary
  - Water
  - City Limit
  - State Boundary
  - County Boundary
  - Boardman Coal Plant and Carty Generating Station
- Wind Energy Generation Facilities**
- Permitted**
- Horn Butte
  - Montague
  - Saddle Butte
  - Threemile Canyon
- Permitted and Operational**
- Leaning Juniper IIA
  - Leaning Juniper IIB
  - Pebble Springs
  - Shepherds Flat (Central)
  - Shepherds Flat (North)
  - Shepherds Flat (South)
  - Willow Creek

**Note:**  
The site boundaries shown are based on the best publicly available maps and data.



Service Layer Credits: Sources: Esri, USGS, NOAA  
Content may not reflect National Geographic's current map policy.  
Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

**FIGURE C-3**  
**Other Permitted Energy Generation Facilities**  
*Boardman Solar Energy Facility*  
*Application for Site Certificate*  
*Morrow and Gilliam Counties, Oregon*



**EXHIBIT D**  
**APPLICANT’S ORGANIZATIONAL, MANAGERIAL, AND TECHNICAL EXPERTISE**  
OAR 345-021-0010(1)(d)

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D.2 QUALIFICATIONS OF APPLICANT’S PERSONNEL .....	D-2
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D.4 APPLICANT’S PAST PERFORMANCE .....	D-3
D.5 APPLICANT WITH NO PREVIOUS EXPERIENCE .....	D-3
D.6 ISO CERTIFIED PROGRAM .....	D-3
D.7 MITIGATION .....	D-4

**TABLE**

D-1 Summary of Invenergy Solar Projects.....	D-1
--	-----



**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:*

#### **D.1 APPLICANT'S PREVIOUS EXPERIENCE**

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

**Response:** Boardman Solar Energy LLC (Applicant) does not have any previous experience in constructing and operating similar facilities, but it is a wholly owned subsidiary of Invenergy Solar Development LLC. Invenergy Solar Development LLC is a wholly owned subsidiary of Invenergy LLC (Invenergy), an independently owned company that has experience with developing, constructing, owning, and operating power generation and energy storage facilities across North America and Europe.

Invenergy's expertise comprises a range of fully integrated in-house capabilities, including project development, permitting, transmission, interconnection, energy marketing, finance, engineering, project construction, and operations and maintenance.

To date, Invenergy has developed more than 13,719 megawatts (MW) of utility-scale wind, solar, natural gas, and energy storage facilities in the United States, Canada, and Europe. This includes more than 8,872 MW of projects in operation, with more than 4,847 MW in construction or advanced development.

Since 2012, Invenergy has been expanding its portfolio of diverse energy experience and innovation to include solar power generation. To date, Invenergy has developed over 119 MW of solar projects. Invenergy's first operational solar project was the 20-MW Grand Ridge solar facility in Illinois. Invenergy also completed and is operating two 10-MW solar projects in Ontario, a 3.0-MW solar project in Georgia, a 6.3-MW solar project in California, and a 19.8-MW solar project in North Carolina. Invenergy is completing construction on the 50-MW Luning Solar Energy Project in Nevada and recently received approval from Long Island Power Authority for a Power Purchase Agreement pertaining to the 25-MW Shoreham solar facility. Table D-1 summarizes Invenergy's solar projects.

**Table D-1. Summary of Invenergy Solar Projects**

<b>Project</b>	<b>Location</b>	<b>Commercial Operation Date</b>	<b>Size (MW)</b>
Grand Ridge Solar	Illinois	2012	20.0
Sandringham	Ontario	2013	10.0
Woodville	Ontario	2013	10.0
Lakeland	Georgia	2014	3.0
Desert Green	California	2014	6.3
Morgans Corner	North Carolina	2015	19.8
Luning	Nevada	2017	50.0
<b>Total:</b>			<b>119.1</b>

Invenergy has also developed 68 wind projects across the United States, Canada, and Europe, totaling more than 7,654 MW globally. Invenergy's portfolio consists of more than 5,576 MW of



projects in operation, including the Willow Creek Wind Project in Gilliam and Morrow counties, and more than 2,078 MW in construction or advanced development.

## D.2 QUALIFICATIONS OF APPLICANT'S PERSONNEL

*(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.*

**Response:** The Applicant's senior executives, each with more than 25 years of experience in the energy generation industry, have worked together for over two decades.

- **Michael Polsky**, Invenergy President and Chief Executive Officer: With more than 30 years of experience in the energy industry, Michael Polsky is widely recognized as a pioneer and industry leader in the cogeneration and independent power industry in North America. Polsky founded Invenergy 15 years ago. In 1991, Polsky founded SkyGen Energy LLC (SkyGen Energy)—a developer, owner, and operator of natural gas-fueled generating plants—which was purchased by Calpine Corporation (Calpine) in 2001. Before forming SkyGen, Polsky co-founded and was President of Indeck Energy Services Inc. (Indeck Energy Services). Polsky holds a Master of Science in Mechanical Engineering degree from Kiev Polytechnic Institute and a Master of Business Administration (MBA) degree from the University of Chicago. In 2002, Polsky endowed a Center for Entrepreneurship at the University of Chicago Graduate School of Business, which is named after him.
- **Jim Murphy**, Invenergy Executive Vice President, Chief Financial Officer, Chief Operating Officer—Operating Business Group: Jim Murphy has more than 30 years of financial and management experience in the energy industry. He has managed the negotiation and execution of more than \$15 billion in private equity and debt investments, power plant acquisitions and sales, and project debt and equity financing. He is a founding member of Invenergy and has been responsible for the general management of the company, corporate and project finance, risk management, and asset optimization. Murphy is a member of the Board of Directors of the American Wind Energy Association. Prior to the formation of Invenergy, he was Chief Financial Officer at SkyGen Energy, a Vice President with financial advisory and investment firm The Deerpath Group, Inc., and a manager with Arthur Andersen. He earned a Bachelor of Science (BS) degree from the University of Illinois, magna cum laude, and is a certified public accountant.
- **Jim Shield**, Invenergy Executive Vice President and Chief Development Officer: With more than 25 years of experience in all aspects of the power generation industry, Jim Shield is responsible for the development, marketing, engineering, and construction of Invenergy's wind, solar, and thermal energy projects worldwide. During his career, Shield has developed over 10,000 MW of power projects and negotiated over 3,000 MW of long-term energy off-take agreements. Before joining Invenergy, Shield held various positions, including Senior Vice President-East Region with Calpine. Prior to that role, he was a key contributor in building SkyGen Energy from a startup company, and a project manager at Indeck Energy Services. Shield has a BS in mechanical engineering from the University of Michigan and an MBA from DePaul University. He is a registered professional engineer in the State of Illinois.

The development, permitting, transmission, interconnection, energy marketing, finance, engineering, project construction, and operations and maintenance staff for this Facility have worked on many of the projects described in Section D.1. In particular, the following people worked together on the 50-MW Luning Solar Energy Project in Nevada that is scheduled to be online in 2017, and will be the key personnel managing development, construction, and operations of this Facility:



- Development Vice President: Michael Baird
- Senior Development Manager: Laura Miner
- Permitting Director: Erin Lieberman
- Permitting Manager: Erin Delawalla
- Transmission and Markets Senior Vice President: Kris Zadlo
- Finance Manager: Marc Palmer
- Project Engineer: Paul Thienpont
- Construction Vice President: Art Fletcher
- Construction Director: Utopia Hill
- Asset Manager Senior Vice President: Alex George
- Asset Manager: Brett Scheland

### D.3 QUALIFICATIONS OF KNOWN CONTRACTORS

*(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.*

**Response:** The Applicant has not yet selected an architect, engineer, major component vendor, or prime contractor. However, based on Invenergy's vast experience developing more than 13,719 MW of utility-scale wind, solar, natural gas and energy storage facilities, Invenergy will select qualified partners with experience in the solar industry. Invenergy has extensive relationships with several civil and electrical engineers, solar module and racking manufacturers, and construction contractors.

