

EXHIBIT J
WETLANDS
OAR 345-021-0010(1)(j)

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J-1 Aquatic Resources Inventory and Wetland Delineation
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J-2 Oregon Department of State Lands Wetland Delineation Concurrence Letters

INTRODUCTION

Archway Solar Energy LLC (Applicant) proposes to construct the Archway Solar Energy Facility (Facility) in Lake County, Oregon, with generating capacity of up to 400 megawatts (MW). The Facility may also contain a battery energy component with storage capacity of up to 400 MW and discharge capacity of up to 1,600 megawatt-hours. This Exhibit J provides wetland information and analysis as required by Oregon Administrative Rules (OAR) 345-021-0010(j).

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

J.1.1 Wetland Delineation

A wetland and other waters delineation, consisting of a literature review and field study, was conducted to identify potentially jurisdictional wetlands and other waters. The delineation was performed in accordance with the Oregon Removal-Fill Law and Section 404 of the Clean Water Act. The delineation report was completed in March 2020 (*Wetlands and Nonwetland Waters Delineation Report for the Archway Solar Energy Project*) (Jacobs, 2020) and updated in August 2020 (*Responses to Questions and Comments from the Oregon Department of State Lands on the Wetlands and Nonwetland Waters Delineation Report WD2020-0127*) and September 2020 (*Second Set of Responses to Questions and Comments from the Oregon Department of State Lands on the Wetlands and Nonwetland Waters Delineation Report WD2020-0127*), all of which are included as Attachment J-1 (herein referred to as the wetland delineation report).

The Oregon Department of State Lands (DSL) provided letters of concurrence on September 14, 2020 and March 21, 2021 which are included as Attachment J-2.

J.1.2 Analysis Area

The analysis area for purposes of Exhibit J encompasses the Facility site boundary, however the study area in the wetland delineation report covered 4,544 acres (Figures 2 in Attachment J-2, Appendix A).

Section J.2.1 summarizes the literature review performed as part of the wetland survey and Section J.2.2 summarizes the field study. Additional details are provided in the wetland delineation report (Attachment J-1).

J.2 OVERVIEW OF LITERATURE REVIEW AND FIELD STUDY

J.2.1 Literature Review

Before conducting the field study, the following information was reviewed:

- U.S. Geological Survey (USGS) Golgotha Butte and Heppner Junction quadrangle 7.5' topographic maps (digital format)
- National Wetlands Inventory (NWI) digital data (Figures 3a-c in Attachment J-1, Appendix A)
- SSURGO digital soils data (Figure 4 in Attachment J-1, Appendix A)
- Natural Resources Conservation Service Hydric Soils List (Natural Resources Conservation Service, 2017)
- True-color aerial imagery (ESRI Aerial Imagery, 2017) (Figure 5 in Attachment J-1, Appendix A)

No Local Wetland Inventory has been compiled for the Facility. NWI mapping included most of the wetlands in the study area. Natural Resources Conservation Service data were used to identify soil types in the study area. The predominant soil type within the study area is 313, with smaller areas of 314, 315, 317, 435, 530, 572 and 628 (Table 1 in Attachment J-1; Figure 4 in Attachment J-1, Appendix A).

J.2.2 Field Study

Fieldwork was completed on May 6-10, 2019, with a follow-up visit on October 13, 2020. Each drainage identified from the review of existing information was field-verified to determine whether it contained stream channels, wetlands, or other waters. Additionally, wetland biologists walked the entire survey area to identify isolated wetlands or other waters outside of drainages.

Data collection, description, and analysis for wetlands and other jurisdictional waters of the U.S. followed procedures in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE, 2008).

The routine onsite wetland determination method was used to observe vegetation, soils, and hydrological conditions at representative locations. Paired sample plots were used to document wetland and upland areas adjacent to wetland boundaries. Wetland plant indicator status was determined using the *State of Oregon 2016 Wetland Plant List* (Lichvar et al., 2016).

J.3 DESCRIPTION OF WETLANDS, STREAMS, AND RIPARIAN AREAS

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

Response: A total of 14 state jurisdictional waters were identified in the study area (see Table J-1).

J.3.1 Potential Waters of the State

J.3.1.1 Wetlands

No wetlands were identified in the study area.

J.3.1.2 Other Waters

A total of 14 other waters classified as non-wetland playa mosaics were identified and concurred by DSL, as reflected in Attachment J-2 Table 1 and Figures 6-A through 6-RR.

Table J-1. Waters of the State

Number	Upland Vegetation (acres)	Nonwetland Waters (acres)	Total Acres	Oregon Removal Fill Law Jurisdictional Waters	Potential Waters of the U.S.
4	0.15	0.33	0.48	X	
8	0.11	0.50	0.61	X	
9	0.55	1.33	1.88	X	
10	0.80	1.89	2.69	X	
11	0.30	0.76	1.06	X	
12	2.23	6.03	8.26	X	
13	2.16	5.88	8.04	X	
14	1.58	3.74	5.32	X	
15	0.88	1.50	2.39	X	
16	1.20	7.20	8.34	X	
17	2.58	3.90	6.47	X	
18	19.45	50.62	70.07	X	
19	0.18	0.66	0.84	X	
20	1.11	1.93	3.04	X	
Total	33.28	93.21	126.43		

J.3.2 Potential Waters of the U.S.**J.3.2.1 Wetlands**

No wetlands were identified in the study area.

J.3.2.2 Other Waters

No waters of the U.S. were identified in the study area.

J.4 EFFECT ON WATERS OF THE STATE

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

Response: Delineated waters were overlaid with proposed Facility components and areas of impact were evaluated (Figure J-1). Facilities were located to avoid all waters; therefore, no adverse impacts to any waters of the state are expected. All remaining components have been sited at least 100 feet from waters to avoid any temporary or permanent impacts.

J.5 SIGNIFICANT POTENTIAL DISTURBANCES TO WETLANDS

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

Response: Not applicable because there are no wetlands.

J.6 EVIDENCE THAT REMOVAL-FILL PERMIT NEED NOT BE ISSUED

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

Response: A removal-fill permit is not required because no temporary or permanent disturbances to waters of the state will occur as part of Facility construction and operation.

J.7 EVIDENCE THAT REMOVAL-FILL PERMIT CAN BE ISSUED

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

Response: No removal-fill permit will be required.

J.8 MONITORING PROGRAM, IF ANY, FOR DISTURBANCES TO WETLANDS

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

Response: Temporary and permanent disturbances to wetlands will not occur; therefore, no mitigation of resources or subsequent monitoring will be required.

J.8.1 Proposed Mitigation Measures

The Facility has been designed to avoid impacts. Efforts to avoid and minimize impacts that were incorporated into the initial design are summarized below.

J.8.1.1 Avoidance Before Construction

The Facility layout was modified to avoid disturbances. Disturbance avoidance modifications include the following:

- Waters will be avoided and a 100-foot setback from delineated boundaries will be maintained.
- Existing roads will be used for Facility access.

J.8.1.2 Avoidance During Construction

The following protective measures will be implemented during construction to avoid disturbances:

- An erosion and sediment control plan will be implemented (Exhibit I, Attachment I-1).
- The 100-foot setback from waters will be marked before construction activities begin to ensure the setback is maintained.
- Qualified biologists will provide environmental training and environmental monitoring during construction. The qualified biologists will visit the site before site development to flag sensitive resource areas, including wetlands. The qualified biologists will periodically visit the site during construction to maintain flagging and oversee construction and permit compliance.

J.8.2 Proposed Best Management Practices

The Applicant proposes best management practices (BMPs) to ensure that disturbances to waters are avoided. The BMPs are listed in the erosion and sediment control plan for the 1200-C Construction Stormwater National Pollutant Discharge Elimination System Permit (see Attachment I-1 in Exhibit I for the permit application).

J.8.3 Proposed Environmental Training

The following measures will be implemented during Facility construction to avoid impacts:

- The Applicant will develop an environmental awareness course for the construction contractors that will provide information on the sensitive wetland and stream resources present onsite, the exclusion flagging and signing protocol, permit requirements, and other environmental issues.
- Construction site personnel will be required to attend the environmental awareness course in conjunction with hazard and safety training before working onsite. The Applicant's construction contractor will maintain a list of onsite construction personnel who have received the training.

J.9 SUMMARY

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

J.10 REFERENCES

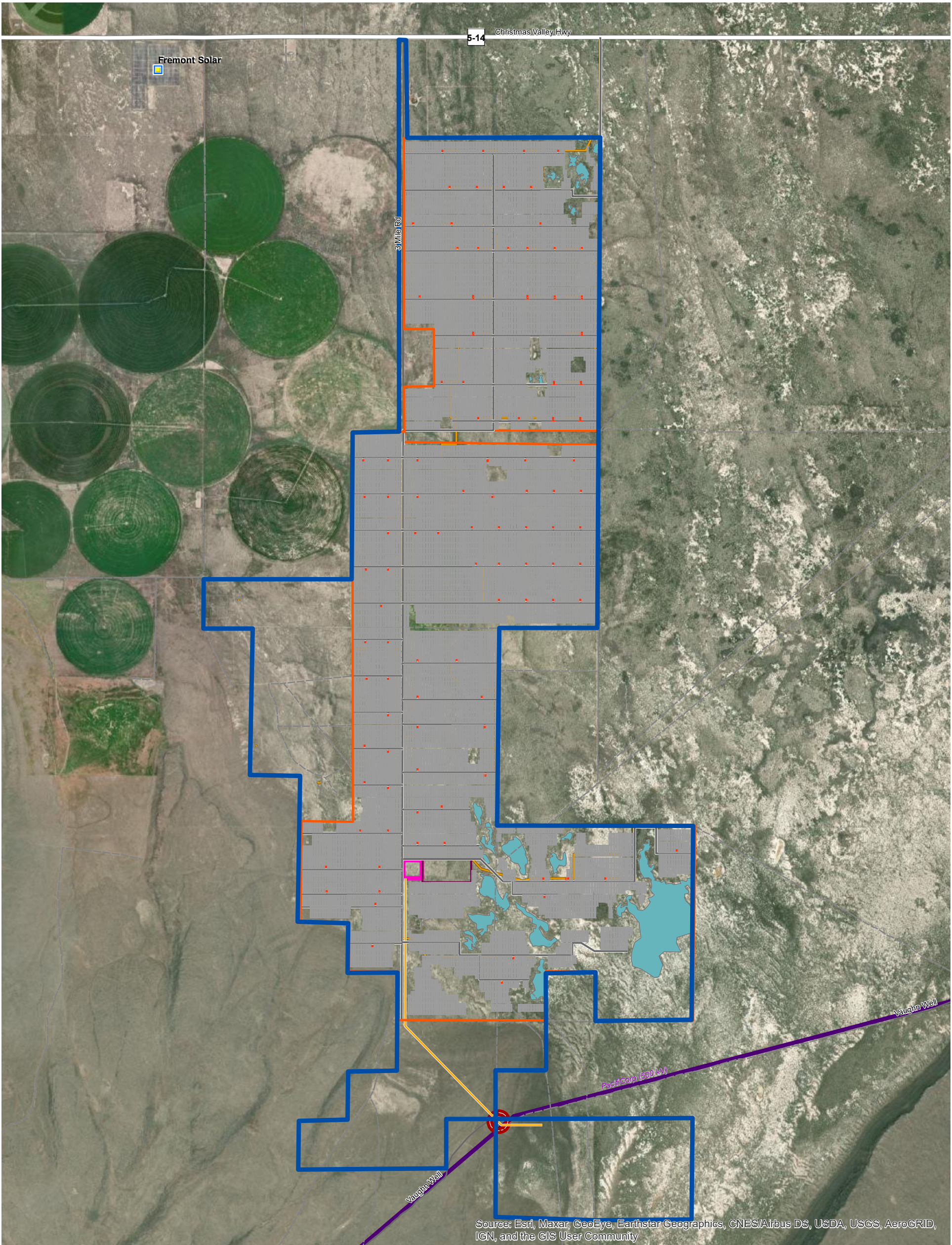
Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. Department of the Army, Waterways Experiment Station, Corps of Engineers, Vicksburg, Mississippi.

ESRI. 2017. *ArcGIS Online Imagery*. ArcGIS Resource Center. DigitalGlobe 2017.

Lichvar, R. W., D.L. Banks, W. N. Kirchner and N. C. Melvin. 2016. "State of Oregon 2016 Wetland Plant List." *Phytoneuron* 30: 1-17.

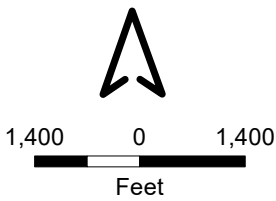
U.S. Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. U.S. Army Engineer Research and Development Center, Vicksburg, MS. ERDC/EL TR-08-28.

Natural Resources Conservation Service. 2017. *Web Soil Survey*. Hydric Soils List. United States Department of Agriculture. Accessed May 2019.



Legend

- Substation Location
- Playas
- Project Boundary
- Solar Layout**
 - C-FENCELINE
 - E-BESS
 - E-INVERTER
 - E-POI
 - E-SUBSTATION
- E-TRANSMISSION
- PVcase PV Modules (full frames)
- PVcase Road Center Line
- Road Classification**
 - County Road
 - Local Road
 - Dirt/Unpaved Road



J-1 Wetland Location Detail Area

Archway Solar Energy Center | Lake County, Oregon

Rev. 00
June 15, 2022



Attachment J-2: Oregon Department of State Lands
Wetlands Delineation Concurrence Letters



Oregon

Kate Brown, Governor

Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

www.oregon.gov/dsl

State Land Board

March 17, 2021

Archway Solar Energy LLC
Laura Miner
959 SE Division Street, Suite 350
Portland, OR 97214

Kate Brown
Governor

Shemia Fagan
Secretary of State

Tobias Read
State Treasurer

Re: WD # 2020-0656 **Approved**
Wetland Delineation Report for Archway Solar Energy Project
Lake County; T27S R19E S22 TL 1510

Dear Ms. Miner:

The Department of State Lands has reviewed the wetland delineation report prepared by Jacobs Engineering Group Inc. for the site referenced above. Based upon the information presented in the report, we concur that there are no jurisdictional wetlands or other waters of the state within the study area, as indicated on the attached Figure 6. Please replace all copies of the preliminary wetland map with this final Department-approved map.

This concurrence is based on information provided to the agency and is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. Federal or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator for Lake County, Lynne McAllister, at (503) 986-5300.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Ryan". The signature is fluid and cursive, with the first name "Peter" and last name "Ryan" clearly distinguishable.

Peter Ryan, SPWS
Aquatic Resource Specialist

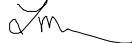
Enclosures

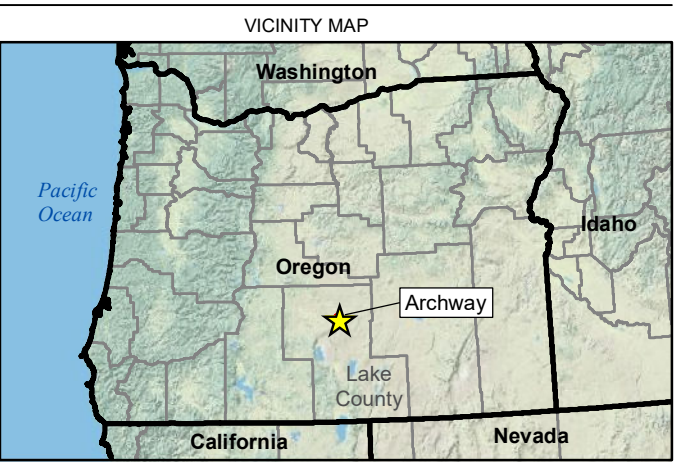
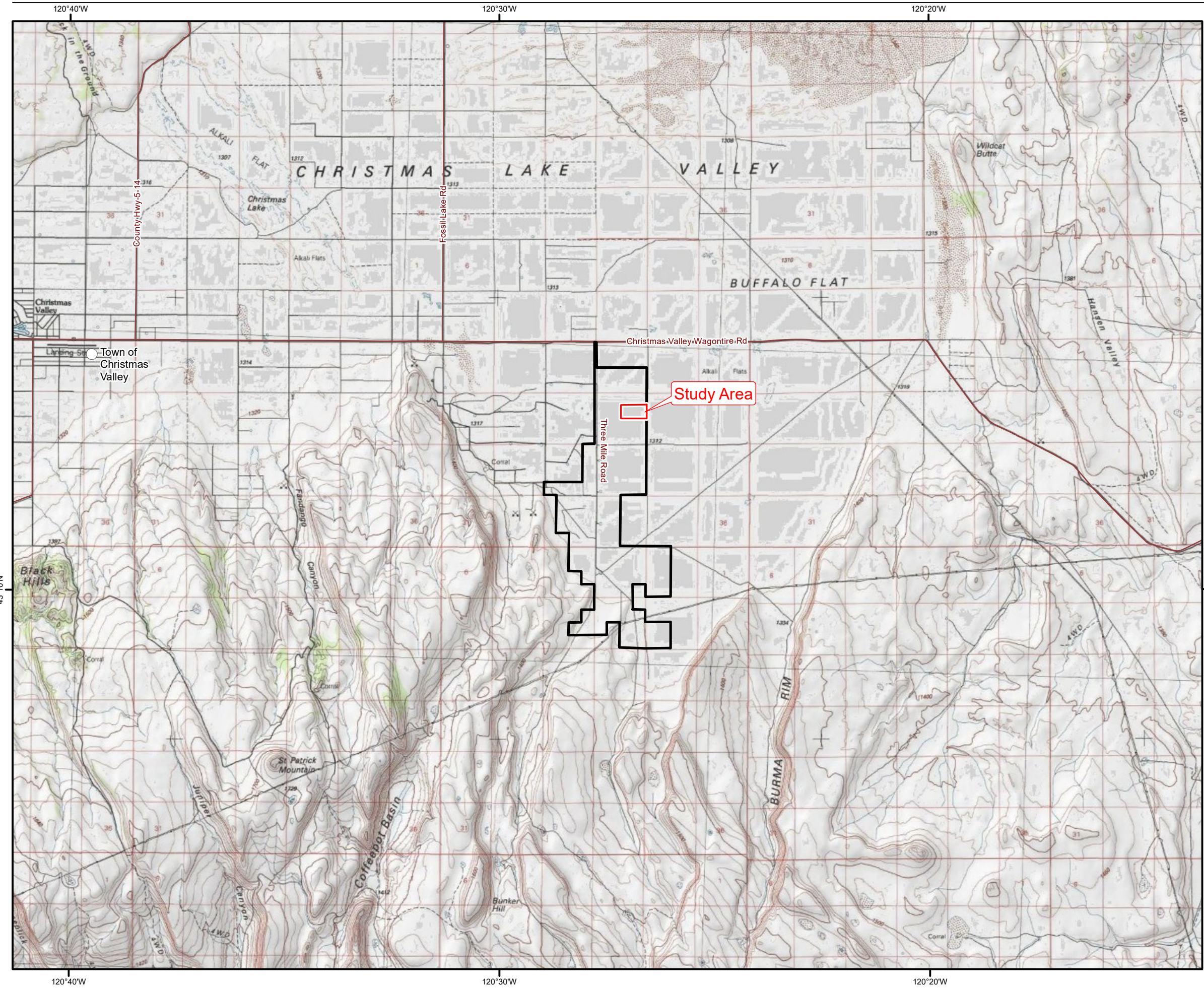
ec: Claudia Steinkoenig, PWS, Jacobs Engineering Group Inc.
Lake County Planning Department
Anita Andazola, Corps of Engineers
Bethany Harrington, DSL

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: <https://apps.oregon.gov/DSL/EPS/program?key=4>.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF of the completed cover form and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

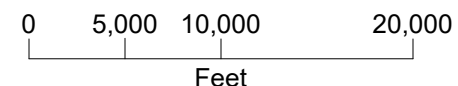
Contact and Authorization Information			
<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: Archway Solar Energy LLC Laura Miner 959 SE Division Street, Suite 350 Portland, OR 97214		Business phone # (971) 346-4981 Mobile phone # (optional) E-mail: lminer@invenergy.com	
<input type="checkbox"/> Authorized Legal Agent, Name and Address (if different):		Business phone # Mobile phone # (optional) E-mail:	
I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.			
Typed/Printed Name: <u>Laura Miner</u>		Signature: <u></u>	
Date: <u>12/02/2020</u>		Special instructions regarding site access: _____	
Project and Site Information			
Project Name: Archway Solar Energy Project		Latitude: 43.218731 Longitude: -120.450753 decimal degree - centroid of site or start & end points of linear project	
Proposed Use: 400-megawatt photovoltaic (PV) solar power generation and storage facility.		Tax Map # Tax Lot(s) 1510	
Project Street Address (or other descriptive location): 9 miles east of Christmas Valley, south of Christmas Valley Wagontire Road.		Tax Map # Tax Lot(s)	
City: _____ County: LAKE		Township 27S Range 19E Section 22 QQ Use separate sheet for additional tax and location information	
Waterway: None		River Mile: NA	
Wetland Delineation Information			
Wetland Consultant Name, Firm and Address: C. Steinkoenig Jacobs Engineering Group Inc. 2020 SW 4th Avenue, Suite 300 Portland, Oregon 97201		Phone # Mobile phone # (if applicable) (503) 432-7610 E-mail: claudia.steinkoenig@jacobs.com	
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.			
Consultant Signature: <u>Claudia Steinkoenig</u>		Date: 11/09/2020	
Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input checked="" type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent			
Wetland/Waters Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Study Area size: 86.48 acres Total Wetland Acreage: 0.0000	
Check Applicable Boxes Below			
<input type="checkbox"/> R-F permit application submitted		<input checked="" type="checkbox"/> Fee payment submitted \$ <u>466.00</u>	
<input type="checkbox"/> Mitigation bank site		<input type="checkbox"/> Resubmittal of rejected report (\$100)	
<input type="checkbox"/> EFSC/ODOE Proj. Mgr: _____		<input type="checkbox"/> Request for Reissuance. See eligibility criteria. (no fee)	
<input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)		DSL # _____ Expiration date _____	
<input type="checkbox"/> Previous delineation/application on parcel If known, previous DSL # _____		<input type="checkbox"/> LWI shows wetlands or waters on parcel Wetland ID code _____	
For Office Use Only			
DSL Reviewer: <u>LM</u>		Fee Paid Date: ____ / ____ / ____	
Date Delineation Received: <u>12 / 01 / 2020</u>		Scanned: <input type="checkbox"/> Electronic: <input checked="" type="checkbox"/>	
DSL WD # <u>2020-0656</u>		DSL App.# _____	



LEGEND

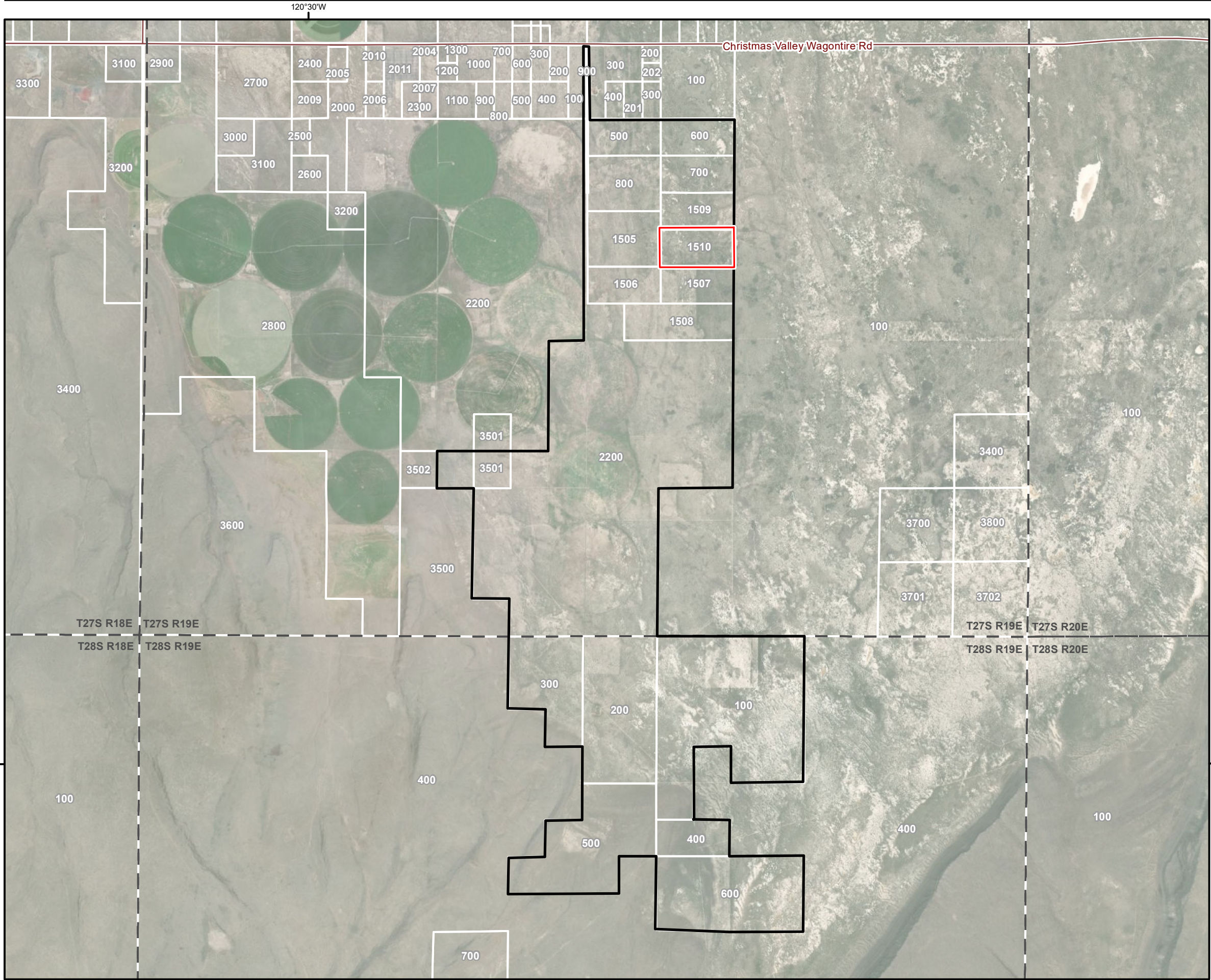
- Town of Christmas Valley
- Road
- ▭ Archway Project Boundary
- ▭ October 2020 Study Area

Notes:
1. Projection - State Plane Oregon South
FIPS 3602 Feet NAD 83



1 inch = 10,000 feet

Figure 1
Location Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Highway
- PLSS Township and Range
- Archway Project Boundary
- October 2020 Study Area

Notes:
1. Lake County Tax Lots
2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
3. October 2020 Study Area within the following:
T27S R19E Section 22



0 1,750 3,500 7,000
Feet

1 inch = 3,500 feet

Figure 2
Tax Lot Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Archway Project Boundary
- October 2020 Study Area
- Sample Point
- Photo Point (with direction)

Notes:
1. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
2. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.

DSL WD # [2020-0656](#)
Approval Issued [3/17/2021](#)
Approval Expires [3/17/2026](#)

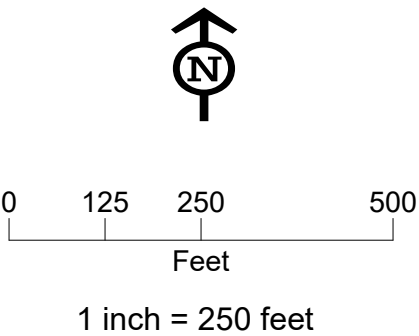


Figure 6
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



Oregon

Kate Brown, Governor

Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 986-5200

FAX (503) 378-4844

www.oregon.gov/dsl

State Land Board

September 14, 2020

Archway Solar Energy LLC

Attn: Ken Nichols

959 SE Division Street Suite 350

Portland, OR 97202

Kate Brown

Governor

Bev Clarno

Secretary of State

Re: WD # 2020-0127 **Approved**

Wetland Delineation Report for Archway Solar Energy Project

Lake County; T27S R19E and T28S R19E, Study Area Includes

Portions of Multiple Sections, Tax Maps, and Tax Lots

(See Summary Tables)

Tobias Read

State Treasurer

Dear Mr. Nichols:

The Department of State Lands has reviewed the wetland delineation report prepared by Jacobs Engineering Group, Inc. for the site referenced above. Please note that the study area includes only a portion of the tax lots described above (see the attached table summary). Based upon the information presented in the report and additional information submitted upon request, we concur with the water boundaries as mapped in revised Figure 6-A through 6-RR of the report. Please replace all copies of the preliminary wetland maps with these final Department-approved maps. In addition, the maps include 2 tax lots with black hatching. These tax lots (T27S R19E TL1510 and T28S R19E TL400, except for a roadway) are within the project area but were not delineated and are not included in this concurrence.

Within the study area, 6 non-wetland playas (Playa 1 through 3, and 5 through 7) and 14 non-wetland playa/upland mosaics (Playa 4 and 8 through 20) were identified. Table 1 summarizes the percent of jurisdictional waters within the 14 playa/upland mosaics. The playas and playa/upland mosaics (percentages per Table 1) are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined).

This concurrence is for purposes of the state Removal-Fill Law only. We recommend that you attach a copy of this concurrence letter to any subsequent state permit application to speed application review. Federal or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator for Lake County, Lynne McAllister, at (503) 986-5300.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Ryan", with a stylized, cursive script.

Peter Ryan, SPWS
Aquatic Resource Specialist

Enclosures

ec: Claudia Steinkoenig, PWS, Jacobs Engineering Group, Inc.
Lake County Planning Department
Anita Andazola, Corps of Engineers
Bethany Harrington, DSL
Joy Vaughan, ODFW

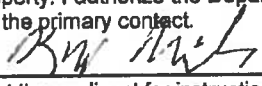
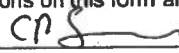
Table 1. Percent jurisdictional waters within 14 non-wetland playa mosaics delineated.

Feature Name	Waters (acres)	Mosaic (total acres)	Percent Waters
Playa mosaic 4	0.33	0.48	69
Playa mosaic 8	0.50	0.61	82
Playa mosaic 9	1.33	1.88	71
Playa mosaic 10	1.89	2.69	70
Playa mosaic 11	0.76	1.06	72
Playa mosaic 12	6.03	8.26	73
Playa mosaic 13	5.88	8.04	73
Playa mosaic 14	3.74	5.32	70
Playa mosaic 15	1.50	2.39	63
Playa mosaic 16	7.20	8.34	86
Playa mosaic 17	3.90	6.47	60
Playa mosaic 18	50.62	70.07	72
Playa mosaic 19	0.66	0.84	79
Playa mosaic 20	1.93	3.04	63

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: <https://apps.oregon.gov/DSL/EPS/program?key=4>.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF of the completed cover form and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

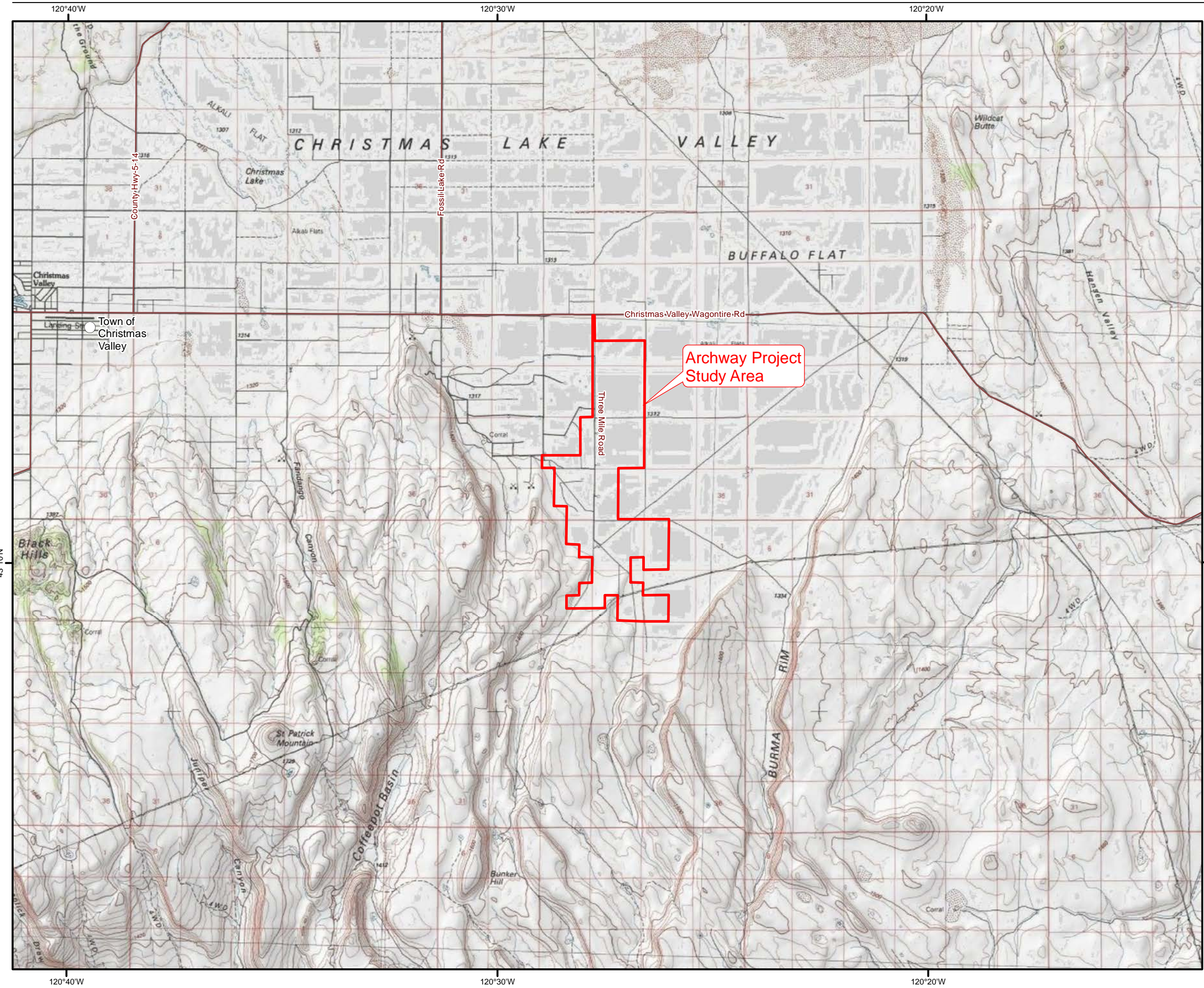
Contact and Authorization Information	
<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: Archway Solar Energy LLC Ken Nichols 959 SE Division St., Suite 350 Portland, OR 97202	Business phone # (503) 438-8223 Mobile phone # (optional) E-mail: knichols@invenenergy.com
<input type="checkbox"/> Authorized Legal Agent, Name and Address (if different):	Business phone # (503) 438-8233 Mobile phone # (optional) (503) 438-8233 E-mail: knichols@invenenergy.com
I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact. Typed/Printed Name: Ken Nichols Signature:  Date: 03/04/2020 Special instructions regarding site access: Please contact the applicant for instructions prior to a site visit.	
Project and Site Information	
Project Name: Archway Solar Energy Project	Latitude: 43.208815 Longitude: -120.4628448 decimal degree - centroid of site or start & end points of linear project
Proposed Use: 400-megawatt photovoltaic (PV) solar power generation and storage facility.	Tax Map # See Attachment Tax Lot(s) See Attachment Tax Map # See Attachment Tax Lot(s) See Attachment
Project Street Address (or other descriptive location): 9 miles east of Christmas Valley, south of Christmas Valley Wagonire Road and accessed by Three Mile Road	Township 27S, 28S Range 19E Section QQ Use separate sheet for additional tax and location information
City: County: Lake	Waterway: None River Mile: NA
Wetland Delineation Information	
Wetland Consultant Name, Firm and Address: C. Steinkoenig Jacobs Engineering Group Inc. 2020 SW 4th Avenue, Suite 300 Portland, Oregon 97201	Phone # (503) 736-4136 Mobile phone # (if applicable) E-mail: claudia.steinkoenig@jacobs.com
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge. Consultant Signature:  Date: 02/27/2020	
Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent	
Wetland/Waters Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Study Area size: 4,544 acres Total Wetland Acreage: 0.0000	
Check Applicable Boxes Below	
<input type="checkbox"/> R-F permit application submitted <input type="checkbox"/> Mitigation bank site <input type="checkbox"/> EFSC/ODOE Proj. Mgr: _____ <input type="checkbox"/> Wetland restoration/enhancement project (not mitigation) <input type="checkbox"/> Previous delineation/application on parcel If known, previous DSL # _____	<input type="checkbox"/> Fee payment submitted \$ EFSC project <input type="checkbox"/> Resubmittal of rejected report (\$100) <input type="checkbox"/> Request for Reissuance. See eligibility criteria. (no fee) DSL # _____ Expiration date _____ <input type="checkbox"/> LWI shows wetlands or waters on parcel Wetland ID code _____
For Office Use Only	
DSL Reviewer: LM Fee Paid Date: ____ / ____ / ____	DSL WD # 2020-0127
Date Delineation Received: 3 / 5 / 20 Scanned: <input type="checkbox"/> Electronic: <input checked="" type="checkbox"/>	DSL App.# _____

TAX LOT SUMMARY TABLES

Township	Range	Section	Tax Lot
27S	19E	00	1509, 3501, 2200, 1505, 1506, 1507, 1508, 1510
27S	19E	15	300, 500, 600, 700, 800, 900
27S	19E	16	100
28S	19E	00	100, 200, 300, 400, 500, 600

(Tax lots in study area but not delineated.)

Tax Map Number		
27S19E150000600	27S19E150000300	28S19E000000600
27S19E150000700	27S19E150000800	27S19E000001510-not delineated
27S19E150000500	28S19E000000100	27S19E000001507
27S19E160000100	27S19E000002200	27S19E000001508
27S19E000001509	28S19E000000200	27S19E000001506
27S19E000003501	28S19E000000300	27S19E000001505
27S19E150000900	28S19E000000500	28S19E000000400-not delineated



LEGEND

- Town of Christmas Valley
- Road
- ▭ Archway Project Study Area

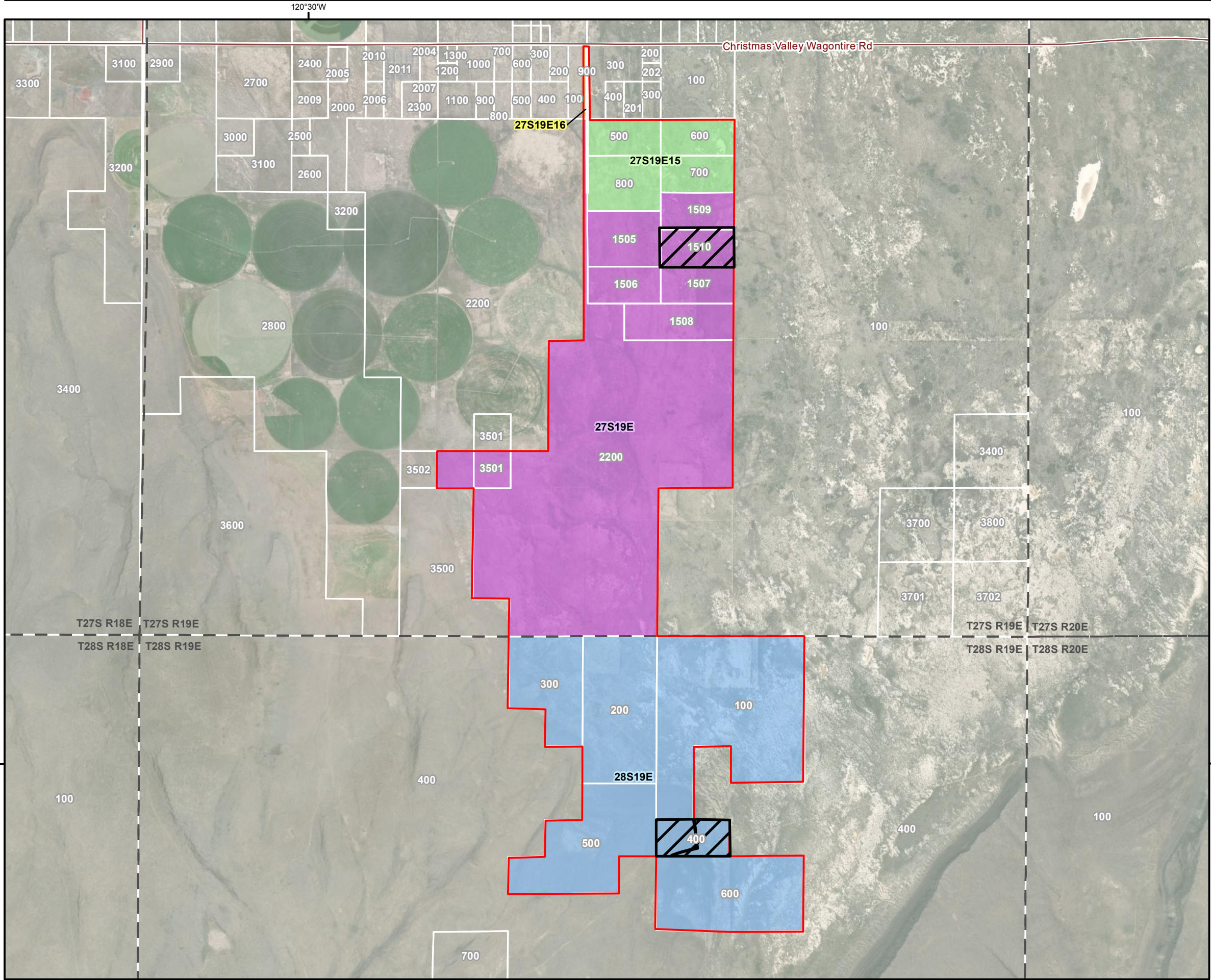
Notes:
1. Area of interest subject to change.
2. Projection - State Plane Oregon South
FIPS 3602 Feet NAD 83



0 5,000 10,000 20,000
Feet

1 inch = 10,000 feet

Figure 1
Location Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Highway
- PLSS Township and Range
- No Access
- Archway Project Study