### D.4 APPLICANT'S PAST PERFORMANCE

*(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.*

**Response:** The Applicant and its parent company have not received any complaints or citations in connection with the development, construction, or operation of any of its solar projects.

### D.5 APPLICANT WITH NO PREVIOUS EXPERIENCE

*(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.*

**Response:** The Applicant does not have previous experience but as stated in Section D.1, it has experience through its parent company and its affiliated companies. Therefore, this rule is not applicable.

### D.6 ISO CERTIFIED PROGRAM

*(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.*

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



## D.7 MITIGATION

*(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.*

**Response:** The Applicant relies on mitigation to demonstrate compliance with Division 22 standards relating to Oregon Department of Fish and Wildlife (ODFW) habitat goals and standards as described in Exhibit P.

The Applicant does not have previous experience with habitat mitigation projects but its parent company and affiliated companies do have experience, and the same personnel listed in Section D.2 will be responsible for managing this habitat mitigation project. Two examples of Invenergy's experience are as follows:

- **Habitat Mitigation Plan for the Willow Creek Wind Project:** Invenergy and consultant Northwest Wildlife Consultants, in consultation with ODFW, prepared a habitat mitigation plan for the Willow Creek Wind Project (Willow Creek Wind LLC) in 2008. Northwest Wildlife Consultants has been involved in many permitted natural gas and wind energy facilities in the Columbia Basin of Oregon since 1992. They have designed and prepared habitat mitigation plans for numerous EFSC and County-permitted energy projects in the Pacific Northwest and have been monitoring EFSC-permitted wind energy habitat mitigation areas in Umatilla County since 2001, including a habitat mitigation area in Walla Walla County, Washington, they have monitored since 1999.

As part of the Willow Creek Wind Project habitat mitigation plan, Invenergy entered into a 30-year conservation easement for the purpose of native habitat conservation and protection of regionally important biological diversity. This easement is located in Gilliam County, Oregon, and is adjacent to other conservation easements to increase benefits to wildlife in a larger block of important habitat. This block is called the Olex Conservation Opportunity Area, and Northwest Wildlife Consultants staff Bob Gritski and Karen Kronner manage it on behalf of easement holders.

- **Habitat Mitigation Plan for the Luning Solar Energy Project:** Invenergy, in consultation with the Bureau of Land Management, Mineral County Nevada, Friends of Nevada Wilderness, The Wilderness Society, and Mason Valley Conservation District, prepared a habitat mitigation plan for the Luning Solar Energy Project (Luning Energy LLC) in 2016. Through the plan, Invenergy provided funding for restoration activities to address noxious and invasive weeds on public land near the project. The Mason Valley Conservation District, which already manages noxious and invasive weeds in the area, is in charge of managing the plan.



**EXHIBIT E**  
**PERMITS REQUIRED FOR CONSTRUCTION AND OPERATION**  
OAR 345-021-0010(1)(e)

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E-4 Local Permits .....	E-5

**ATTACHMENTS**

E-1 Federal Aviation Administration Determination of No Hazard to Air Navigation	
E-2 Department of Defense Siting Clearinghouse Communication	
E-3 Basic Air Contaminant Discharge Permit Application and Permit	



## E.1 OVERVIEW

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

**Response:** This Exhibit identifies and describes the permits required for the construction and operation of the proposed Boardman Solar Energy Facility (Facility).

## E.2 IDENTIFICATION AND DESCRIPTION OF REQUIRED PERMITS

**OAR 345-021-0010(1)(e)(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.*

**OAR 345-021-0010(1)(e)(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.*

### E.2.1 Federal Permits

**Response:** Table E-1 identifies and describes the federal permits required for construction and operation of the Facility.

As stated in Table E-1, the Federal Aviation Administration (FAA) issued a No Hazard Determination for the Facility on September 13, 2016 (see Attachment E-1). In addition, as requested by the FAA, Boardman Solar Energy LLC (Applicant) contacted the Executive Director of the Department of Defense (DoD) Siting Clearinghouse to ensure the Facility will not result in an adverse impact on military operations and readiness. Attachment E-2 documents confirmation from the DoD Clearinghouse that no additional mitigation is required as the Applicant is in contact with the NW Training Range Complex.

Table E-1. Federal Permits Required for Construction and Operation

Permit Name	Agency Name and Address	Authority	Description
<b>Record of Decision/ National Environmental Policy Act Compliance</b>	Bonneville Power Administration  Attention: Michael O'Connell, Environmental Protection Specialist 905 NE 11th Avenue Portland, OR 97232 mjoconnell@bpa.gov (503) 230-7692	National Environmental Policy Act (NEPA), Section 102 (42 <i>United States Code</i> [U.S.C.] Section 4332); 40 <i>Code of Federal Regulations</i> [CFR] Section 1500	The Record of Decision will address Bonneville Power Administration's (BPA's) decision to interconnect the Facility to BPA's transmission network via a line tap along the Boardman-Alkali 115-kilovolt transmission line. Interconnection to BPA's transmission system is subject to review under NEPA and as such, BPA will lead this process as a separate action from the solar facility site certificate process. This federal process is not within the jurisdiction of the Oregon Energy Facility Siting Council (EFSC) and therefore should not be included in the site certificate.
<b>Notice of Proposed Construction or Alteration (Form 7460-1)</b>	Federal Aviation Administration  Attention: Dan Shoemaker Airspace Specialist Seattle Obstruction Evaluation Group	Federal Aviation Act of 1958 (14 U.S.C. Section 44718); 14 CFR Section 77	Applicants proposing construction or alterations that may affect navigable airspace must file a Notice of Proposed Construction or Alteration with the FAA. The FAA issued a Determination of No Hazard to Air Navigation pertaining to potential glare from the Facility's solar



Table E-1. Federal Permits Required for Construction and Operation

Permit Name	Agency Name and Address	Authority	Description
	Dan.Shoemaker@faa.gov (425) 227-2791		arrays on September 13, 2016 (Attachment E-1). However, no permit is issued by the FAA. This federal process is not within the jurisdiction of EFSC and therefore should not be included in the site certificate.
<b>Supplemental Notice of Actual Construction or Alteration (Form 7460-2)</b>	Federal Aviation Administration Attention: Dan Shoemaker Airspace Specialist Seattle Obstruction Evaluation Group Dan.Shoemaker@faa.gov (425) 227-2791	Federal Aviation Act of 1958 (14 U.S.C. Section 44718); 14 CFR Section 77	Submission of the Supplemental Notice of Actual Construction or Alteration form must be filed within 5 days after construction reaches its greatest height as specified in the No Hazard Determination. No permit is issued by the FAA. This federal process is not within the jurisdiction of EFSC and therefore should not be included in the site certificate.

## E.2.2 State Permits: Not Federally Delegated

**Response:** Table E-2 identifies and describes the state permits not federally delegated and required for construction and operation of the Facility.