Tax Map Numbers

- 27S19E
- 27S19E15
- 27S19E16
- 28S19E

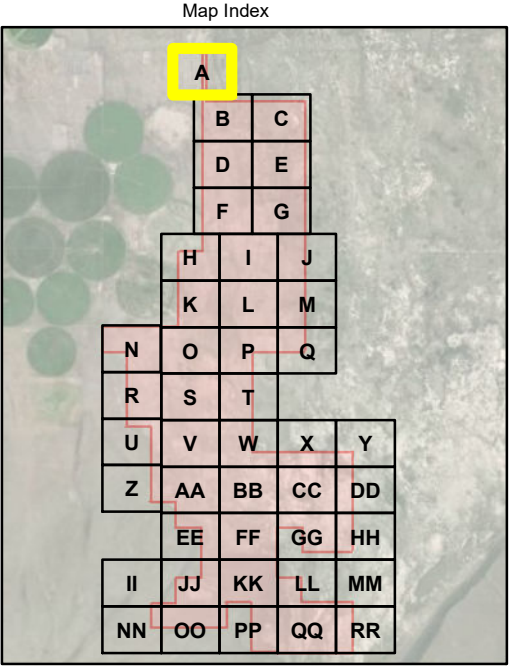
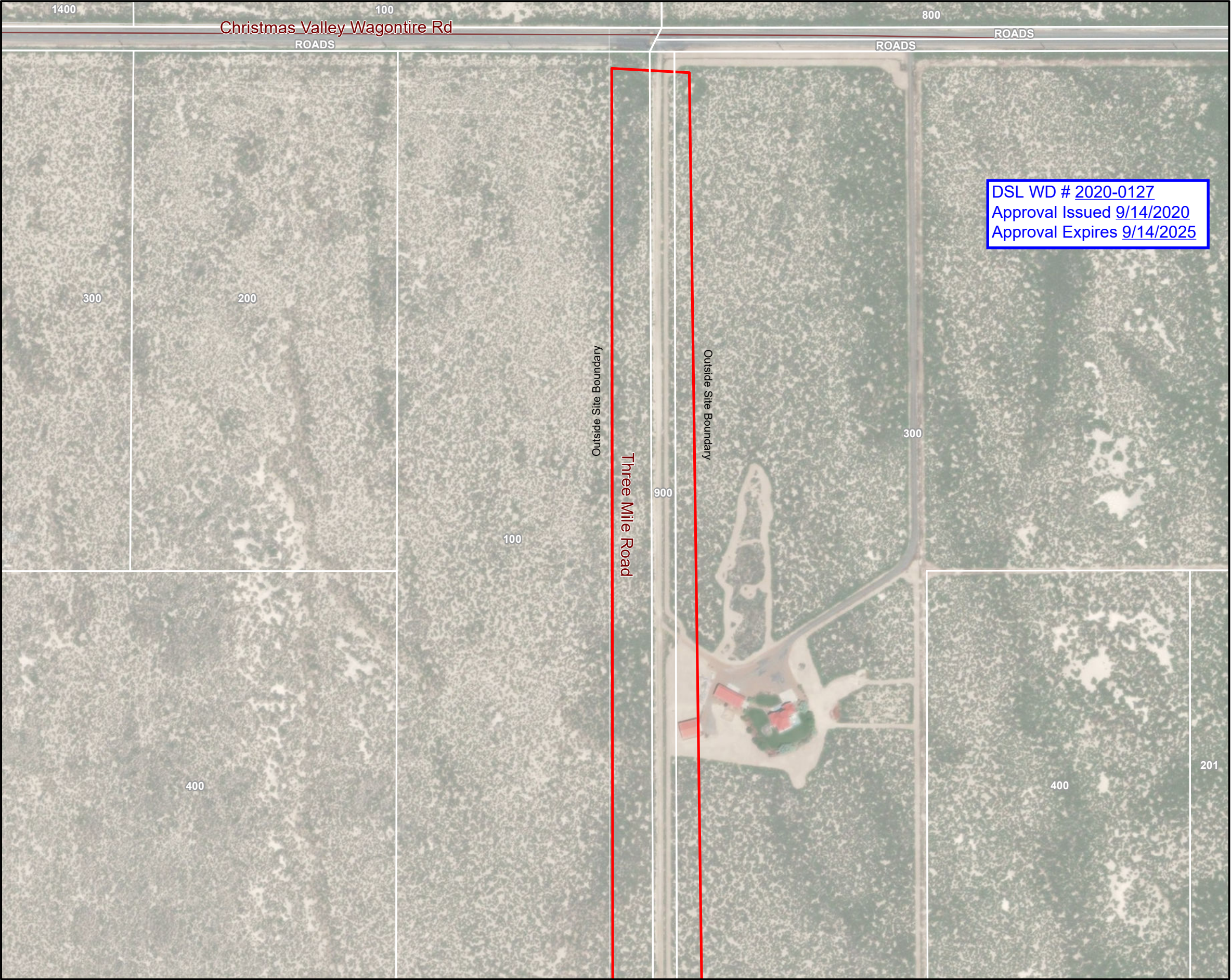
- Notes:
- Area of interest subject to change.
 - Lake County Tax Lots
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
T27S R19E Sections (14,15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 - Esri World Imagery, 2019



0 1,750 3,500 7,000
Feet

1 inch = 3,500 feet

Figure 2
Tax Lot Map
Archway Solar Energy Project
Lake County, Oregon



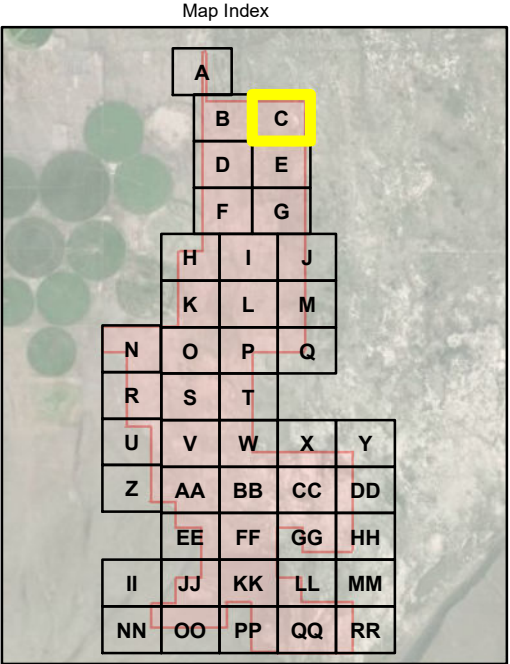
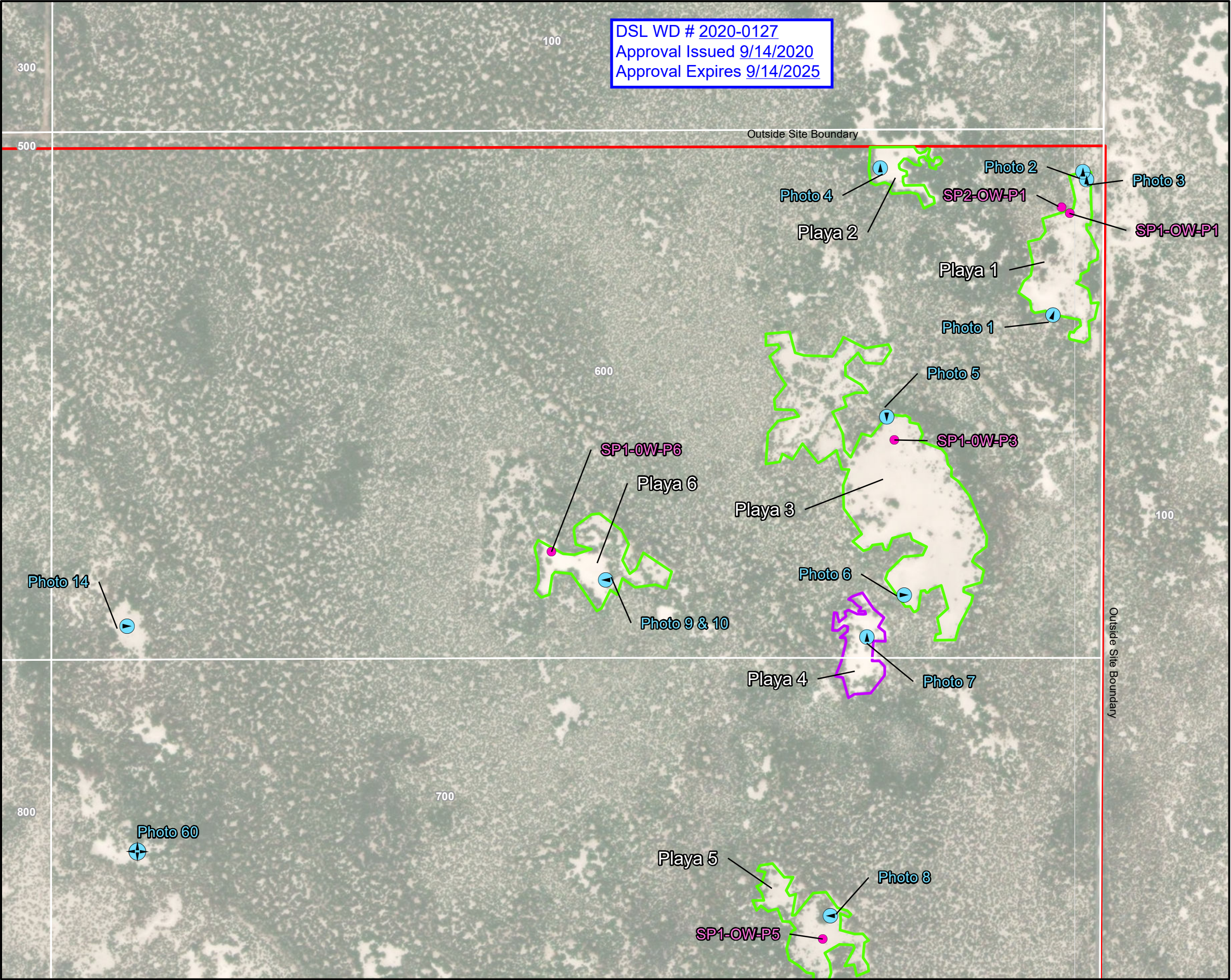
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- A
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



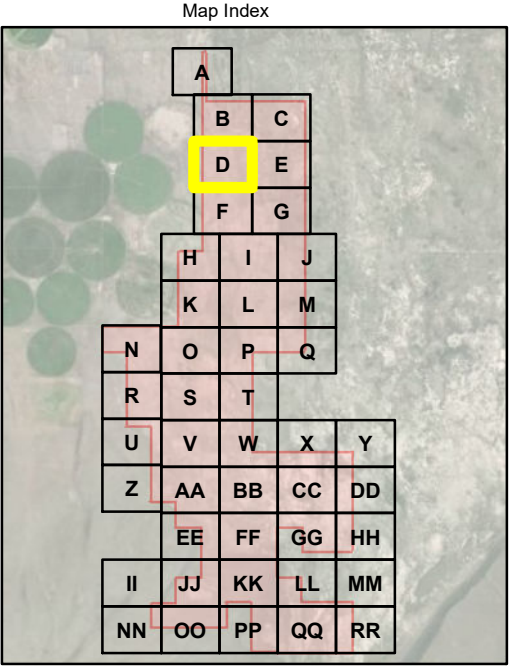
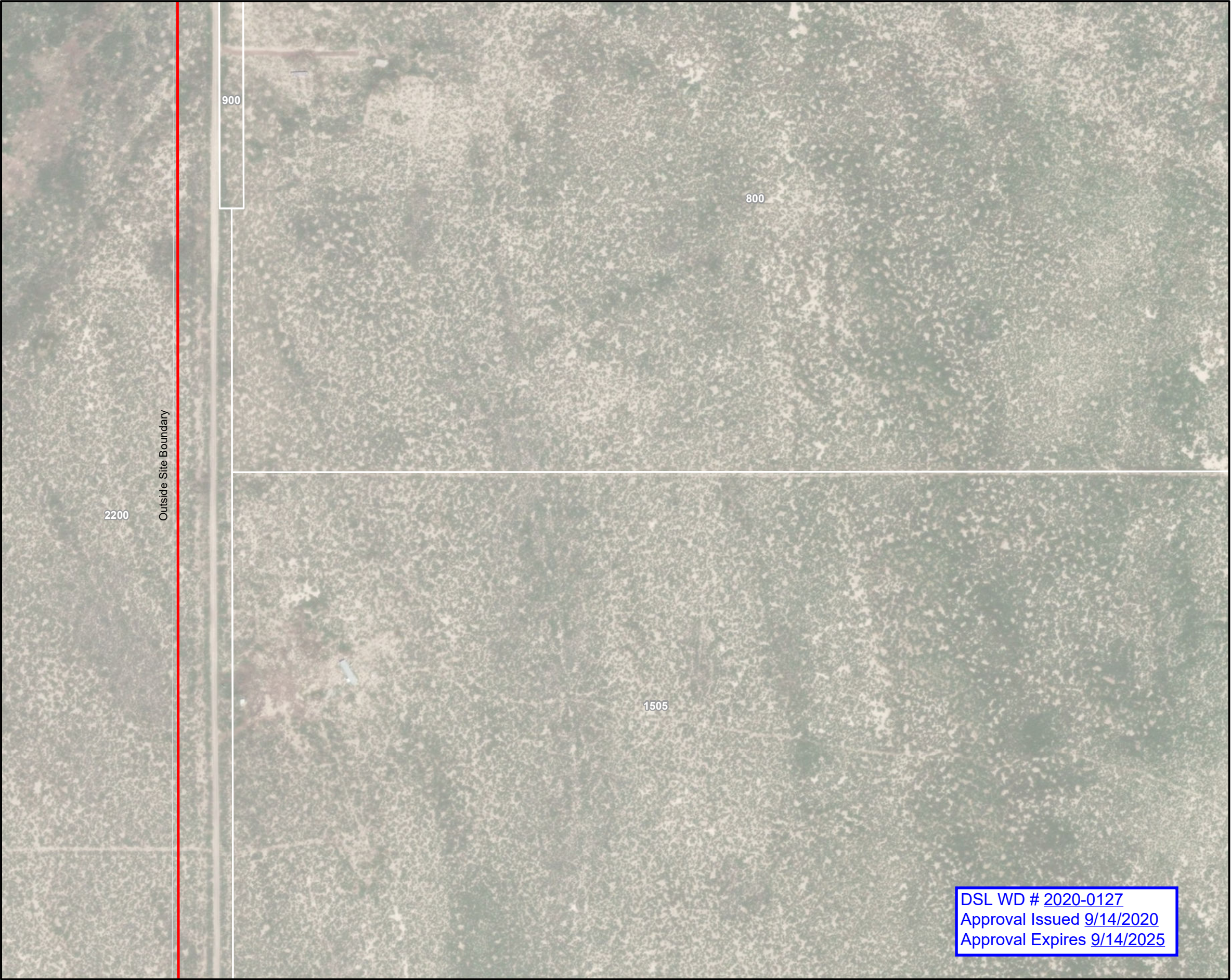
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- C
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



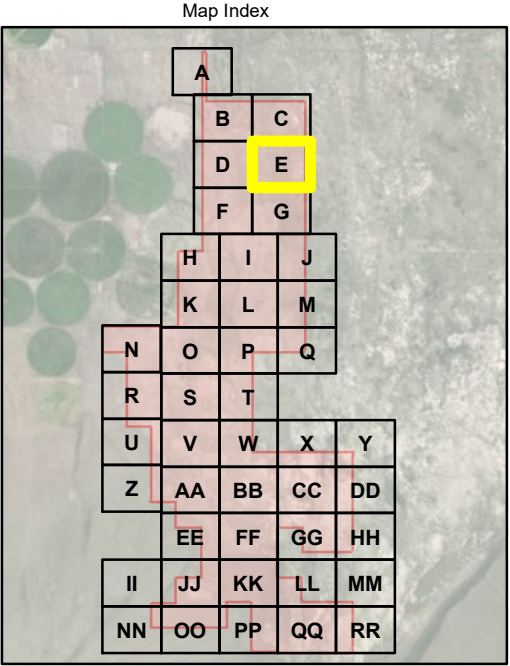
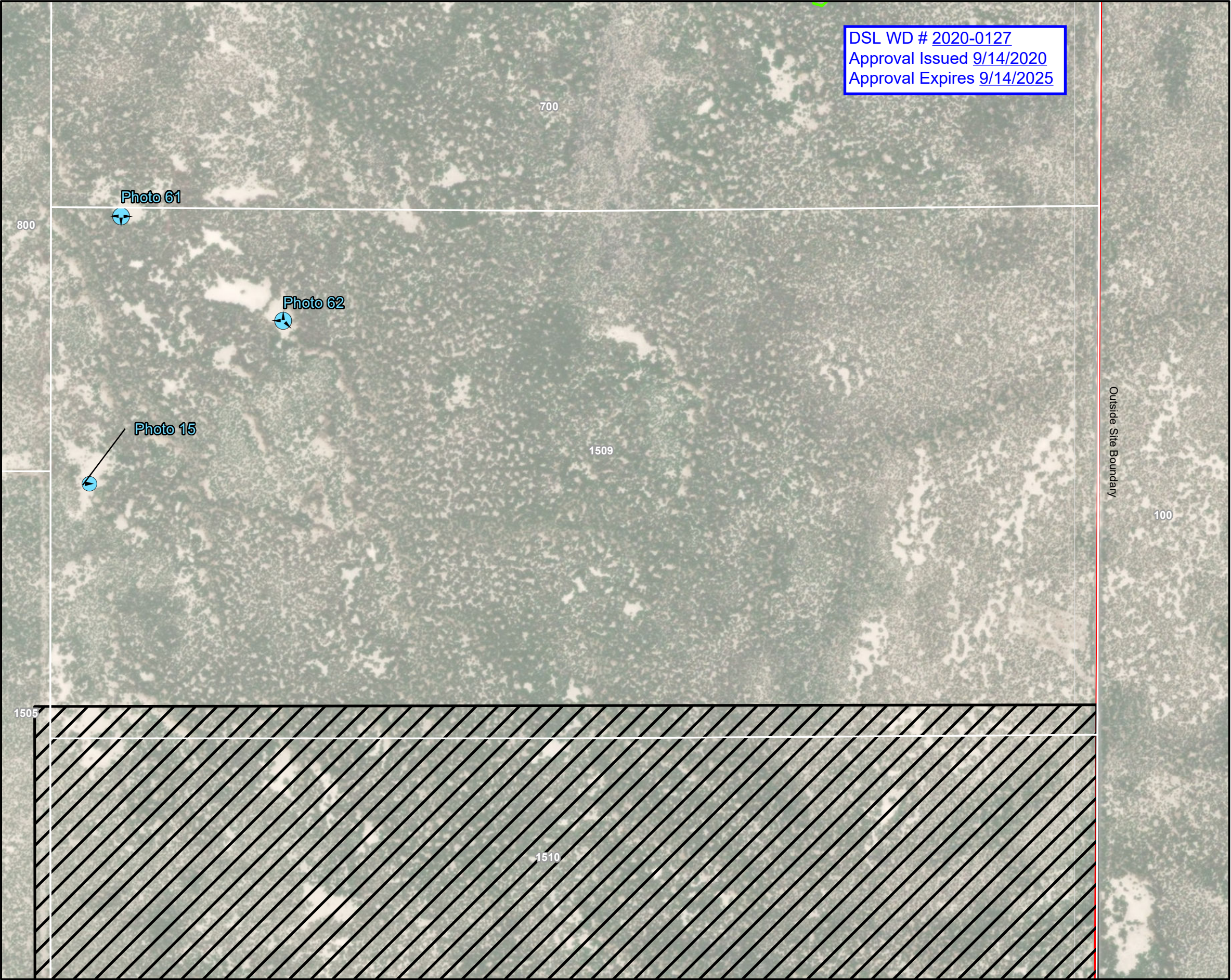
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- D
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



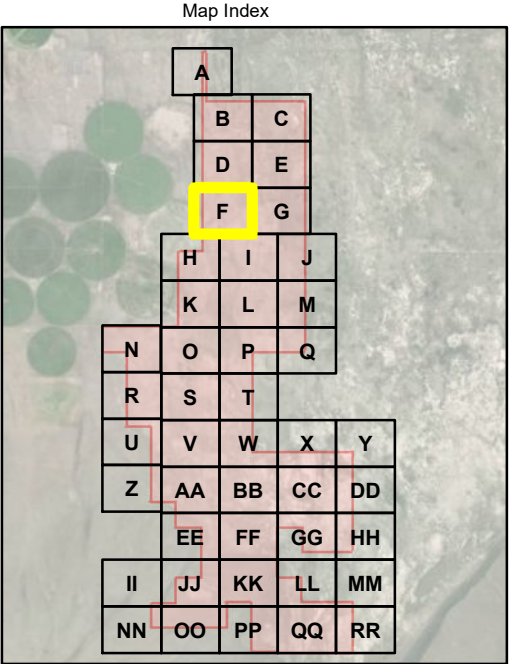
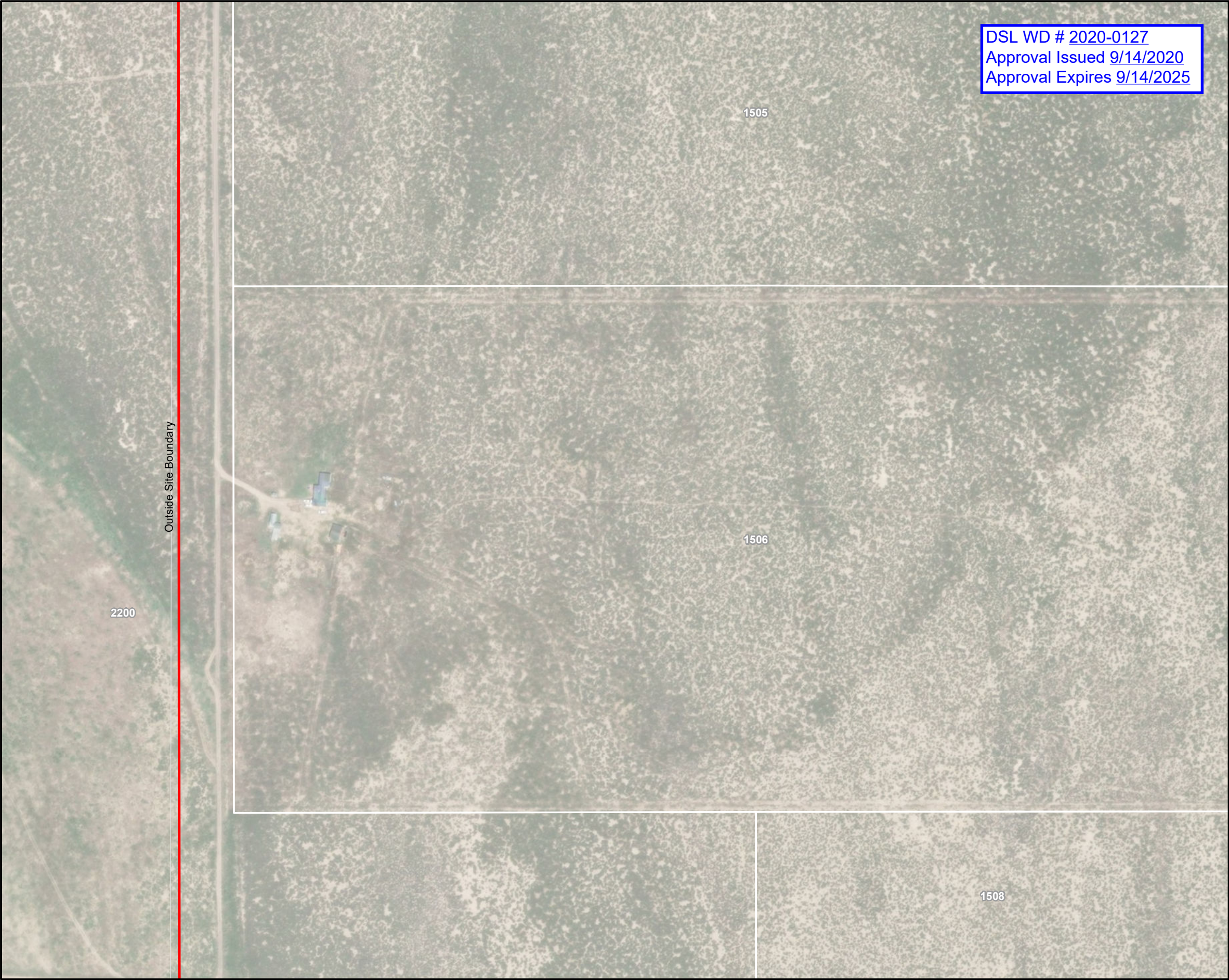
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▨ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- E
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



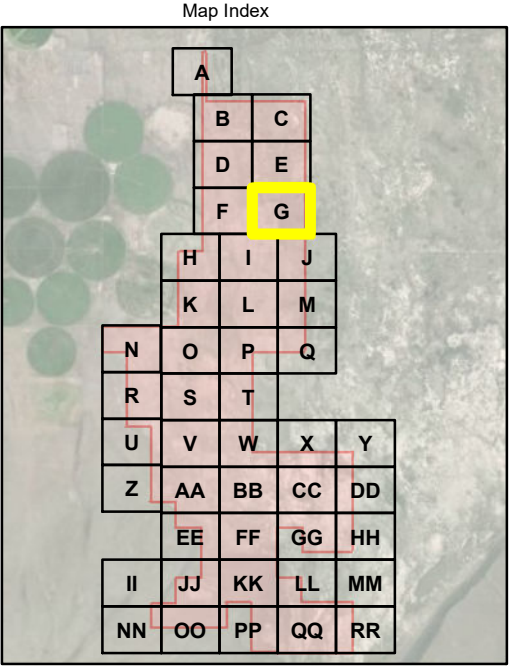
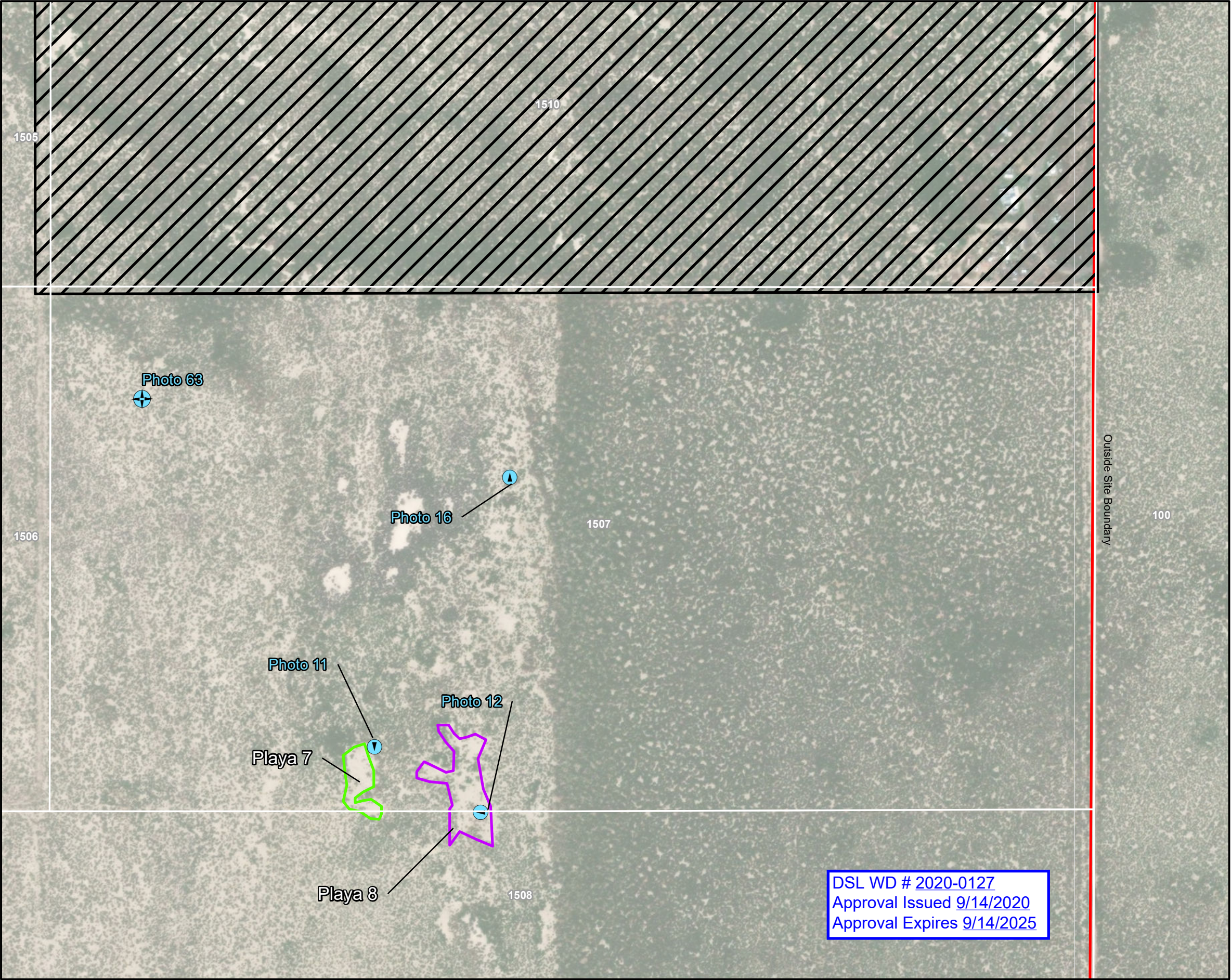
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- F
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



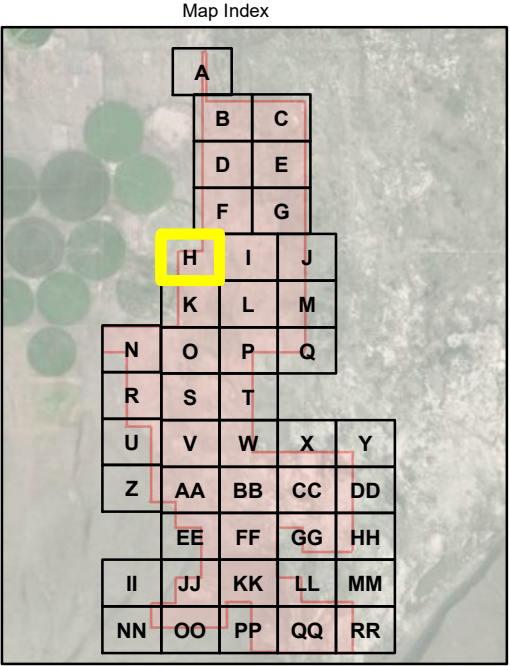
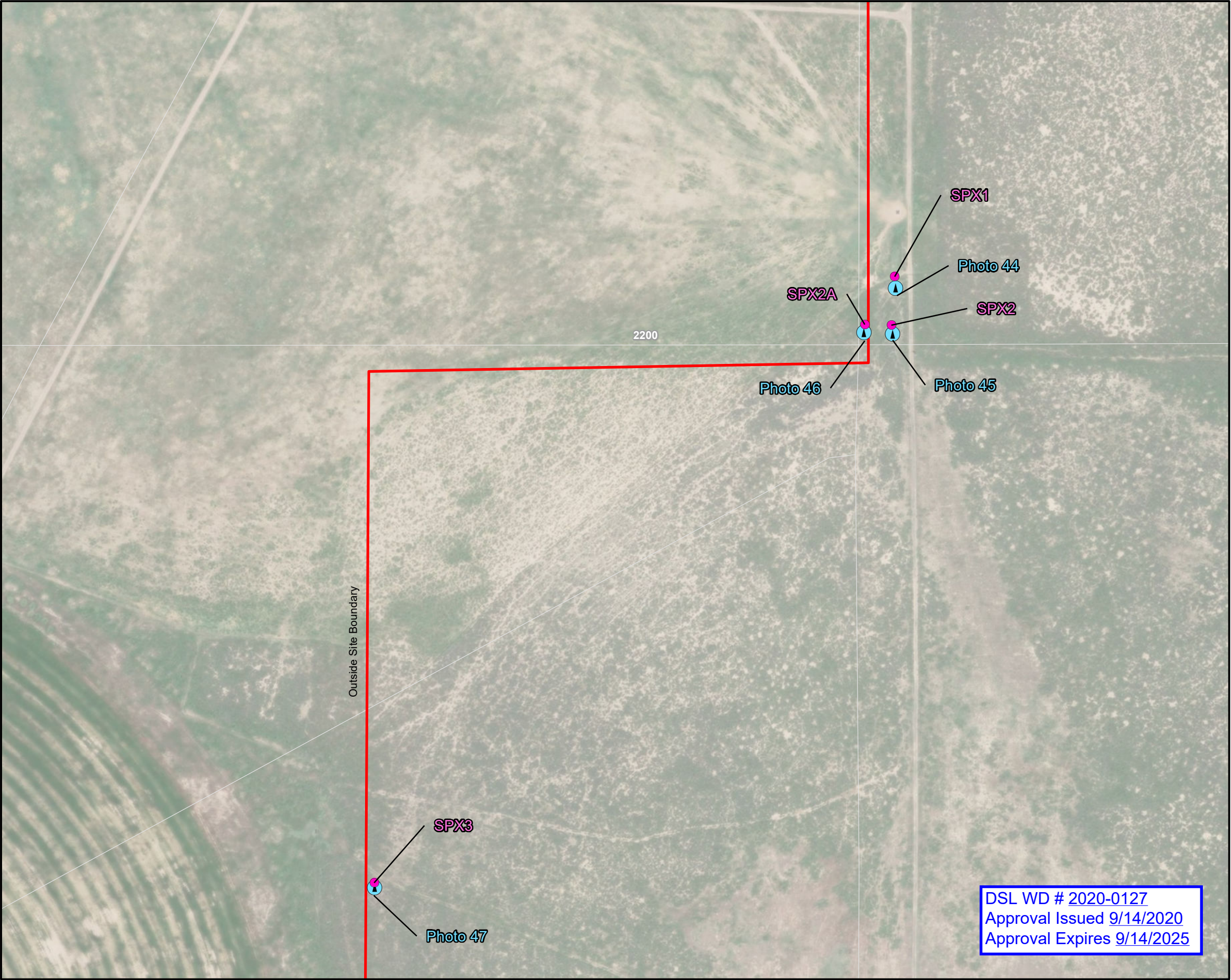
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▨ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- G
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



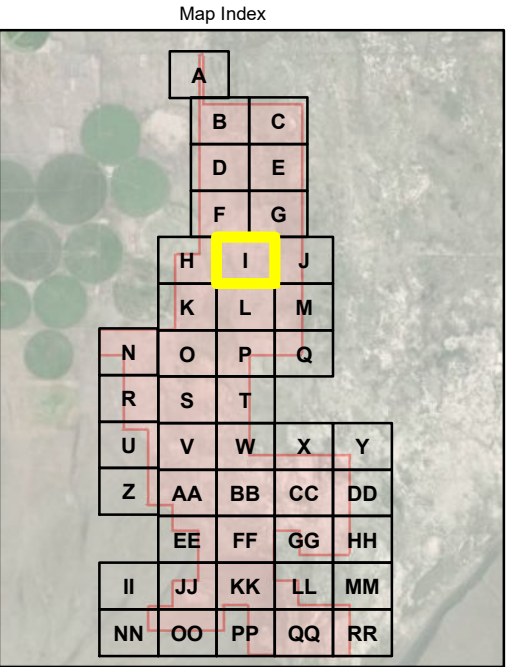
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- H
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



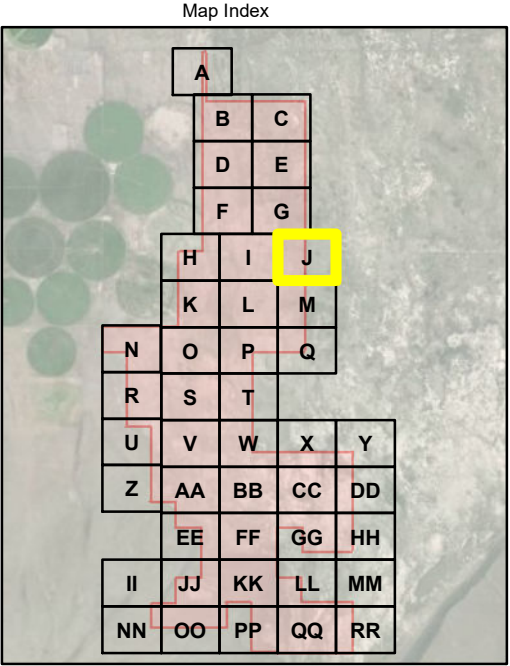
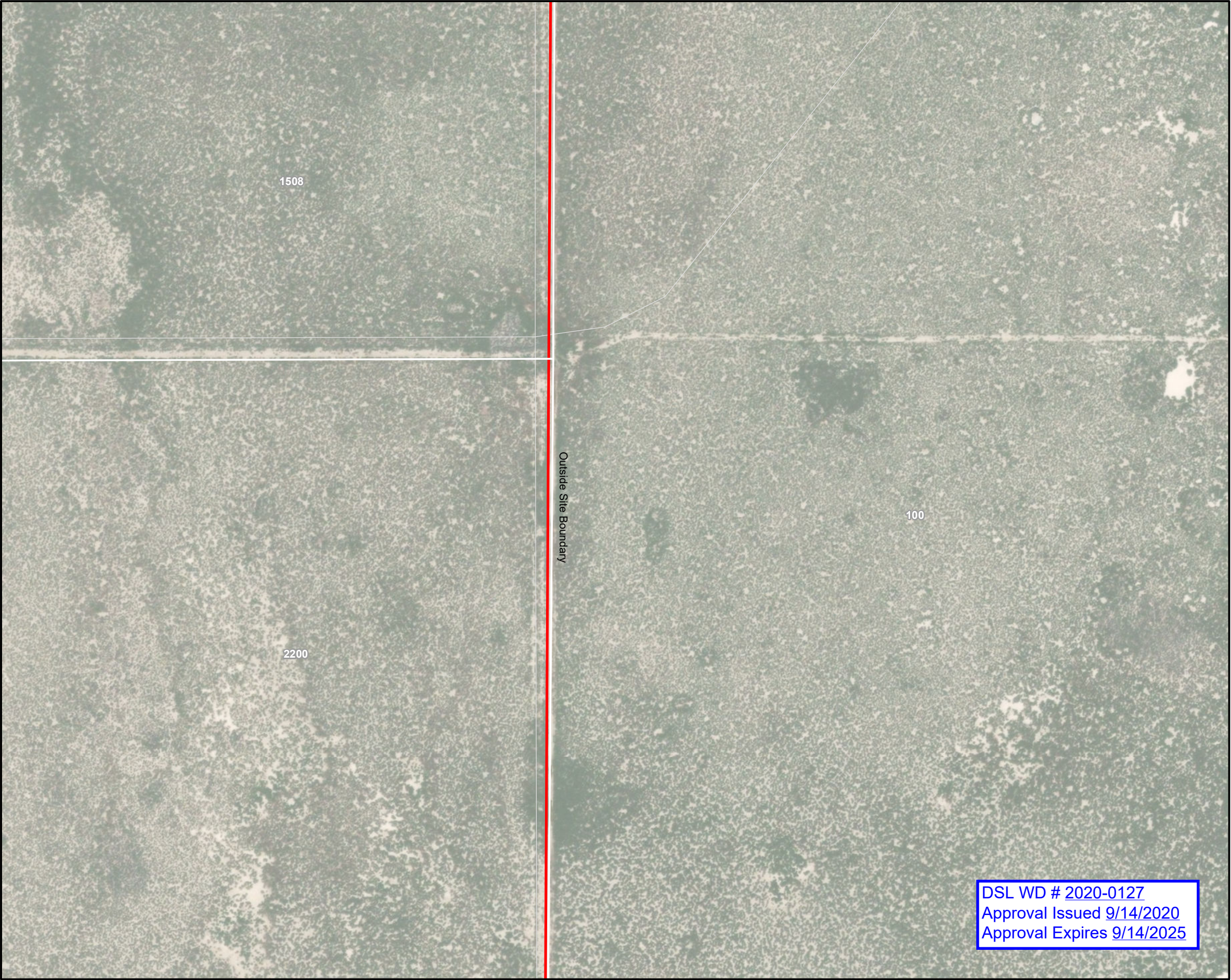
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- I
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



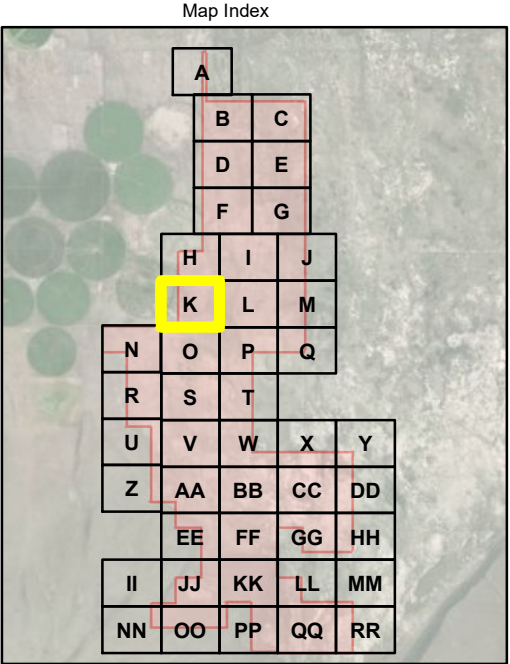
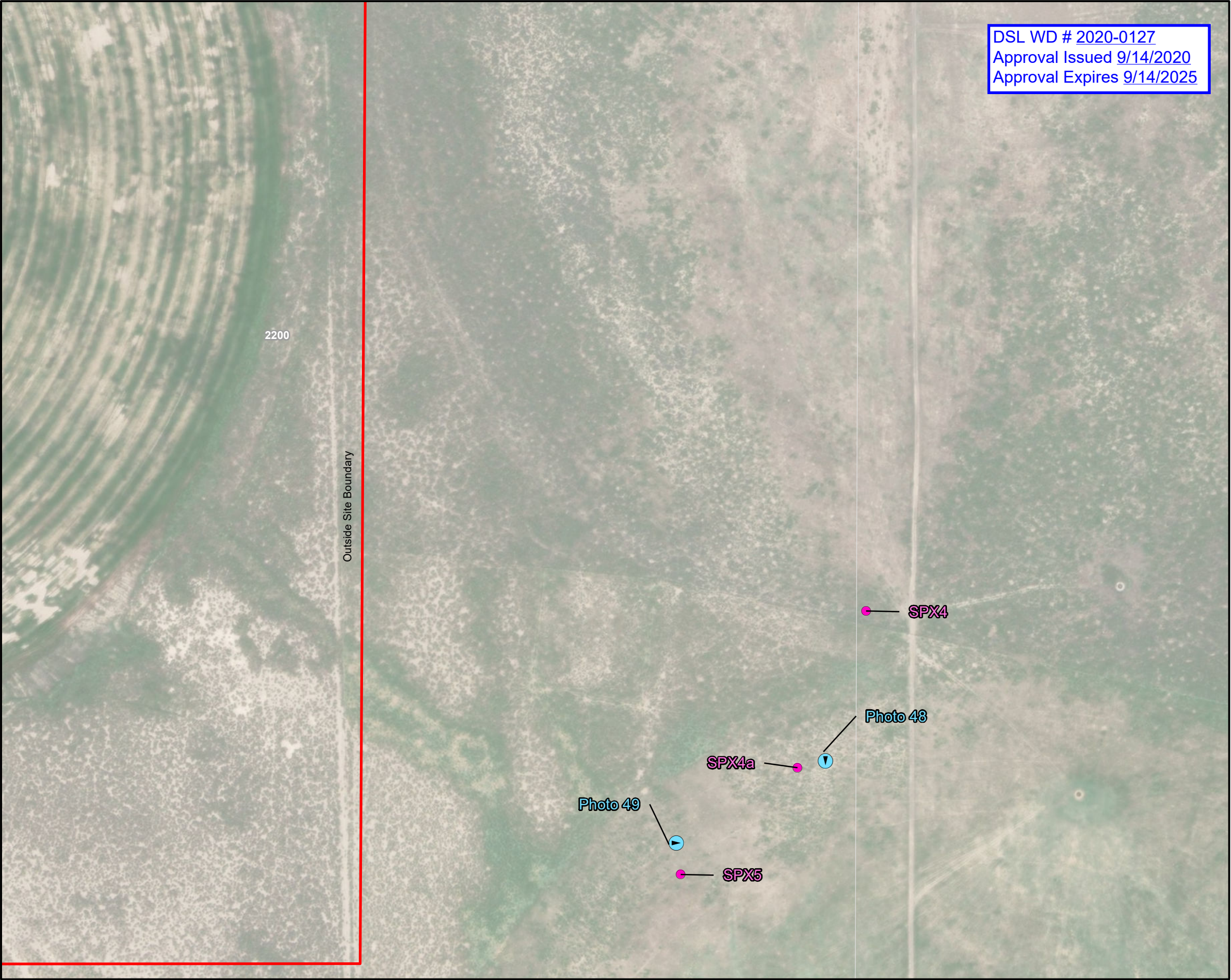
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- J
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



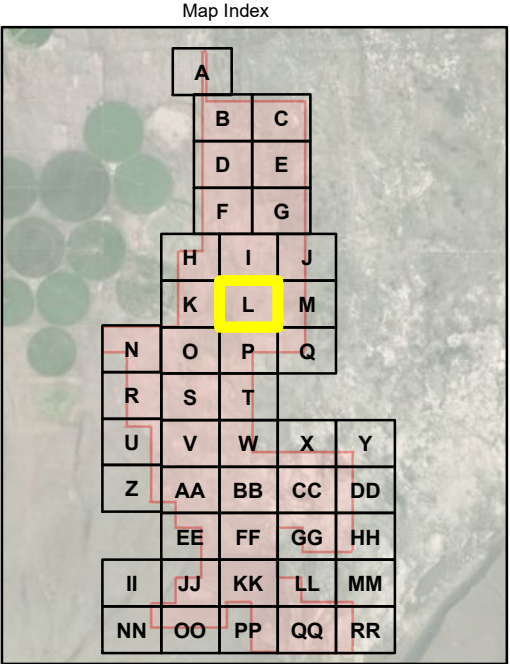
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- K
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



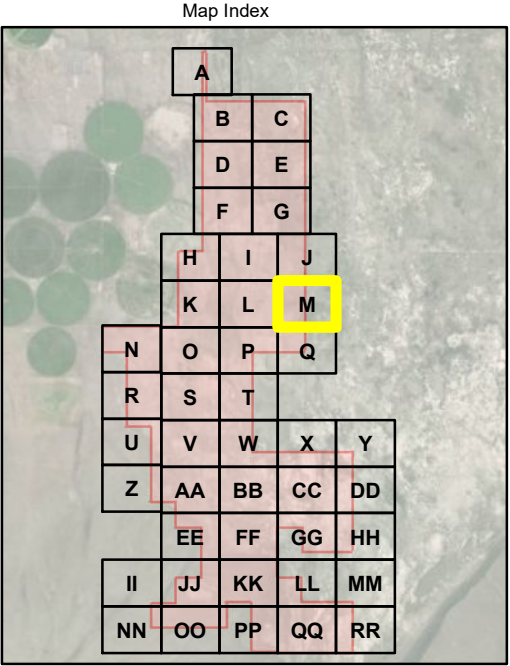
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
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 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- L
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



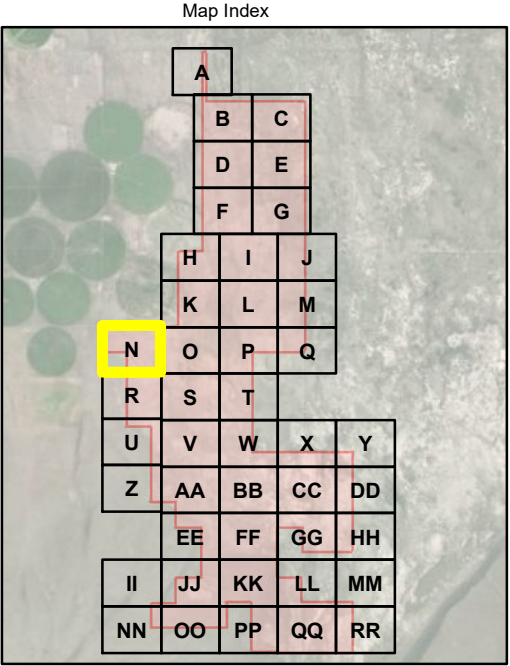
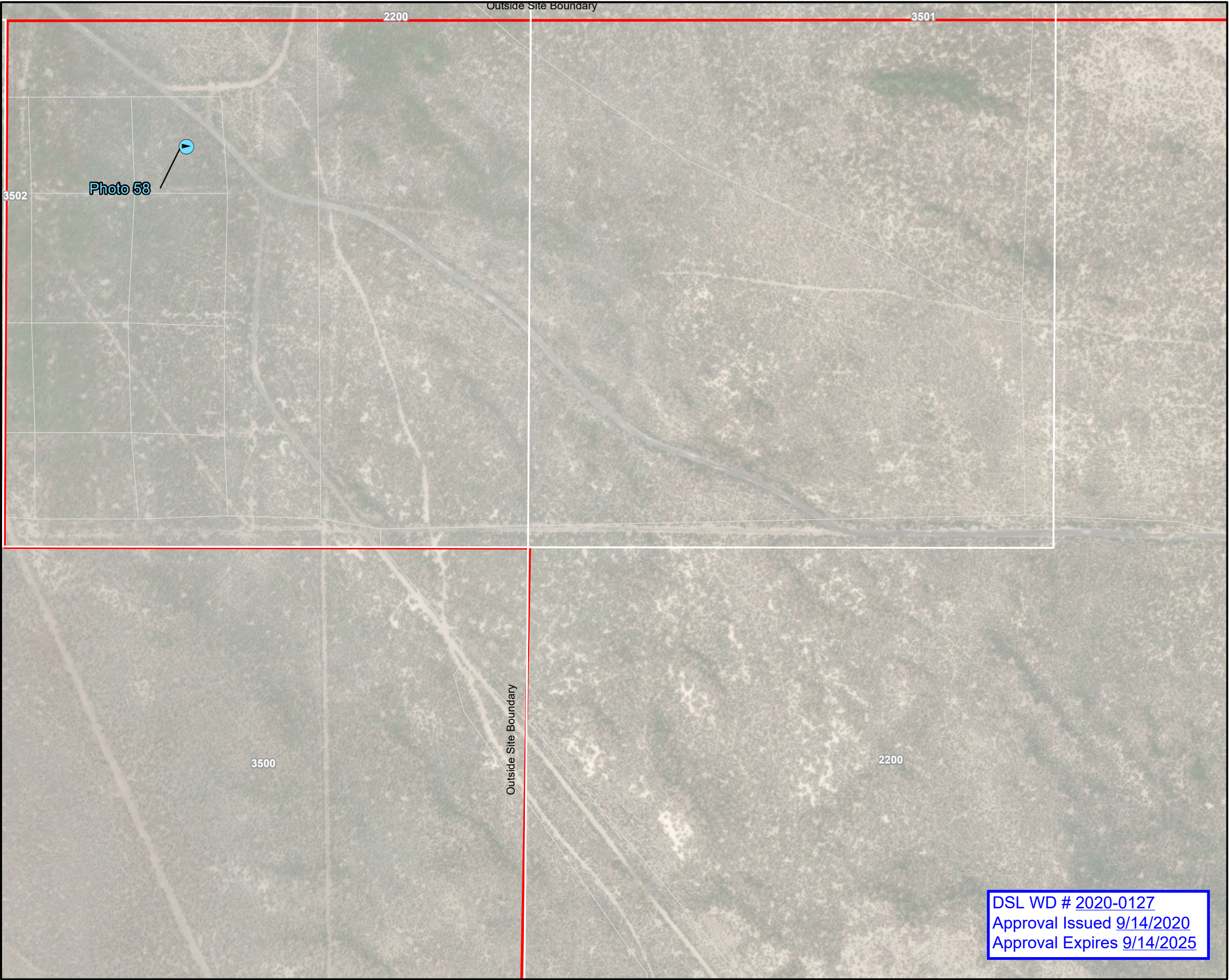
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- M
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



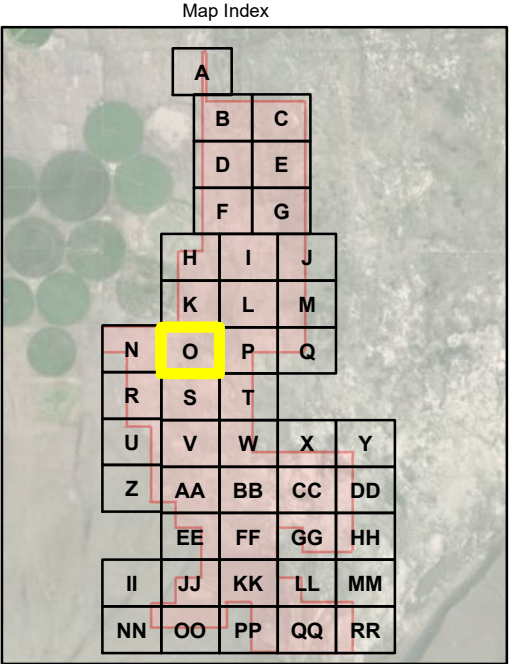
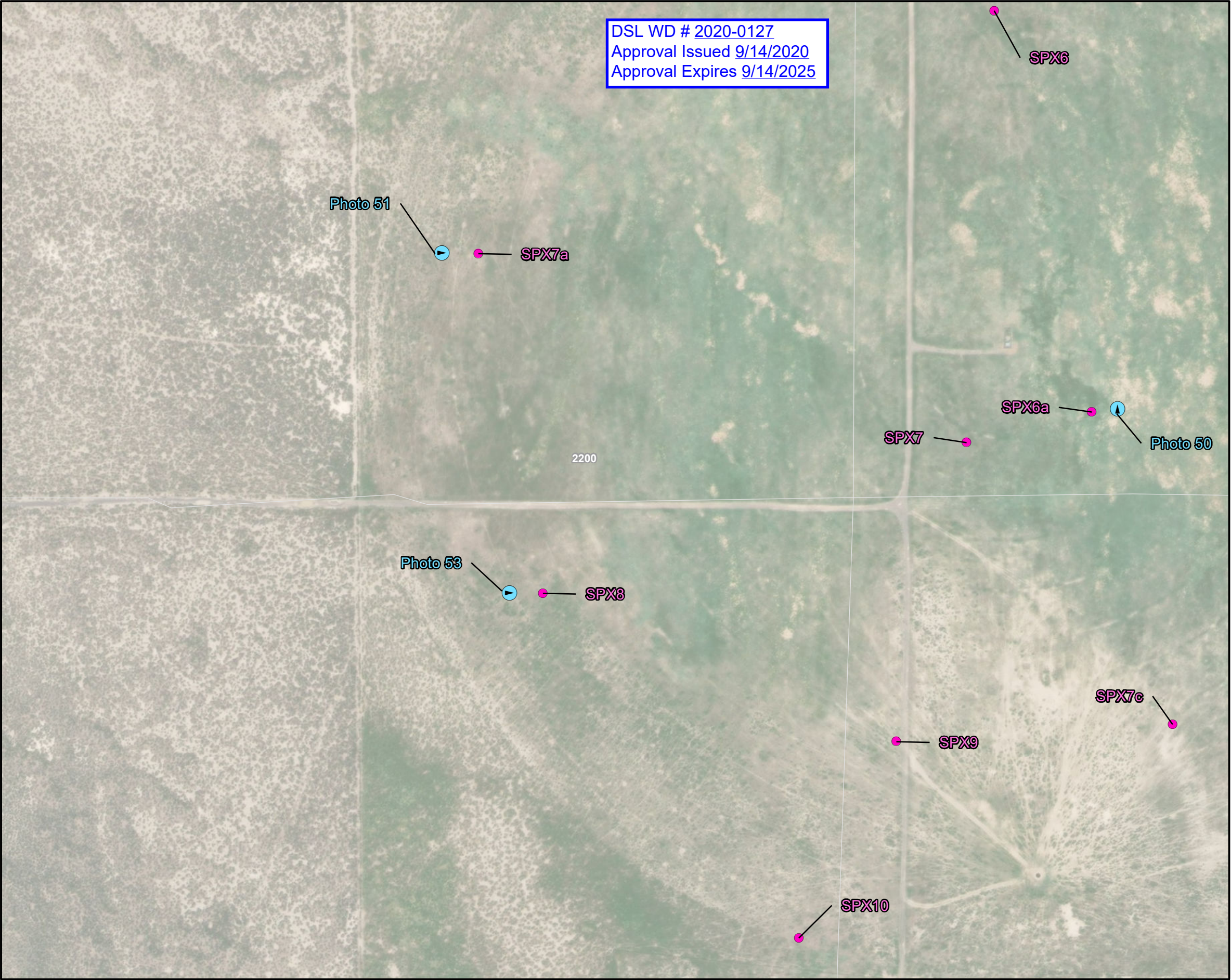
LEGEND

- Sample Point
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- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- N
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



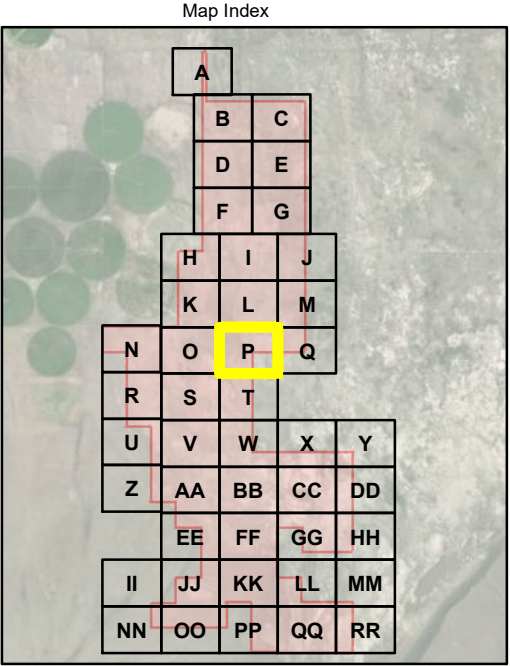
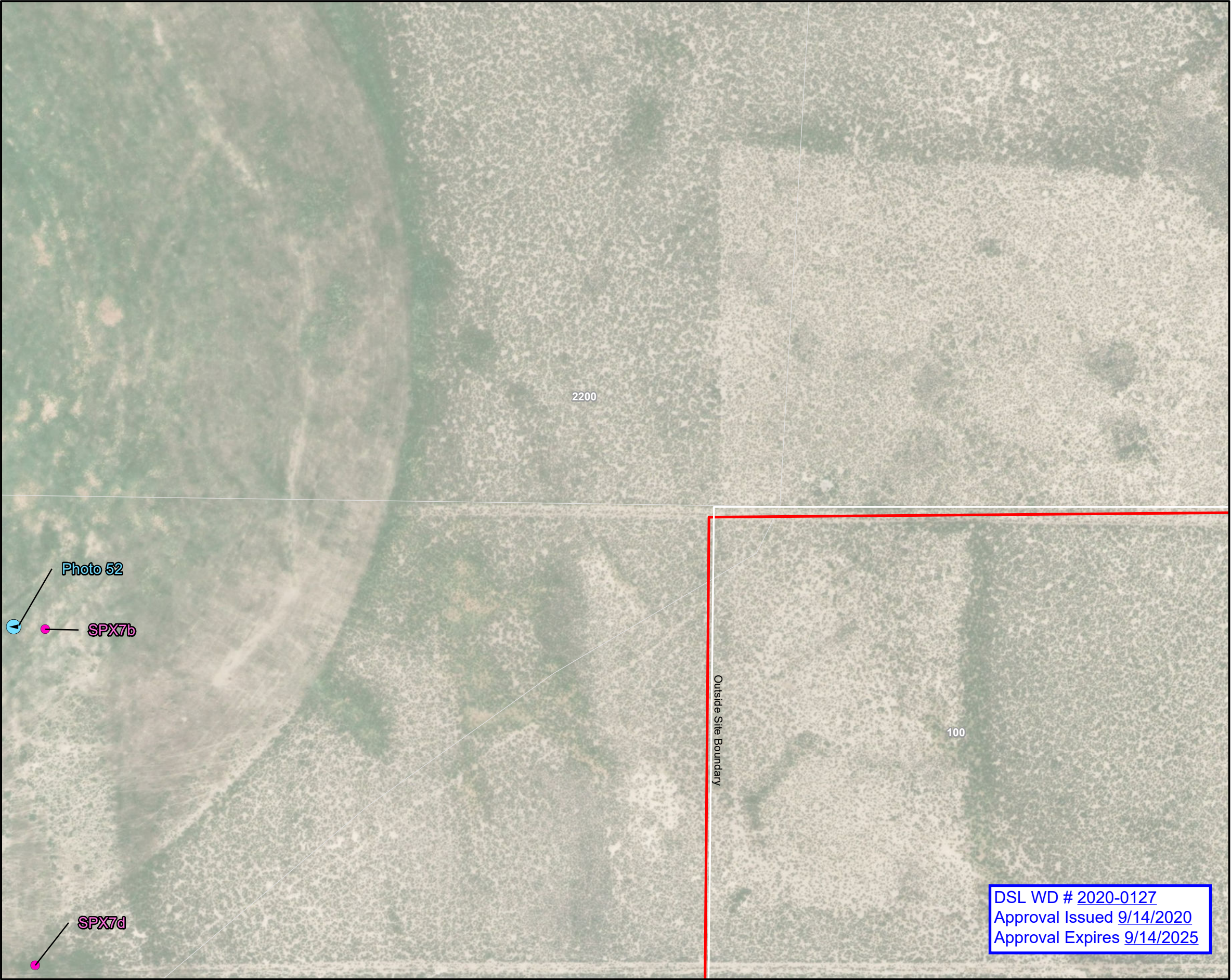
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- O
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



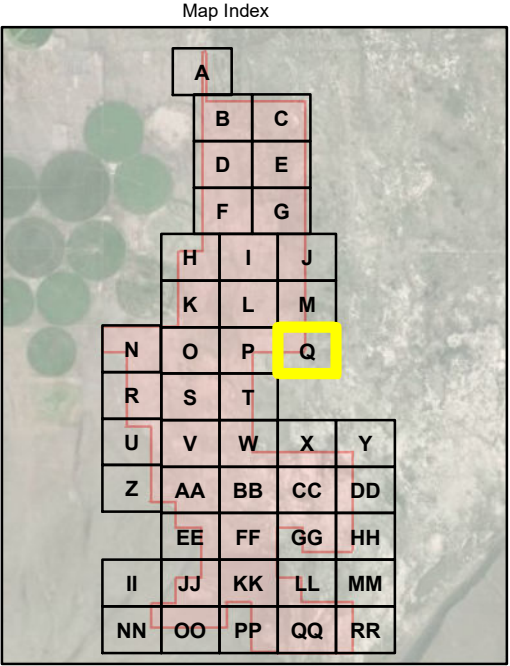
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- P
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



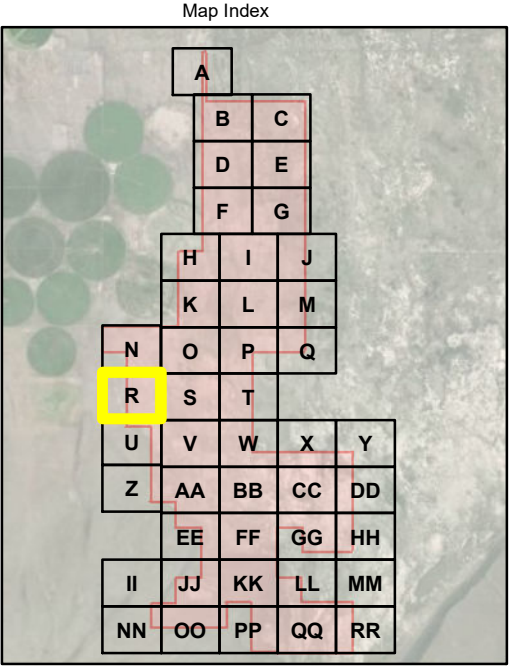
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Q
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



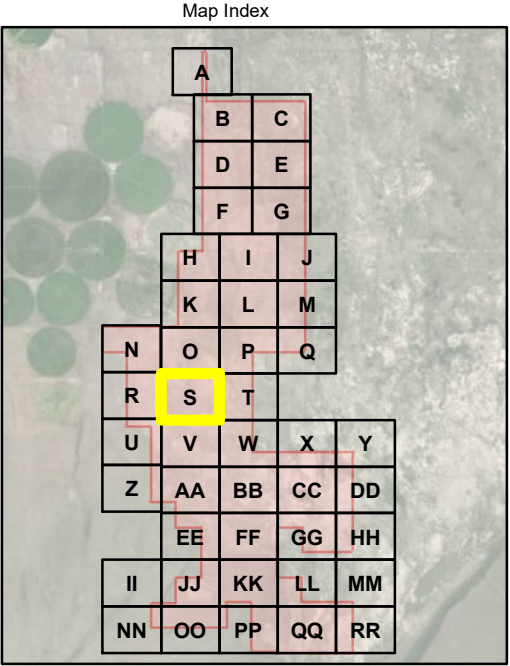
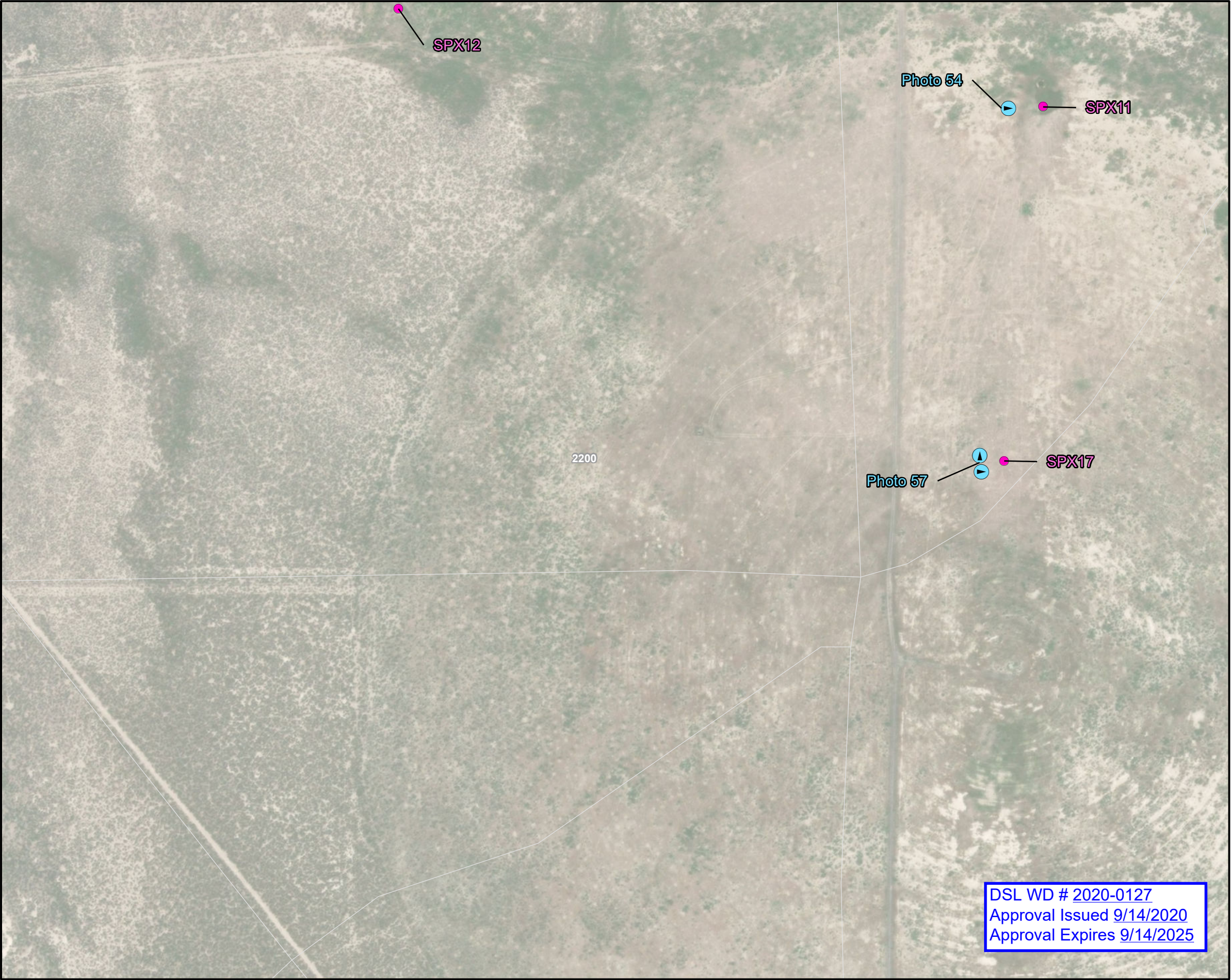
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- R
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



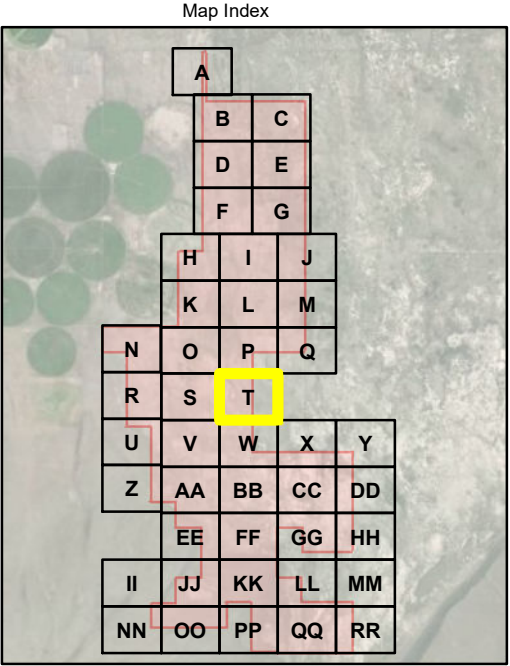
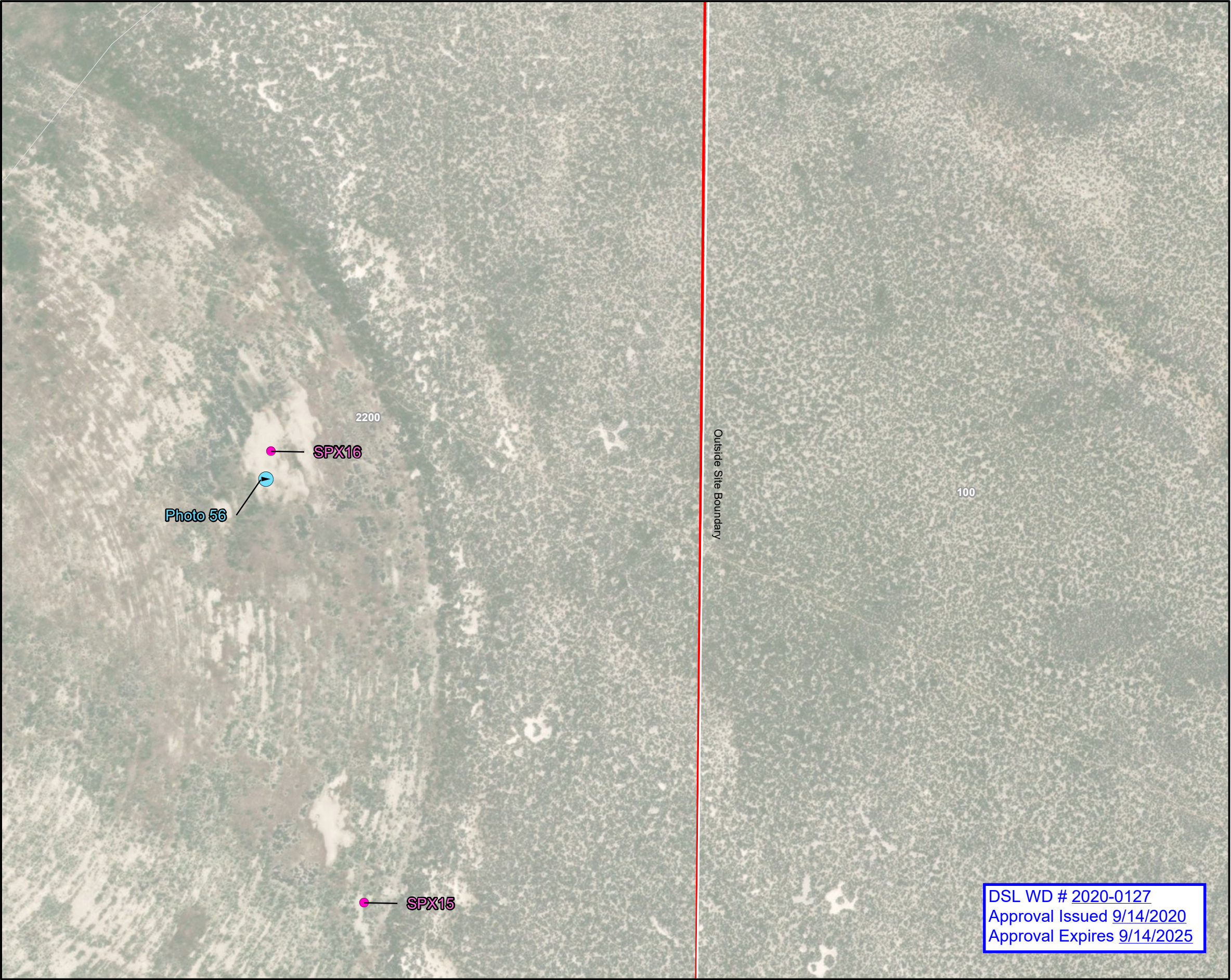
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- S
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



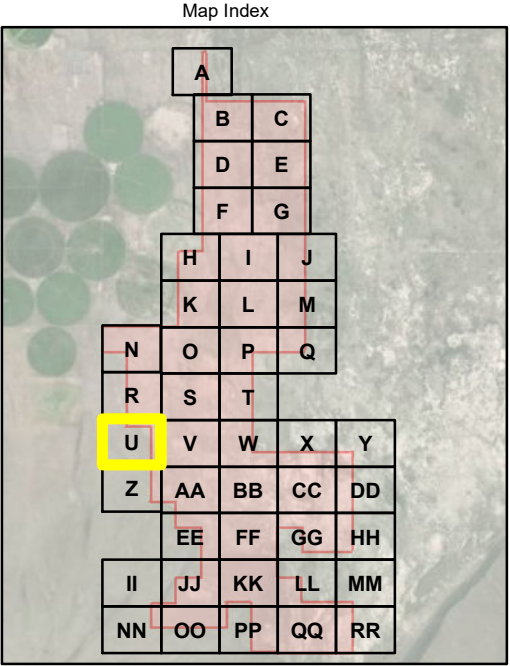
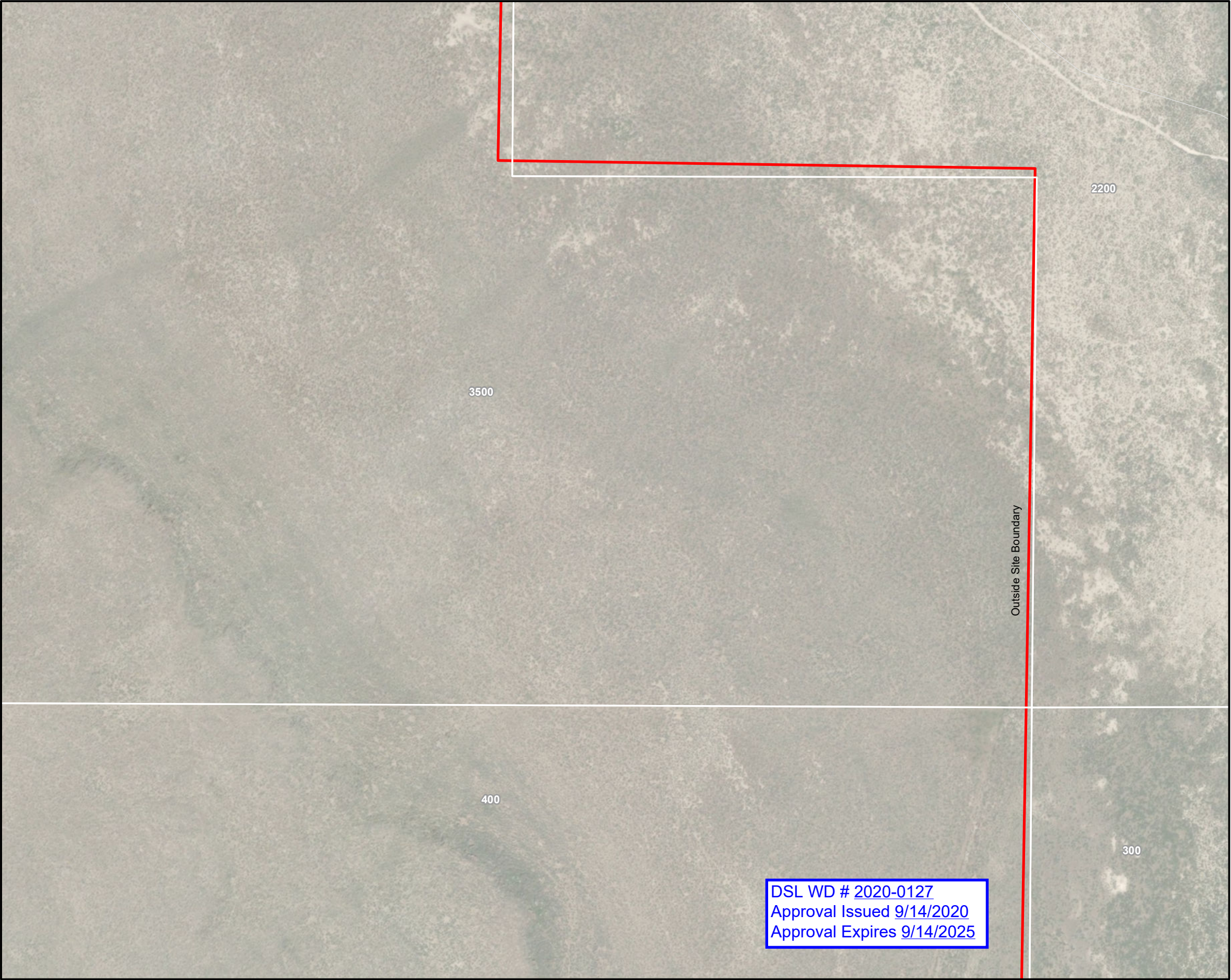
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- T
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



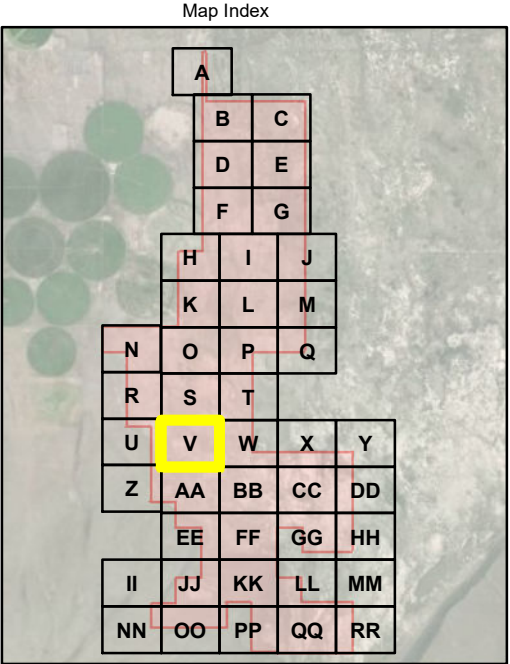
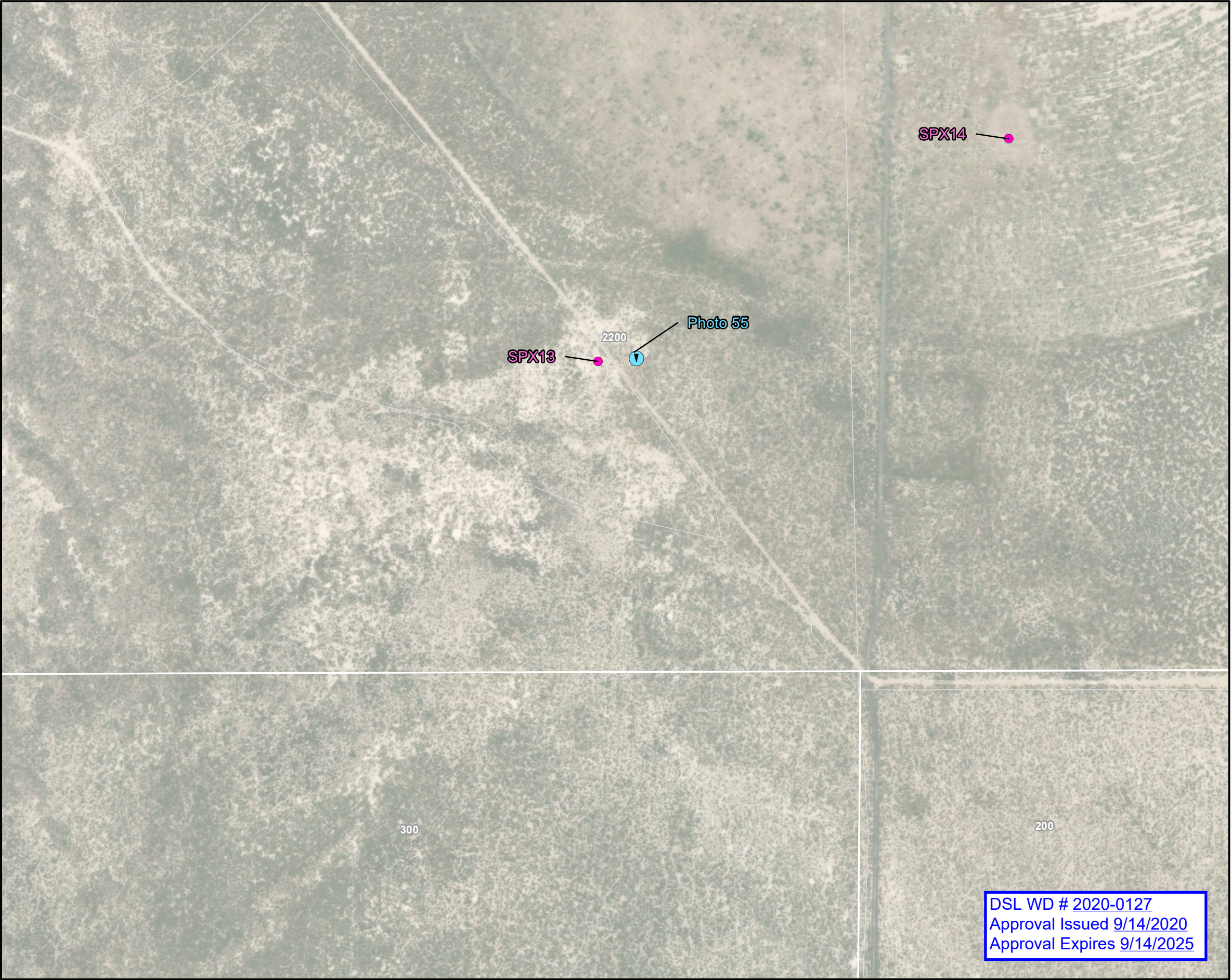
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- U
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



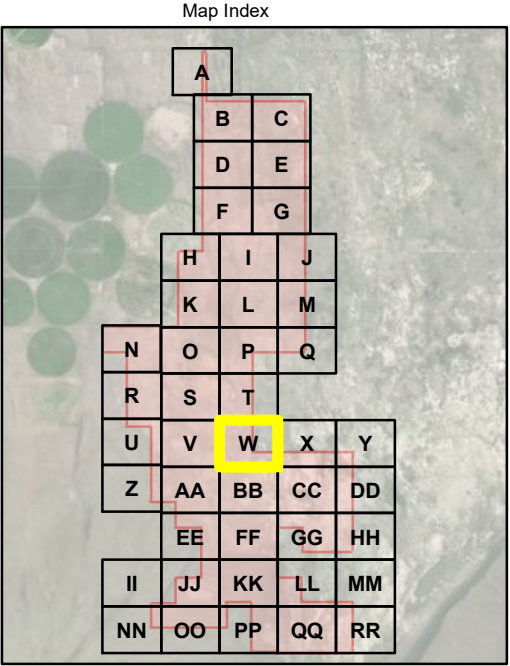
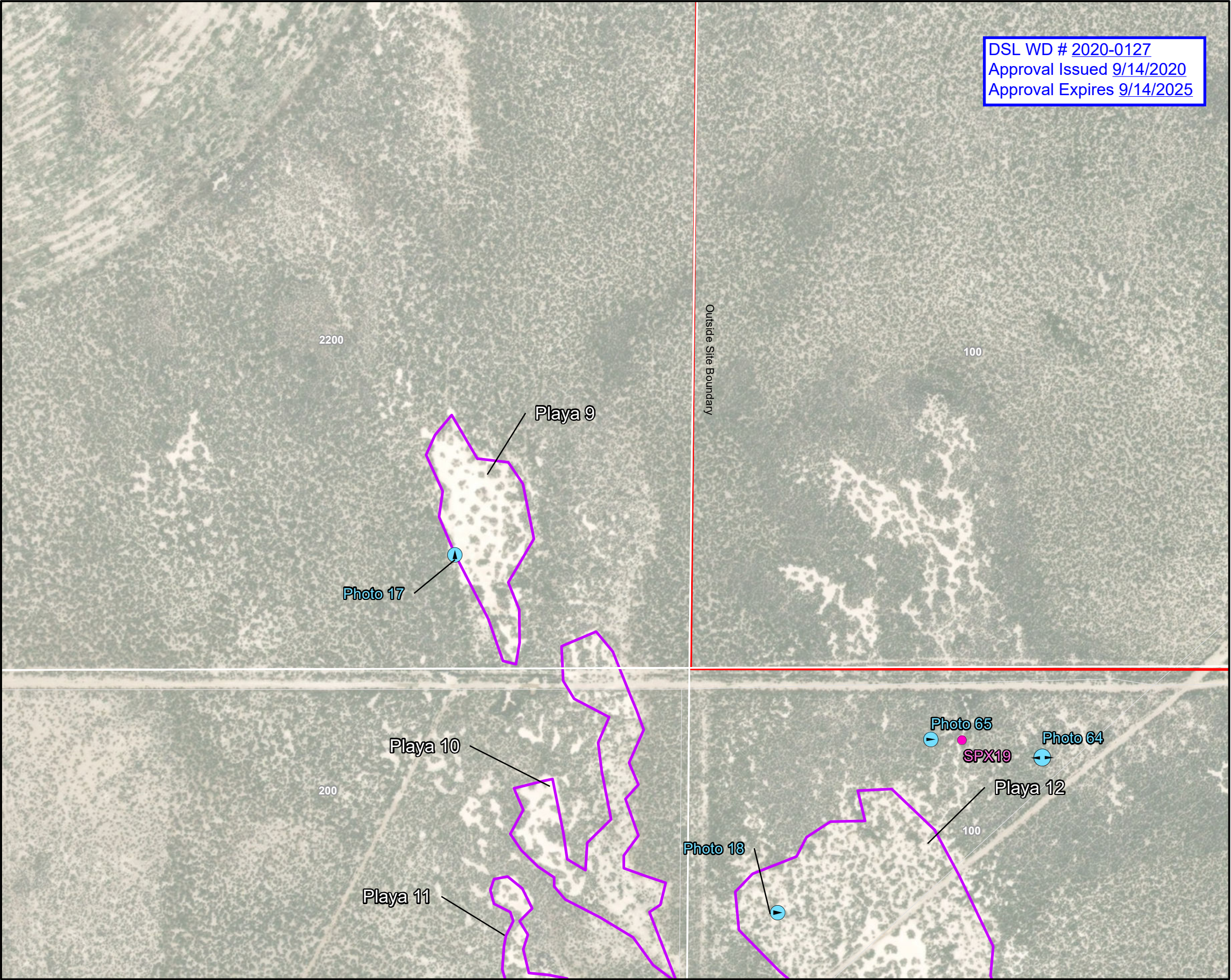
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- V
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



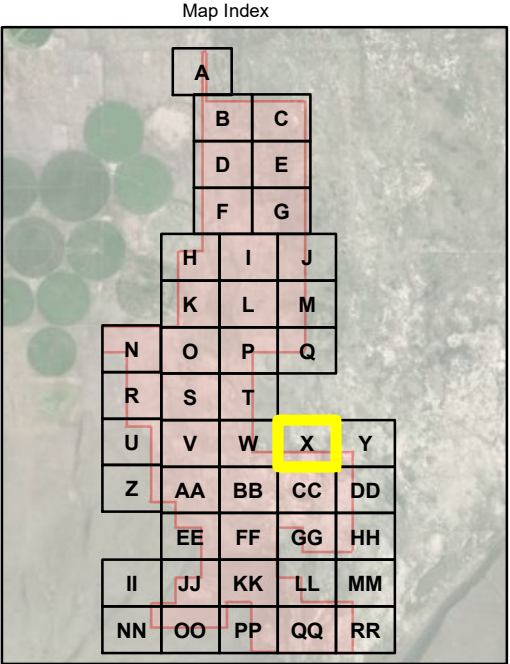
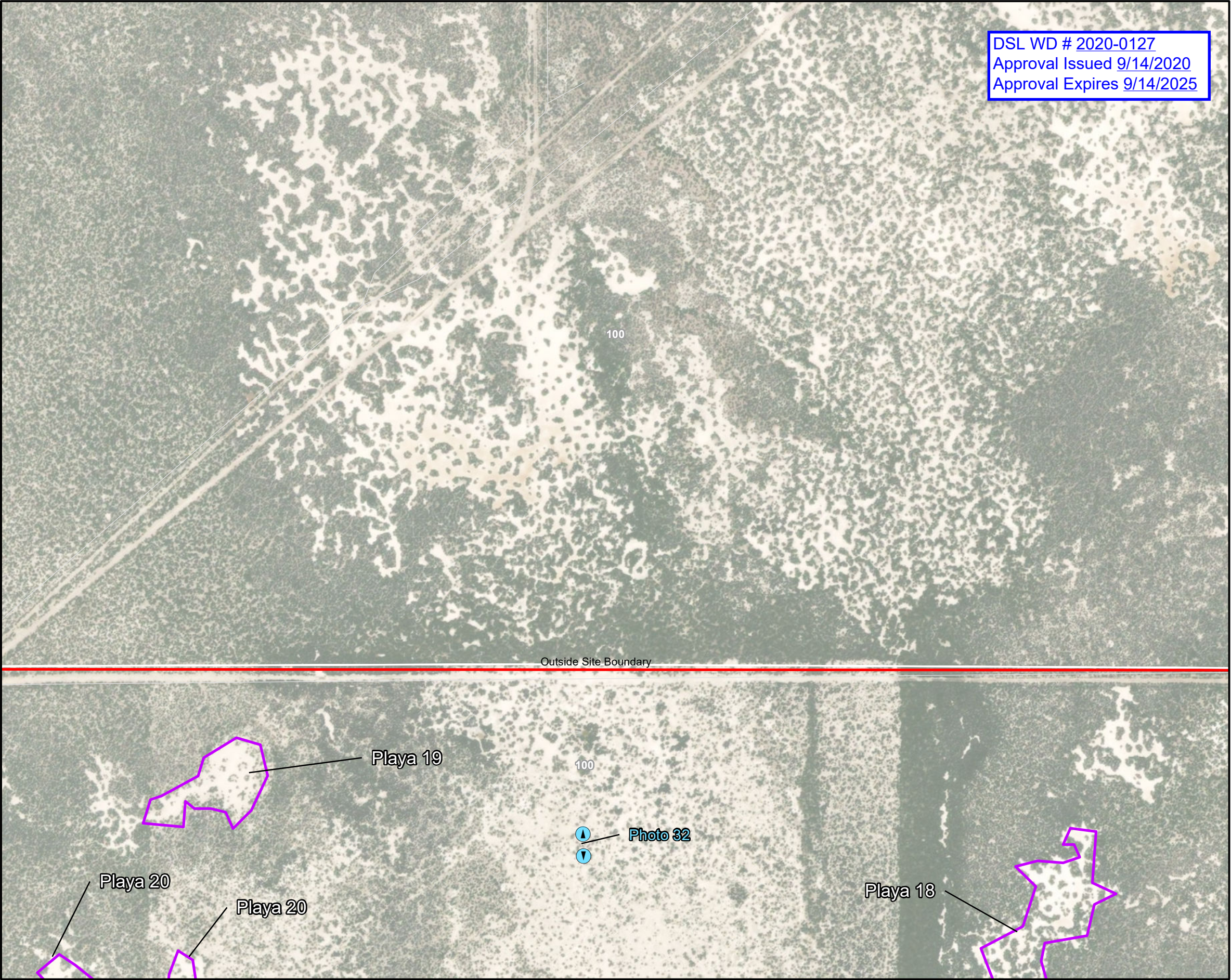
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- W
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