Table E-2. State Permits Not Federally Delegated

Permit Name	Agency Name and Address	Authority	Description
<b>Energy Facility Site Certificate</b>	Oregon Department of Energy and Energy Facility Siting Council Attention: Katie Clifford 550 Capitol Street N.E. Salem, OR 97301 katie.clifford@Oregon.gov (503) 302-0267	Oregon Revised Statute (ORS) Chapter 469.300 et seq.; Oregon Administrative Rule (OAR) Chapter 345, Divisions 1, 15, 21- 24, 26-27	The Facility is an “energy facility” as defined in ORS Chapter 469.300(11) and must be authorized through a site certificate issued by the Energy Facility Siting Council. The Applicant has submitted a site certificate application pursuant to OAR 345-015-0300(3).
<b>Onsite Sewage Disposal Construction-Installation Permit</b>	Oregon Department of Environmental Quality Water Quality Onsite Program, Eastern Region 800 SE Emigrant #330 Pendleton, OR 97801 Bob Marshall Marshall.Bob@DEQ.state.or.us (541) 276-4063	ORS Chapters 454 and 468B; OAR Chapter 340, Division 71	Facilities with an onsite sewage disposal system must obtain a Construction-Installation Permit before construction. The Facility will have a daily sewage flow of fewer than 2,500 gallons and the Applicant’s third-party contractor will obtain from the Oregon Department of Environmental Quality (DEQ) a Construction-Installation Permit for the operations and maintenance (O&M) facility. Therefore, this permit should not be included in and governed by the site certificate.
<b>General Water Pollution Control Facilities Permit, WPCF-1700-B, Washwater Discharge from Equipment Cleaning</b>	Oregon Department of Environmental Quality Eastern Region Eastern Region 700 SE Emigrant, Suite 330 Pendleton, OR 97801 (541) 276-4063	ORS 468B; OAR Chapter 340, Division 45	The solar modules may be washed twice annually and the washwater will be released to the ground and allowed to evaporate and infiltrate. The washwater will not be heated or include detergents. The WPCF-1700-B permit covers



Table E-2. State Permits Not Federally Delegated

Permit Name	Agency Name and Address	Authority	Description
			equipment-cleaning activities that discharge washwater by means of evaporation, seepage, or irrigation, including both fixed and mobile washing operations. The Applicant's third-party contractor who will conduct the washing activities will seek coverage under the WPCF-1700-B permit from DEQ following completion of construction and before initiating any washing activities. Therefore, this permit should not be included in and governed by the site certificate.
<b>Water Right Permit or Water Use Authorization</b>	Oregon Water Resources Department Scott Kudlemeyer 725 Summer St. NE, Suite A Salem, OR 97301 (541) 986-0861	ORS 537; OAR Chapter 690, Divisions 310, 340, 410 and 507	Facilities that withdraw groundwater must obtain a Water Right Permit or Water Use Authorization before construction. A well for the Facility O&M building will provide fewer than 5,000 gallons per day and therefore will be an exempted use while subject to the same privileges and restrictions as any permit or authorization. The Applicant's third-party contractor will file the recorded well document directly with the Oregon Water Resources Department as it is outside the jurisdiction of EFSC and should not be included in and governed by the site certificate.
<b>Oversize Load Movement Permit/Load Registration</b>	Oregon Department of Transportation Motor Carriers Transportation Division 550 Capitol Street NE Salem, OR 97301 Christy Jordan Christy.A.Jordan@odot.state.or.us (503) 378-6192	ORS Chapter 818.030; OAR Chapter 734, Divisions 51, 82	Access to the Facility will be provided by interstate and state highways. If large or overweight equipment needs to be moved across state roads, a permit and load registration will be required. Morrow County Public Works Department will provide local review. The Applicant's third-party contractor will obtain this permit and load registration from the Oregon Department of Transportation before transporting large or overweight equipment and therefore this permit should not be included in and governed by the site certificate.
<b>General Water Pollution Control Facilities Permit, WPCF-1000, Gravel Mining and Batch Plant</b>	Oregon Department of Environmental Quality Eastern Region Eastern Region 700 SE Emigrant, Suite 330	ORS 468B; OAR Chapter 340, Division 45	A WPCF-1000 authorizes the permittee to operate a wastewater collection, treatment, control, and disposal system for sand, gravel, and other nonmetallic mineral quarrying and mining operations, including asphalt-mix batch plants,



Table E-2. State Permits Not Federally Delegated

Permit Name	Agency Name and Address	Authority	Description
	Pendleton, OR 97801 (541) 276-4063  Department of Geology and Mineral Industries Mineral Land Regulation and Reclamation Program 229 Broadalbin St. SW Albany, OR 97321 (541) 967-2039		concrete batch plants, and other related activities. If a temporary batch plant is required for Facility construction, the Applicant's third-party contractor will obtain a WPCF-1000 permit directly from DEQ and therefore this permit should not be included in and governed by the site certificate.
<b>Archaeological Excavation Permit</b>	Oregon Parks and Recreation Department, State Historic Preservation Office  725 Summer Street NE, Suite C Salem, OR 97301 Matt Diederich, MAIS mattew.diederich@oregon.gov (503) 986-0577	ORS Chapters 97, 358, and 390; OAR Chapter 736, Division 51 (Permit and Conditions for Excavation or Removal of Archaeological or Historical Materials on Private Land)	During Facility construction, if a previously unidentified archaeological site is discovered, all construction will cease and the Applicant will report the finding to the State Historic Preservation Office (SHPO) immediately. In that instance, SHPO will require an archaeological excavation permit. The Applicant does not anticipate that this permit will be required (see Exhibit S for further discussion). However, should this permit be required, the Applicant will obtain it from SHPO and therefore this permit should not be included in and governed by the site certificate.

### E.2.3 State Permits: Federally Delegated

**Response:** Table E-3 identifies and describes the state permits federally delegated and required for construction and operation of the Facility.

Table E-3. State Permits Federally Delegated

Permit Name	Agency Name and Address	Authority	Description
<b>National Pollution Discharge Elimination System (NPDES) Permit, 1200-C Construction Stormwater NPDES Permit</b>	Oregon Department of Environmental Quality – Water Quality Division  Attention: Jackie Ray Eastern Region 800 SE Emigrant Avenue, Suite 330 Pendleton, OR 97801 ray.jackie@deq.state.or.us (541) 278-4605	Clean Water Act, Section 402 (33 U.S.C. Section 1342); 40 CFR Section 122; ORS Chapters 468 and 468B; OAR Chapter 340, Division 45	A 1200-C Permit regulates stormwater runoff from construction activities that disturb more than 1 acre of ground. Facility construction will disturb more than 1 acre and therefore a 1200-C Permit is required, as described further in Exhibit I. Attachment I-1 in Exhibit I contains the Applicant's NPDES permit application. The Applicant will obtain this permit directly from DEQ as it is outside the jurisdiction of EFSC and should not be included in and governed by the site certificate.



Table E-3. State Permits Federally Delegated

Permit Name	Agency Name and Address	Authority	Description
<b>Basic Air Contaminant Discharge Permit (ACDP)</b>	Oregon Department of Environmental Quality – Air Quality Division  Eastern Region 475 NE Bellevue, Suite 110 Bend, OR 97701 (541) 633-2026	Clean Air Act (42 U.S.C. Section 7401 et seq.). 40 CFR Parts 50, 51, and 52 ORS Chapters 468 and 468A OAR Chapter 340, Division 216	A Basic ACDP authorizes the permittee to operate a stationary or portable concrete manufacturing plant that produces more than 5,000 but less than 25,000 cubic yards per year output. If a portable concrete manufacturing plant is required for Facility construction, a Basic ACDP will be obtained from DEQ. Attachment E-3 contains the Applicant's ACDP application. The Applicant will obtain this permit directly from DEQ as it is outside the jurisdiction of EFSC and should not be included in and governed by the site certificate.

#### E.2.4 Local Permits

**Response:** Table E-4 identifies and describes the local permits required for construction and operation of the Facility. These permits, if applicable to the Facility, should be included in and governed by the site certificate.