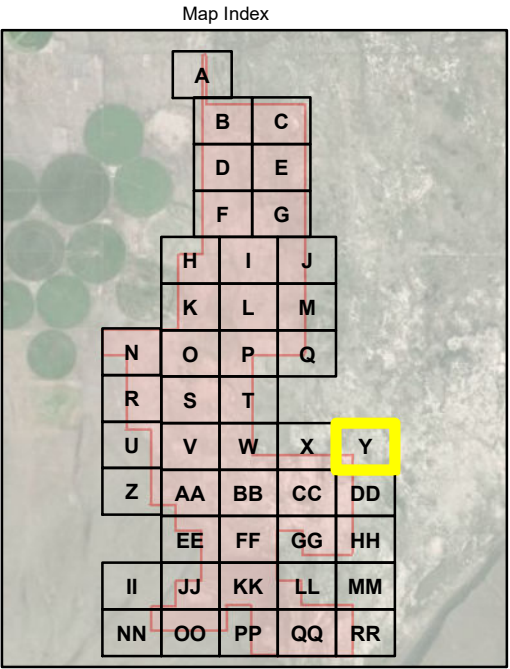
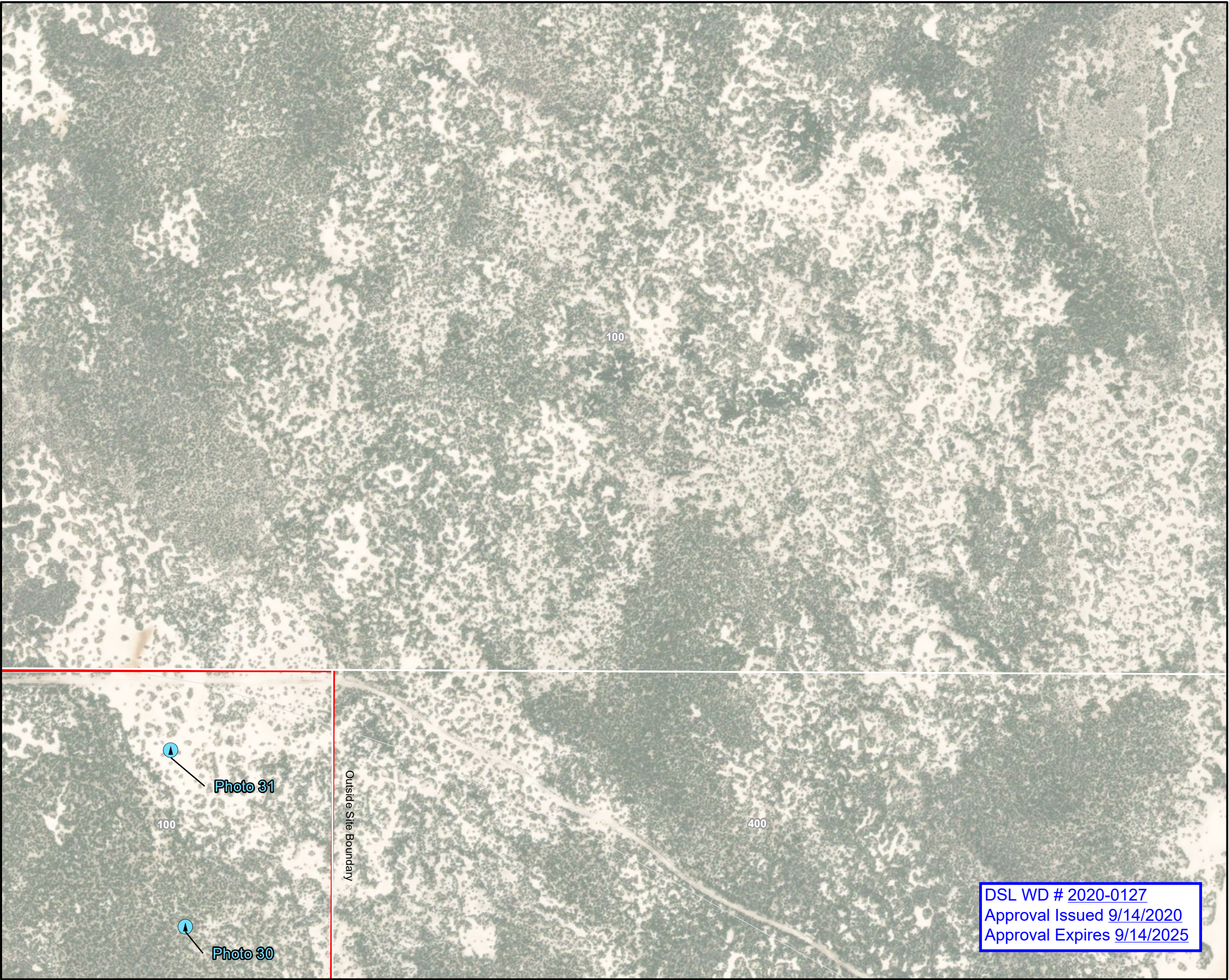
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- X
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



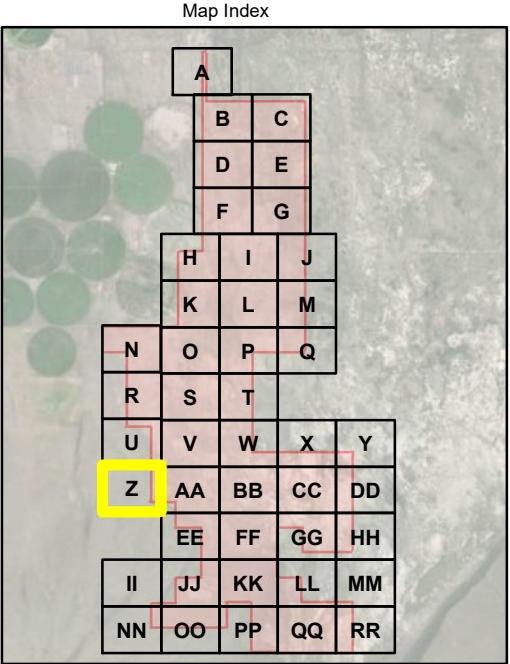
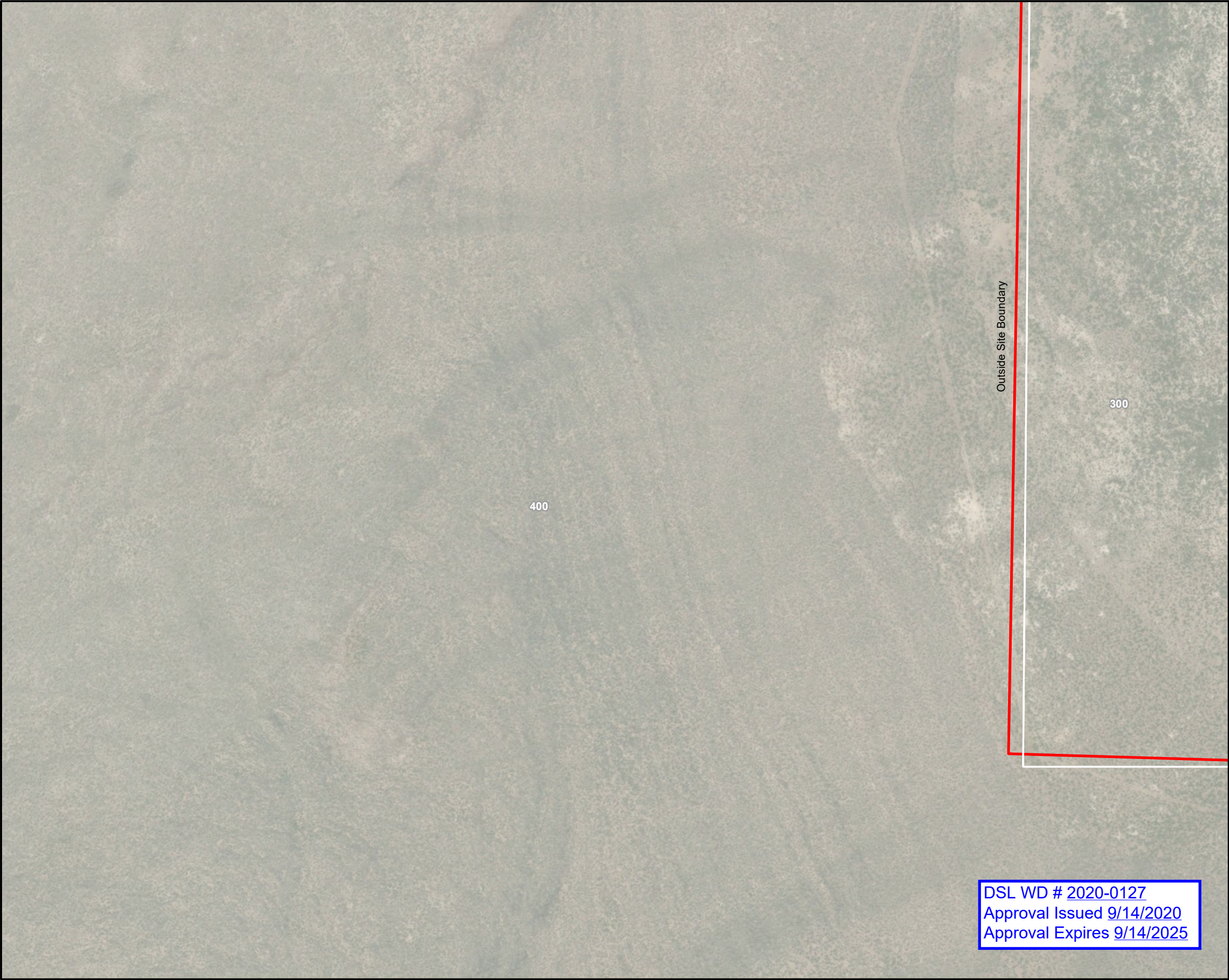
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Y
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



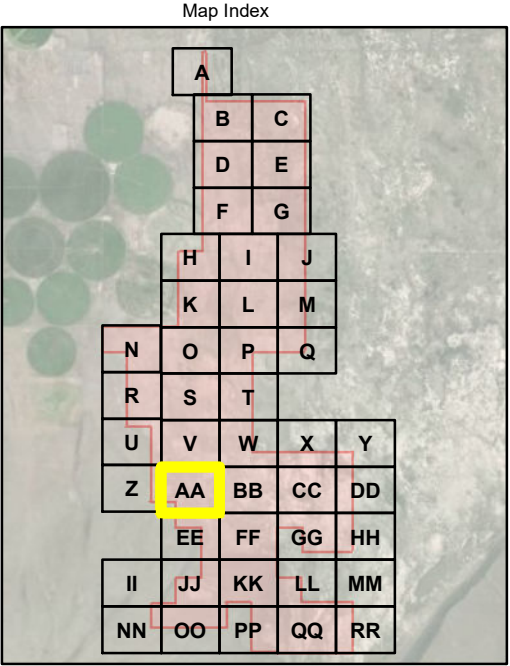
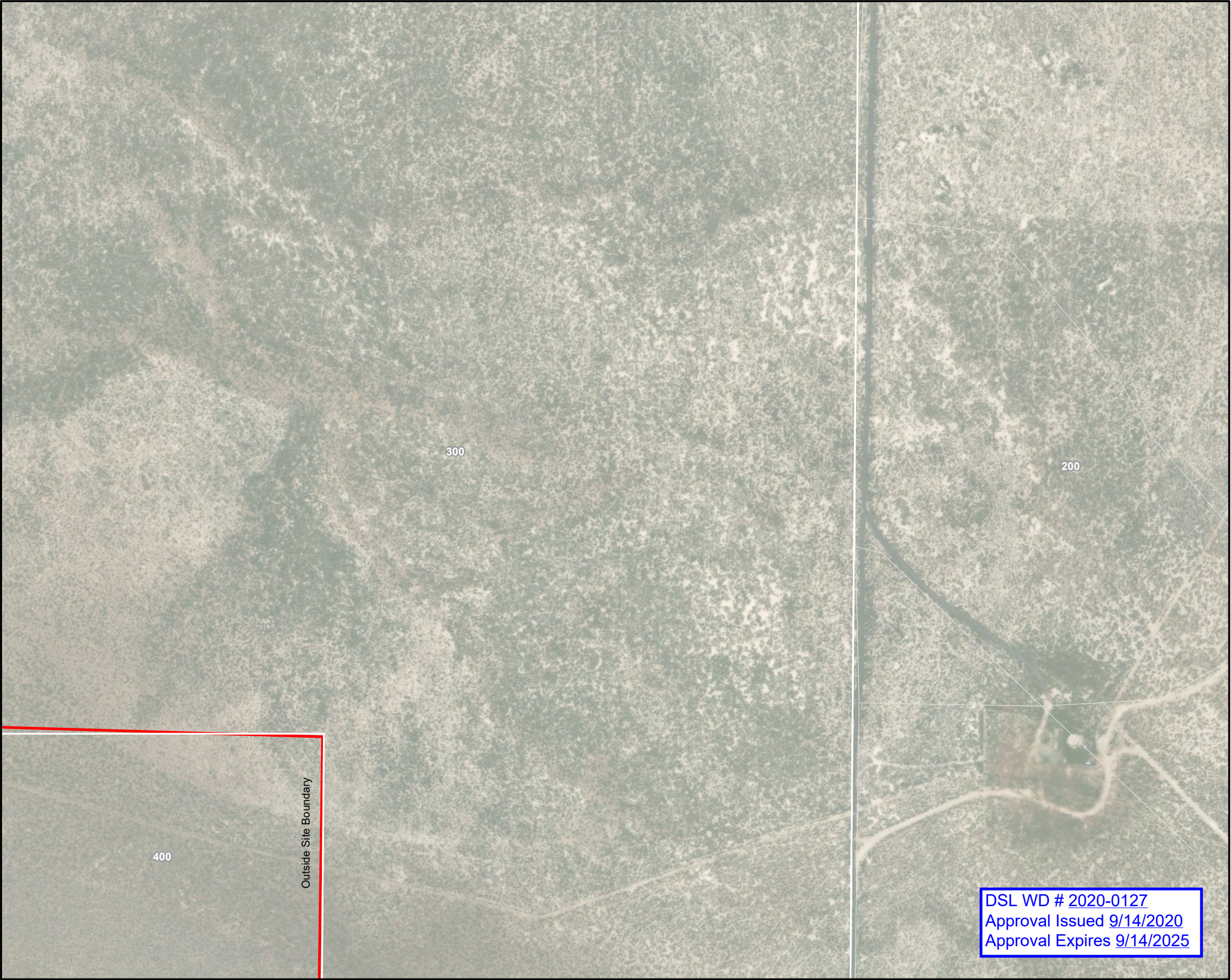
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Z
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



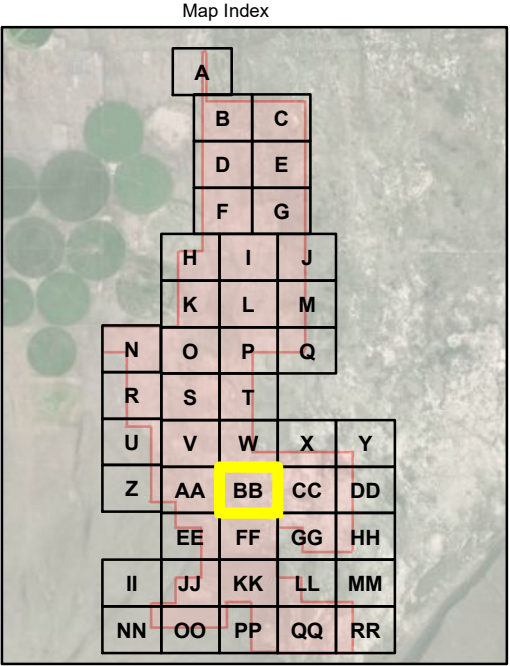
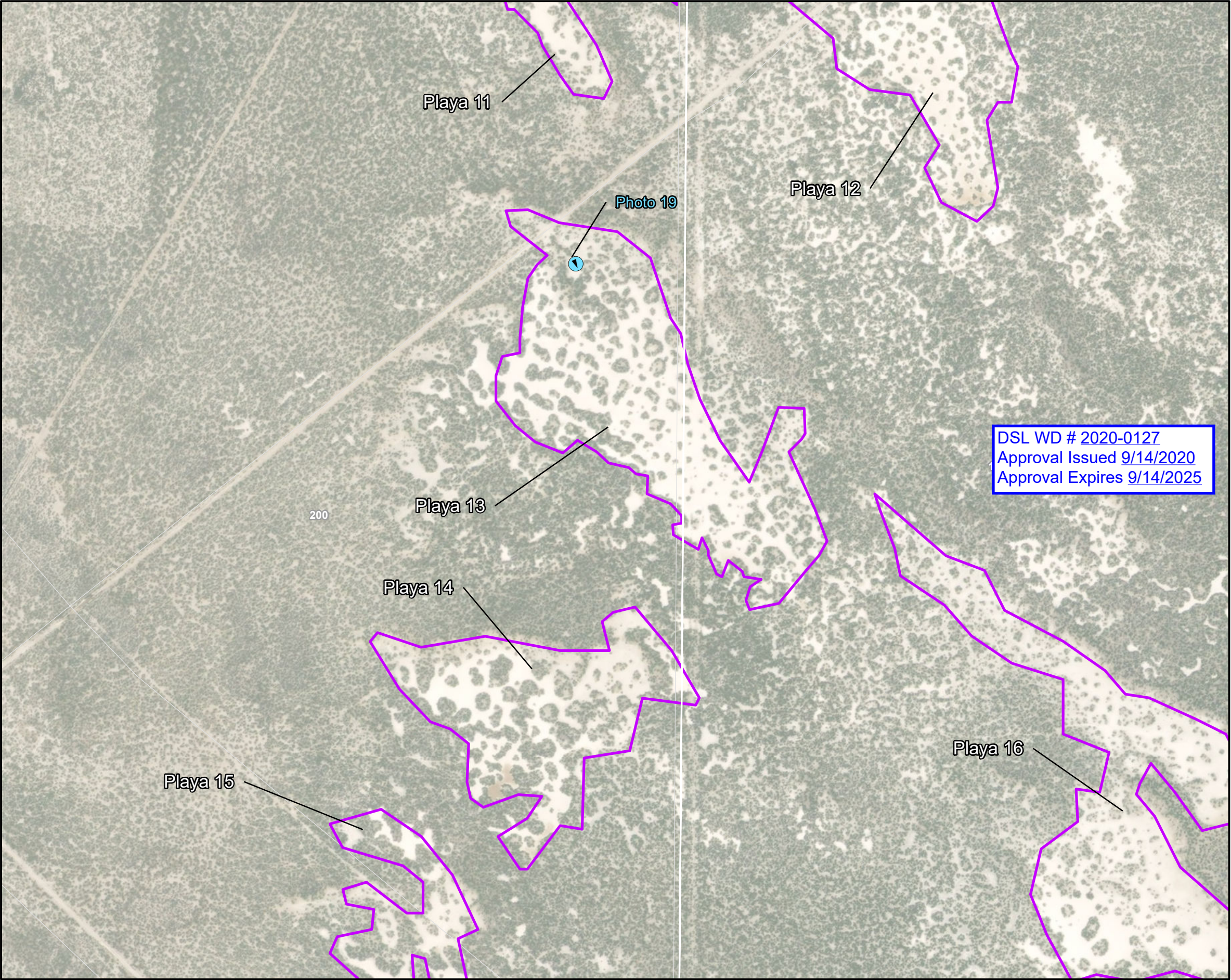
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- AA
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



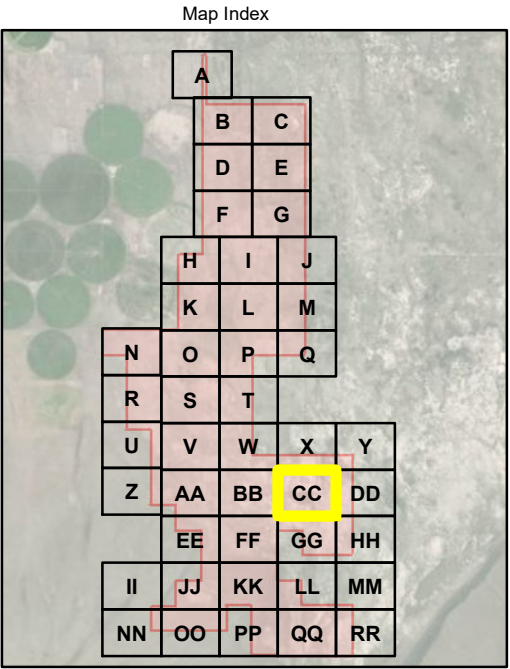
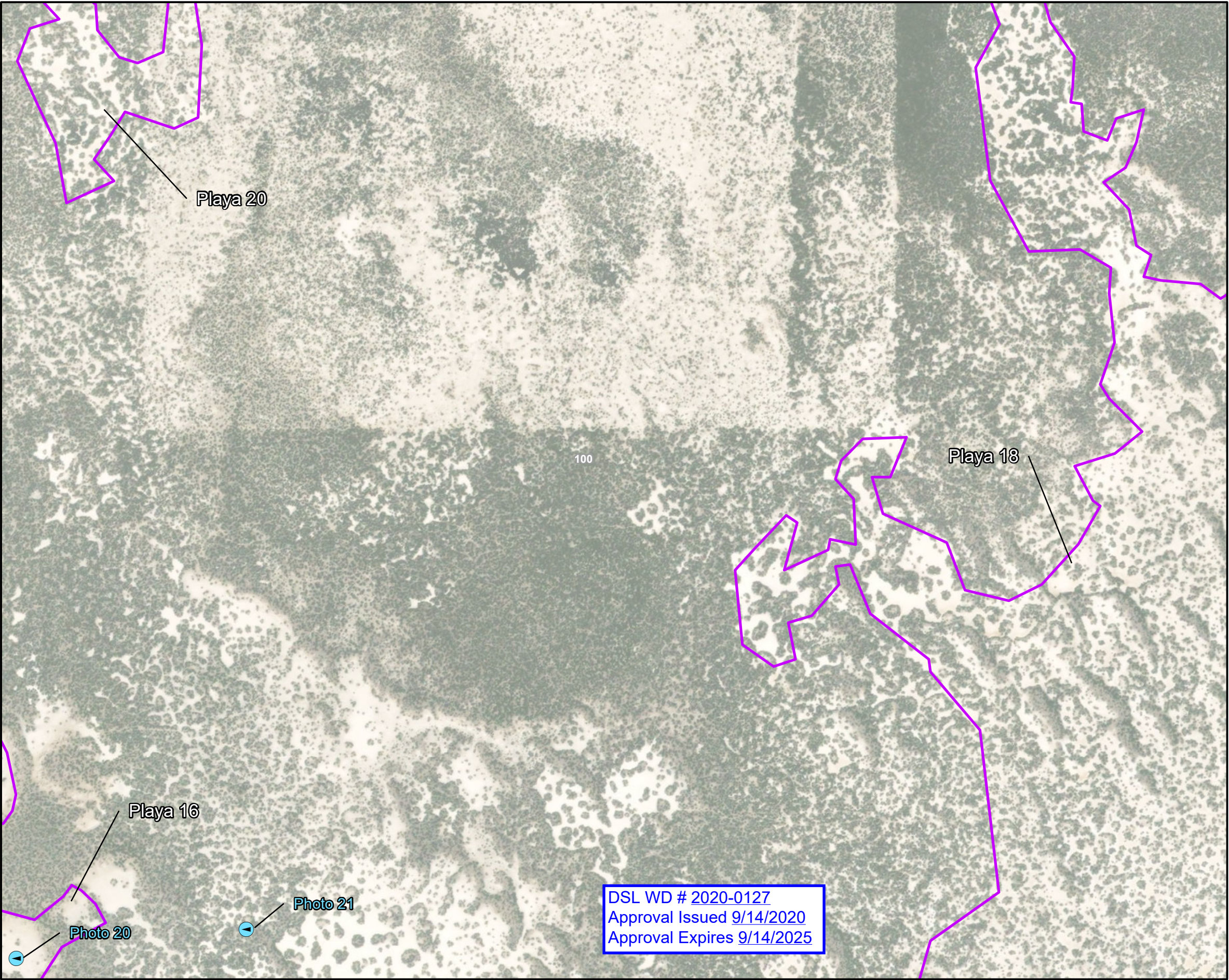
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- BB
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



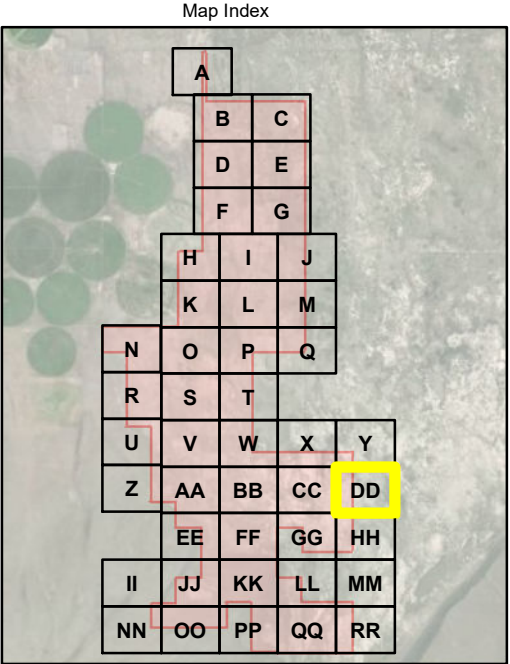
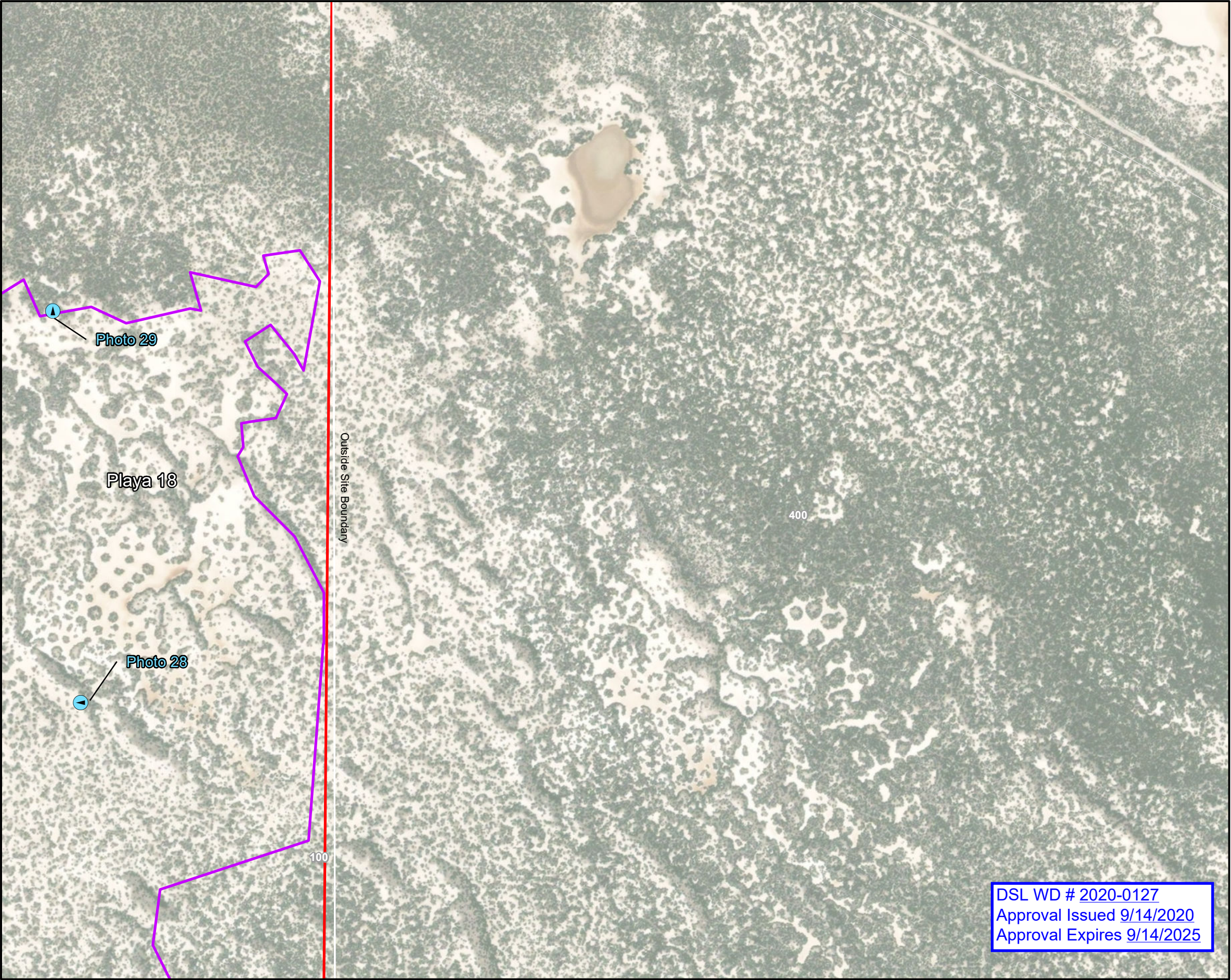
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- CC
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



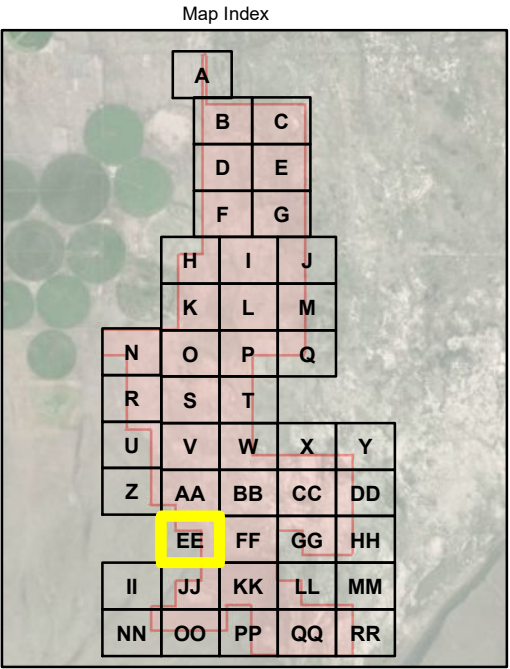
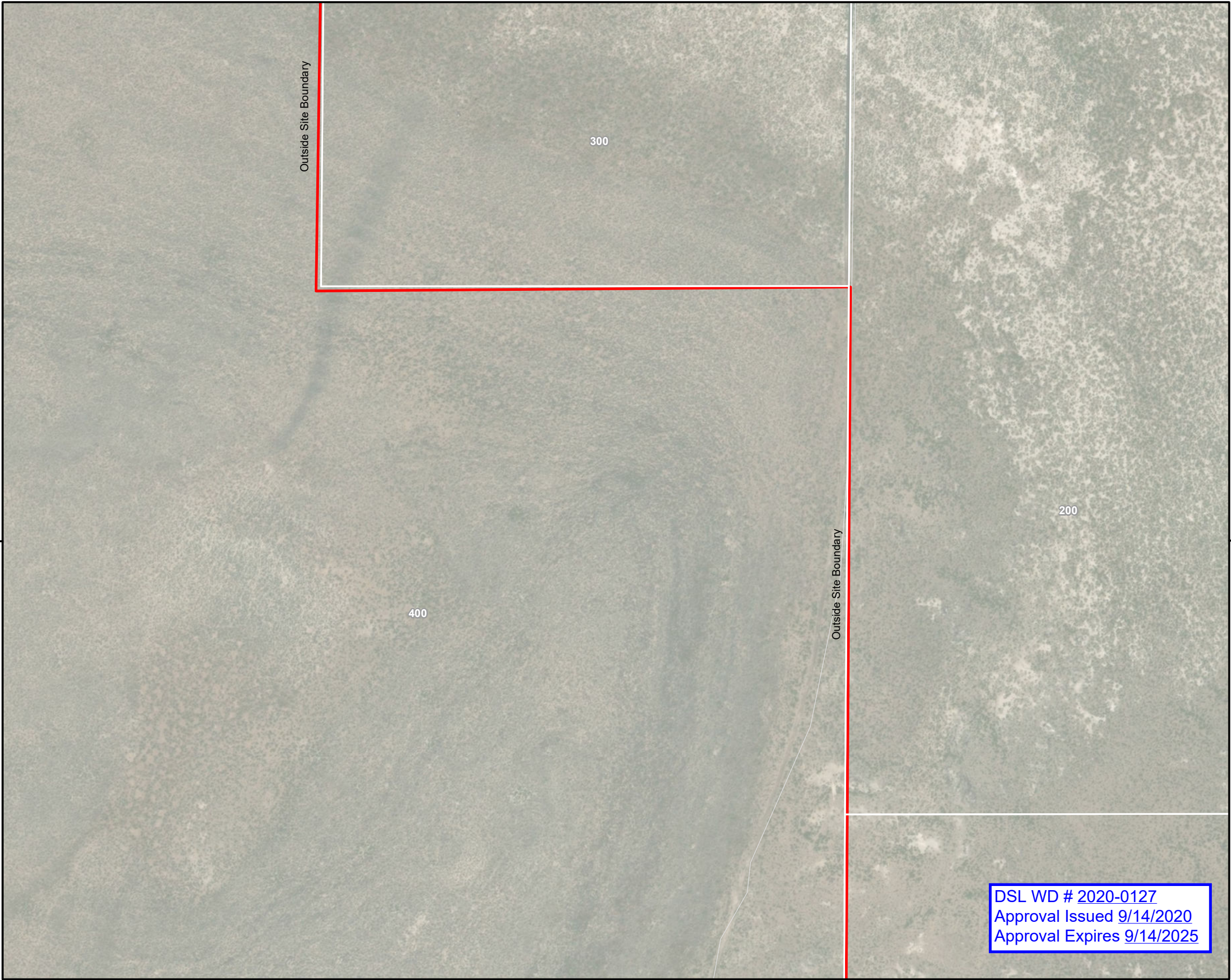
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- DD
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



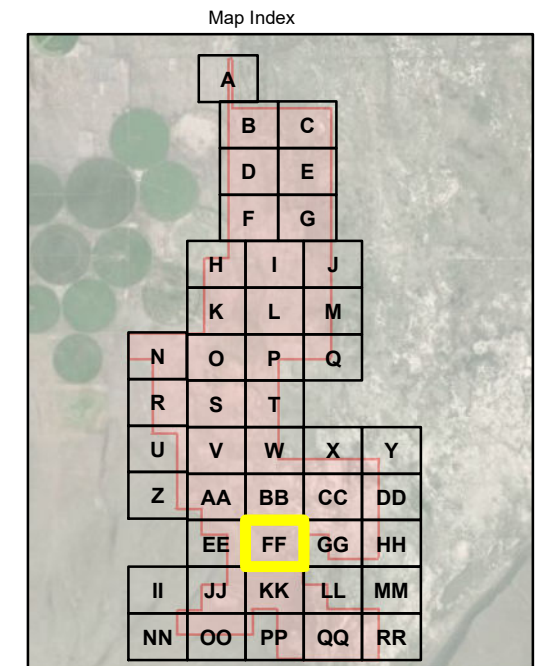
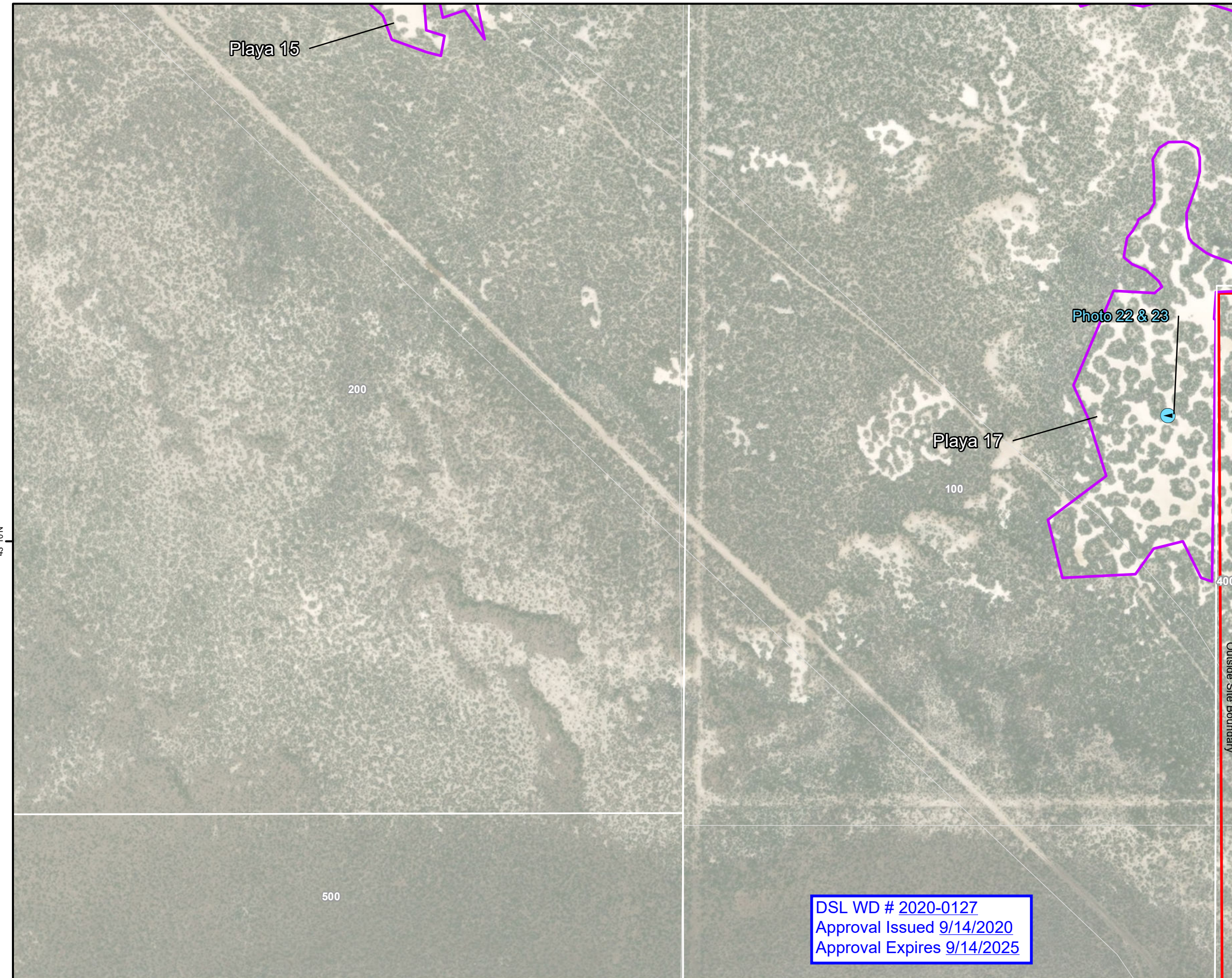
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- EE
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

Notes:

1. Area of interest subject to change.
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3. Project site within the following:
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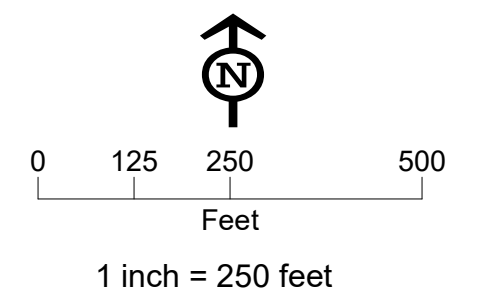
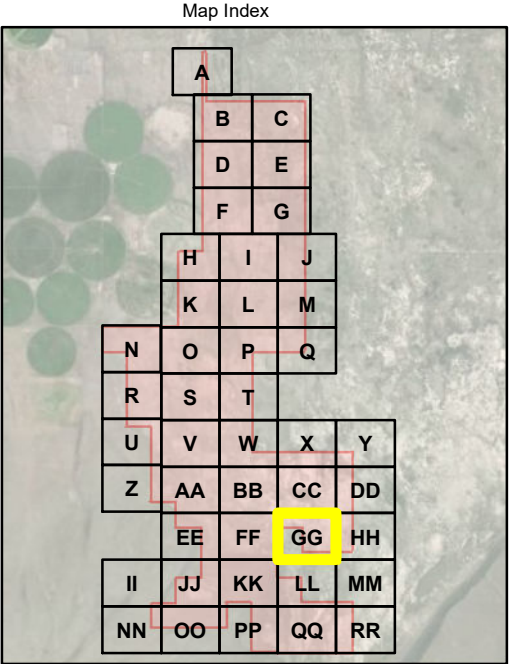
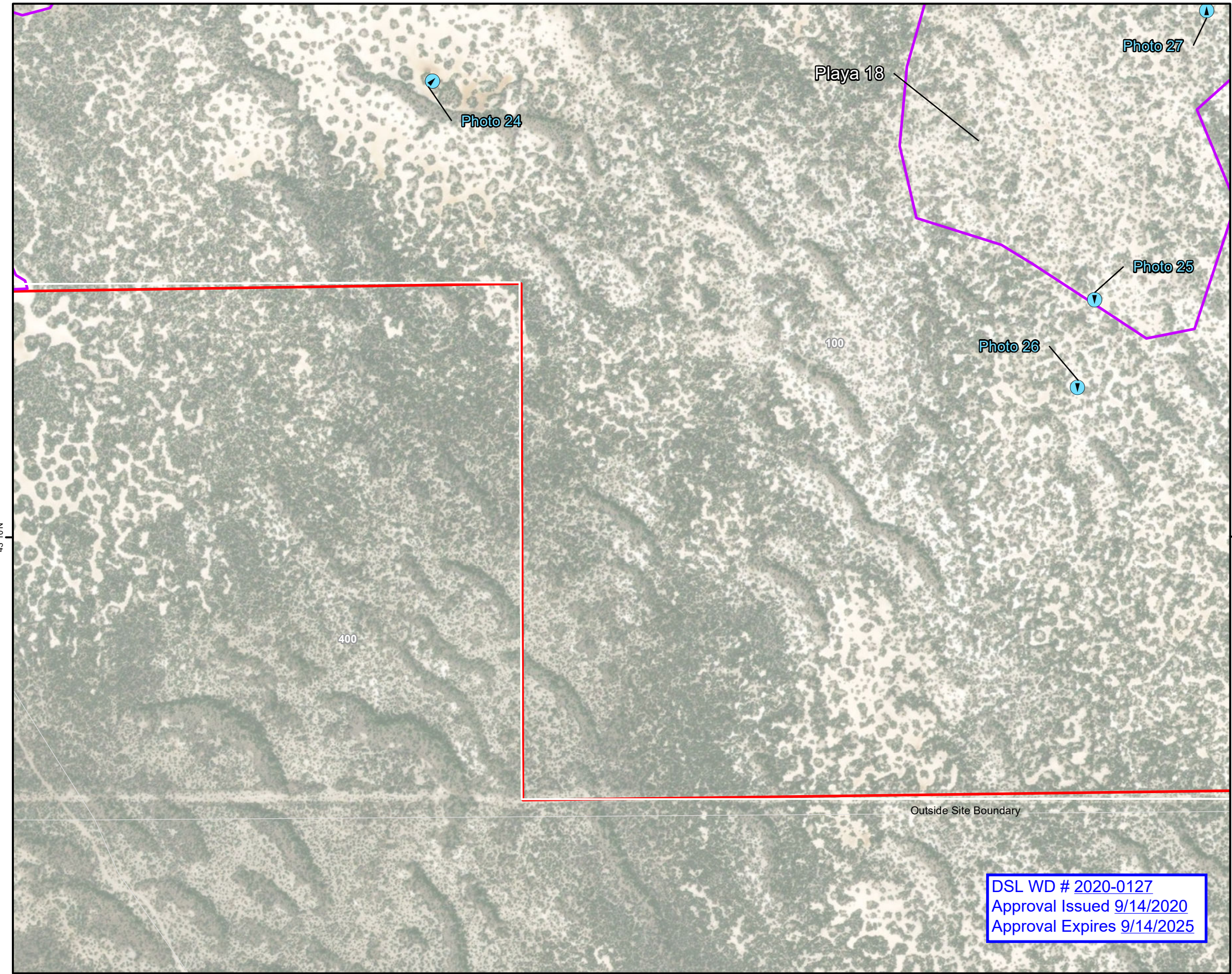