Table E-4. Local Permits

Permit Name	Agency Name and Address	Authority	Description
<b>Conditional Use Permit (see Exhibit K)</b>	Morrow County Planning Department  Attention: Carla McLane, Planning Director 205 NE Third Street Irrigon, OR 97844 cmclane@co.morrow.or.us (541) 922-4624	Morrow County Zoning Ordinance (MCZO) Section 3.010, Exclusive Farm Use Zone; MCZO Article 6, Conditional Uses	This permit is required for commercial utility facilities that generate power for public use by sale and are proposed on land in the exclusive farm use (F-1) zone in accordance with MCZO Section 3.010.D.15. The Applicant demonstrates compliance with the conditional use standards contained in Article 6 of the MCZO, as well as other substantive criteria applicable to the proposed Facility, in Exhibit K. The Applicant elects to obtain an EFSC determination under ORS Chapter 469.504(1)(b).
<b>Zoning Permit (see Exhibit K)</b>	Morrow County Planning Department  Attention: Carla McLane, Planning Director 205 NE Third Street Irrigon, OR 97844 cmclane@co.morrow.or.us (541) 922-4624	Morrow County Zoning Ordinance (MCZO) Section 1.050, Zoning Permit; MCZO Article 1, Introductory Provisions	This permit is required prior to the construction, reconstruction, alteration, or change of use of any structure larger than 100 square feet. The Applicant demonstrates compliance with the conditional use standards contained in Article 1 of the MCZO, as well as other substantive criteria applicable to the proposed Facility, in Exhibit K. The Applicant elects to obtain an EFSC determination under ORS Chapter 469.504(1)(b).



Table E-4. Local Permits

Permit Name	Agency Name and Address	Authority	Description
<b>Conditional Use Permit</b>	Morrow County Planning Department  Attention: Carla McLane, Planning Director 205 NE Third Street Irrigon, OR 97844 cmclane@co.morrow.or.us (541) 922-4624	Morrow County Zoning Ordinance (MCZO) Section 3.010, Exclusive Farm Use Zone; Article 6, Conditional Uses	If a portable concrete manufacturing plant is required for Facility construction, a conditional use permit is required. The Applicant's third-party contractor will obtain this permit directly from Morrow County and therefore it should not be included in and governed by the site certificate.
<b>Conditional Use Permit (see Exhibit K)</b>	Gilliam County Planning Department  Attention: Michelle Colby, County Planner 221 S Oregon Street Condon, OR 9782 michelle.colby@co.gilliam.or.us (541) 384-2381	Gilliam County Zoning Ordinance (GCZO) Section 4.020, Exclusive Farm Use Zone; GCZO Article 7, Conditional Uses	This permit is required for utility facilities necessary for public service subject to the provisions of ORS 215.274 governing associated transmission lines necessary for public service. The Applicant demonstrates compliance with the criteria in ORS 215.274, the conditional use standards contained in Article 7 of the GCZO, and other substantive criteria applicable to the proposed Facility, in Exhibit K. The Applicant elects to obtain a Council determination under ORS Chapter 469.504(1)(b).
<b>Building and Utility Permits</b>	City of Boardman  Attention: Brett Cook 200 City Center Circle P.O. Box 229 Boardman, Oregon 97818 brett@cityofboardman.com (541) 571-0273	ORS Chapter 455 Building Code	This permit is applicable to aboveground Facility structures. Applications for requisite permits will be submitted to the City of Boardman, which handles Morrow County building permits outside of the city limits of Boardman and Irrigon, before construction.

### E.3 PERMIT APPLICATIONS NOT FEDERALLY DELEGATED

**ORAR 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.*

**Response:** No permits are required related to wetlands. Please see Exhibit J.

- (ii) *In Exhibit O for permits related to water rights.*

**Response:** During Facility construction, water will be supplied by the City of Boardman. During Facility operation, water will either be supplied by the City of Boardman or a well located near the proposed O&M building. The well would produce fewer than 5,000 gallons per day for the O&M building. Oregon law allows exempt industrial and commercial uses up to 5,000 gallons per day from groundwater wells without a water right permit (ORS 537.545(1)(f)). Exempt industrial uses include water for drinking, flushing toilets, and using sinks, as well as other industrial uses during construction and operation of the Facility.



See Exhibit O for further discussion.

#### **E.4 PERMIT APPLICATIONS FEDERALLY DELEGATED**

**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.*

**Response:** The Applicant has separately prepared a NPDES 1200-C Permit application for the Facility (Attachment I-1 in Exhibit I). The Applicant anticipates a permit decision from DEQ before the start of Facility construction. Attachment I-2 in Exhibit I contains a response from DEQ verifying receipt of the Applicant's application.

The Applicant has also separately prepared and received a Basic Air Contaminant Discharge Permit for the proposed temporary batch plant; the application and permit are provided here as Attachment E-3.

#### **E.5 THIRD-PARTY STATE OR LOCAL PERMITS**

**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.*

**Response:** Four state permits and one local permit, if required, will be obtained by the Applicant's third-party contractors. The Applicant's parent company, Invenergy, routinely relies on contractors to obtain a variety of third-party permits for constructing energy facilities such as those described in Exhibit D. Most recently, Invenergy contracted with Phoenix Solar, Inc., as general contractor for the 50-megawatt (MW) Luning Solar Energy Project in Nevada. Invenergy contracted with D.H. Blattner & Sons, Inc. (Blattner) to build the 72-MW Willow Creek Wind Project in Gilliam and Morrow counties and with Concord Construction, Inc. (Concord) to build the Willow Creek Wind Project O&M building. For this Facility, the Applicant will select one of these or other such qualified contractors that has experience constructing renewable energy facilities. As with past projects, Invenergy will only select a contractor (or contractors) who have a reasonable likelihood of securing the required permits.

An Onsite Sewage Disposal Construction-Installation Permit will be required before constructing any such system. An Onsite Sewage Disposal Construction-Installation Permit is a common permit required for the construction of renewable energy facilities in Oregon, as facilities often have bathrooms for operational employees. A contractor familiar with constructing renewable energy facilities is also familiar with obtaining this permit from the DEQ. For example, Concord, in collaboration with Westfall Septic Tank and Excavation in Hermiston, Oregon, received this permit for the Willow Creek Wind Project O&M building in 2008.

An Oversize Load Movement Permit/Load Registration will be required for transporting large or overweight equipment to the site over state roads. Like the permit described above, this permit is a common permit required for the construction of renewable energy facilities in Oregon given the nature of the facility components. A contractor familiar with constructing renewable energy facilities is also familiar with obtaining this permit from the DEQ. Blatter or its subcontractors



routinely obtain these permits for delivery of oversize or overweight equipment over state roads.

If a temporary concrete batch plant is required, Invenergy will direct its contractor to obtain a conditional use permit from Morrow County and a General Water Pollution Control Facilities Permit (WPCF-1000) to manage wastewater and stormwater from the plant. These permits are common for the construction of renewable energy facilities, which require concrete footings, pads, and other infrastructure. A contractor familiar with constructing renewable energy facilities is also familiar with obtaining these permits from local jurisdictions and the DEQ. For example, Blattner worked in collaboration with W.I. Inc. in Arlington, Oregon, to receive temporary concrete batch plant permits for the Willow Creek Wind Project in 2008.

If solar module washing to improve production during operations is required, Invenergy will direct its contractor to obtain a General Water Pollution Control Facilities Washwater Discharge from Equipment Cleaning Permit (WPCF-1700-B). This permit covers equipment-cleaning activities that discharge washwater by means of evaporation, seepage, or irrigation, including both fixed and mobile washing operations. The Applicant's third-party contractor who will conduct the washing activities will seek coverage under the permit from DEQ following completion of construction and before initiating any washing activities. To secure coverage under WPCF-1700-B, DEQ directs applicants to request coverage under the permit at least 30 days prior to the planned activity, although DEQ may accept applications filed less than 30 days from the planned activity on a case-by-case basis. Given the short permitting timeline and the fact that any module-washing activities would fit squarely within the terms of the general permit, if solar module washing is required, the Applicant's third-party contractor has a high likelihood of obtaining permit coverage long before coverage may be needed.

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

**Response:** As described above, the Applicant will select a contractor with proven credentials for acquiring applicable permits.

- (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.*

**Response:** A third-party contractor has not been selected. Accordingly, this provision is not applicable.

## **E.6 THIRD-PARTY FEDERALLY DELEGATED PERMITS**

**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 date when the responsible agency will complete its review and issue a permit decision.*



**Response:** The Applicant will not rely on a federally-delegated permit issued to a third party.

## **E.7 MONITORING**

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

**Response:** The Applicant will comply with monitoring requirements from EFSC and any jurisdictions responsible for granting Facility permits or approvals. Specific monitoring measures are described in the applicable Exhibits of this Application as follows:

- Requirements for erosion control monitoring and reporting are described in Exhibits H and I.
- Requirements for monitoring during construction in or near streams or waters of the state/U.S. are described in Exhibit J.
- Requirements for cultural resource monitoring are described in Exhibit S.
- Requirements for wildlife monitoring are described in Exhibit P.

## **E.8 SUMMARY**

On the basis of the information presented above, the Applicant has satisfied the requirements of OAR 345-021-0010(1)(e).



Attachment E-1  
Federal Aviation Administration  
Determination of No Hazard to Air  
Navigation





Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

Aeronautical Study No.  
2016-ANM-1504-OE

Issued Date: 09/13/2016

Paul Thienpont  
Boardman-OR  
One South Wacker Drive  
Suite 1800  
Chicago, IL 60606

**\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Boardman-OR_Tracking-Array
Location:	Boardman, OR
Latitude:	45-47-55.71N NAD 83
Longitude:	119-59-23.61W
Heights:	415 feet site elevation (SE) 10 feet above ground level (AGL) 425 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☐ At least 10 days prior to start of construction (7460-2, Part 1)  
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

**See attachment for additional condition(s) or information.**

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L.

This determination expires on 03/13/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within



6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

**NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.**

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (202) 267-4525. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANM-1504-OE.

**Signature Control No: 293302619-304528050**

( DNE )

David Maddox  
Specialist

Attachment(s)  
Additional Information



### **Additional information for ASN 2016-ANM-1504-OE**

This application may present an adverse impact on military operations and readiness. The DoD requests that the developer contact the Executive Director, Department of Defense Siting Clearinghouse, by email, at [OSD.DoD-Siting-Clearinghouse@mail.mil](mailto:OSD.DoD-Siting-Clearinghouse@mail.mil) or by phone at 703-571-0076, to discuss potential mitigation options.

The structure will be located within the confines or near a military training route or military training area. The proposed project is located in military training routes VR-1350 and VR-1351 and Navy requests notification when construction begins to allow the scheduling agency to submit a Special Operating Procedure note to the DoD Flight Information Publication AP/1B for glint/glare potential.



Attachment E-2  
Department of Defense Siting  
Clearinghouse Communication



## Miner, Laura

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**From:** Scanlon, Rhiannon G CTR (US) <rhiannon.g.scanlon.ctr@mail.mil>  
**Sent:** Thursday, September 15, 2016 7:56 AM  
**To:** Miner, Laura  
**Subject:** RE: [Non-DoD Source] FW: Solar project in Navy system  
**Signed By:** SCANLON.RHIANNON.G.1502059854

Good morning Ms. Miner,

Thank you checking with the Clearinghouse. Occasionally not all comments are included in the DNH letters, but this instance the concern from the Navy was relayed. As you are in contact with the NW Training Range Complex, there is no need for an additional mitigation discussion. Thank you again for following up with the Clearinghouse. It is my hope that your continued cooperation will help us preserve the operational, training, and testing capabilities of our nation's Armed Forces.

V/r,  
Rhiannon Scanlon

DoD Siting Clearinghouse  
571-372-6876  
rhiannon.g.scanlon.ctr@mail.mil  
osd.dod-siting-clearinghouse@mail.mil

-----Original Message-----

From: Miner, Laura [mailto:LMiner@invenergyllc.com]  
Sent: Wednesday, September 14, 2016 2:07 PM  
To: OSD Pentagon OUSD ATL Mailbox DoD Siting Clearing House <osd.pentagon.ousd-atl.mbx.dod-siting-clearing-house1@mail.mil>  
Cc: Meenaghan, Kevin G CIV USN NAVFAC NW SVD WA (US) <kevin.meenaghan@navy.mil>; Thienpont, Paul <PThienpont@invenergyllc.com>  
Subject: [Non-DoD Source] FW: Solar project in Navy system

---

Hello - we have recently received the attached FAA DNH for a solar project that requests we contact you to discuss potential mitigation options. We have also been coordinating with the NW Training Range Complex on impact analysis and there is a paragraph in the attached FAA DNH that includes his recommendation (see below and attached). Could you please review and verify that no additional mitigation measures are required for this project?

Laura Miner | Senior Business Development Manager Invenergy LLC | Portland OR lminer@invenergyllc.com | 503-964-8900

This electronic message and all contents contain information which may be privileged, confidential or otherwise protected from disclosure. The information is intended to be for the addressee(s) only. If you are not an addressee, any



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-----Original Message-----

From: Meenaghan, Kevin G CIV NAVFAC NW, AM [Caution-mailto:kevin.meenaghan@navy.mil < Caution-mailto:kevin.meenaghan@navy.mil > ]  
Sent: Thursday, June 02, 2016 11:10 AM  
To: Miner, Laura <LMiner@invenergyllc.com>  
Cc: Thienpont, Paul <PThienpont@invenergyllc.com>  
Subject: RE: Solar project in Navy system

Hi Laura,

The below comments were added to our portion of the OE/AAA system. The comments basically say that when the project building begins, let FAA know. FAA will also add a note in Dept of Defense publications alerting aircrew to possibly glare. This is back into FAA channels now, and you'll receive further word from them.

Best,  
Kevin

-----  
2016-ANM-1504-OE is a fixed-angle Solar Farm Project proposed west of the town of Boardman, OR along the Columbia River in the vicinity of the northwest low-level initial ingress point for NWSTF Boardman (R-5701). The developer (Invenergy) has been sensitive to the military mission and has voluntarily submitted for Sandia Glint/Glare analysis and the FAA OE/AAA determination process.

The Sandia analysis shows a moderate (yellow on the scale) potential for late-afternoon glare as aircraft pass over the southwest portion of the solar array field between 1600-1700 PST at 500'AGL.

Because of the relatively narrow window of potential impact, the RCT recommends "No Object with provision." The requested provision is for the FAA (and/or developer) to notify the Navy when project construction begins, so the Scheduling Agency (NASWI) can submit a "Special Operating Procedure" note to the DoD Flight Information Publication AP-1B; specifically, to notify pilots flying between points I-J of the VR-1350 & L-M of the VR-1351 to be aware of potential glare from the solar development during the late afternoon ingress (1600-1700PST) to R-5701.

-----Original Message-----

From: Miner, Laura [Caution-mailto:LMiner@invenergyllc.com < Caution-mailto:LMiner@invenergyllc.com > ]  
Sent: Tuesday, May 31, 2016 4:38 PM  
To: Meenaghan, Kevin G CIV NAVFAC NW, AM  
Cc: Thienpont, Paul  
Subject: [Non-DoD Source] RE: Solar project in Navy system [UNSCANNED]

Great - thanks much.