Figure 6- FF
Wetland Delineation Map
 Archway Solar Energy Project
 Lake County, Oregon



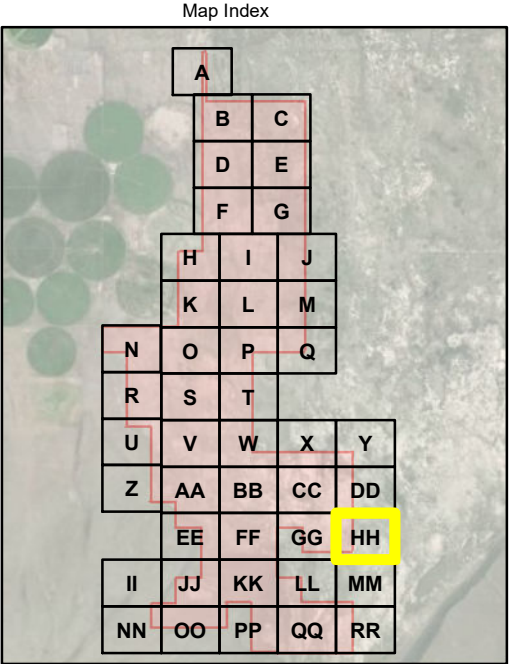
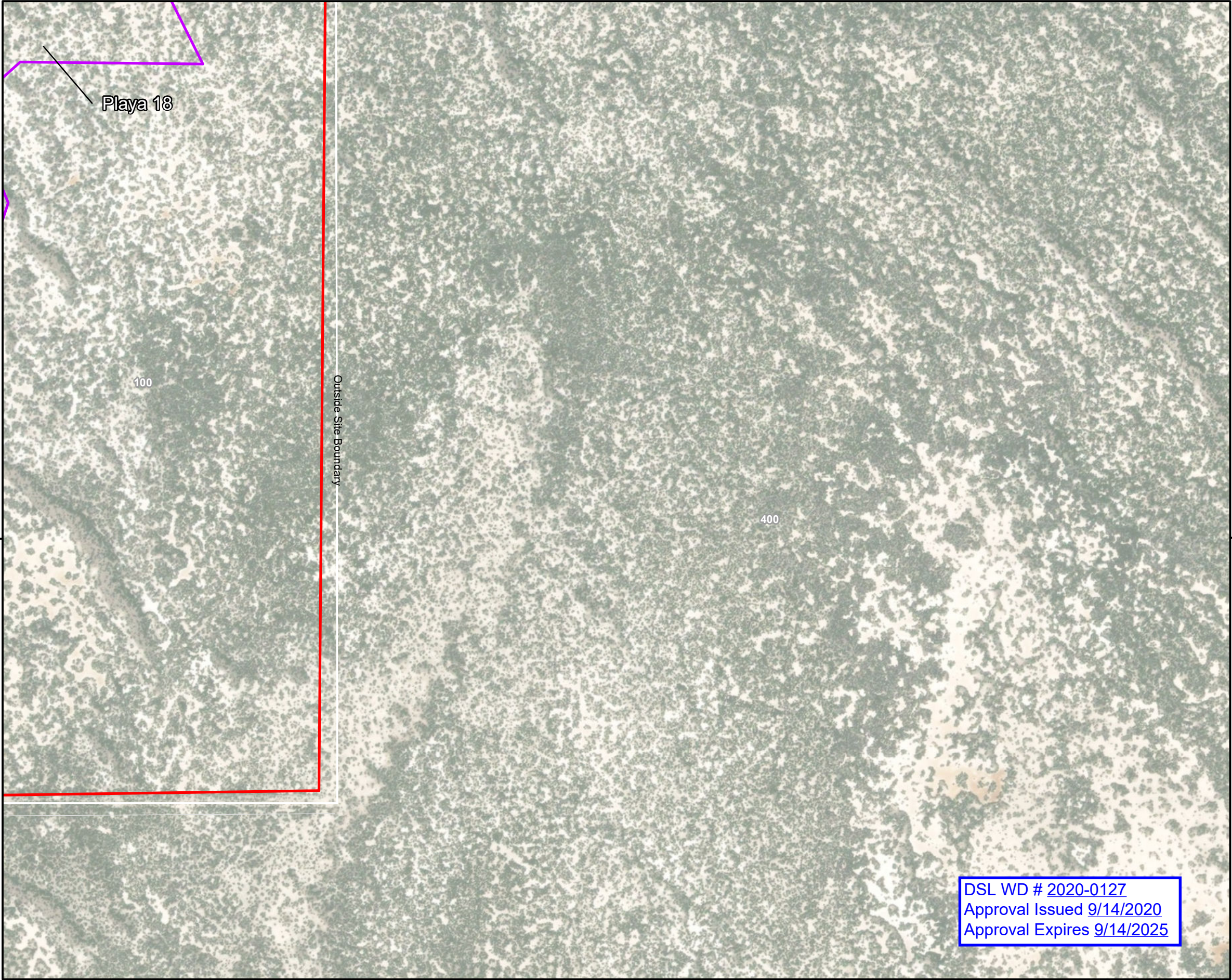
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- GG
Wetland Delineation Map
 Archway Solar Energy Project
 Lake County, Oregon



LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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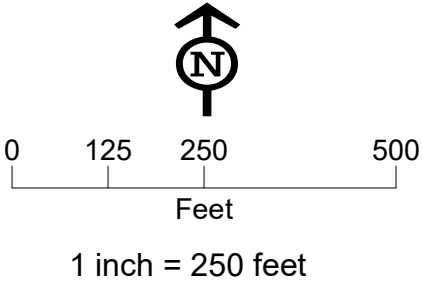
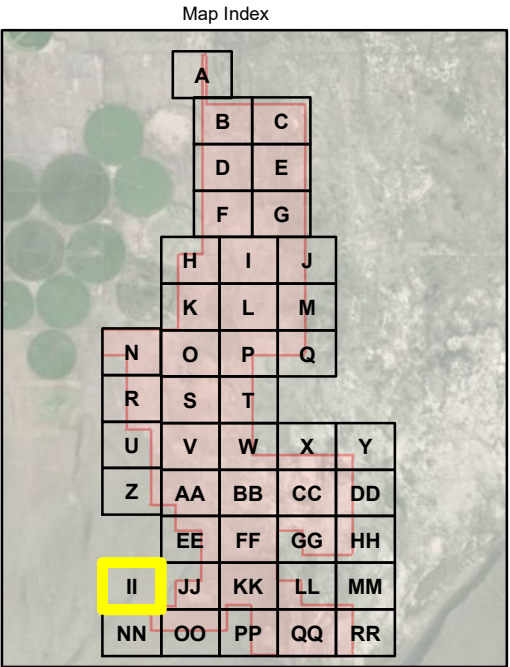


Figure 6- HH
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



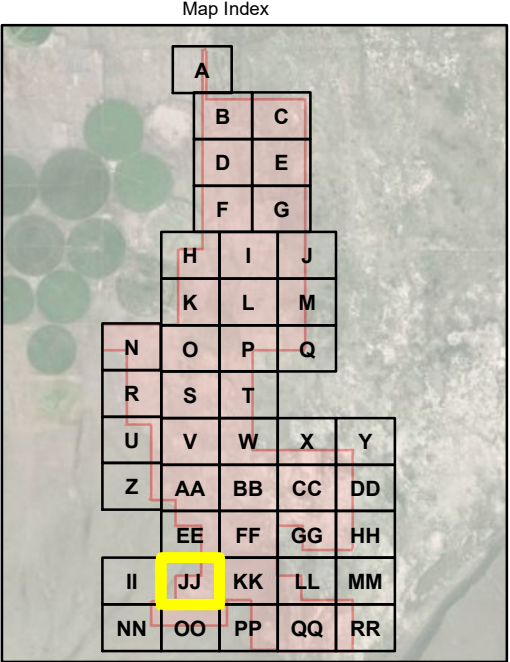
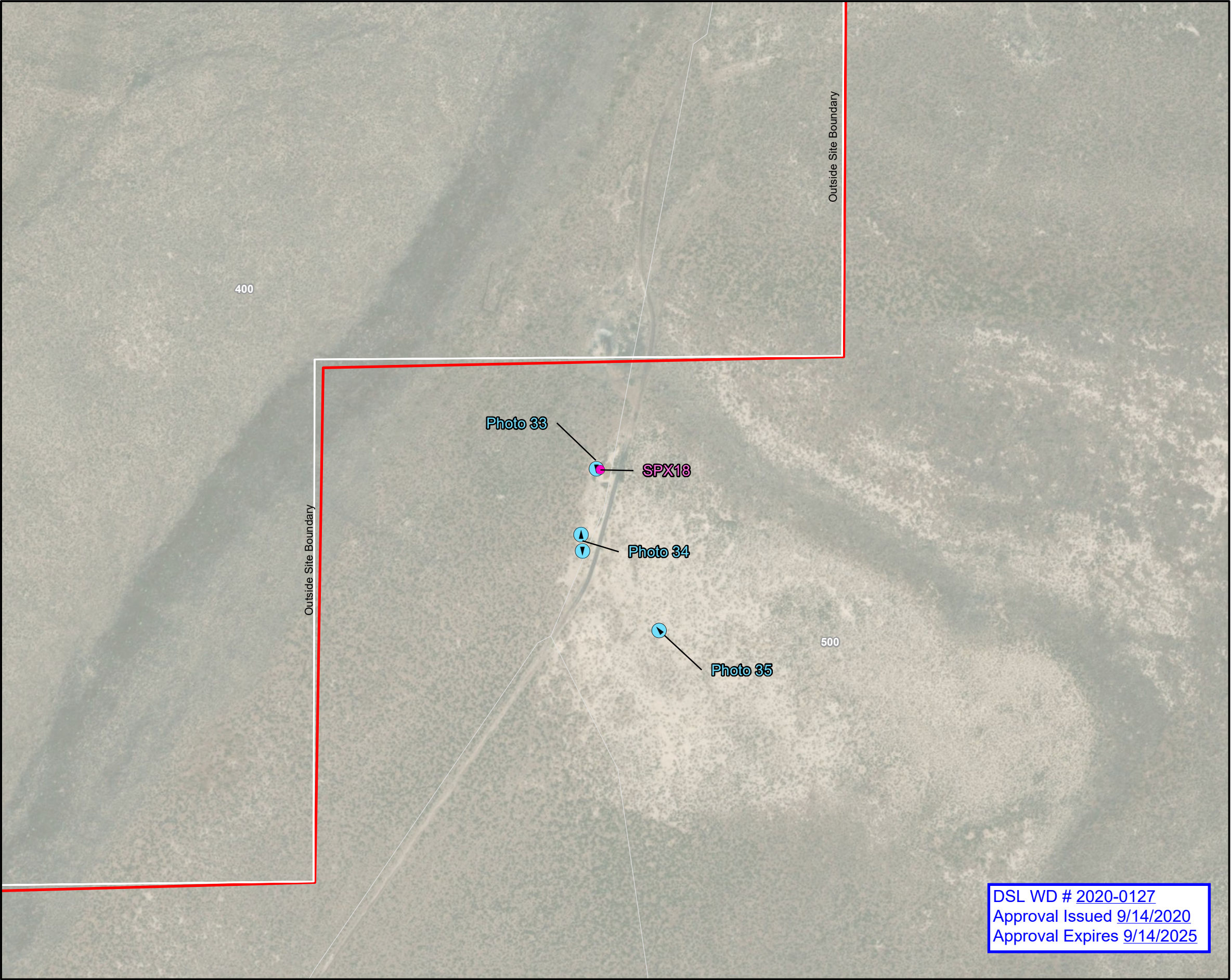
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- II
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



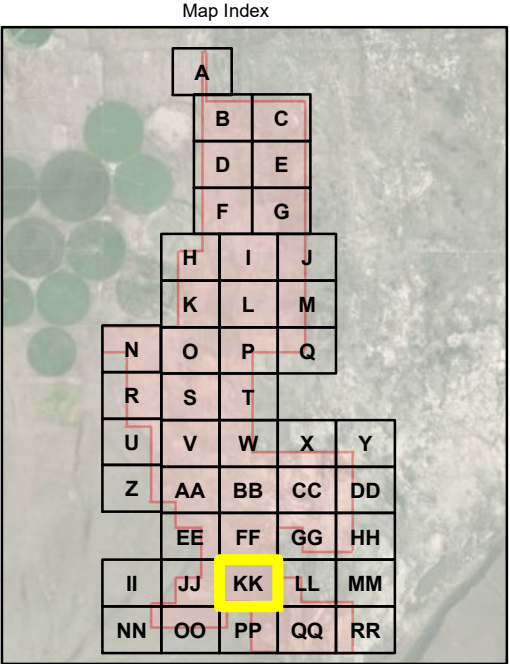
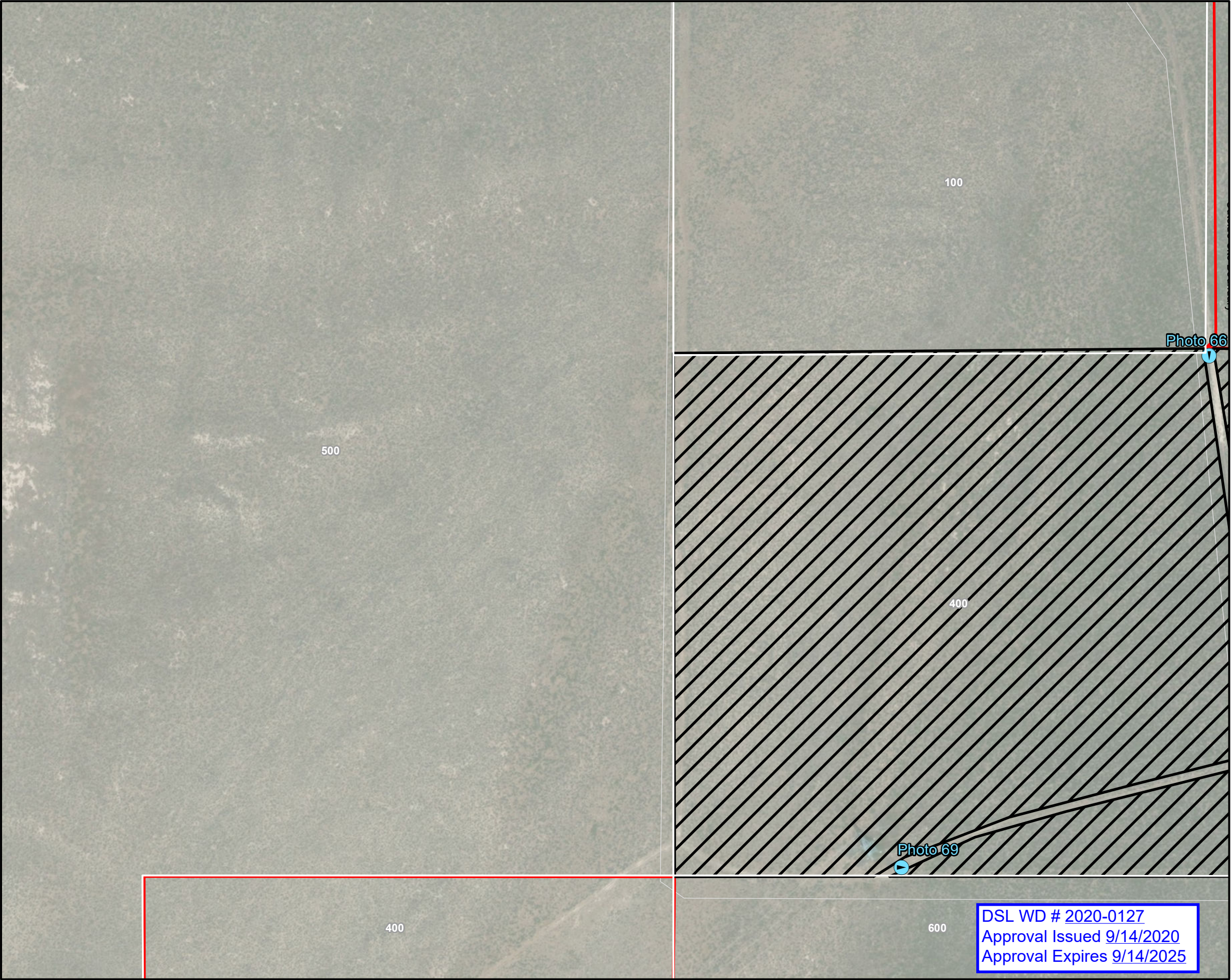
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- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- JJ
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



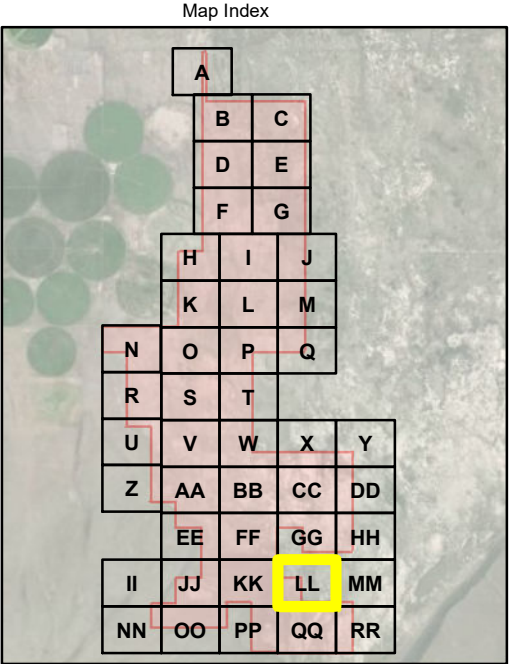
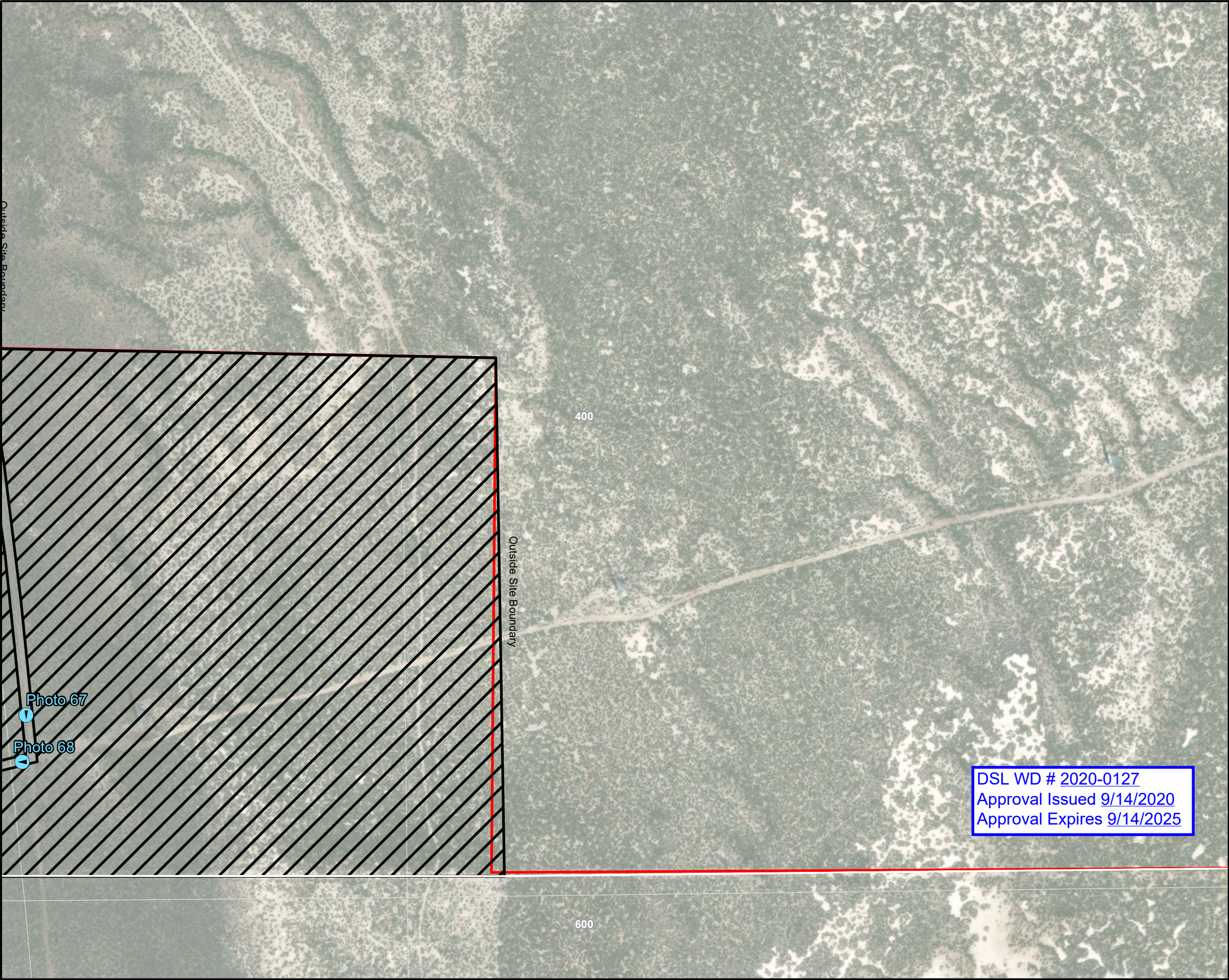
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- KK
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



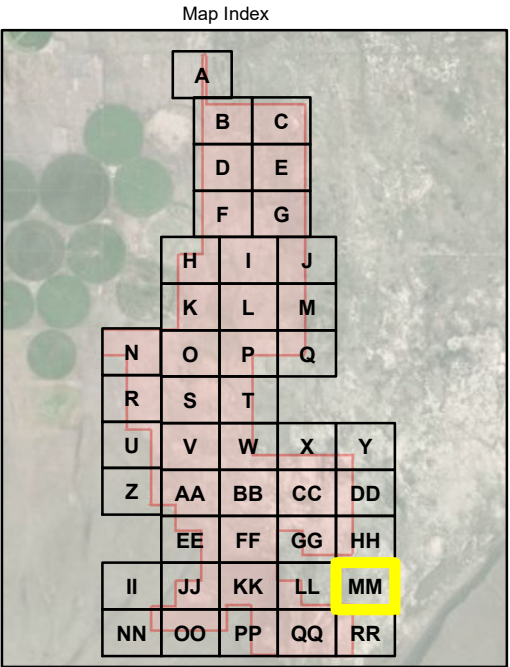
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- LL
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



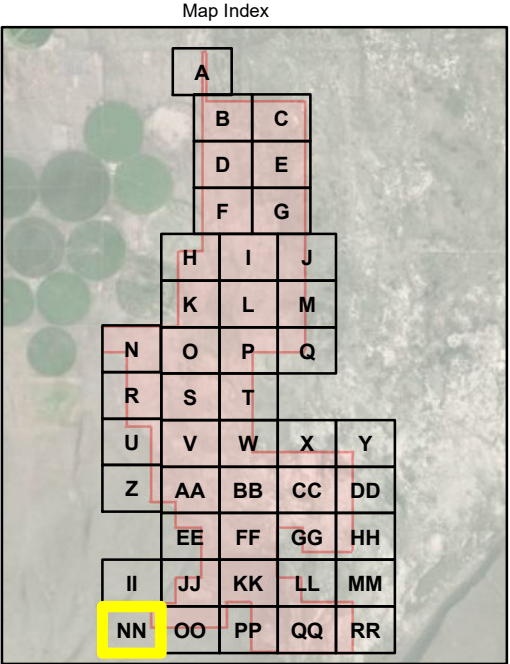
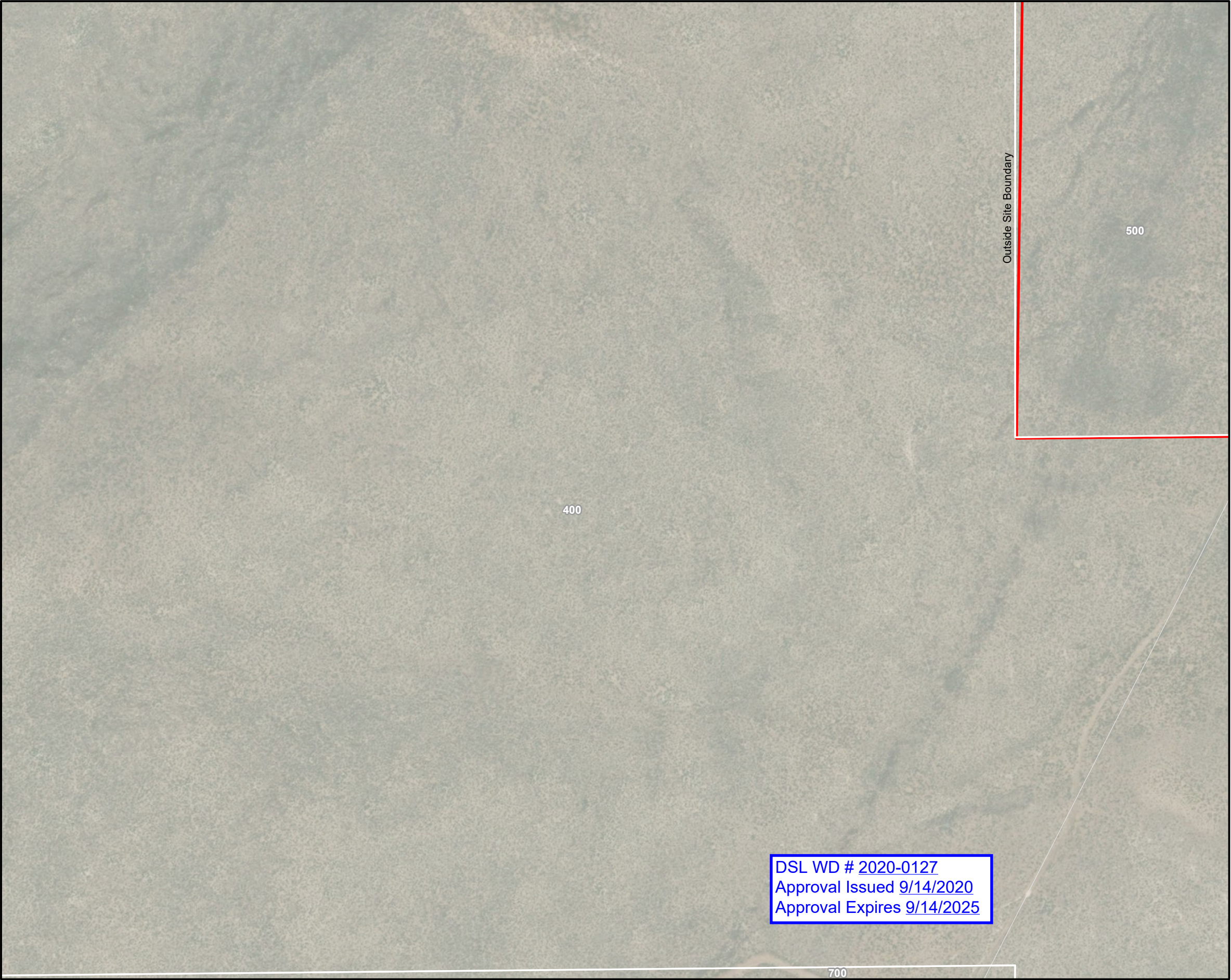
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
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- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- MM
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



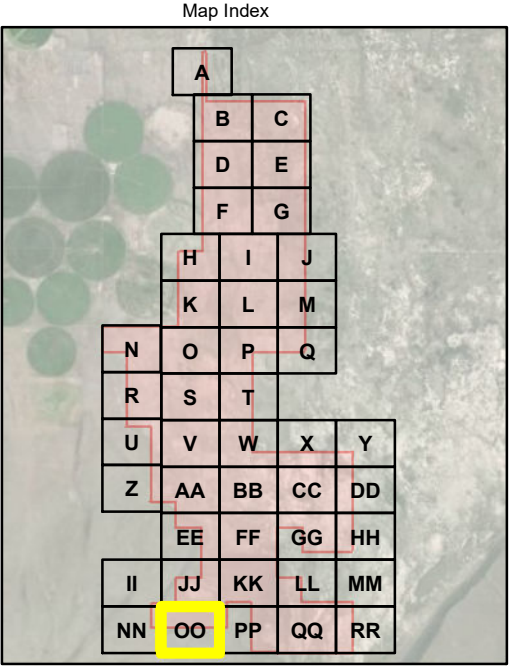
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
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 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- NN
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

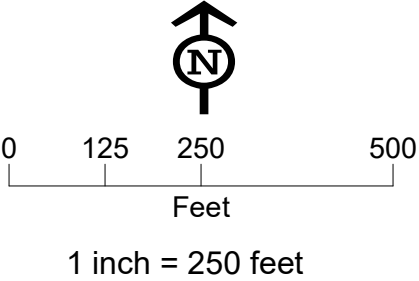
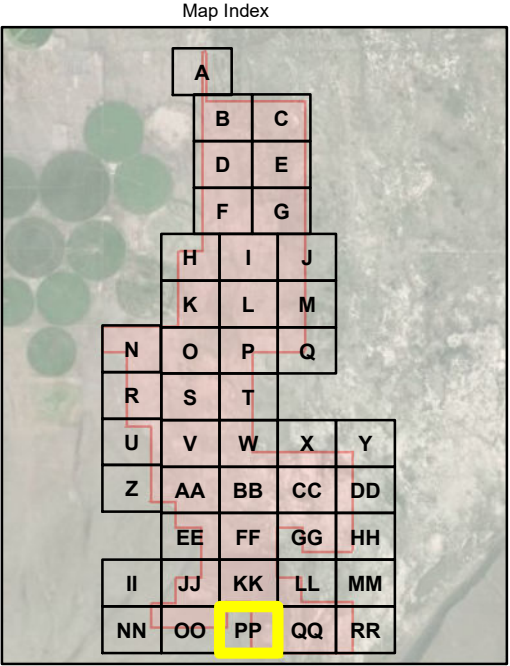
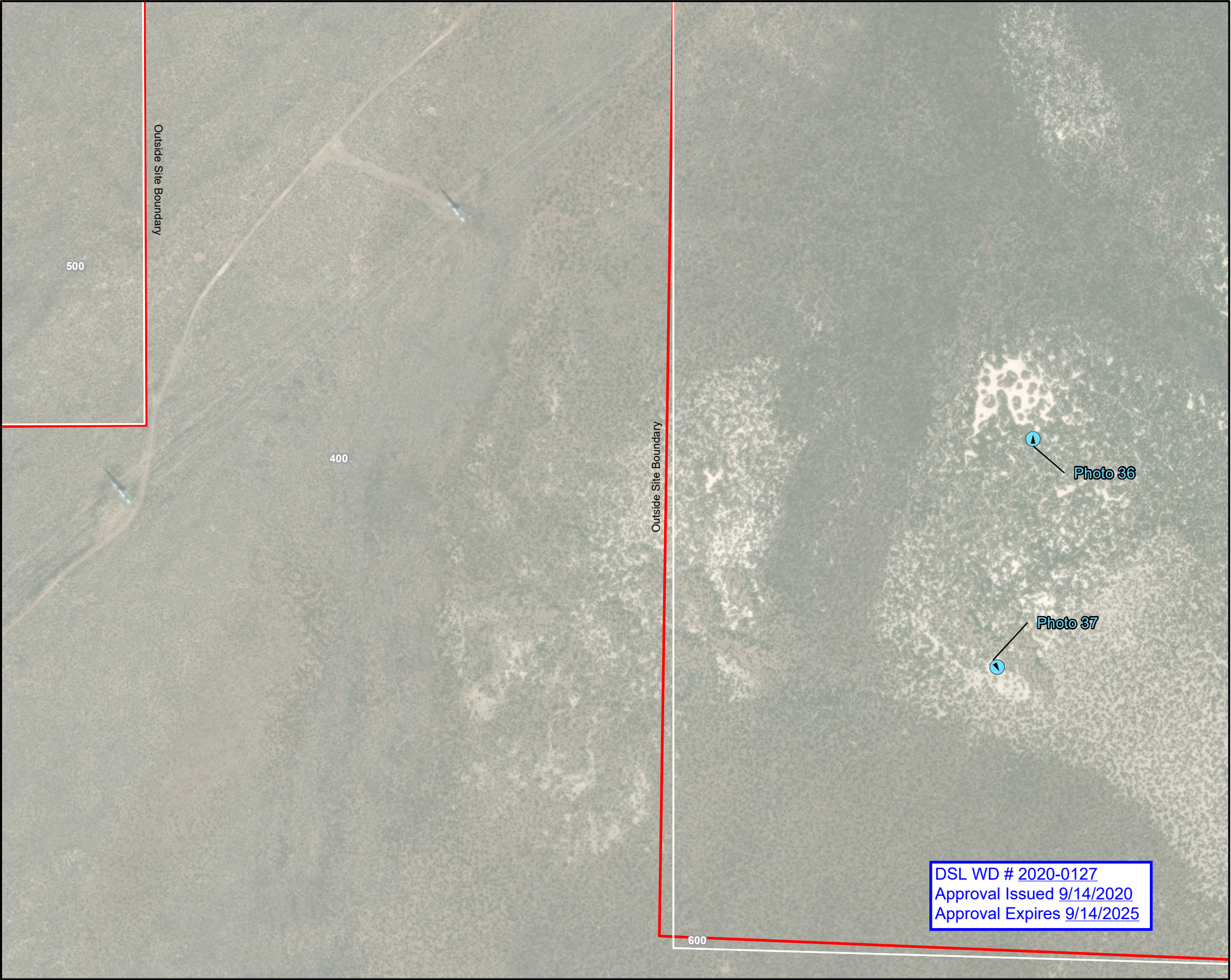


Figure 6- OO
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



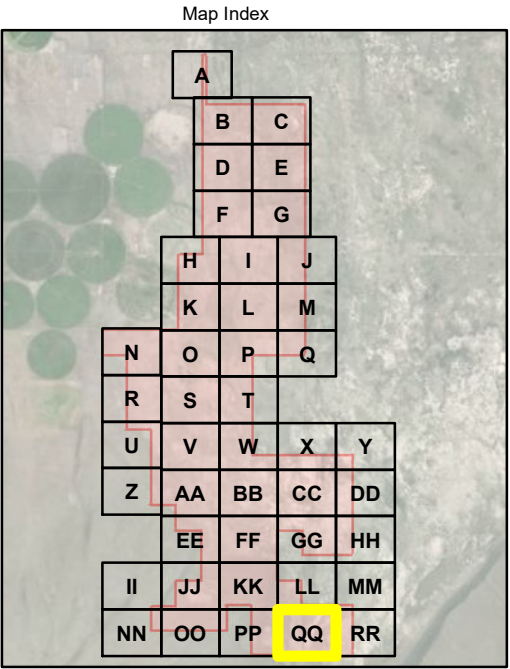
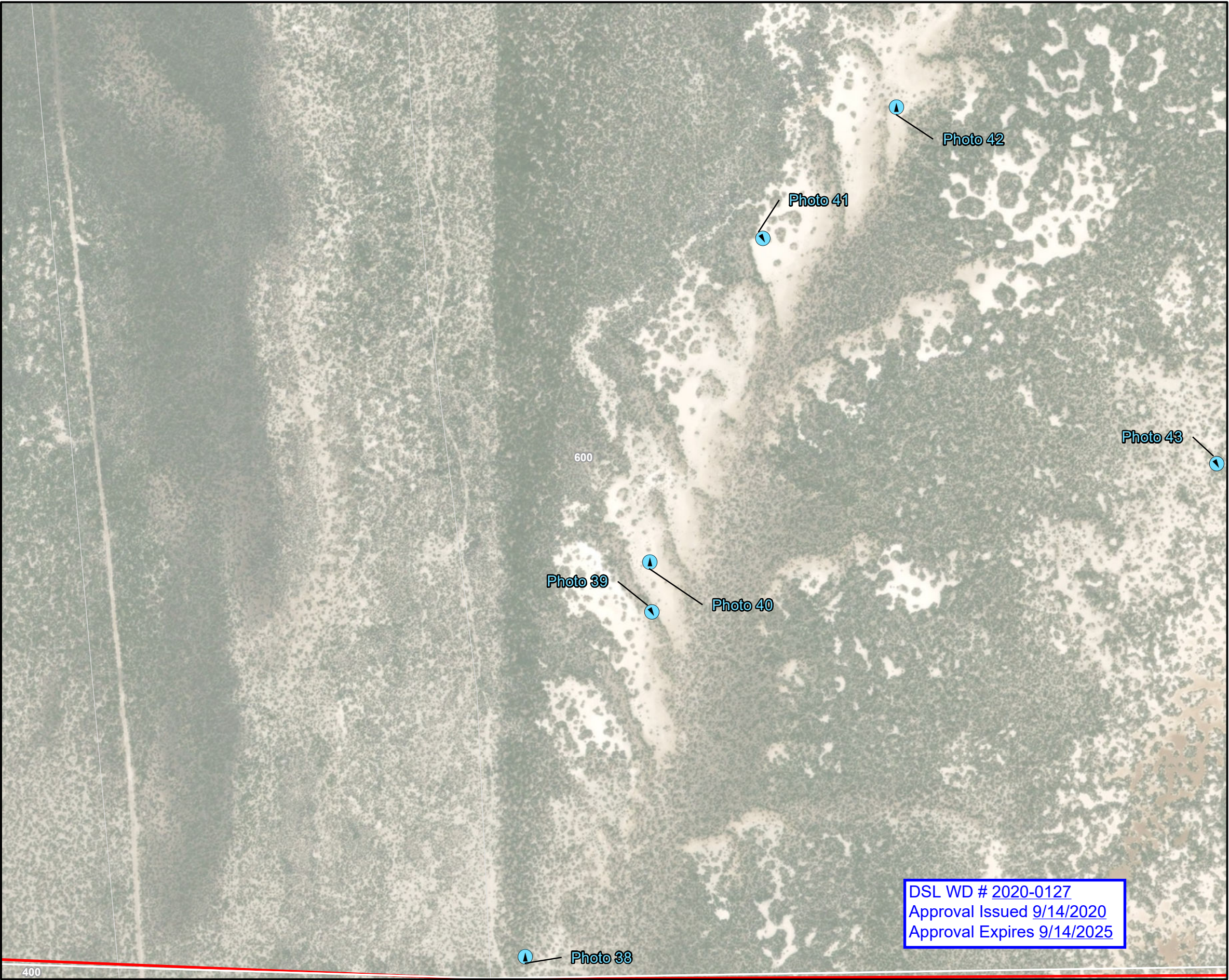
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



**Figure 6- PP
Wetland Delineation Map**
Archway Solar Energy Project
Lake County, Oregon



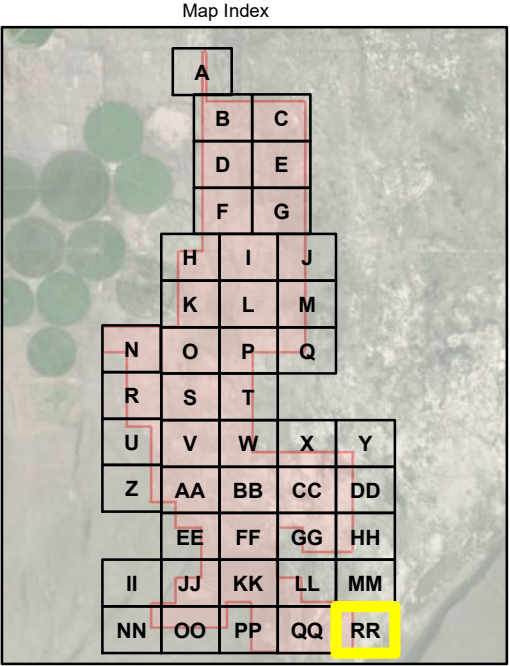
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 - Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- QQ
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- RR
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon

Attachment J-1: Aquatic Resources Inventory and Wetlands Delineation

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: <https://apps.oregon.gov/DSL/EPS/program?key=4>.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF of the completed cover form and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information

☒ Applicant ☐ Owner Name, Firm and Address:
Archway Solar Energy LLC
Ken Nichols
959 SE Division St., Suite 350 Portland, OR 97202

Business phone # (503) 438-8223
Mobile phone # (optional)
E-mail: knichols@invenenergy.com

☐ Authorized Legal Agent, Name and Address (if different):

Business phone # (503) 438-8233
Mobile phone # (optional) (503) 438-8233
E-mail: knichols@invenenergy.com

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: **Ken Nichols**

Signature: 

Date: 03/04/2020

Special instructions regarding site access: Please contact the applicant for instructions prior to a site visit.

Project and Site Information

Project Name: Archway Solar Energy Project

Latitude: 43.208815 Longitude: -120.4628448
decimal degree - centroid of site or start & end points of linear project

Proposed Use:

400-megawatt photovoltaic (PV) solar power generation and storage facility.

Tax Map # See Attachment

Tax Lot(s) See Attachment

Tax Map # See Attachment

Project Street Address (or other descriptive location):

9 miles east of Christmas Valley, south of Christmas Valley Wagon Road and accessed by Three Mile Road

Tax Lot(s) See Attachment

Township 27S, 28S Range 19E Section QQ
Use separate sheet for additional tax and location information

City:

County: Lake

Waterway: None

River Mile: NA

Wetland Delineation Information

Wetland Consultant Name, Firm and Address:

C. Steinkoenig
Jacobs Engineering Group Inc.
2020 SW 4th Avenue, Suite 300
Portland, Oregon 97201

Phone # (503) 736-4136
Mobile phone # (if applicable)
E-mail: claudia.steinkoenig@jacobs.com

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature: _____

Date: 02/27/2020

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No Study Area size: 4,544 acres Total Wetland Acreage: 0.0000

Check Applicable Boxes Below

☐ R-F permit application submitted

☐ Fee payment submitted \$ EFSC project

☐ Mitigation bank site

☐ Resubmittal of rejected report (\$100)

☐ EFSC/ODOE Proj. Mgr: _____

☐ Request for Reissuance. See eligibility criteria. (no fee)

☐ Wetland restoration/enhancement project (not mitigation)

DSL # _____ Expiration date _____

☐ Previous delineation/application on parcel
If known, previous DSL # _____

☐ LWI shows wetlands or waters on parcel
Wetland ID code _____

For Office Use Only

DSL Reviewer: _____ Fee Paid Date: _____ / _____ / _____ DSL WD # _____

Date Delineation Received: ____ / ____ / ____ Scanned: ☐ Electronic: ☐ DSL App.# _____

TAX LOT SUMMARY

Township	Range	Section	Tax Lot
27S	19E	00	1509, 3501, 2200, 1505, 1506, 1507, 1508, 1510
27S	19E	15	300, 500, 600, 700, 800, 900
27S	19E	16	100
28S	19E	00	100, 200, 300, 400, 500, 600

Tax Map Number		
27S19E150000600	27S19E150000300	28S19E000000600
27S19E150000700	27S19E150000800	27S19E000001510
27S19E150000500	28S19E000000100	27S19E000001507
27S19E160000100	27S19E000002200	27S19E000001508
27S19E000001509	28S19E000000200	27S19E000001506
27S19E000003501	28S19E000000300	27S19E000001505
27S19E150000900	28S19E000000500	28S19E000000400



Archway Solar Energy Project Lake County, Oregon

Wetlands and Nonwetland Waters Delineation Report for the Archway Solar Energy Project

March 2020

Prepared for:
Archway Solar Energy LLC
One South Wacker Drive, Suite 1800
Chicago, IL 60606



Archway Solar Energy Project

Project No: 704737
Document Title: Wetlands and Nonwetland Waters Delineation Report for the Archway Solar Energy Project
Date: March 2020
Client Name: Archway Solar Energy LLC
Project Manager: Paul Seilo
Author: Claudia Steinkoenig

Jacobs Engineering Group Inc.

2020 SW 4th Avenue, Suite 300
Portland, Oregon 97201
United States
T +1.503.235.5000
F +1.503.736.2000
www.jacobs.com

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Introduction

Jacobs Engineering Group Inc. (Jacobs) was contracted by Archway Solar Energy LLC to conduct a wetlands and other waters delineation for the Archway Solar Energy Project (Project) near Christmas Valley, Oregon. The Project is an approximate 400-megawatt photovoltaic solar power generation facility on an uncultivated site in an unincorporated area of Lake County, Oregon (Figure 1 in Appendix A; Project study area). This report documents the delineation survey results within the Project study area. The Project study area was defined by Archway Solar Energy LLC.

The objective of the delineation was to: (1) identify and delineate the boundaries of wetlands and other waters and (2) determine federal and state jurisdiction for these resources consistent with Section 404 of the Clean Water Act and the Oregon Removal-Fill Law, respectively. The delineation field investigations were conducted May 6-10, 2019. This report documents the wetlands and other waters delineation survey methods and results within the Project study area. Based on the survey results, it was determined that the Project contained playas along the eastern portion of the Project study area.

A) Landscape Setting and Land Use

A.1 Project Location

The Project study area encompasses approximately 4,544 acres and is located approximately 9 miles east of Christmas Valley, the nearest town, and 25 miles west of U.S. Highway 395 in Sections 14, 15, 22, 23, 26, 27, 28, 33, 34, Township 27 South (S), Range 19 East (E); and Sections 02, 03, 04, 09, 10, 11, Township 28S, Range 19E (Figure 2 in Appendix A).

The Project study area is on privately owned land that is surrounded to the southeast and southwest by public land managed by the U.S. Department of the Interior's Bureau of Land Management (BLM). Specifically, the Project study area is located south of Christmas Valley Wagon Road and accessed by Three Mile Road, a dirt road that bisects the majority of the Project study area. Elevations range from approximately 4,310 to 4,480 feet above mean sea level. The surrounding land use includes agricultural, rangeland, and rural residential.

A.2 Land Cover

The landscape setting is dominated by shrub/scrub habitat (i.e., arid sagebrush-steppe community), intermixed with grassland and herbaceous habitat and playas. Land cover within the Project study area is a mix of desert playa and salt scrub shrubland surrounded by shrub-steppe habitat. The habitat forms a mosaic of playas, salt desert shrublands, and sagebrush shrublands. Areas with little or no vegetation cover have highly alkaline soils and are likely poorly drained.

During field surveys, professional biologists identified land cover as two distinct types of shrub/scrub habitat types within the Project study area: sagebrush shrubland and nonsagebrush shrubland. The sagebrush shrub/scrub habitat community generally covers the southern portion of the Project study area and consists of native shrub species big sagebrush (*Artemisia tridentata*), greasewood (*Sarcobatus vermiculatus*), gray rabbitbrush (*Ericameria nauseosa*), and spiny hopsage (*Grayia spinosa*). Understory in this shrub/scrub habitat type is dominated by a mosaic of native bunchgrasses and forbs such as Sandberg bluegrass (*Poa secunda*), Thurber's needlegrass (*Achnatherum thurberianum*), foxtail barley (*Horedum jubatum*), and scattered great basin wildrye (*Leymus cinereus*).

The nonsagebrush shrub/scrub habitat in the northern and eastern midsection of the Project study area includes native shrubs such as greasewood (*Sarcobatus vermiculatus*), stiff sagebrush (*Artemisia rigida*), and gray rabbitbrush (*Ericameria nauseosa*). Subdominants found within this shrub/scrub habitat include spiny hopsage (*Atriplex spinose*), and winterfat (*Eurotia lanata*). The understory is dominated by clasping pepperweed (*Lepidium perfoliatum*), cheatgrass (*Bromus tectorum*), an exotic annual, and Halogenton (*Halogenton glomeratus*), a noxious herbaceous annual.

Grassland and herbaceous habitat covers much of the midsection of the Project study area. This habitat is dominated predominately by weedy grass/forb species. The dominant species include cheatgrass, crested wheatgrass (*Agropyron cristatum*), a clasping pepperweed, and flaxweed (*Descurainia sophia*).

A.2 Ecoregion Geology, Climate, and Hydrologic Code

The Project is located on the flat basin floor of Christmas Lake Valley, the easternmost subbasin of the Fort Rock Basin in the high desert of central Oregon. Christmas Lake Valley, Fort Rock Valley to the west, and Silver Lake Valley to the south form the extensive Fort Rock Basin, a basin of internal drainage (Oetting 1993). This closed basin is in the extreme northwest extent of the Northern Basin and Range physiographic province, which is designated a Level III ecoregion and Pluvial Lakes Basins Level IV ecoregion (Thorson et al. 2003).

During the Pleistocene epoch, the entire basin was filled with a large pluvial lake covering an estimated 751 square miles (Friedel 1993, in Grayson 2011:96) and was up to 240 feet deep (Allison, 1979). The vast majority of the Project study area falls within a topographic low, flat former lakebed in the southeastern portion of the Fort Rock Basin. The lakebed contains small, semivegetated dunes intermixed with hardened, flat, playas. Portions of the Project study area encompass the gently sloping former lake shorelines to the south and southwest.

Pleistocene and Holocene climate-induced lake level changes within the lower elevations around the Fort Rock basin and subbasins produced landscape features such as wave-cut terraces (bathtub rings associated with lake regressions) and platforms, caves and nips, beach ridges and spits, as well as deltaic deposits (Forbes 1973). During dry climate intervals, landscape features associated with pluvial lake desiccations formed basin leeward dune deposits, such as shadow dunes around plants, transverse and other longitudinal dunes, sheet deposits, lunate (arcuate) dunes, and minor dome dunes (Rossman and Zimbelman 2012). Wind action during the Holocene has sculpted the basin floors, forming deflation basins, blowouts, sand fields, and sand dunes. Dune sand is widespread, particularly in the eastern part of Christmas Lake Valley (Forbes 1973:40). Active dunes cover an area of 23 square miles east of Christmas Lake and much of the eastern basin floor. The dune sands are derived in part from Mazama ash and pumice, which was deposited across the basin by the eruption of Mount Mazama 6,800 years ago (Oetting 1993).

The modern climate of Christmas Lake Valley is the result of a general drying trend since late Pleistocene times, when Lake Fort Rock covered the region. The floors of the sub basins are relatively flat and filled with alluvium, lacustrine deposits, and aeolian sediments of Pleistocene and Holocene age. Small, clay-surfaced playas collect and evaporate water seasonally and dot the floor of the former lake. Christmas Lake Valley is the highest in elevation of the three sub basins and the driest, given that no perennial streams flow into the valley. The only source of water is precipitation in the form of snow or rain. The Project study area is located within the Summer Lake Watershed, Hydrologic Unit Code 17120005 (USGS 2018). Onsite waters are internally draining, and surface water connection is absent with any other waters situated outside the Project study area. However, seasonal precipitation may result in the accumulation and ponding of water on basin floor playas for days to weeks, especially in spring and late fall.

Annual precipitation in the region averages approximately 8 to 10 inches (NOAA 2019). The mean temperature is 30 to 60 degrees Fahrenheit (°F). Temperatures range from 19 to over 84°F annually, with diurnal variation often exceeding 20 degrees.

A.3 Soil Survey

There are 11 soil map units identified by the Soil Survey Geographic (SSURGO) database, which is managed by the Natural Resources Conservation Service (NRCS), as occurring within the Project study area. Soil map units are a collection of areas defined and named the same in terms of their soil components, miscellaneous nonsoil areas, or both. They are defined by their landscape position, profile characteristics, relationships to one another, and suitability for various uses (NRCS 2012)

Table 1 identifies the NRCS soil types and acreage within the Project study area. Figure 4 in Appendix A illustrates the locations and geographic extent of the soil types within the Project study area.

Table 1. Soil Types and Total Acres within Project Study Area

Soil Map Unit # ^a	Soil Type (Map Unit) Name	Acres within Project Study Area	Percent Hydric Soils
304	Felcher-Rock outcrop complex, 15 to 45 percent south slopes	7.24	0
313	Flagstaff complex, 0 to 1 percent slopes	2334.93	100
314	Flagstaff-Playas complex, 0 to 1 percent slopes	683.82	100
315	Flagstaff-Salhouse complex, 0 to 20 percent slopes	172.60	0
317	Fort Rock ashy sandy loam, 0 to 2 percent slopes	160.38	0
435	McConnel gravelly sandy loam, sodic substratum, 0 to 5 percent slopes	269.76	0
520	Playas	13.91	100
530	Rabbit hills gravelly loamy sand, 0 to 5 percent slopes	156.55	0
572	Salhouse ashy loamy fine sand, strongly alkaline, 2 to 20 percent slopes	252.97	0
617	Suckerflat-Rock outcrop complex, 8 to 15 percent slopes	0.42	0
628	Thornlake complex, 0 to 2 percent slopes	491.21	0

^a Source: USDA-NRCS. 2020. SSURGO Soil Data Downloader. Esri Application.
<http://www.arcgis.com/home/item.html?id=c49bd63ea54dd2977f3f2853e07fff>.

Soil types within the Project study area are described as follows by NRCS (2012):

- Felcher-Rock outcrop complex 15-45 percent south slopes (soil map unit 304) is a well-drained, nonhydric series found on lava plateaus escarpments with parent material of colluvium and residuum derived from volcanic rock such as welded tuff or basalt. The representative profile is a very cobbly loam approximately 4 inches thick.
- Flagstaff complex 0-1 percent slopes (soil map unit 313) consists of moderately well-drained hydric soils with occasional frequency of ponding. The Flagstaff series is described as ashy very fine sandy loam surface formed in lakebeds with a parent material of lacustrine deposits derived from volcanic ash. The typical pedon surface layer is 4 inches and a light brownish gray (2.5Y 6/2). The substratum transitions from pale brown (10YR6/3) to a light yellowish brown (10YR6/4) color from 8 to 12 inches and very pale brown to 16 inches. Layers are generally strongly alkaline (pH 8.6-8.8).
- Flagstaff-Playas complex 0 to 1 percent slopes (soil map unit 314) consists of moderately well-drained hydric soils found on lakebeds adjacent to slight depressions with occasional frequency of ponding. The Flagstaff series is described as ashy very fine sandy loam surface formed in lakebeds with a parent material of lacustrine deposits derived from volcanic ash.
- Flagstaff-Salhouse complex 0-20 percent slopes (soil map unit 315) consists of moderately well-drained nonhydric soil with occasional frequency of ponding. The Flagstaff series is described as ashy very fine sandy loam surface formed in lakebeds with a parent material of lacustrine deposits derived from volcanic ash.
- Fort Rock ashy sandy loam 0 to 2 percent slopes (soil map unit 317) is in a very deep, somewhat excessively drained alkaline area. This is a nonhydric soil found on lake terraces. In a representative

profile, the surface layer is grayish brown very gravelly ashy coarse sandy loam about 5 inches thick. The subsoil is grayish brown gravelly ashy loamy sand about 7 inches thick. Each of these layers is typically slightly alkaline (pH 6.3–7.6).

- McConnel gravelly sandy loam, sodic substratum, 0 to 5 percent slopes (soil map unit 435) is a very deep, somewhat excessively drained hydric soil found lake terraces. In a representative profile, the surface layer is brown (10YR5/3) and 1 inch thick. The subsoil is light brownish gray and approximately 4 inches deep. The years are slightly alkaline (pH 7.6).
- Playas (soil map unit 520) are hydric, very deep, and poorly drained. The soil survey does not contain a typical pedon for the Playas mapping unit.
- Rabbithills gravelly loamy sand, 0 to 5 percent slopes (soil map unit 530) is a nonhydric-area soil found on lake terraces. It is a well-drained to excessively drained arid soil with a represented profile that is lightish brown gray at 3 inches thick and light gray from 3 to 7 inches. The subsoil is brown (10YR5/3) and 7 inches thick. Each layer is slightly alkaline (pH 7.6-7.8).
- Salhouse ashy loamy fine sand strongly alkaline, 2 to 20 percent slopes (soil map unit 572) is a nonhydric soil found in stable dunes on beach ridges and sand sheets on lakebeds. In a representative profile, the surface layer is light brownish gray (10YR6/2) and a grayish brown (10YR5/2) from 5 to 24 inches. These layers range from moderately to strongly alkaline (pH 8.0-8.6).
- Suckerflat-Rock outcrop complex, 8 to 15 percent slopes (soil map unit 617) is a well-drained non-hydric soil found on lava plateaus and hills. In a representative profile, the surface layer (0 to 3 inches) a grayish brown (10YR5/2) cobbly ashy loam. At 3 to 18 inches, the color is brown (10YR5/3) cobbly, ashy loam and slightly alkaline.
- Thornlake complex 0 to 2 percent slopes (soil map unit 628) soils consist of very deep, well-drained soils that formed in lacustrine deposits derived from volcanic ash. The local phase of this soil is strongly alkaline. Thornlake series soils are found on lakebeds. In a representative profile, the surface layer is light brownish gray ashy sandy loam about 7 inches thick. The upper subsoil is very pale brown ashy loam about 18 inches thick. These layers are moderately alkaline (pH 8.2-8.3). The lower subsoil is light brownish gray ashy sandy loam about 36 inches thick. This layer is strongly alkaline (pH = 8.6).

B) Site Alterations

The majority of the Project study area consists of undeveloped land covered in desert shrub/scrub vegetation. The site is accessed by Three Mile Road, a dirt road that bisects the majority of the Project study area. Two existing homes are located within portions of the north and northeast portion of the Project study area. The north to midsection of the Project study area has had a history of center pivot irrigation. Irrigation and agricultural use in the northern part of the Project study area have long since ceased since the early 1970s. Pivot patterns are visible in the aerial map (Figure 5 in Appendix A). Aerial imagery also reflects current ranching/grazing activities within the Project study area. According to the current ranch manager, the relic pivot areas as well as areas to the west, north, and south are actively grazed through winter and spring months.

The southern end of the Project study area does not have a history of agricultural use. The Vaughn Well is located on the southern end of the Project study area and has many dirt tracks that radiate out of the area. A transmission line crosses the southeast portion of the Project study area.

C) Precipitation Data and Analysis

The NRCS and National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information enable comparison of actual precipitation measurements with normal precipitation amounts. Monthly normal ranges of precipitation values were obtained from the NRCS WETS station for The Poplars, Oregon. Daily records were also obtained from The Poplars weather station (NOAA 2019).

Table 2 presents the precipitation data on the dates of the May 6-10 (2019) field surveys and for the 2-week period (April 22-May 5) preceding the field surveys. No precipitation was recorded during the 5 days of the field surveys nor in the 2-week period preceding the surveys.

Table 2. Daily Precipitation Two Weeks Preceding and During May 2019 Field Surveys

Station: The Poplars, OR US USC00358420

Date	Precipitation (inches)
April 22 – May 5, 2019	0.00
May 6 – 10, 2019	0.00
Total	0.00

Source: NOAA 2019

Annual precipitation in the region averages approximately 7.8 inches (NOAA 2019). Precipitation data were reviewed for the nearest weather station, located at The Poplars, Oregon, US USC00358420. Precipitation for the water year beginning October 2018 through April 2019 was 9.26 inches (Table 3), slightly higher than the normal range (2.88 to 7.34 inches) for this time period and area.

Table 3. Monthly Precipitation Data Preceding May 2019 Field Surveys

Station: The Poplars, OR US USC00358420

Date	Actual Precipitation ^a (inches)	Normal Range ^{b,c} (inches)	Outside Normal Range (inches)
October 2018	0.61	0.33 – 0.72	---
November 2018	0.79	0.49 – 1.34	---
December 2018	1.84	0.52 – 1.42	0.42
January 2019	0.84	0.41 – 1.13	---
February 2019	2.05	0.34 – 0.84	1.21
March 2019	0.94	0.43 – 0.99	---
April 2019	2.19	0.36 – 0.90	1.29
Total	9.26	2.88 – 7.34	---

^a Source: NOAA 2019.

^b Source: USDA-NRCS 2019.

^c "Normal Range" is the range within which precipitation for the given period has a 70 percent chance of occurring.

Note: --- = not applicable

Overall, hydrologic conditions onsite represented relatively normal conditions during the field surveys, which was considered during analysis of wetland hydrology indicators. Lack of precipitation preceding the May field surveys did not complicate the observations or interpretations of wetland indicators.

D) Methods

This section presents an overview of the primary methods used to conduct the survey and address the objectives of this report. The wetland survey comprised a two-phased approach: (1) a desktop review and field reconnaissance conducted during the site characterization survey; and (2) a field survey described in Section D.2 below. Prior to the wetland field survey, publicly available datasets were reviewed to determine the locations of potential wetlands, streams, or other waters. Digital base maps were prepared

with georeferenced aerial imagery, as well as ArcGIS layers that included Project study area boundaries, SSURGO, *National Wetlands Inventory* (NWI), and National Hydrography Dataset (NHD).

D.1 Desktop Review

A comprehensive desktop evaluation of existing data from publicly available sources was completed for the Project study area. In association with the field surveys, the following information was reviewed:

- 7.5-minute topographic maps (as provided by the U.S. Geological Survey [USGS] via the Environmental Systems Research Institute [the company that sells the software known as ArcGIS])
- Lake County Oregon Tax Lot Map (ESRI 2019) (digital files) (Figure 2 in Appendix A)
- NWI maps from the U.S. Fish and Wildlife Service (2019) and NHD (USGS 2018) (Figures 3a through 3c in Appendix A)
- SSURGO database for Oregon, Lake County Northern Parts (NRCS 2012) (Figure 4 in Appendix A)
- Hydric Soils List, Lake County (NRCS 2017)
- Digital Globe 2017, aerial imagery, August 5, 2017 (Figure 5 in Appendix A)

D.2 Site-Specific Methods and Field Survey Dates

D.2.1 General Field Methods

A field reconnaissance was conducted by a qualified Jacobs biologist on June 4-5, 2018, to investigate biological resources identified in the desktop evaluation and to assess the potential presence of these resources. Detailed field surveys were conducted by two teams of Jacobs professional wetland scientists on May 6-10, 2019, to identify potentially jurisdictional wetlands and other waters of the United States (U.S.) and State of Oregon for the Project study area.

Wetland teams used a tablet that had the abovementioned base maps uploaded and a wireless connection to a global positioning system (GPS) unit. The GPS unit had submeter accuracy with real-time correction and a hand-held Trimble global navigation satellites system (GNSS) receiver to navigate through the Project study area and digitally mark waters, data points, and other features.

The survey timing was within the growing season as evidenced by temperatures and full foliage vegetation. Transects were established and the Project study area was walked to observe vegetation types and visual signatures while also utilizing the GPS background layers to focus on specific areas. Visual signatures in the field were utilized as well as landscape position, vegetation, recent rainfall, and recent land use. The teams collected data points within waters and adjacent upland areas to demonstrate differences between these two community types and substantiate delineation of the waters.

Plots and data points were established in NWI-mapped waters, in NRCS-mapped hydric soil types, and in areas that exhibited indicators of potential presence of wetlands or other waters. Potential waters identified by the NWI and NHD features were evaluated as well as aerial photograph signatures of potential water resources. Jacobs used the information gathered during the field surveys, including the correlation between aerial photograph signature and landscape features, to guide the delineation.

Data collection, descriptions, and analysis for wetlands and other jurisdictional waters of the United States and Oregon followed the routine approach of the U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (U.S. Army Corps of Engineers 2008). No modification of the standard wetland boundary determination methodology (i.e., presence of hydric soil indicators, hydrophytic plant dominance, and wetland hydrology indicators) was necessary during the delineation.

D.2.2 Methods for Delineating Playas

Based on the June 2018 site reconnaissance, it was determined that the Project study area contained potential playas along the eastern portion of the Project. A playa is defined as “[t]he flat-floored bottom of an undrained desert basin that becomes at times a shallow lake which on evaporation may leave a deposit of salt or gypsum (known historically as playa lakes when containing water or dry lakes when dry). Most common to all definitions is that playas are typically vegetation-free surfaces of Pleistocene lacustrine sediments” (Brostoff et al. 2001).

Playas typically are nonwetland waters but may be classified as wetlands under certain conditions (Brostoff et al. 2001). Where groundwater is generally at or near the soil surface, playas may exhibit the three wetland parameters: hydrophytic vegetation, hydric soil, and wetland hydrology. However, assessing these parameters is typically difficult because vegetation, particularly that which might be classified as obligate or facultative, does not characteristically grow on playa surfaces because of harsh conditions including low soil organic matter, high pH, high salinity, limited microbial activity, and erratic hydrologic regime. In addition, the soils generally do not develop recognized characteristics that might be used to determine whether they were hydric in response to inundation. And playas are by definition intermittently covered with water; the extent of cover changes rapidly on both short- and long-term time scales (e.g., Kubly 1982), making any possible “frequency and duration” criteria for hydrology “problematic to assess” (Brostoff et al. 2001). Because many playas fail this three-factor wetland test, playas are typically considered nonwetland waters, and must be examined for ordinary high water mark (OHWM) indicators.

As discussed in Brostoff et al. (2001), playas do not exhibit normal wetland indicators with hydrophytic plant communities and hydric soil indicators. Brostoff et al. (2001) assert that hydrophytic plant communities generally do not assemble and hydric soils do not develop in playas for very similar reasons: low soil organic matter, high pH, high salinity, limited microbial activity, and erratic hydrologic regime. Conclusively, most playas are persistently dry due to the lack of a shallow water table and an erratic hydrologic regime. Many playas fail the three-factor wetland test, and the area must be examined for ordinary high water (OHW) indicators. Therefore, playas are considered nonwetland waters.

For this Project, Jacobs documented and delineated playas as nonwetland waters along their OHWM in accordance with *Regional Supplement to the Corps of Engineers Manual: Arid West Region* (V2) (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), USACE Regulatory Guidance Letter 05-05 (USACE 2005), *Delineating Playas in the Arid Southwest – A Literature Review* (Brostoff et al. 2001), DSL’s Removal-Fill Guide (DSL 2016), and *Duration and Frequency of Ponded Water on Arid Southwest Playas* (Lichvar 2002).

Given the arid climate of the region and the sparse and patchy plant cover observed, Jacobs utilized the wetland determination procedure described in Chapter 5 of the Regional Supplement for “Sparse and patchy vegetation.” Areas were considered vegetated if there was 5 percent or more areal cover of plants at the peak of growing season and unvegetated areas if less than 5 percent plant cover. Playas that were identified as unvegetated and supported less than 5 percent plant cover were identified as “playa barrens.” Playas with more than 5 percent vegetation were identified as “playa mosaics” because they consisted of a mosaic of vegetated and unvegetated areas. All vegetated mosaics consisted of upland vegetation. This nomenclature of playas is consistent with the delineation of playas conducted by Ecology and Environment LLC for the Obsidian Solar Center in 2018 (Ecology and Environment LLC 2018).

D.2.3 Agency Consultation

Owing to the potential playas onsite and the lack of specific federal or state jurisdictional guidance for delineating playas, the USACE and DSL were consulted for guidance on jurisdictional boundaries and delineating playas within the Project study area.

Jacobs staff consulted with Jaimee Davis, Portland Permits Section Chief at USACE, Portland District; Benny Dean, Senior Project Manager, USACE Portland District; Kirk Jarvie, DSL Field Operation

Manager for waterways and wetlands; Lynne McAllister, Jurisdiction Coordinator, DSL; and Peter Ryan, Aquatic Resource Specialist, DSL. Jacobs utilized information from these consultations to inform the field delineation process for the playas within the Project study area.

The USACE determined that the playas within the Project study area are not federally jurisdictional. According to Mr. Dean, the playas do not have hydric soils or a hydrophytic plant community. Therefore, they are similar to puddles and the USACE does not consider these features jurisdictional. The playa features would need to be within the floodplain of a tributary and have a direct hydrological connection to the tributary (a drainage or ditch) that flows to a water of the U.S. None of the playa features within the Project study area meet these criteria.

Ms. McAllister, from DSL, stated that there is no specific guidance for delineating OHW of playas beyond the OHW indicators provided in OAR and DSL's *Removal/Fill Guide* (DSL, 2016). Until better information and guidance are available, it was suggested to utilize indicators such as drift lines, impression on the shore, or concentric rings made by receding water. Algal crusts should also be considered in areas of sparse vegetation if they are associated with features like a landform, elevation change, or a polygon where a distinct shoreline impression may be absent or obscure. Mr. Ryan recommended reviewing a wetland and waters delineation in a similar landscape setting conducted by DSL in 2013 (Verble 2013) (ODSL #WD2013-0249).

Correspondence with the regulatory agencies regarding guidance on delineating playas is provided in Appendix D, including Ms. McAllister's support of the playa delineation methods described in this report.

E) Description of Wetlands and Nonwetland Waters

Jacobs identified and delineated 20 nonwetland waters (playas) within the Project study area. No wetlands were identified. Overview maps are provided on Figures 6-01 to 6-03 in Appendix A. Delineated nonwetland waters, sample plot locations, and photo point locations are shown on Figures 6-A to 6-RR in Appendix A. Field data forms are provided in Appendix B. Appendix C contains ground-level color photographs of the areas of investigation. Appendix D contains agency correspondence. Table 4 in Section I summarizes the water resources identified within the Project study area. Delineated nonwetland waters within the Project study area range in size from 0.11 acre to 19.45 acres. The total area occupied by playas in the Project study area is 93.21 acres.

The onsite nonwetland waters are best described as playas, per the description provided in Section D.2 above. Playas initially were assessed using the three-factor approach for identifying wetlands. Jacobs determined the playas within the Project study area do not qualify as wetlands due to the lack of hydrophytic vegetation, hydric soil, or both. The playas that are vegetated support xerophytic species that do not have a wetland indicator status. In general, species that do not have a wetland indicator status are assumed to be adapted to upland conditions (USACE 2010). In keeping with guidance discussed in Section D.2 above, the unvegetated parts of playas were evaluated as potential nonwetland waters of the state if they exhibit OHW indicators. Additionally, the playas areas supporting less than 5 percent plant cover were characterized as playa barrens and those supporting 5 percent or greater plant cover as playa mosaics.

E.1 Playa Mosaics

Playa mosaics within the Project study area contained upland vegetation within the playas and along the edges. Much of this upland vegetation consisted of what has been classified as "alkaline scrub" by Thorne (1976).

The playa mosaics consisted of upland mounds supporting upland vegetation surrounded by a depression with a playa-like surface representing typically 50 percent or more of the area and typically supported 14 to 28 percent total plant cover, mainly shrubs on round to elliptical mounds that are generally 2.0 to 4.0 feet diameter and 0.5 to 2.0 feet tall. The playa mosaics were typically vegetated by greasewood, stiff sage, clasping pepperweed, cheatgrass and other xerophytic species that are not listed in the National Wetland Plant List and therefore do not possess a wetland indicator status in the Arid

West or any other region (Lichvar et al. 2016). In general, species that do not have a wetland indicator status are assumed to be adapted to upland conditions (USACE 2010). The same species found in the playas also occurred throughout the adjacent uplands. Plant species commonly occurring in the playas are far more abundant in the adjacent uplands. Total vegetation cover is much greater in the onsite uplands compared to the playa mosaics.

The *Soil Survey of Lake County, Oregon, Northern Part, Parts of Lake and Klamath Counties* (Langridge 2012) maps three hydric soil mapping units within the Project study area. Most of the playas delineated within the Project study area were found on the Flagstaff-Playa complex, which is mapped by NRCS as a hydric soil. The series consist of moderately well-drained hydric soils with occasional frequency of ponding and is strongly alkaline (see Appendix C, photo 17, "pH test strip indicating a soil pH of 9.0"). The Flagstaff-Playa complex is hydric; however, no hydric soil indicators, including current or relic redoximorphic features, were observed in the soil profiles, nor was the "Long, Frequent" ponding criteria (Langridge 2012) confirmed as a result of dry conditions during the field study. Jacobs could not conclude that the field-documented soils "formed under conditions or saturation, flooding or ponding long enough during the growing season to develop anerobic conditions in the upper part" (definition of a hydric soil). A similar conclusion was drawn by Mr. Roger Borine in his "Wetland Technical Issues" report that accompanies WD2013-0249 (Borine 2013).

E.2 Playa Surfaces

Playa surfaces are of two types: hard or fine-grained playa and soft or coarse-grained playa (Brostoff et al. 2001). The playas observed and documented by Jacobs consisted of "hard" playas, generally indicating that hydrology input is through rainfall and surface runoff versus groundwater. Each playa (both barren and mosaic) surface had mud cracks and polygons; however, this was not used as a hydrology indicator because much of the high desert area in central Oregon contains bare areas (unvegetated) that are surrounded by upland vegetation with possible surface cracking and salt deposits. Hydrology indicators utilized in the survey consisted of drift lines and water marks. Drift lines are specifically mentioned in the federal Clean Water Act as an indicator of OHW. The presence of these markings lends more credence to establish an OHW mark if they are continuous, thus indicating a spatially defined area (Brostoff et al. 2001).

E.3 Playa Barrens

The playa barrens were generally devoid of vegetation and sometimes topographically more depressed than the playa mosaics. The edges of most playa barren were characterized by an increase in vegetation, sediment size, and slope. Geologically, these edges may represent relict wave-formed bars, beach ridges, or alluvial deposits. These changes were sometimes generally abrupt, but sometimes very gradual without clear boundaries.

There are multiple patches of sand dune communities in the Project study area that also support patchy upland vegetation. However, these communities lack the indicators of OHWM that are readily apparent within the playas that were mapped.

F) Deviations from National Wetlands Inventory/Local Wetlands Inventory Mapping

Figure 3 in Appendix A shows potential waters identified within the Project study area by the NWI and NHD. The locations of the wetlands and waters mapped by NWI and NHD within the Project study area are somewhat different than what Jacobs delineated in the Project study area. The NWI mapped seven features in the Project study area that are classified as palustrine unconsolidated shoreline, intermittently flooded (PUSJ). Jacobs delineated and mapped 20 playas, some of which are in the general location mapped by NWI. The NWI notes the water regimes definition for the PUSJ as substrate that is usually exposed, but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or even years may intervene between periods of inundation. The dominant plant communities under this water regime may change as soil moisture conditions change. Some areas exhibiting this water regime do not fall within the definition of wetland because they do not have hydric soils or support hydrophytes. This water regime is generally limited to the arid West (FGDC 2013).

The NWI mapped multiple palustrine emergent persistent and temporarily flooded wetlands (PEM1, PEM1C) within the location of the old pivot areas. One palustrine unconsolidated bottom that was excavated PUBFx was mapped by NWI. An excavated feature was identified but it did not contain hydrophytic vegetation and lacked hydric soils. Jacobs recorded 15 sample plots (SPX) within these areas. No wetlands were identified in these locations.

NHD watercourse data and field visits mapped three potential waterbodies within the Project study area. The field surveys found no indication of these waterbodies within the Project study area. Photo documentation is located in Appendix C.

No Local Wetland Inventory maps cover the Project study area.

G) Wetland Mapping Method

Nonwetland waters boundaries and sample plot and photo point locations were surveyed using a tablet that had the above-mentioned base maps uploaded and a wireless connection to a GPS unit with submeter accuracy and real-time correction as well as a hand-held Trimble GNSS receiver. The boundaries and sample plot and photo point locations were post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.

H) Additional Information

Correspondence with the regulatory agencies regarding guidance on delineating playas is provided in Appendix D. Additional information on playa types follows.

As stated in Section E, two general sorts of playa surfaces exist: hard or fine-grained playa and soft or coarse-grained playa (Brostoff et al. 2001). A hard or fine-grained playa is characterized by having a dry, compact, generally smooth surface that does not have groundwater input and which is inundated by rainfall and surface runoff (e.g., Stone 1956; Motts 1970, 1972). This type has little microrelief except for surface crusts, mud cracks, or polygons. The surface sediments are generally remnant silt and clay deposited during the Pleistocene era when the playas were indeed lakes. In this type, groundwater is at least several feet removed from the surface; groundwater depths greater than 5 meters (16.4 feet) preclude discharge to the surface and favor the development of hard, dry, compact playa crusts with little or no evaporite accumulation. Consequently, they do not contain a zone of saturation or a capillary fringe near the surface because of the depth to groundwater (Motts 1970).

A soft or coarse-grained playa is characterized by a soft, often moist, friable, puffy surface that develops from capillary input of groundwater and subsequent deposition of evaporite minerals (Motts 1970, Neal 1972). The surfaces of this playa type are loosely compacted and may be damp to dry during the summer months. Microrelief may be in the range of 2 to 3 inches or greater, giving a lumpy appearance.

I) Results and Conclusions

Table 4 summarizes the results of the nonwetland waters identification and delineation within the Project study area.

Table 4. Nonwetland Waters within Project Study Area

Feature Name	Upland Vegetation (acres)	Nonwetland Waters (acres)	Total Acres	Clean Water Act Section 404 Jurisdiction (PJD) ^a	Oregon Removal Fill Law Jurisdiction (PJD) ^a
Barrens					
Playa 1	0	1.01	1.01	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 2	0	0.29	0.29	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 3	0	3.77	3.77	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 5	0	0.79	0.79	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 6	0	0.84	0.84	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 7	0	0.24	0.24	No	Presumed jurisdictional due to presence of OHW indicators.
Subtotal	0	6.94	6.94		
Mosaic					
Playa 4	0.15	0.33	0.48	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 8	0.11	0.50	0.61	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 9	0.55	1.33	1.88	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 10	0.80	1.89	2.69	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 11	0.30	0.76	1.06	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 12	2.23	6.03	8.26	No	Presumed jurisdictional due to presence of OHW indicators.

Table 4. Nonwetland Waters within Project Study Area

Feature Name	Upland Vegetation (acres)	Nonwetland Waters (acres)	Total Acres	Clean Water Act Section 404 Jurisdiction (PJD) ^a	Oregon Removal Fill Law Jurisdiction (PJD) ^a
Playa 13	2.16	5.88	8.04	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 14	1.58	3.74	5.32	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 15	0.88	1.50	2.39	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 16	1.20	7.20	8.34	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 17	2.58	3.90	6.47	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 18	19.45	50.62	70.07	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 19	0.18	0.66	0.84	No	Presumed jurisdictional due to presence of OHW indicators.
Playa 20	1.11	1.93	3.04	No	Presumed jurisdictional due to presence of OHW indicators.
Subtotal	33.28	86.27	119.49		
Total	33.28	93.21	126.43		

^a Preliminary jurisdictional determinations (PJDs) are advisory only. Final jurisdictional determinations are made by the regulatory agencies.

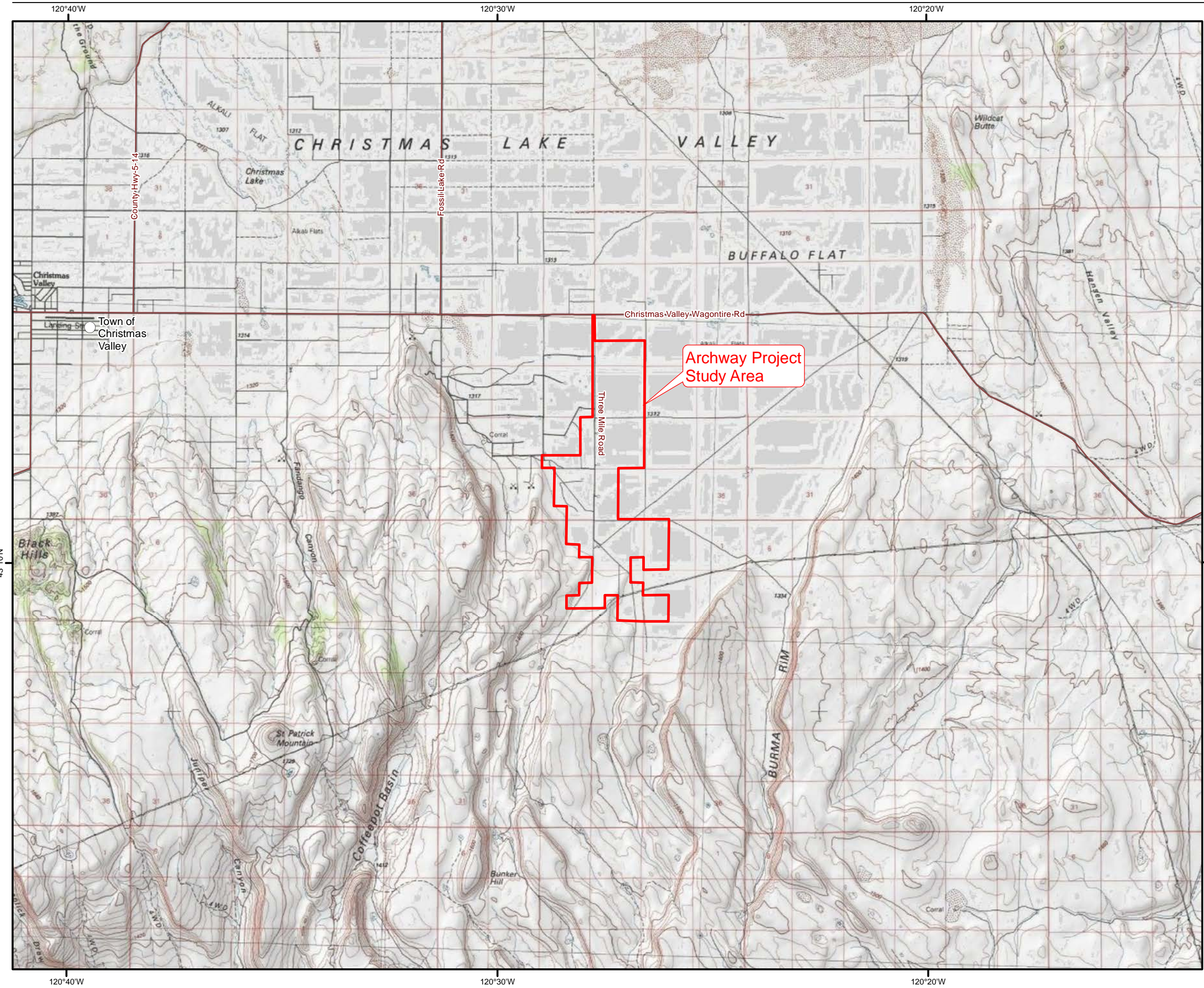
J) Disclaimer OAR 141-090-0035(12)(J)(j)

The wetlands and nonwetland waters identified in this report are potentially subject to federal and state water regulatory jurisdiction. Jurisdictional determinations, including the applicability of exemptions, are made on a case-by-case basis by the regulatory agencies, DSL, and USACE. The regulatory conclusions in this report are provided as PJDs. PJDs, including the applicability of exemptions, are advisory only. Final determinations are made by the regulatory agencies.

This report documents the investigation, best professional judgment, and conclusions of the investigators. It is correct and complete to the best of Jacobs knowledge. It should be considered a PJD of wetlands and other waters and used at the reader's own risk until it has been reviewed and approved in writing by DSL in accordance with OAR 141-090-0005 through 141-090-0055 and by the USACE, Portland District.