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-----Original Message-----

From: Meenaghan, Kevin G CIV NAVFAC NW, AM [Caution-mailto:kevin.meenaghan@navy.mil < Caution-mailto:kevin.meenaghan@navy.mil > ]

Sent: Tuesday, May 31, 2016 1:12 PM

To: Miner, Laura <LMiner@invenergyllc.com>

Cc: Thienpont, Paul <PThienpont@invenergyllc.com>

Subject: Solar project in Navy system [UNSCANNED]

Hi Laura,

Your project near Arlington, OR, is in our OE/AAA system. The Navy system is called MCAT (Mission Compatibility Analysis Tool). I've attached a picture of what shows up on the map portion. I also updated MCAT with the SGHAT analysis you provided, as an attachment in MCAT.

I'll let you know soon what comments, if any, we have. At this point, we will probably only comment back to the FAA, requesting that they update their publications with a note for aircrew to watch out for slight glare in the late evening.

Looking good so far.

Best,  
Kevin

Kevin Meenaghan  
NW Training Range Complex  
Community Planning & Liaison Officer  
ofc (360) 257-1413  
cell (360) 391-2846



Attachment E-3  
Basic Air Contaminant Discharge  
Permit Application and Permit





Application for Basic Air Contaminant Discharge Permit  
CONCRETE MANUFACTURING

FORM AQB-003  
APPLICATION

FOR DEQ USE ONLY		
Permit Number:	Regional Office:	New <input type="checkbox"/>
Application No:	Check number:	Renewal <input type="checkbox"/>
Date Received :	Amount (\$):	Approved (date):
		Staff initials:

1. Company information:

Legal Name: <b>Boardman Solar Energy LLC</b>	Other company name (if different than legal name): <b>Boardman Solar Energy Facility</b>
Mailing Address: <b>1 S Wacker Drive, Suite 1800</b>	Site Address (if different than mailing address): <b>Three Mile Canyon Road and Interstate 84</b>
City, State, Zip Code: <b>Chicago, IL 60606</b>	City, County, Zip Code: <b>Morrow and Gilliam counties</b>
Standard Industrial Classification (SIC) <b>1623 and 1629</b>	Number of employees: <b>250 construction employees</b>

2. Plant Information:

- a. Date the facility was manufactured? **n/a**
- b. Date the facility began or will begin operations in Oregon? **Fall 2018**
- c. Initial location: **Approximately 45.800, -119.980**
- d. Describe in *detail* the process, beginning with when material is received, through the production process, concluding with how the materials are shipped off site.

**This will be a temporary concrete manufacturing plant set up to be used for foundation material if necessary for the Boardman Solar Energy Facility.**

- e. List the projected maximum annual cubic yards of concrete produced:

**5,000 - 25,000**  $\text{yd}^3/\text{yr}$

- f. Are there any boilers or other fuel burning equipment used in the process? If yes, specify the type and maximum amount of fuel to be used in any one year.

Yes: ☒ No: ☐

**Gasoline and/or diesel fuel will be used.**





**Application for Basic Air Contaminant Discharge Permit**  
**CONCRETE MANUFACTURING**

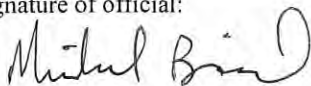
**FORM AQB-003**  
**APPLICATION**

3. Has the facility received any air quality/nuisance complaints within the last calendar year?

Yes (explain): ☐ No: ☒

4. The attached Land Use Compatibility Statement must be submitted with applications for new permits (if the facility is portable no LUCS is required).

5. Signature

<i>I hereby certify that the information contained in this application are true and correct to the best of my knowledge.</i>	
Name of official (Printed or Typed): <b>Michael Baird</b>	Title of official and phone number: <b>Vice President 303-797-5472</b>
Signature of official: 	Date: <b>November 30, 2016</b>

**FEE INFORMATION** (Make checks payable to DEQ)

OAR 340-216-8020	New Permits	Permit Renewals
Initial permit application fee (Table 2, Part 1)	\$144.00	\$0.00
Annual fee (Table 2, Part 2)	\$432.00	\$0.00
<b>TOTAL FEES</b>	<b>\$576.00</b>	<b>\$0.00</b>

**SUBMIT TWO COPIES OF THE COMPLETED APPLICATION TO:**

New Permits (include fees):	Permit Renewals (no fees):
Oregon Department of Environmental Quality Business Office 811 SW Six Avenue Portland, OR 97204 - 1390	Oregon Department of Environmental Quality Regional office listed on the cover page of the permit





State of Oregon  
Department of  
Environmental  
Quality

**Application for Basic Air Contaminant Discharge Permit**  
**CONCRETE MANUFACTURING**

**FORM AQB-003**  
**CONTACT SHEET**

**1. Company Information:**

Legal Name: Boardman Solar Energy LLC	Other company name (if different than legal name): Boardman Solar Energy Facility
--	--

**2. Site Contact Person:** *(A person who deals with DEQ staff about equipment problems.)*

Name: Laura Miner	Telephone number: 503-964-8900
Title: Development Manager	E-mail address: lminer@invenergyllc.com

**3. Facility Contact Person:** *(A person involved with all environmental issues at the facility although they may be housed at a different site.)*

Name: Matt Ruhter	Telephone number: 312-582-1591
Title: Environmental Compliance Manager	E-mail address: mruhter@invenergyllc.com

**4. Mailing Contact Person:** *(A person for which the company would like all agency communications directed.)*

Name: Laura Miner	Telephone number: see above
Title:	E-mail address:

**5. Invoice Contact Person:** *(Valid contact information to which invoices and communications related to resolving invoice questions can be directed.)*

Name: Laura Miner	Telephone number: see above
Title:	E-mail address:



**Oregon Department of Environmental Quality  
LAND USE COMPATIBILITY STATEMENT (LUCS)**

p. 1 of 2

**SECTION 1 - TO BE COMPLETED BY APPLICANT**

<b>1A. Applicant Name:</b> Boardman Solar Energy LLC	<b>1B. Project Name:</b> Boardman Solar Energy Facility
<b>Contact Name:</b> Laura Miner	<b>Physical Address:</b> Three Mile Canyon Road and Interstate 84
<b>Mailing Address:</b> 1 S Wacker Drive, Suite 1800	<b>City, State, Zip:</b> Morrow and Gilliam counties, Oregon
<b>City, State, Zip:</b> Chicago, IL 6060	<b>Tax Lot #:</b> 04N23E00110, 0422E00200, 03N22E00100
<b>Telephone:</b> 503-964-8900	<b>Township:</b> <b>Range:</b> <b>Section:</b>
<b>Tax Account #:</b> 1234940-98 (Business registry number)	<b>Latitude:</b> 45.800
	<b>Longitude:</b> -119.980

**1C. Describe the project, include the type of development, business, or facility and services or products provided (attach additional information if necessary):**

The Applicant proposes to construct a solar energy facility (Facility) in unincorporated areas of Morrow and Gilliam counties in Oregon. The facility will consist of approximately 75 megawatts (MW) of nominal and average electric generating capacity.

The proposed Facility site boundary will be located in Morrow County, Oregon in the following sections:

- Township 4 North, Range 23E, Sections 20, 21, 28, 29, 30

The proposed transmission line will be located in Gilliam County, Oregon in the following sections:

- Township 4 North, Range 22E, Sections 25, 36
- Township 3 North, Range 22E, Sections 1, 12

The DEQ permits being applied for are to construct the Facility, specifically for general construction stormwater management and an on-site temporary concrete batch plant.