Appendix A

Figures



LEGEND

- Town of Christmas Valley
- Road
- ▭ Archway Project Study Area

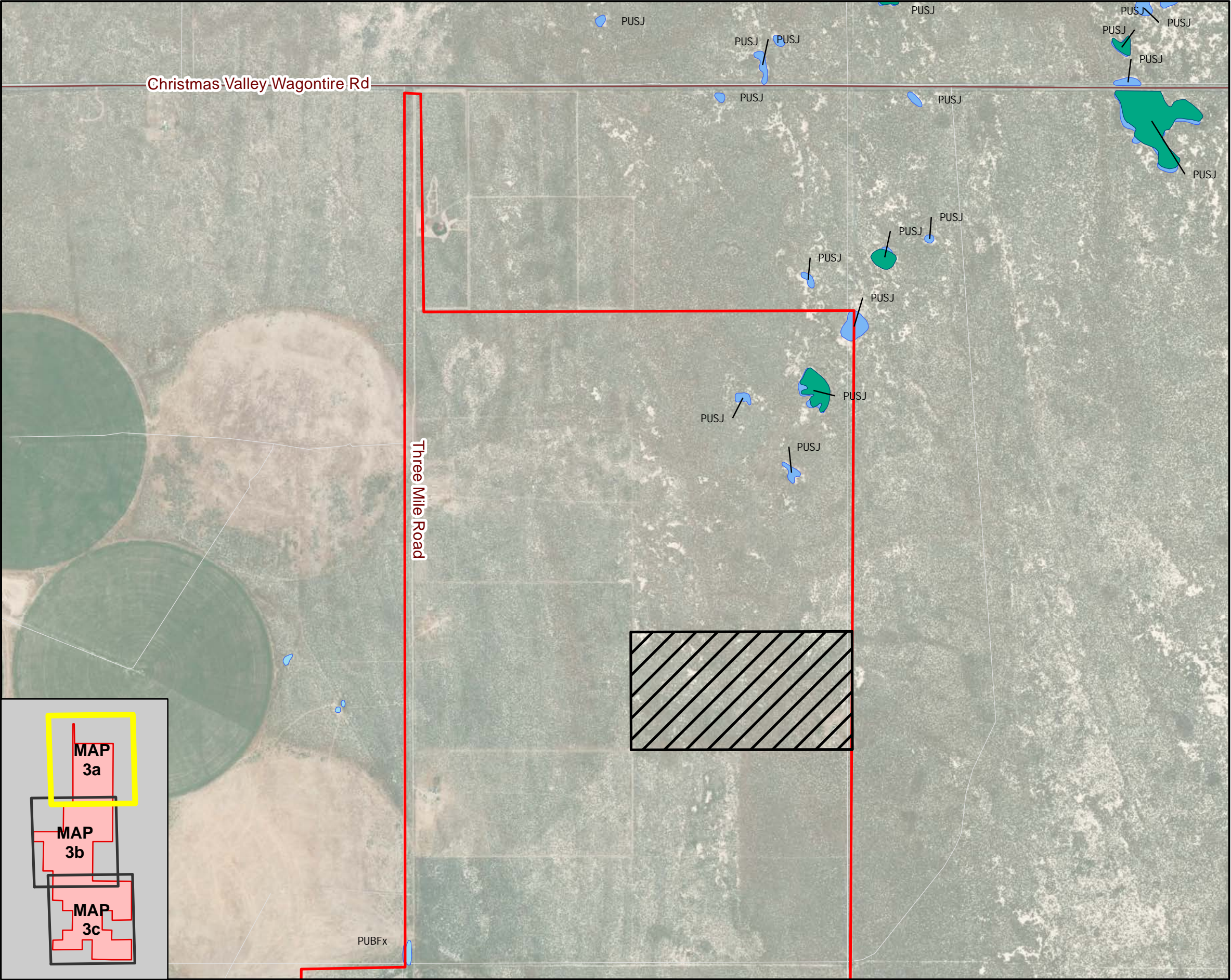
Notes:
1. Area of interest subject to change.
2. Projection - State Plane Oregon South
FIPS 3602 Feet NAD 83



0 5,000 10,000 20,000
Feet

1 inch = 10,000 feet

Figure 1
Location Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- NWI Wetland Type**
- Freshwater Emergent Wetland
 - Freshwater Pond
- NHD Waterbody**
- Lake
 - Playa
- Other Symbols**
- No Access
 - Archway Project Study Area
 - Highway
 - Road

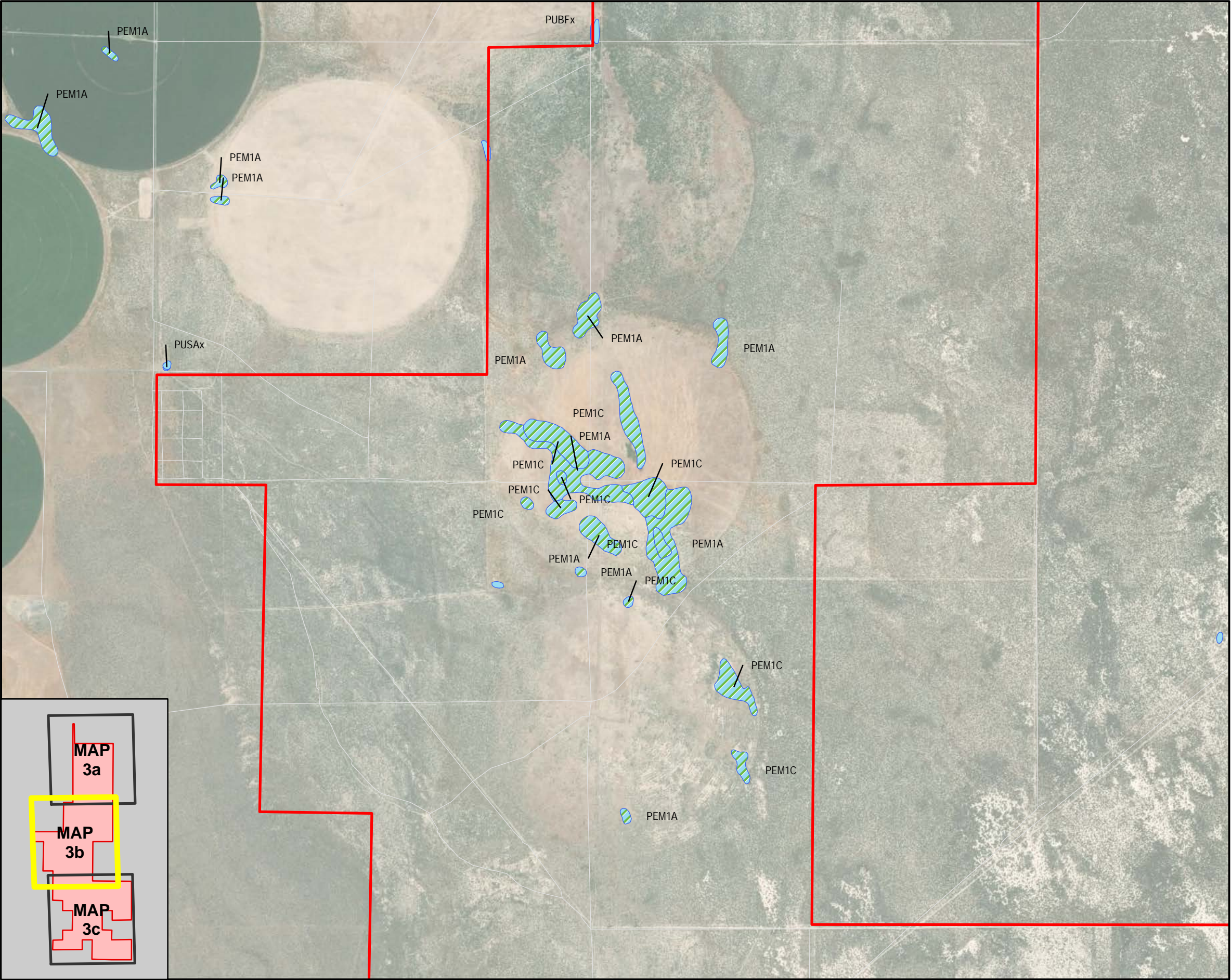
- Notes:
1. Area of interest subject to change.
 2. National Wetlands Inventory - U.S. Fish and Wildlife Service
<https://www.fws.gov/wetlands/data/Data-Download.html>
 3. USGS National Hydrography Dataset
<https://viewer.nationalmap.gov>
 4. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 5. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 6. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



0 500 1,000 2,000
Feet

1 inch = 1,200 feet

Figure 3a
NWI and NHD Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Pond

NHD Waterbody

- Lake
- Playa
- No Access
- Archway Project Study Area
- Highway
- Road

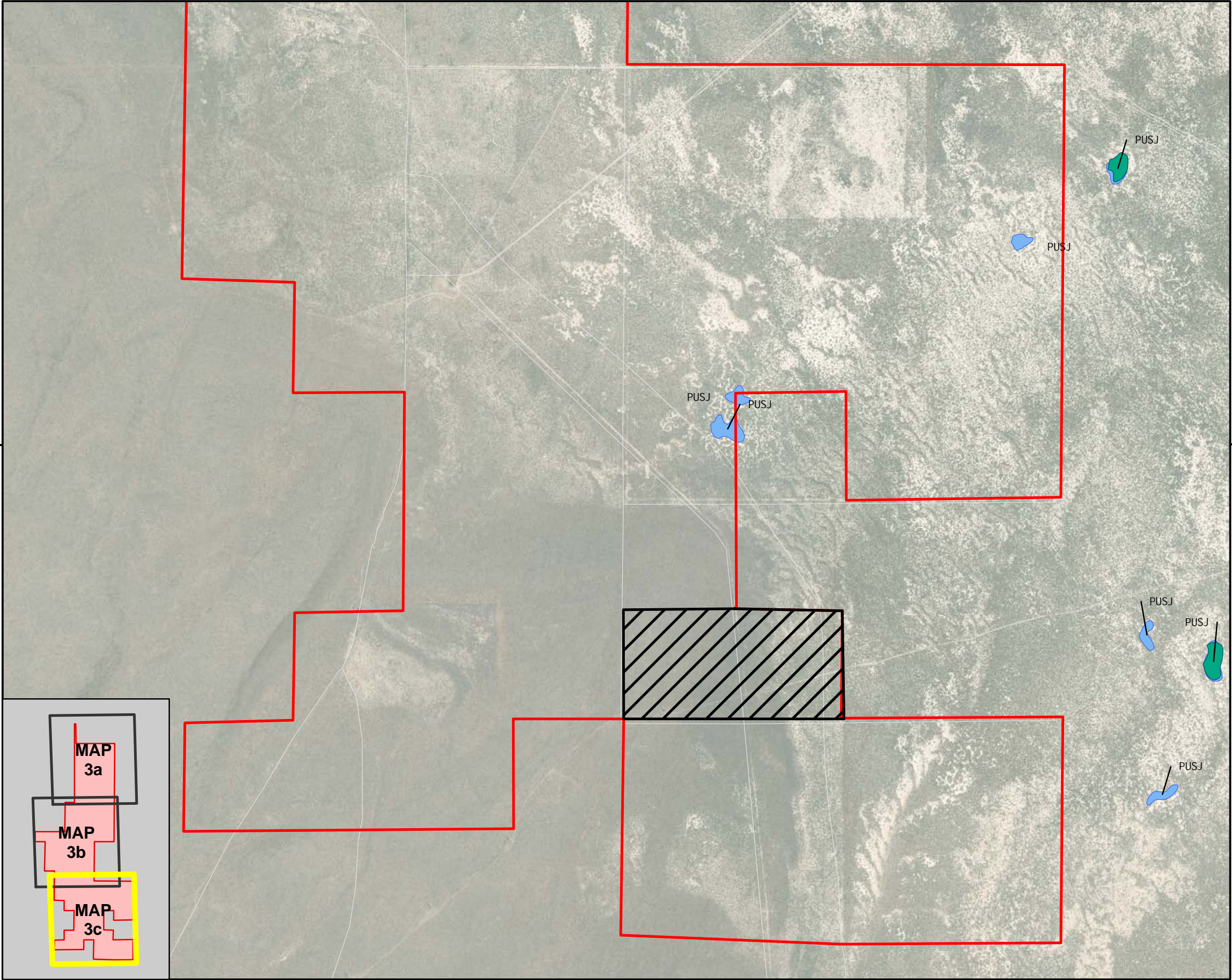
- Notes:
1. Area of interest subject to change.
 2. National Wetlands Inventory - U.S. Fish and Wildlife Service
<https://www.fws.gov/wetlands/data/Data-Download.html>
 3. USGS National Hydrography Dataset
<https://viewer.nationalmap.gov>
 4. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 5. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 6. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



0 500 1,000 2,000
Feet

1 inch = 1,200 feet

Figure 3b
NWI and NHD Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- NWI Wetland Type**
- Freshwater Emergent Wetland
 - Freshwater Pond
- NHD Waterbody**
- Lake
 - Playa
 - No Access
 - Archway Project Study Area
 - Highway
 - Road

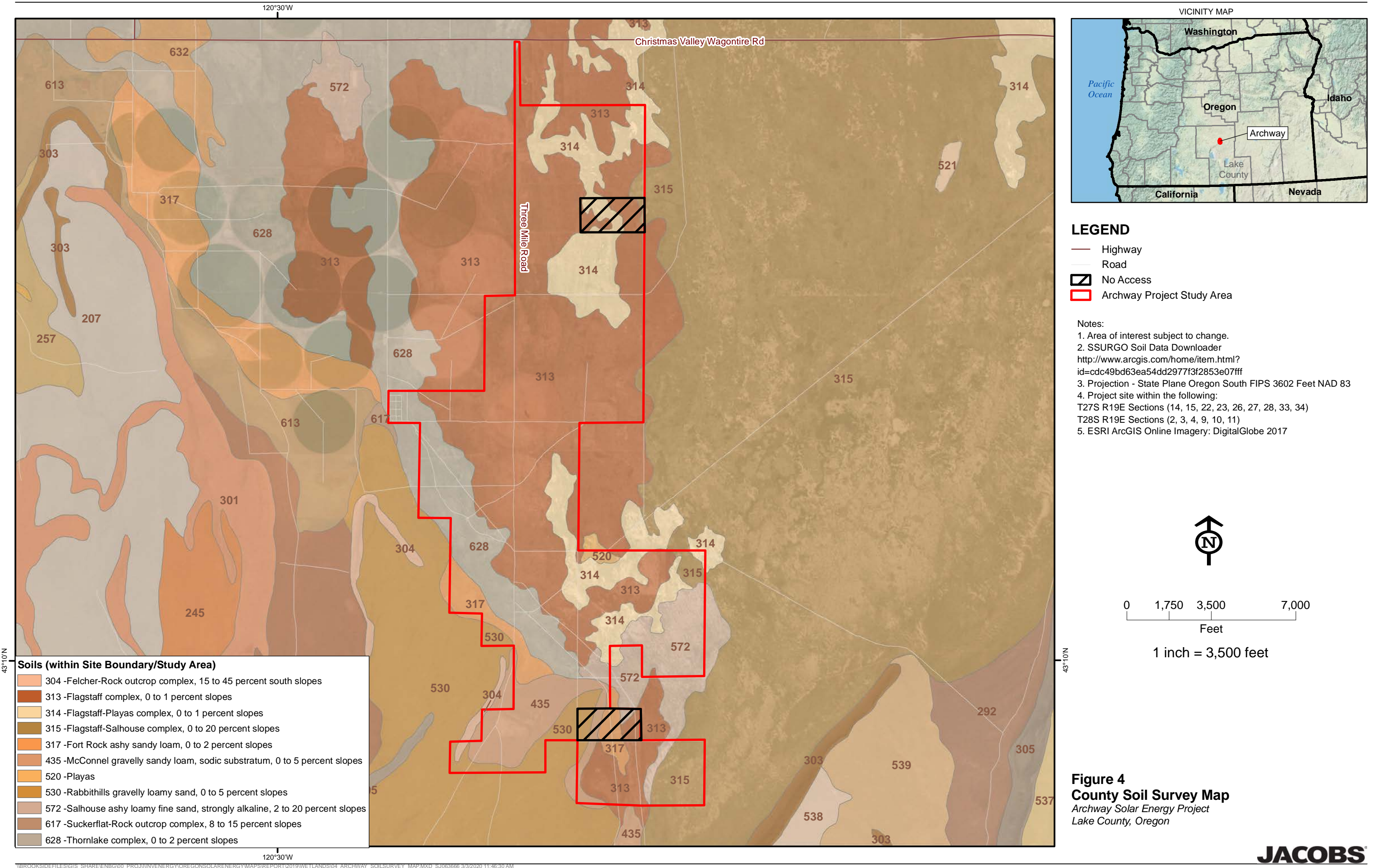
- Notes:
1. Area of interest subject to change.
 2. National Wetlands Inventory - U.S. Fish and Wildlife Service
<https://www.fws.gov/wetlands/data/Data-Download.html>
 3. USGS National Hydrography Dataset
<https://viewer.nationalmap.gov>
 4. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 5. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 6. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

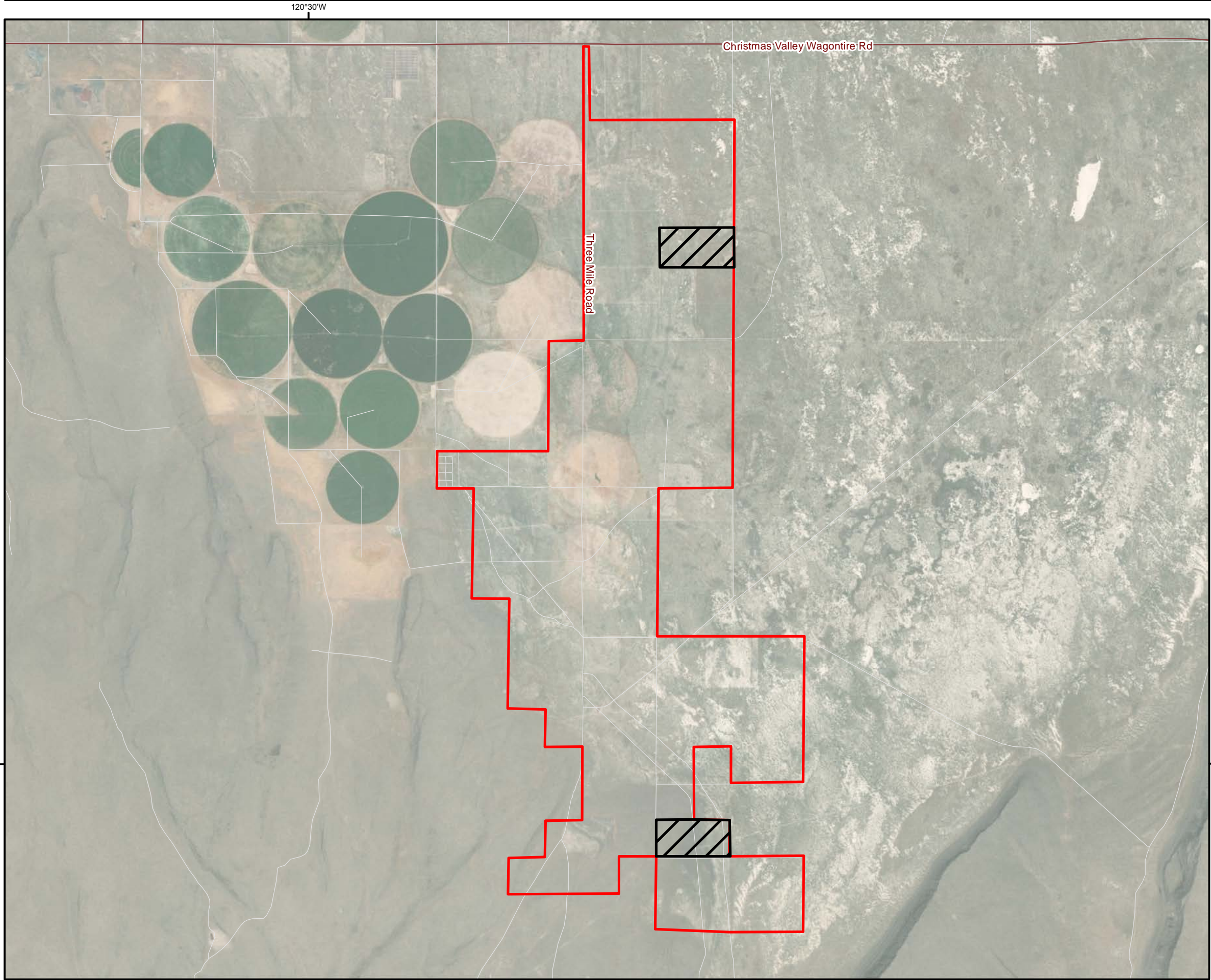


0 500 1,000 2,000
Feet

1 inch = 1,200 feet

Figure 3c
NWI and NHD Map
Archway Solar Energy Project
Lake County, Oregon





LEGEND

- Highway
- Road
- No Access
- Archway Project Study

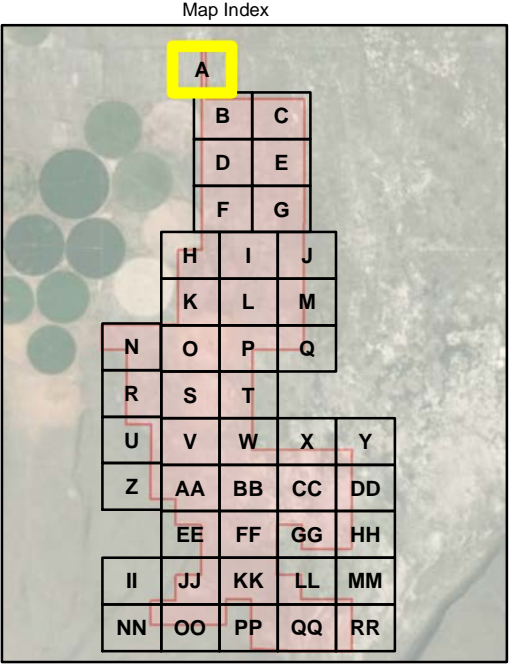
- Notes:
1. Area of interest subject to change.
 2. Aerial imagery - DigitalGlobe August 5, 2017
 3. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 4. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



0 1,750 3,500 7,000
Feet

1 inch = 3,500 feet

Figure 5
Aerial Map
Archway Solar Energy Project
Lake County, Oregon



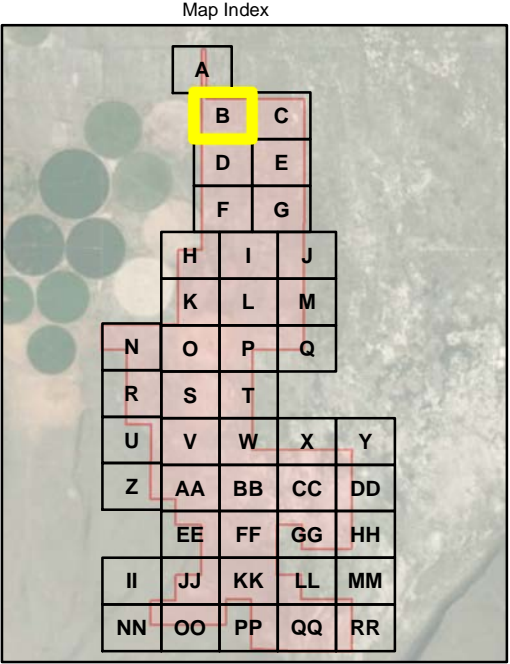
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- A
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

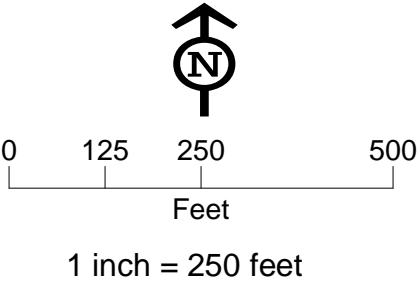
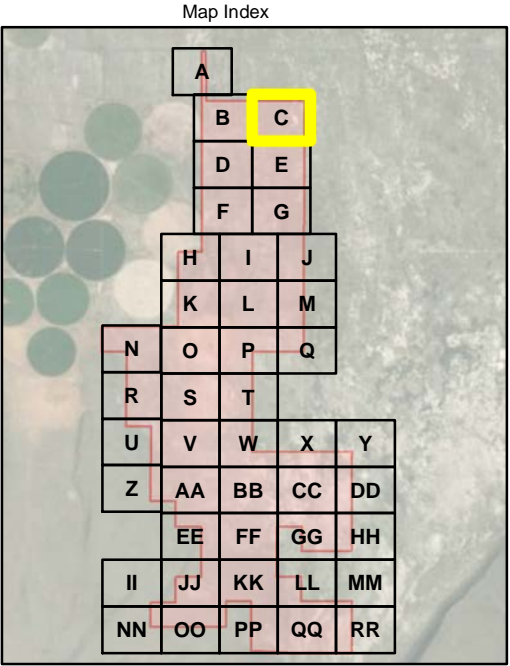
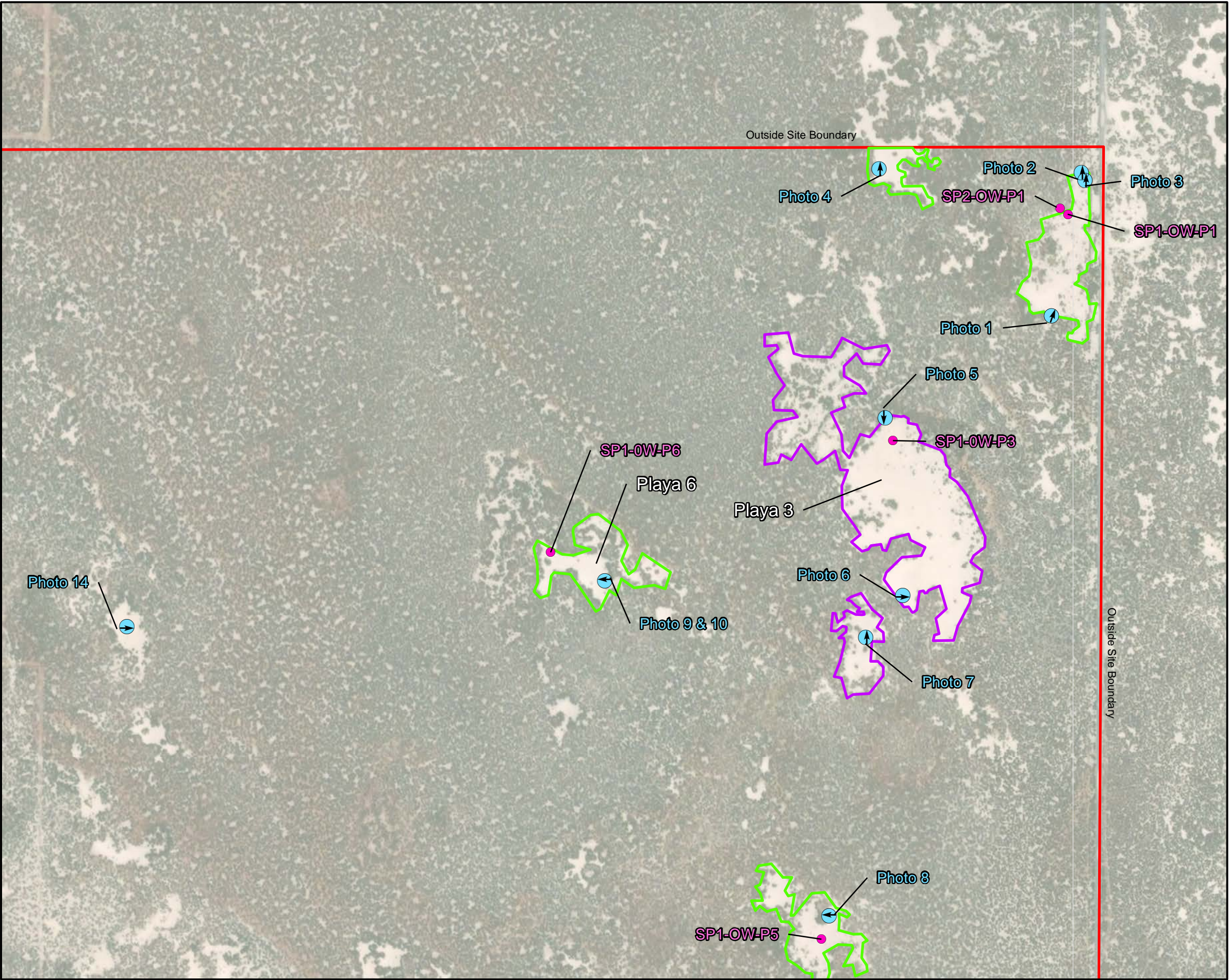


Figure 6- B
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- ⓘ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

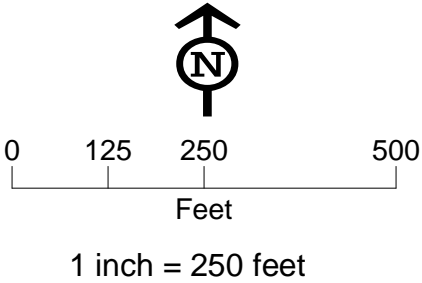
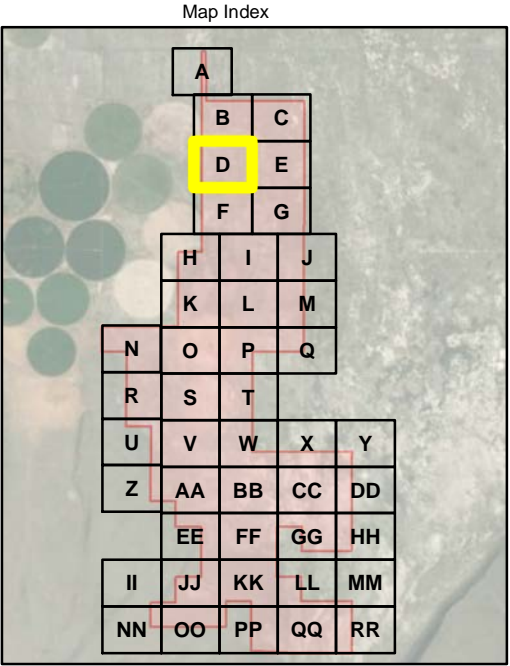
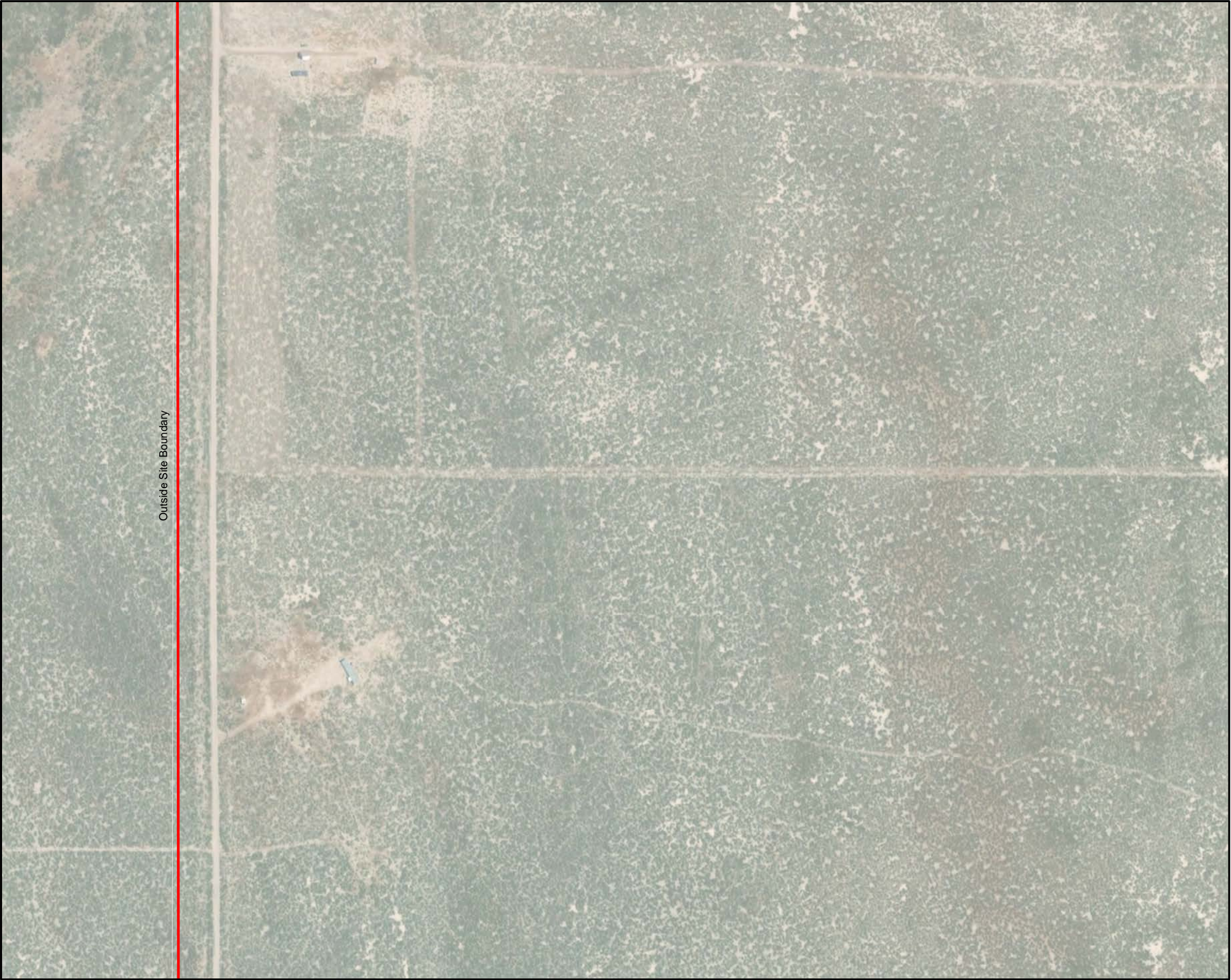


Figure 6- C
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



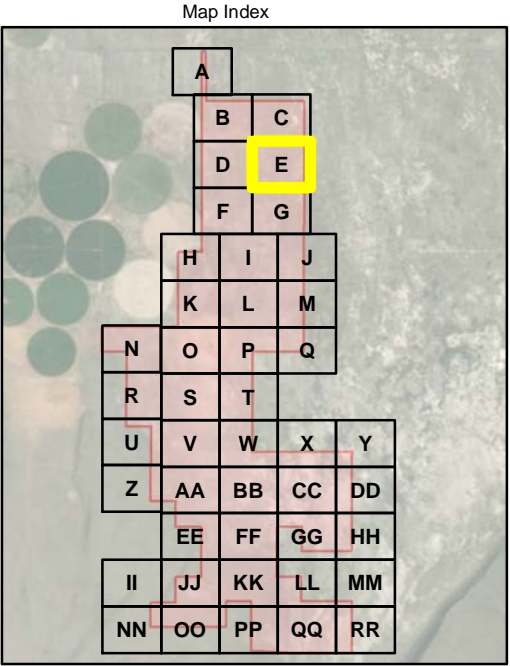
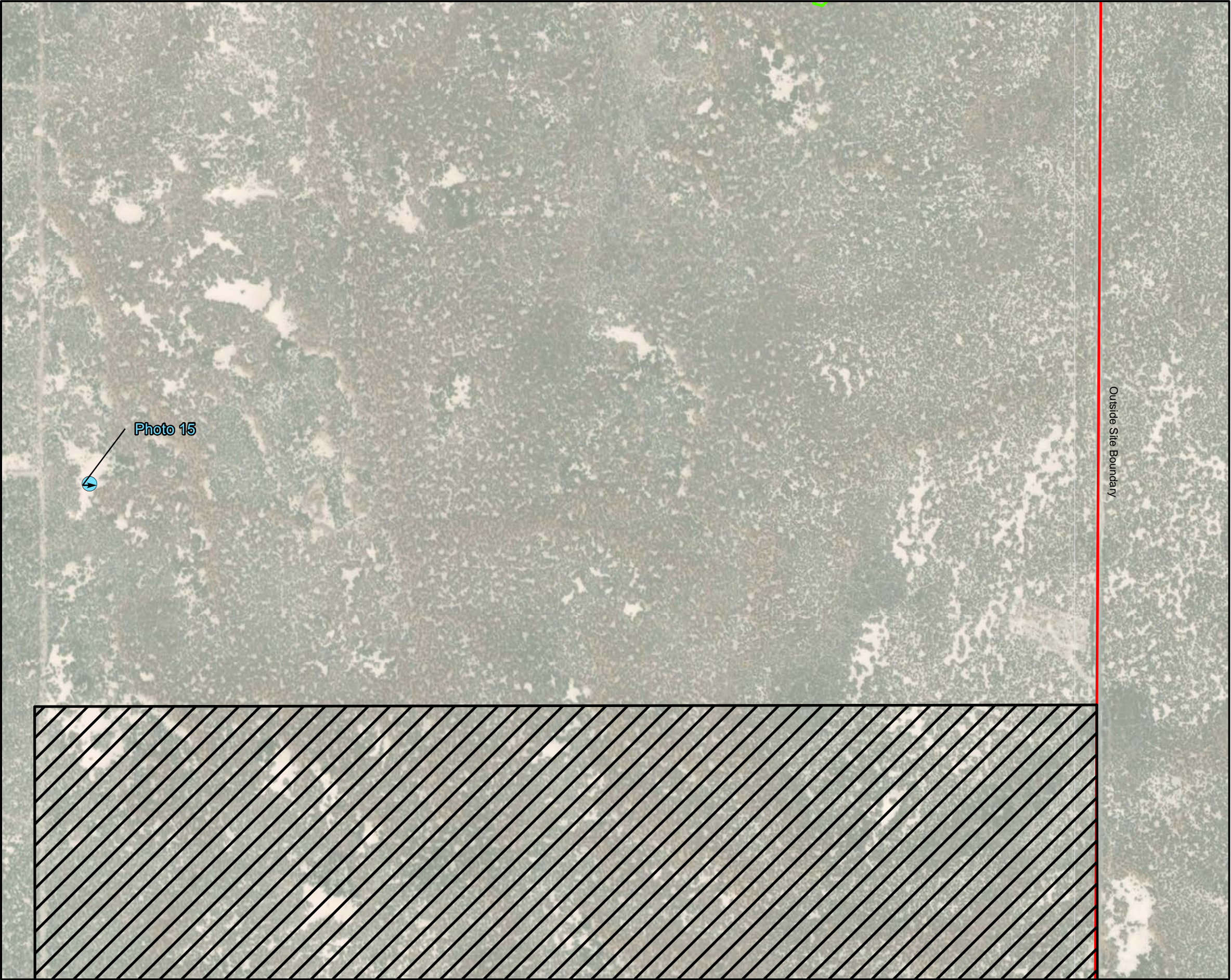
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- D
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



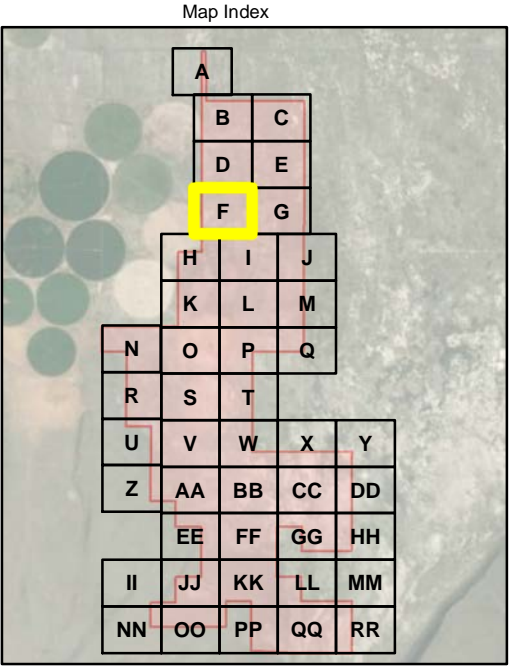
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 - Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- E
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



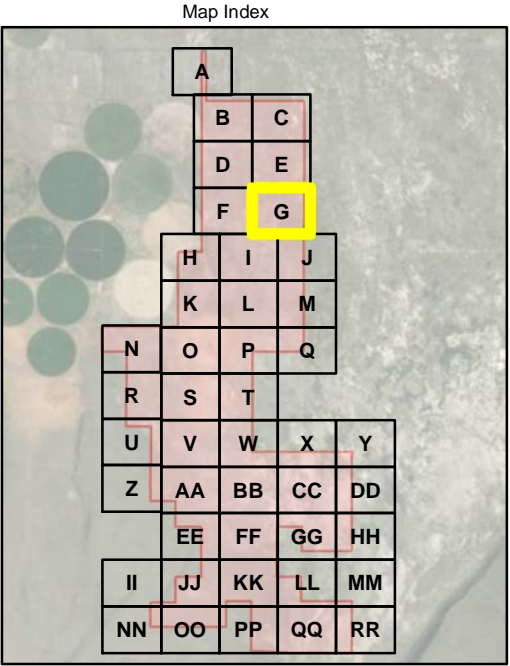
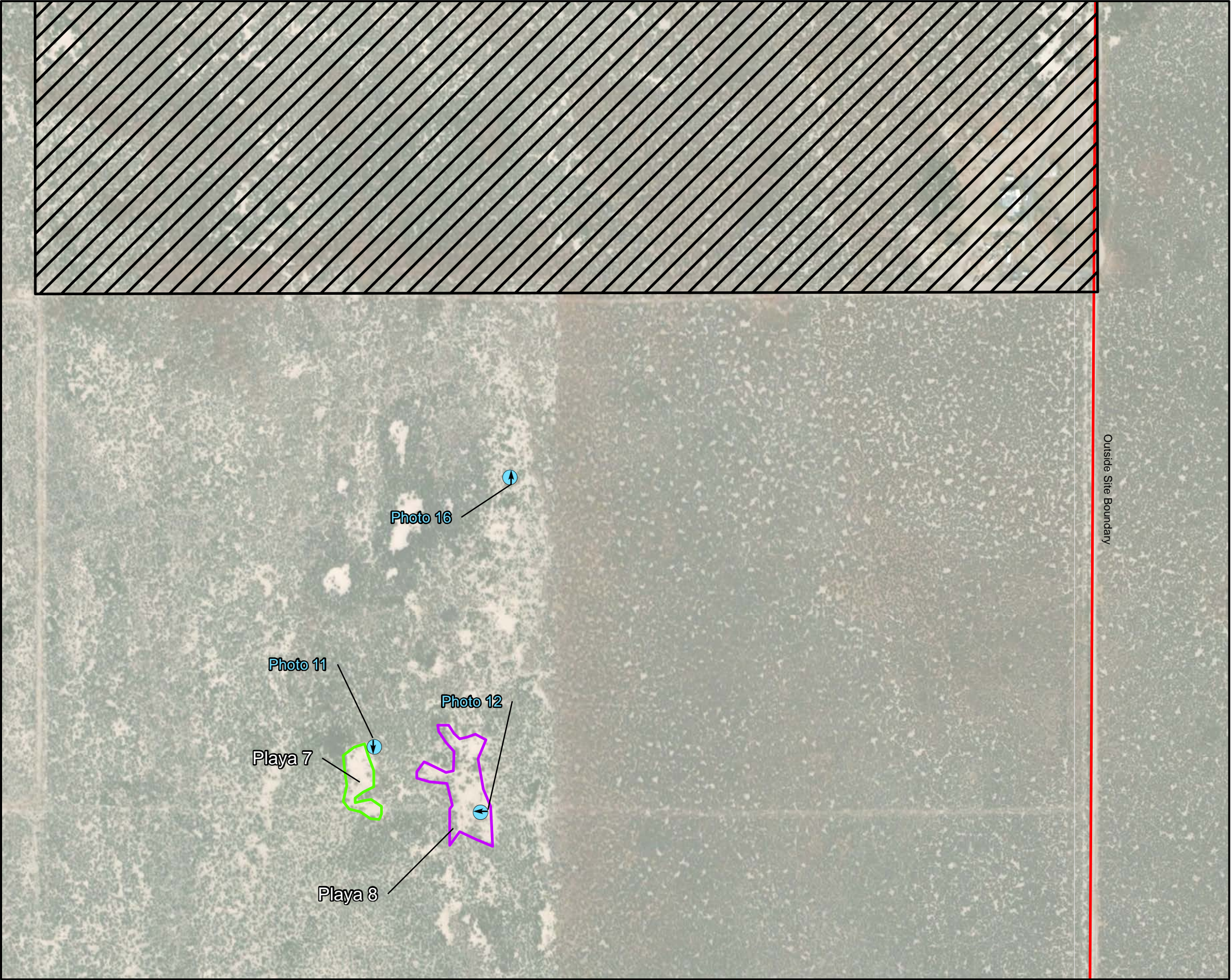
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- F
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



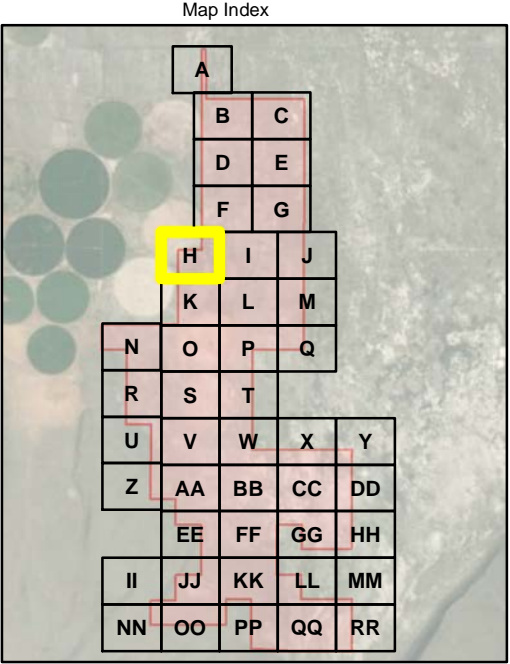
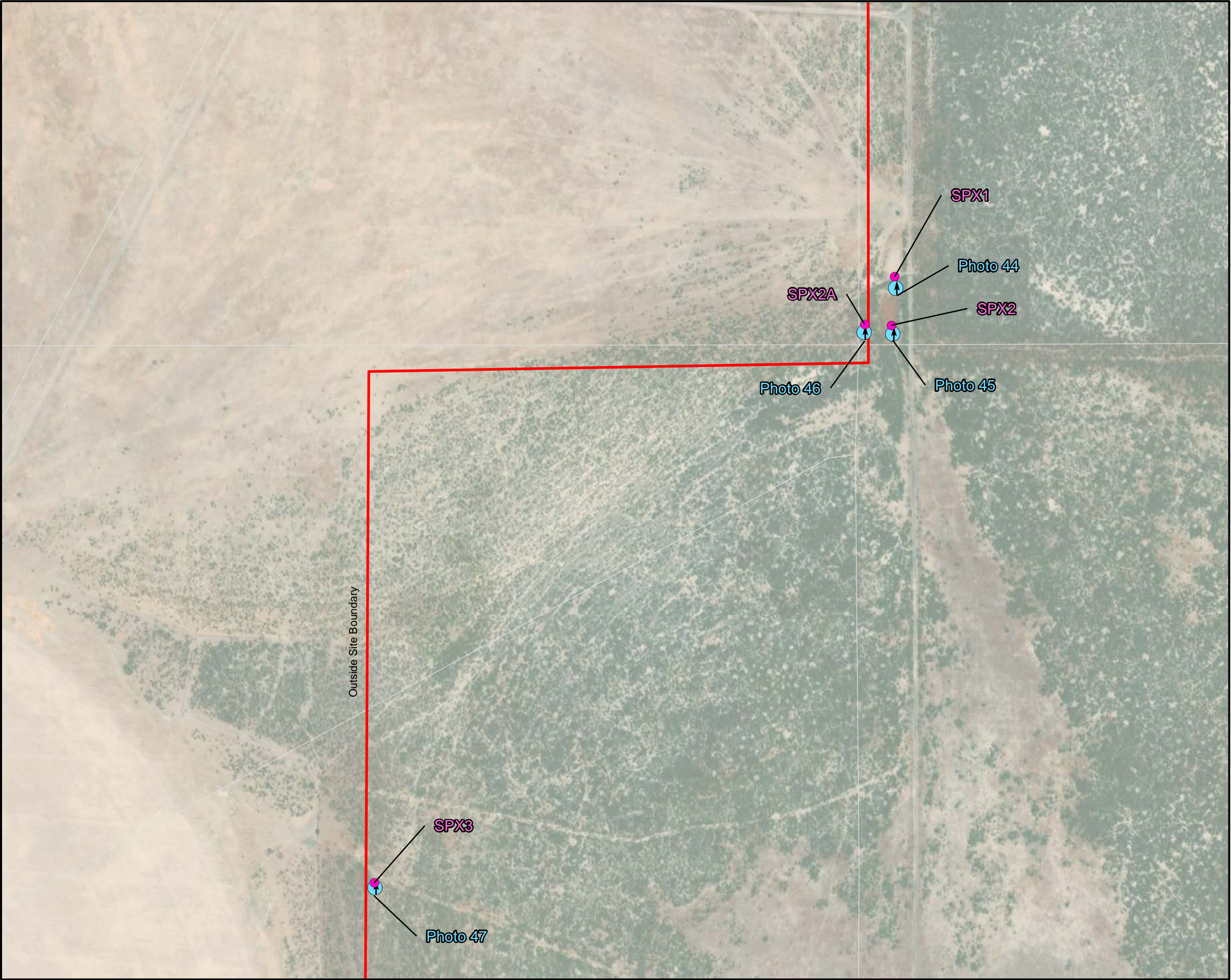
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- G
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