**1D. Check the type of DEQ permit(s) or approval(s) being applied for at this time.**

- |  |  |
|--|--|
| <input type="checkbox"/> Air Quality Notice of Construction  | <input type="checkbox"/> Pollution Control Bond Request  |
| <input checked="" type="checkbox"/> Air Contaminant Discharge Permit ( <i>excludes portable facility permits</i> ) | <input type="checkbox"/> Hazardous Waste Treatment, Storage, or Disposal Permit  |
| <input type="checkbox"/> Air Quality Title V Permit  | <input type="checkbox"/> Clean Water State Revolving Fund Loan Request   |
| <input type="checkbox"/> Air Quality Indirect Source Permit  | <input type="checkbox"/> Wastewater/Sewer Construction Plan/Specifications<br>( <i>includes review of plan changes that require use of new land</i> )              |
| <input type="checkbox"/> Parking/Traffic Circulation Plan  | <input type="checkbox"/> Water Quality NPDES Individual Permit   |
| <input type="checkbox"/> Solid Waste Land Disposal Site Permit   | <input type="checkbox"/> Water Quality WPCF Individual Permit ( <i>for onsite construction-installation permits use the DEQ <a href="#">Onsite LUCS form</a></i> ) |
| <input type="checkbox"/> Solid Waste Treatment Facility Permit   | <input checked="" type="checkbox"/> Water Quality NPDES Stormwater General Permit ( <i>1200-A, 1200-C, 1200-CA, 1200-COLS, and 1200-Z</i> )                        |
| <input type="checkbox"/> Solid Waste Composting Facility Permit (includes Anaerobic Digester)                      | <input checked="" type="checkbox"/> Water Quality General Permit ( <i>all general permits, except 600, 700-PM, 1700-A, and 1700-B when they are mobile.</i> )      |
| <input type="checkbox"/> Conversion Technology Facility Permit   | <input type="checkbox"/> Water Quality 401 Certification for federal permit or license   |
| <input type="checkbox"/> Solid Waste Letter Authorization Permit   |  |
| <input type="checkbox"/> Solid Waste Material Recovery Facility Permit   |  |
| <input type="checkbox"/> Solid Waste Energy Recovery Facility Permit   |  |
| <input type="checkbox"/> Solid Waste Transfer Station Permit   |  |
| <input type="checkbox"/> Waste Tire Storage Site Permit  |  |

**1E. This application is for:** ☐ Permit Renewal ☒ New Permit ☐ Permit Modification ☐ Other:

**SECTION 2 - TO BE COMPLETED BY CITY OR COUNTY PLANNING OFFICIAL**

**Instructions:** Written findings of fact for all local decisions are required; written findings from previous actions are acceptable. For uses allowed outright by the acknowledged comprehensive plan, DEQ will accept written findings in the form of a reference to the specific plan policies, criteria, or standards that were relied upon in rendering the decision with an indication of why the decision is justified based on the plan policies, criteria, or standards.

**2A. The project proposal is located:** ☐ Inside city limits ☐ Inside UGB ☒ Outside UGB

**2B. Name of the city or county that has land use jurisdiction (the legal entity responsible for land use decisions for the subject property or land use):**  
Morrow County and Gilliam County



Oregon Department of Environmental Quality  
LAND USE COMPATIBILITY STATEMENT (LUCS)

p. 2 of 2

SECTION 2 - TO BE COMPLETED BY CITY OR COUNTY PLANNING OFFICIAL		
<b>Applicant Name:</b> Boardman Solar Energy LLC	<b>Project Name:</b> Boardman Solar Energy Facility	
<b>2C. Is the activity allowed under Measure 49 (2007)?</b> <input checked="" type="checkbox"/> No, Measure 49 is not applicable <input type="checkbox"/> Yes; if yes, then check one:		
<input type="checkbox"/> Express; approved by DLCD order #:		
<input type="checkbox"/> Conditional; approved by DLCD order #:		
<input type="checkbox"/> Vested; approved by local government decision or court judgment docket or order #:		
<b>2D. Is the activity a composting facility?</b> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes; Senate Bill 462 (2013) notification requirements have been met.		
<b>2E. Is the activity or use compatible with your acknowledged comprehensive plan as required by OAR 660-031?</b> <i>Please complete this form to address the activity or use for which the applicant is seeking approval (see 1.C on the previous page). If the activity or use is to occur in multiple phases, please ensure that your approval addresses the phases described in 1.C. For example, if the applicant's project is described in 1.C as a subdivision and the LUCS indicates that only clearing and grading are allowed outright but does not indicate whether the subdivision is approved, DEQ will delay permit issuance until approval for the subdivision is obtained from the local planning official.</i>		
<input type="checkbox"/> The activity or use is specifically exempt by the acknowledged comprehensive plan; explain:		
<input type="checkbox"/> YES, the activity or use is pre-existing nonconforming use allowed outright by (provide reference for local ordinance):		
<input type="checkbox"/> YES, the activity or use is allowed outright by (provide reference for local ordinance):		
<input checked="" type="checkbox"/> YES, the activity or use received preliminary approval that includes requirements to fully comply with local requirements; <del>findings are attached.</del> <i>Application to the ODEE is anticipated for approval by the EFSC.</i>		
<input type="checkbox"/> YES, the activity or use is allowed; findings are attached.		
<input type="checkbox"/> NO, see 2.C above, activity or use allowed under Measure 49; findings are attached.		
<input type="checkbox"/> NO, (complete below or attach findings for noncompliance and identify requirements the applicant must comply with before compatibility can be determined): Relevant specific plan policies, criteria, or standards:  Provide the reasons for the decision:		
Additional comments (attach additional information as needed): Allowed subject to a site certificate from the Oregon Energy Facility Siting Council under ORS 469.320, 469.378, and 469.401.		
<b>Planning Official Signature:</b> <i>Carla McLane</i> <b>Title:</b> <i>Planning Director</i>		
<b>Print Name:</b> <i>Carla McLane</i> <b>Telephone #:</b> <i>541 922 4624</i> <b>Date:</b> <i>11/17/2016</i>		
<i>If necessary, depending upon city/county agreement on jurisdiction outside city limits but within UGB:</i>		
<b>Planning Official Signature:</b> <b>Title:</b>		
<b>Print Name:</b> <b>Telephone #:</b> <b>Date:</b>		





# Oregon

Kate Brown, Governor

## Department of Environmental Quality

Eastern Region Bend Office  
475 NE Bellevue Dr., Suite 110  
Bend, OR 97701  
541-388-6146  
Fax: 541-388-8283  
TTY: 711

JAN 18 2017

Ms. Laura Miner, Development Manager  
Boardman Solar Energy LLC  
1 S Wacker Drive, Suite 1800  
Chicago, IL 60606

RE: Basic Air Contaminant Discharge Permit  
for a cement redi-mix facility  
Permit No. 25-0028-BS-01  
Morrow County

The Department of Environmental Quality has completed a review of your application for a new Basic Air Contaminant Discharge Permit for a cement redi-mix plant. Based on the information contained in the application, we have issued you the enclosed Basic Air Contaminant Discharge Permit.

The permit became effective the date it was signed. If you wish to appeal any of the conditions in the attached permit or if you have any questions, please contact Bonnie Hough in our Bend office at 541-633-2016. If issues related to the permit conditions cannot be resolved to your satisfaction, you may request a hearing before the Environmental Quality Commission or its authorized representative.

An annual fee will be due December 1<sup>st</sup>, an invoice reflecting this fee will be mailed to you. If you change your facility's name or change ownership, you are required to fill out a form notifying the DEQ of the changes. You can find this form and others at: <http://www.deq.state.or.us/aq/permit/acdp/acdp.htm>.

You may appeal conditions or limitations contained in the attached permit by applying to the Environmental Quality Commission, or its authorized representative, within twenty days from the date of this letter. **Such request for hearing shall be made in writing to the Director on or before 20 days following the date of permit issuance.** Appeals are pursuant to ORS Chapter 183 and OAR Chapter 340, Division 208-0080. Appeal procedures are found in OAR Chapter 340, Division 11.

A copy of the Basic permit must be available at the facility at all times. Failure to comply with permit conditions may result in civil penalties. **You are expected to read the permit carefully and comply with all conditions to protect the environment of Oregon.**

If you have any questions, please contact Nancy Swofford at 541-633-2021.

Sincerely,

Mark W. Bailey  
Air Quality Manager  
Eastern Region

Enclosure

cc: Don Hendrix, DEQ:HQ Air Quality Program  
Bonnie Hough, DEQ:Bend office/*Pendleton file*





State of Oregon  
Department of  
Environmental  
Quality

Permit Number: 25-0028-BS-01

Expiration Date: 01/04/2027

Page 1 of 4

## **BASIC**

# **AIR CONTAMINANT DISCHARGE PERMIT**

Department of Environmental Quality  
Eastern Region  
475 NE Bellevue Drive, Suite 110  
Bend, OR 97701

This permit is being issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

### **ISSUED TO:**

Boardman Solar Energy LLC  
1 S Wacker Drive, Suite 1800  
Chicago, IL 60606

### **INFORMATION RELIED UPON:**

Application No.: 28909  
Date Received: 01/17/2017

### **PLANT SITE LOCATION:**

Three Mile Canyon Road & I-84  
Boardman, OR 97818

### **LAND USE COMPATABILITY STATEMENT:**

Approving Authority: Morrow/Gilliam County  
Approval Date: 11/17/2016

### **ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY**

  
Mark W. Bailey, Eastern Region Air Quality Manager

**JAN 18 2017**  
Dated

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-8010):

Table 1 Code	Source Description	SIC
Part A, 2	Concrete manufacturing including redimix and CTB, both stationary and portable, more than 5,000 but less than 25,000 cubic yards per year output.	3273



## 1.0 STATEMENT OF PURPOSE

- 1.1 Permitted Activities** The permittee is allowed to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, revoked or rescinded as long as the permittee complies with the conditions of this permit.

## 2.0 EMISSION STANDARDS AND LIMITS

- 2.1 Production Limits** The permittee is prohibited from increasing production or throughput to 25,000 cubic yards or more per year without first applying for and being assigned to General Air Contaminant Discharge Permit AQGP-009.
- 2.2 Visible Emission Limits** The permittee must not allow emissions from any air contaminant source to equal or exceed 20% opacity as a six-minute block average. "Opacity" means the degree to which an emission reduces transmission of light and obscures the view of an object in the background.
- 2.3 Work Practices** The permittee must employ bag filters on the silo(s) and water sprays on the truck loader to minimize fugitive dust emissions when the material does not contain adequate moisture to suppress dust conditions.
- 2.4 Fugitive Emissions** The permittee must take reasonable precautions for preventing fugitive dust emissions. Reasonable precautions include, but are not limited to:
- Treating vehicular traffic areas of the plant site under the control of the permittee;
  - Operating all air contaminant generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times; and
  - Storing materials collected from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.
  - Prompt removal of "tracked-out" material from paved streets.
  - Developing a DEQ approved fugitive emission control plan upon request by DEQ if the above precautions are not adequate and implementing the plan whenever fugitive emissions leave the property for more than 18 seconds in a six-minute period.



- 2.5 Particulate Matter Fallout** The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person.
- 2.6 Nuisance and Odors** The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by DEQ personnel.
- 2.7 Other Regulations** In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by DEQ.

### **3.0 RECORDKEEPING AND REPORTING REQUIREMENTS**

- 3.1 Records** The permittee must maintain records of the information identified in Condition 3.2 for at least five years from the date of the record.
- 3.2 Reports** The permittee is required to report to DEQ by **February 15<sup>th</sup>** of each year the following information:
- a. The amount of concrete produced in Oregon during the previous calendar year;
  - b. Written log of all air quality or nuisance complaints and how each complaint was handled.
- 3.3 Permit Renewal** The permittee must submit an application to renew this permit by December 1, 2026.
- 3.4 Construction or Modification Notices** The permittee must notify DEQ before adding new or modifying existing equipment to the extent that process equipment is substantially changed or added to, or emissions are significantly changed or increased.
- 3.5 Notice of Change of Ownership or Company Name** The permittee must promptly notify DEQ of any change of mailing address, company name, or plant ownership. The permit will expire 60 days after a change in the legal entity owning/operating the facility unless application, with appropriate fees, is made to transfer the permit to the new entity.
- 3.6 Where to Send Reports and Notices** The reports and notices, with the permit number prominently displayed, must be sent to the regional office identified on the cover page of the permit.



## 4.0 Fees

- 4.1 Fees** The Annual Fee specified in OAR 340-216-8020, Table 2, Part 2 for a Basic ACDP is due on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by DEQ regulations, will be mailed prior to the above date.

## 5.0 General Conditions

- 5.1 Masking of Emissions** The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety or welfare of any person or otherwise violate any other regulation or requirement.
- 5.2 Open Burning** The permittee may not conduct any open burning except when approved by DEQ in advance.
- 5.3 Asbestos** All activities involving asbestos-containing materials, including, but not limited to, demolition, renovation, repair, construction and maintenance must be performed by persons certified for asbestos abatement projects. Accumulation of asbestos containing material is prohibited. If you have asbestos questions, contact the regional DEQ office identified below.
- 5.4 Permit Availability** The permittee must have a copy of the permit available at all times.
- 5.5 DEQ Inspections** The permittee must allow DEQ's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit.
- 5.6 Legal Disclaimers** The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- 5.7 Permit Revocation** This permit is subject to revocation for cause as provided in OAR 340-216-0082.
- 5.8 DEQ Contact** Call the Air Quality Section of the Eastern Region office in Bend at 541-388-6146.





Department of Environmental Quality  
Eastern Region  
Air Quality Program

**BASIC**  
**AIR CONTAMINANT DISCHARGE PERMIT**  
**REVIEW REPORT**

Boardman Solar Energy LLC  
Three Mile Canyon Road & I-84  
Boardman, OR 97818  
503-964-8900

Reports			NSPS	Size	Public Notice
Annual	Semi-annual	Excess Emissions			
X				B	I

1. The proposed permit is a new permit for a new source.
2. The permittee operates a cement redi-mix plant. A description of the processes, equipment, and activities is included below:
  - This will be a temporary concrete manufacturing plant set up to be used for foundation material if necessary for the Boardman Solar Energy Facility.
3. This facility qualifies for a Basic ACDP because the production will be more than 5,000 but less than 25,000 cubic yards.
4. The source is located in an attainment area for all pollutants. The source is not located within 10 kilometers of any Class I Air Quality Protection Areas.
5. DEQ has determined that sources that qualify for a Basic ACDP will not have significant emissions. In most cases the emission will not exceed 5 tons of PM or PM<sub>10</sub> or 10 tons of any other pollutant. Therefore, the Basic ACDP does not include Plant Site Emission Limits and it is not necessary to estimate emissions for each individual source.
6. Pursuant to OAR 340-216-0056(4), issuance of a new or renewed Basic Air Contaminant Discharge Permit requires public notice in accordance with OAR 340-209-0030(3)(a). Therefore, there will be no prior notice or public participation. However, DEQ will maintain a list of all permit actions processed under Category I and make the list available for public review.