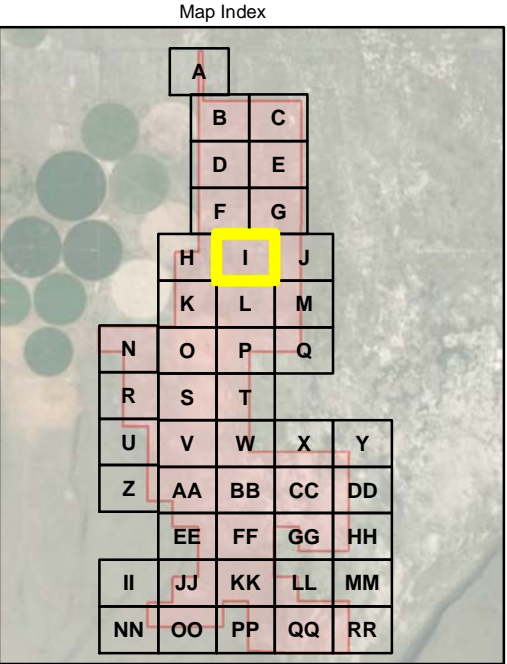
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- H
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



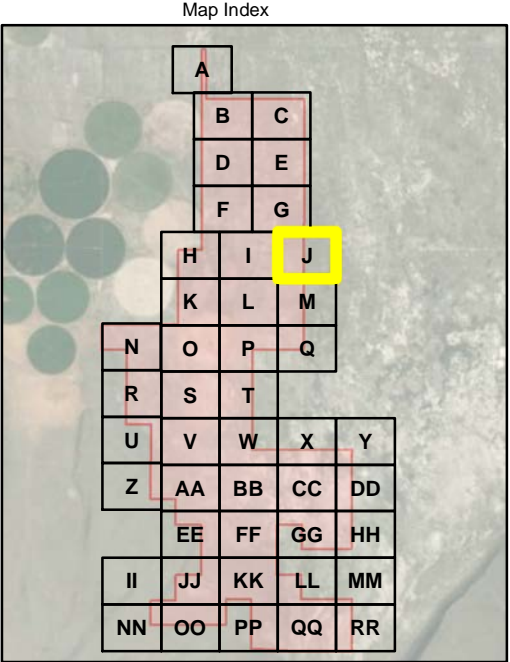
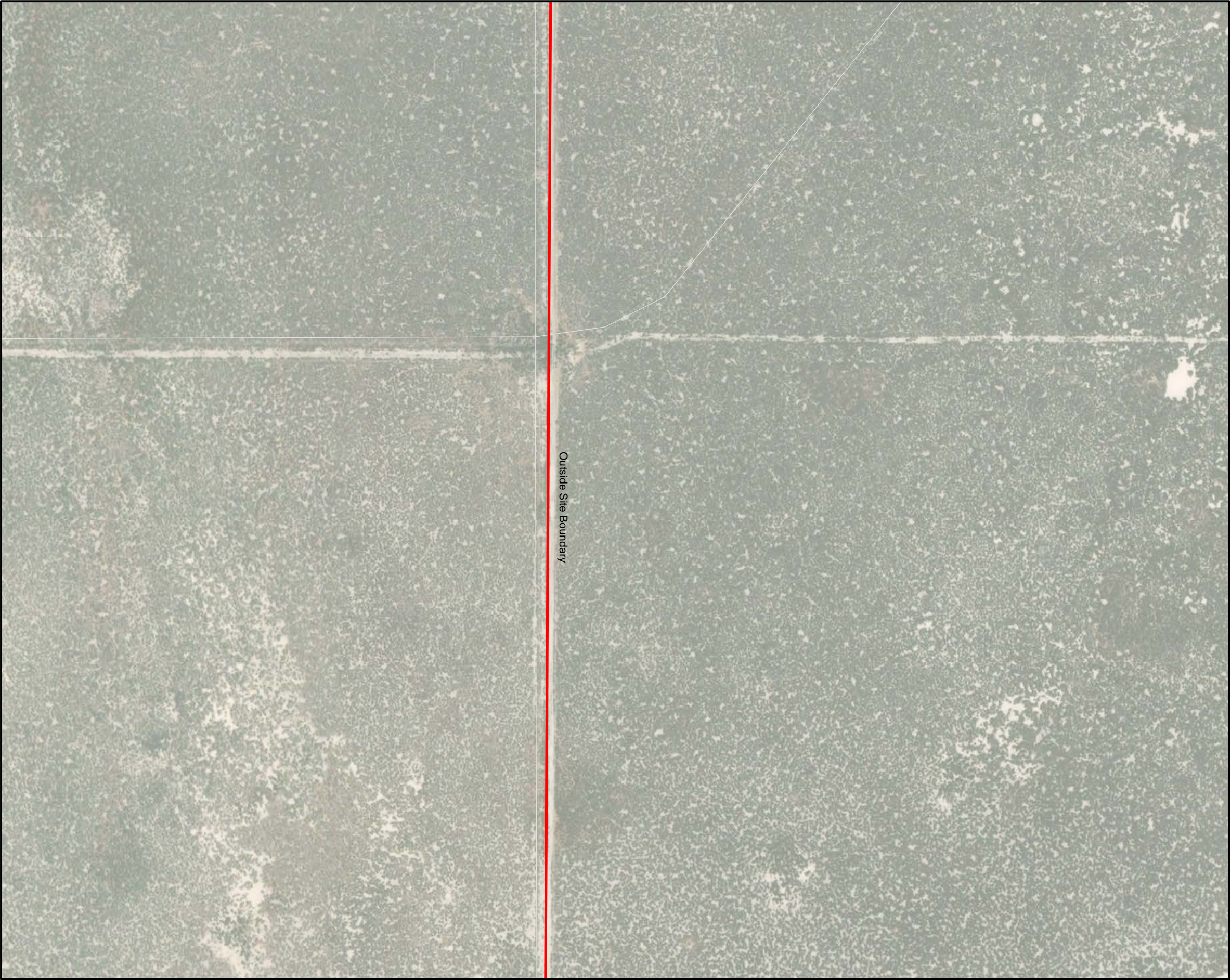
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- I
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



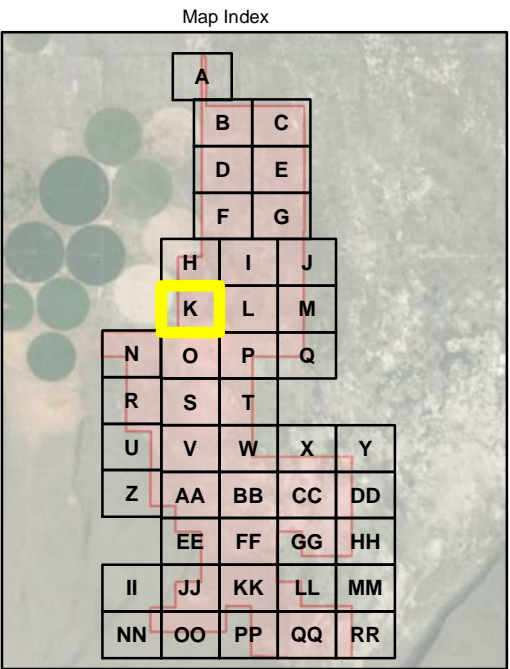
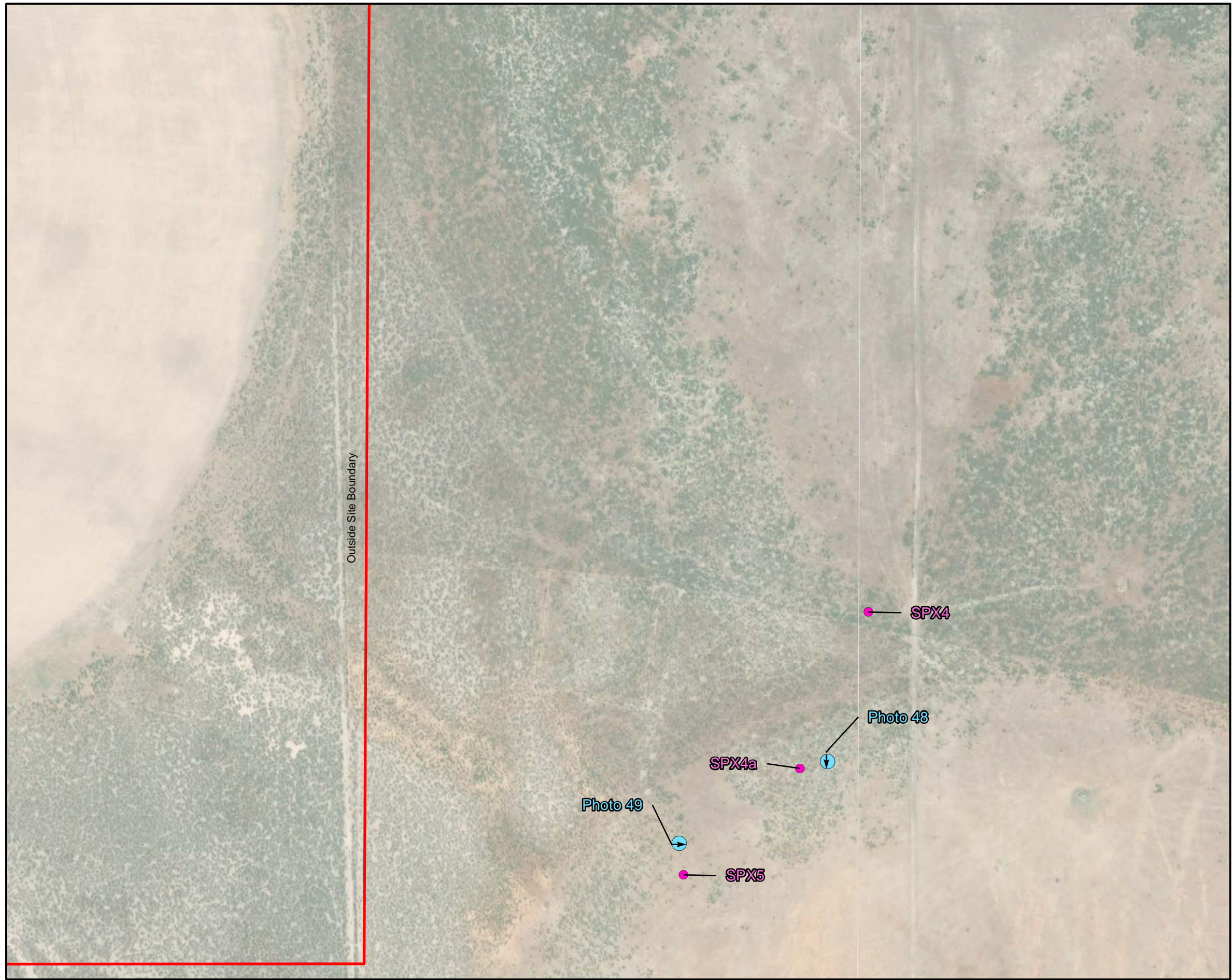
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- J
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- ⬇ Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 - Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017

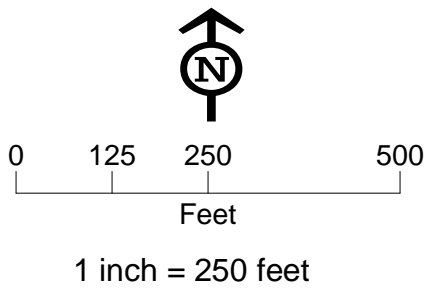
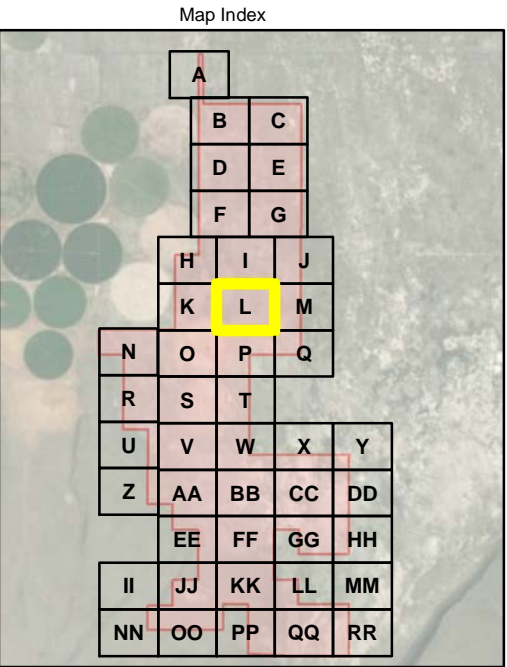


Figure 6- K
Wetland Delineation Map
 Archway Solar Energy Project
 Lake County, Oregon



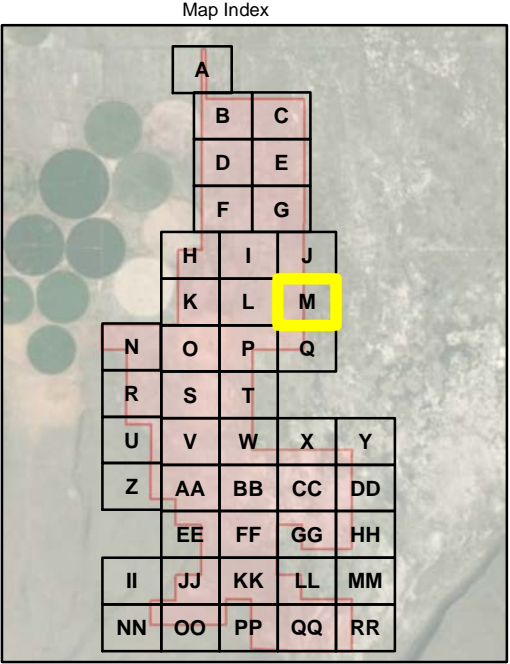
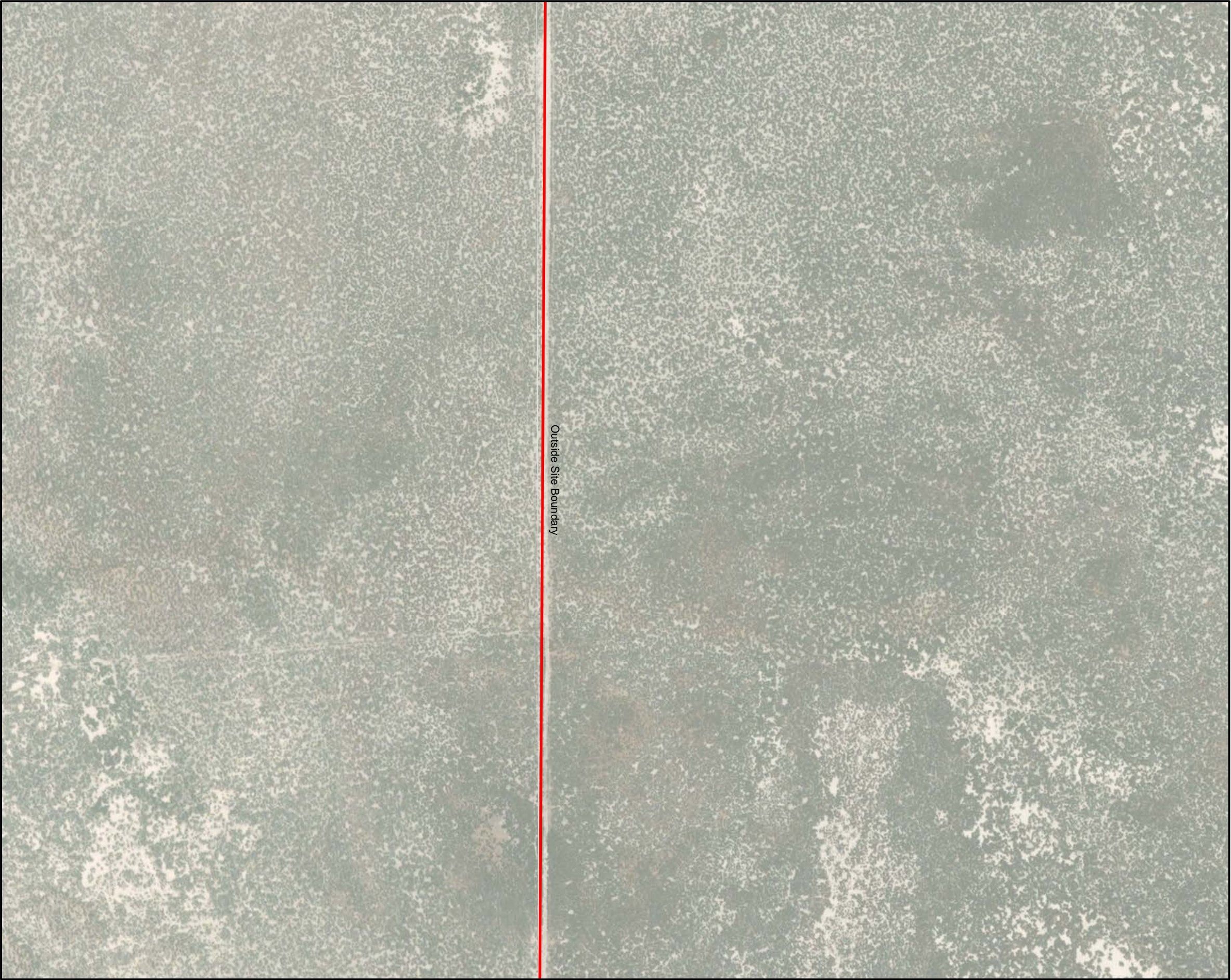
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- L
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

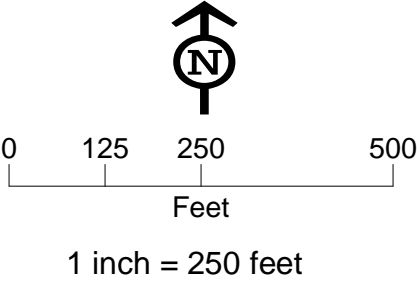
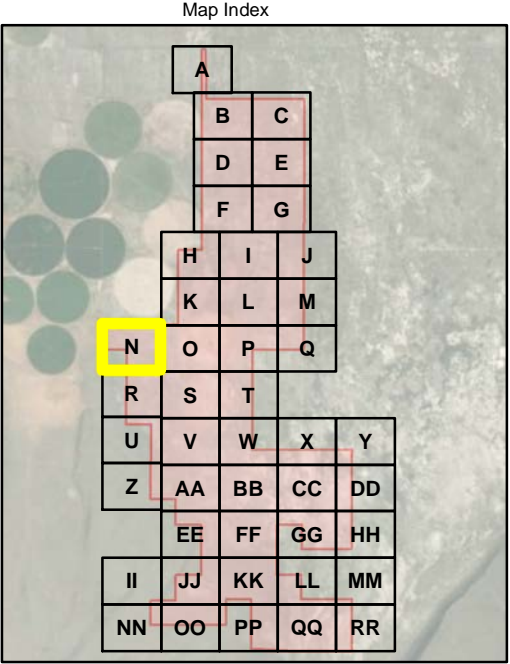
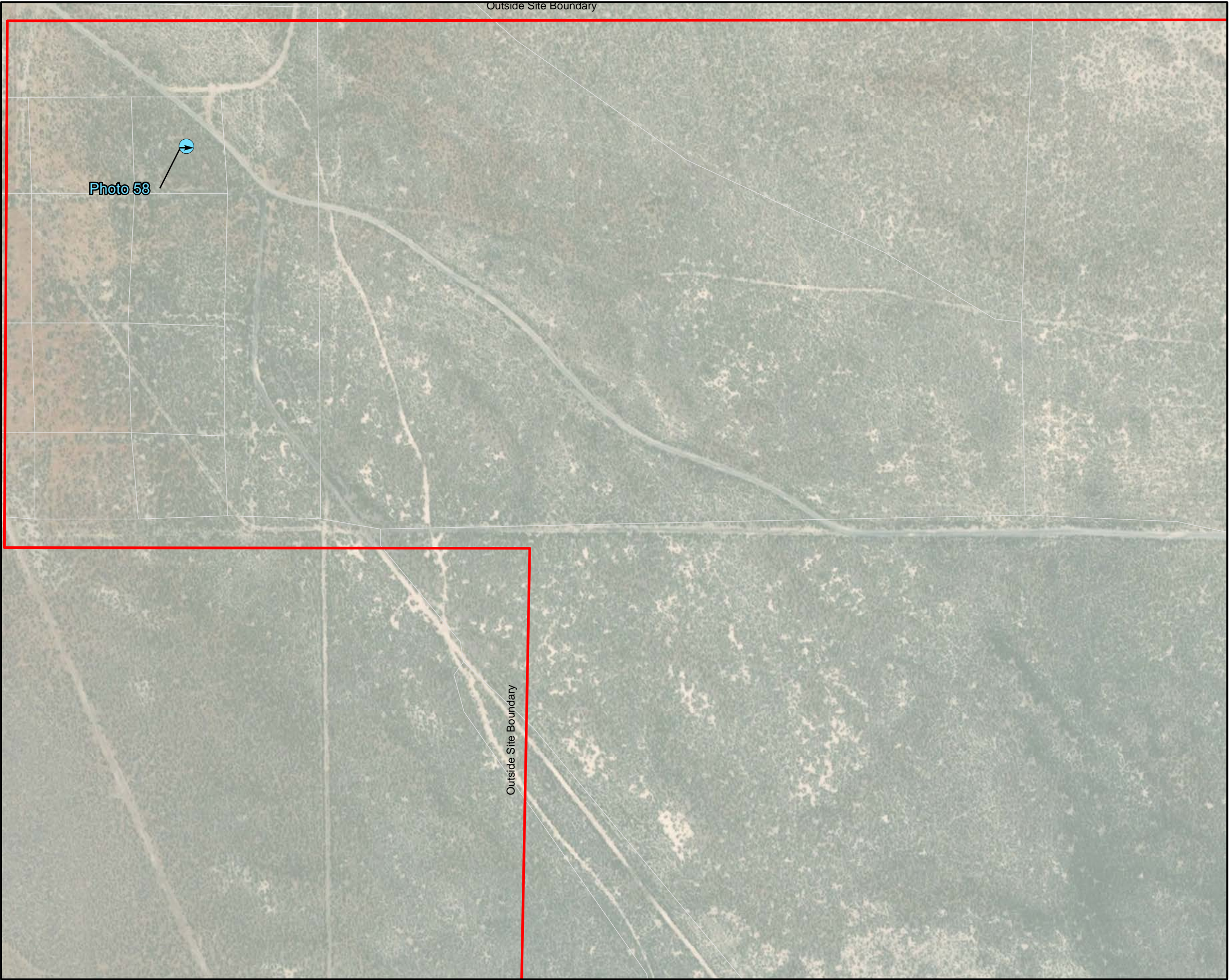


Figure 6- M
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

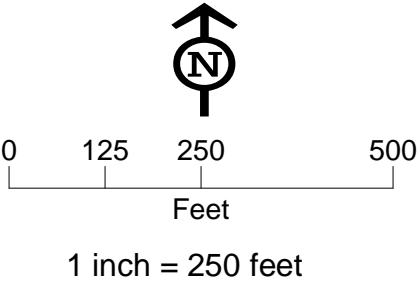
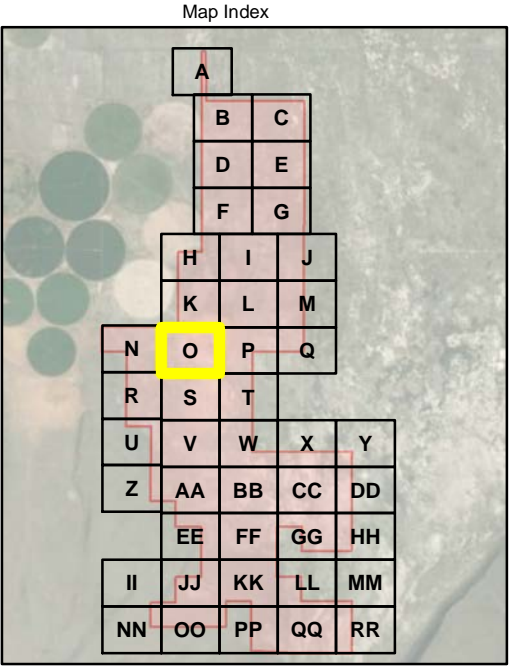
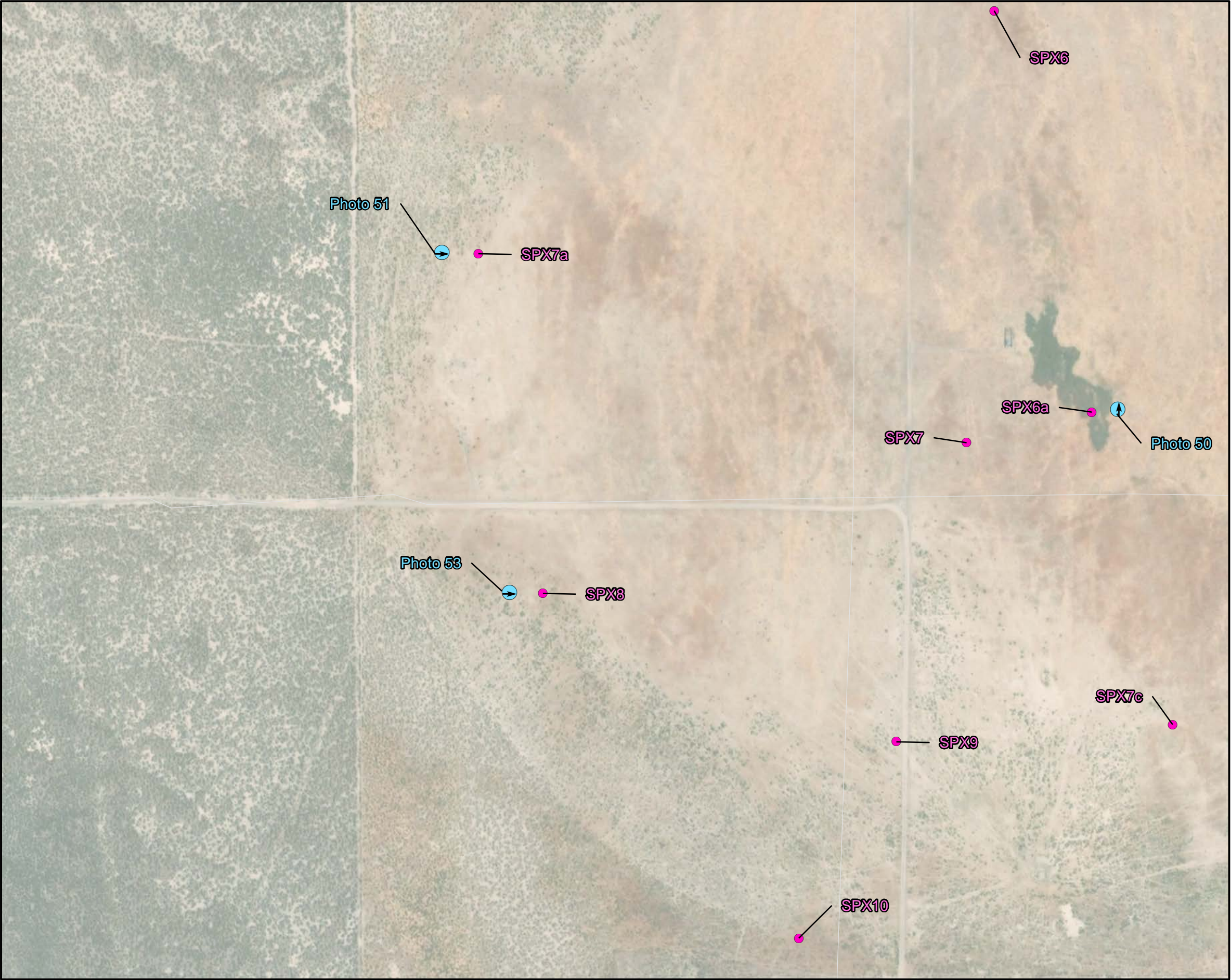


Figure 6- N
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



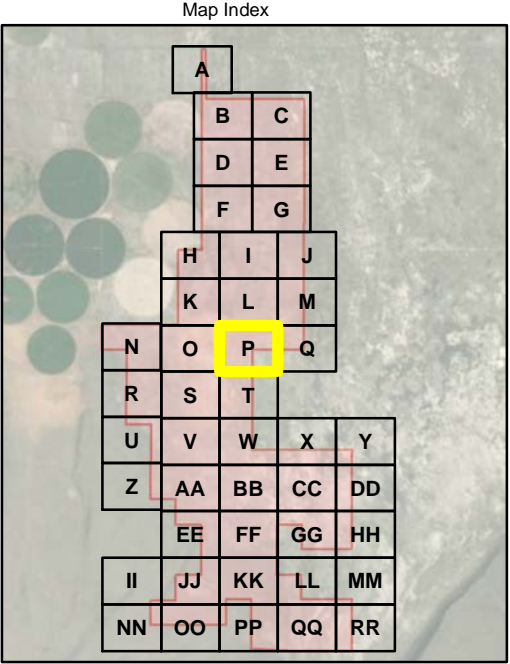
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- O
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

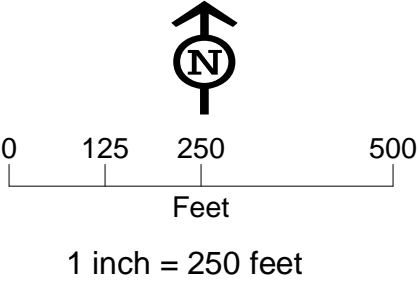
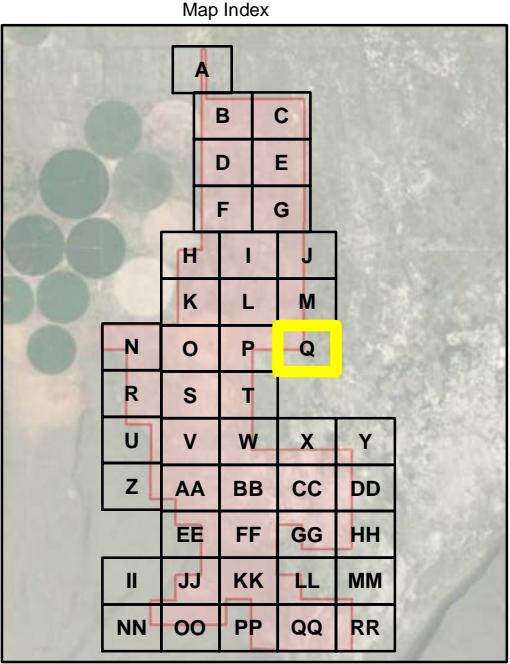


Figure 6- P
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



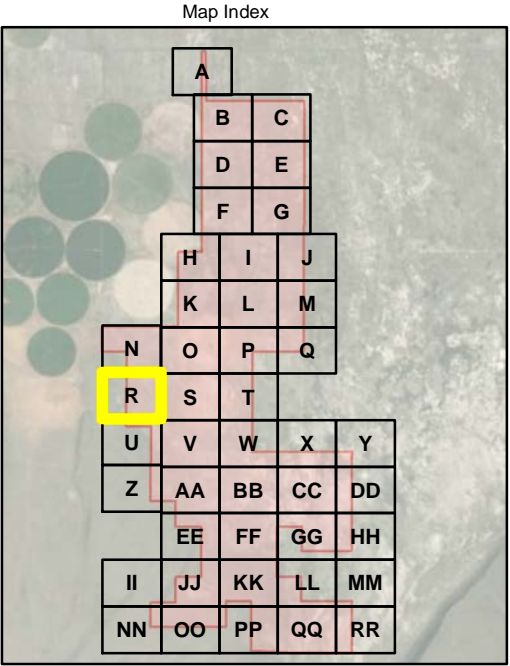
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Q
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



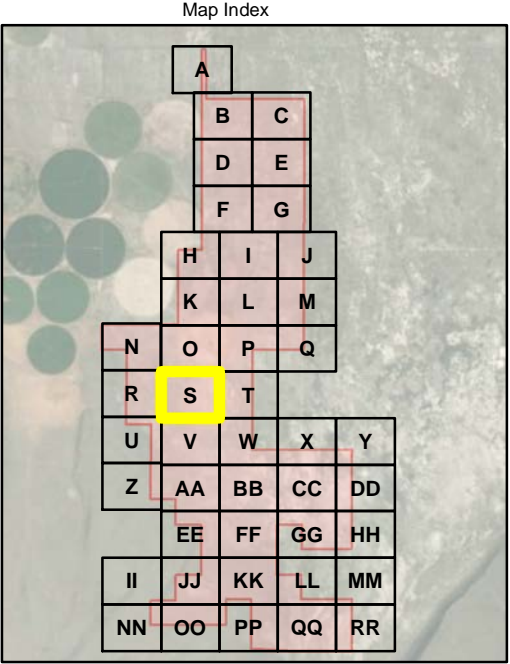
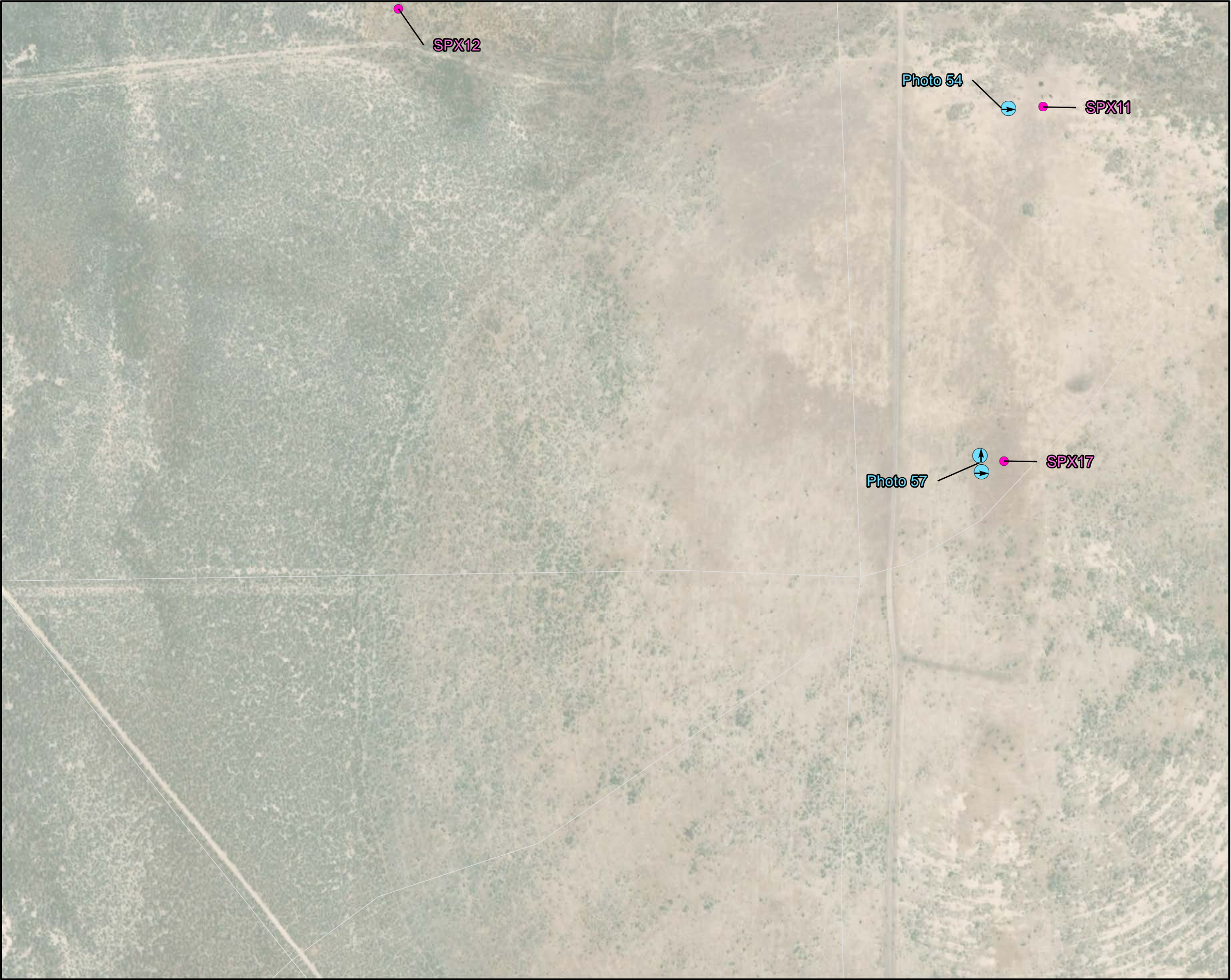
LEGEND

- Sample Point
- ⬇ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- R
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- ⬆️ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

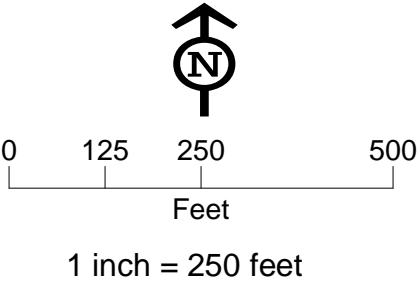
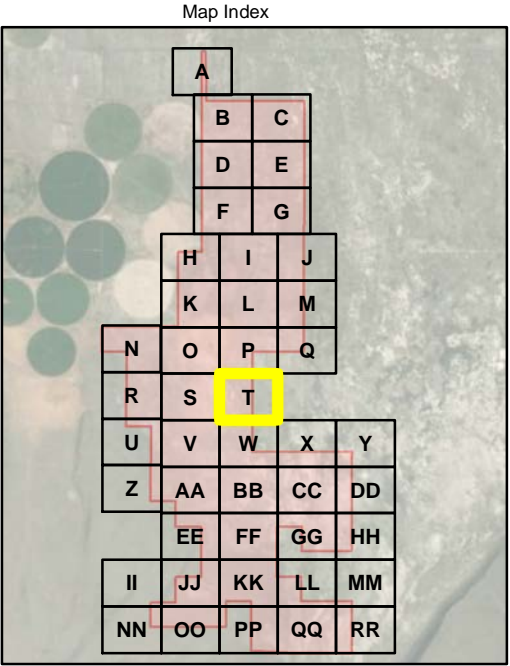


Figure 6- S
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



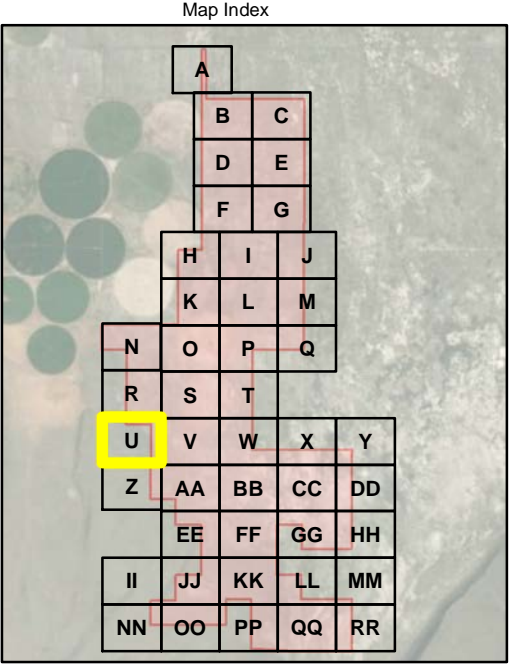
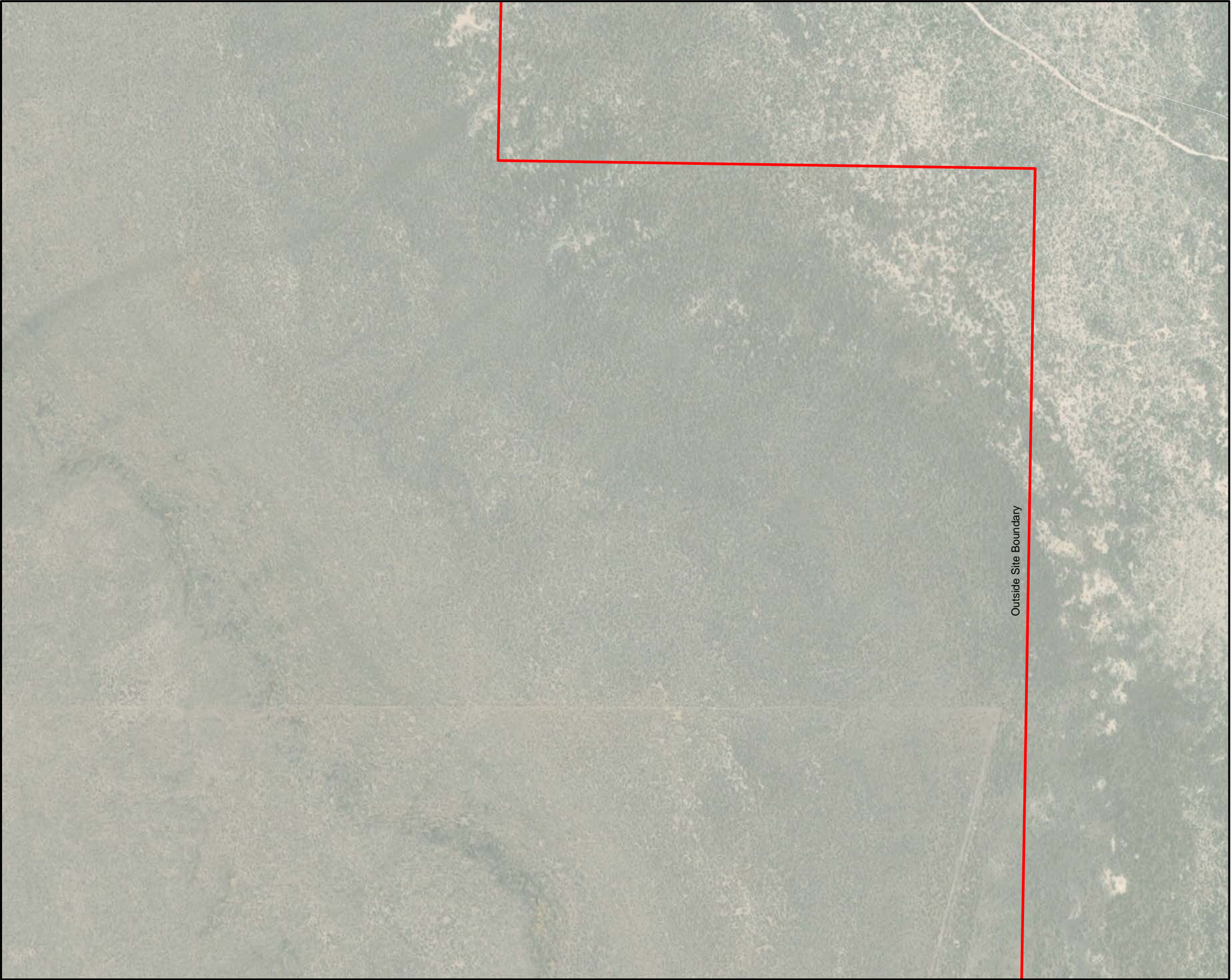
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- T
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



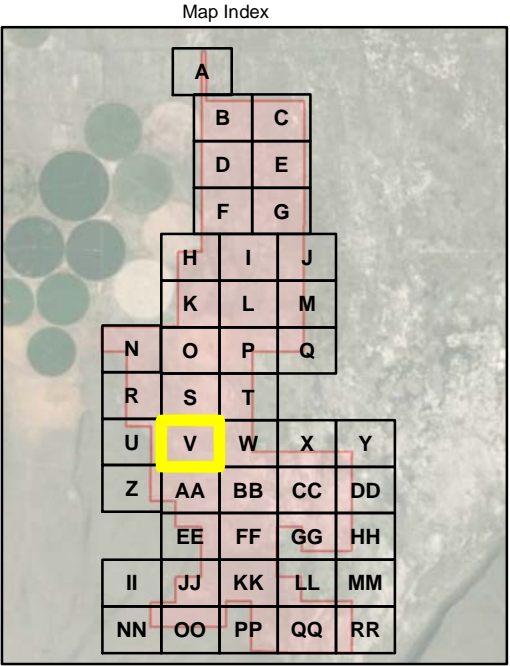
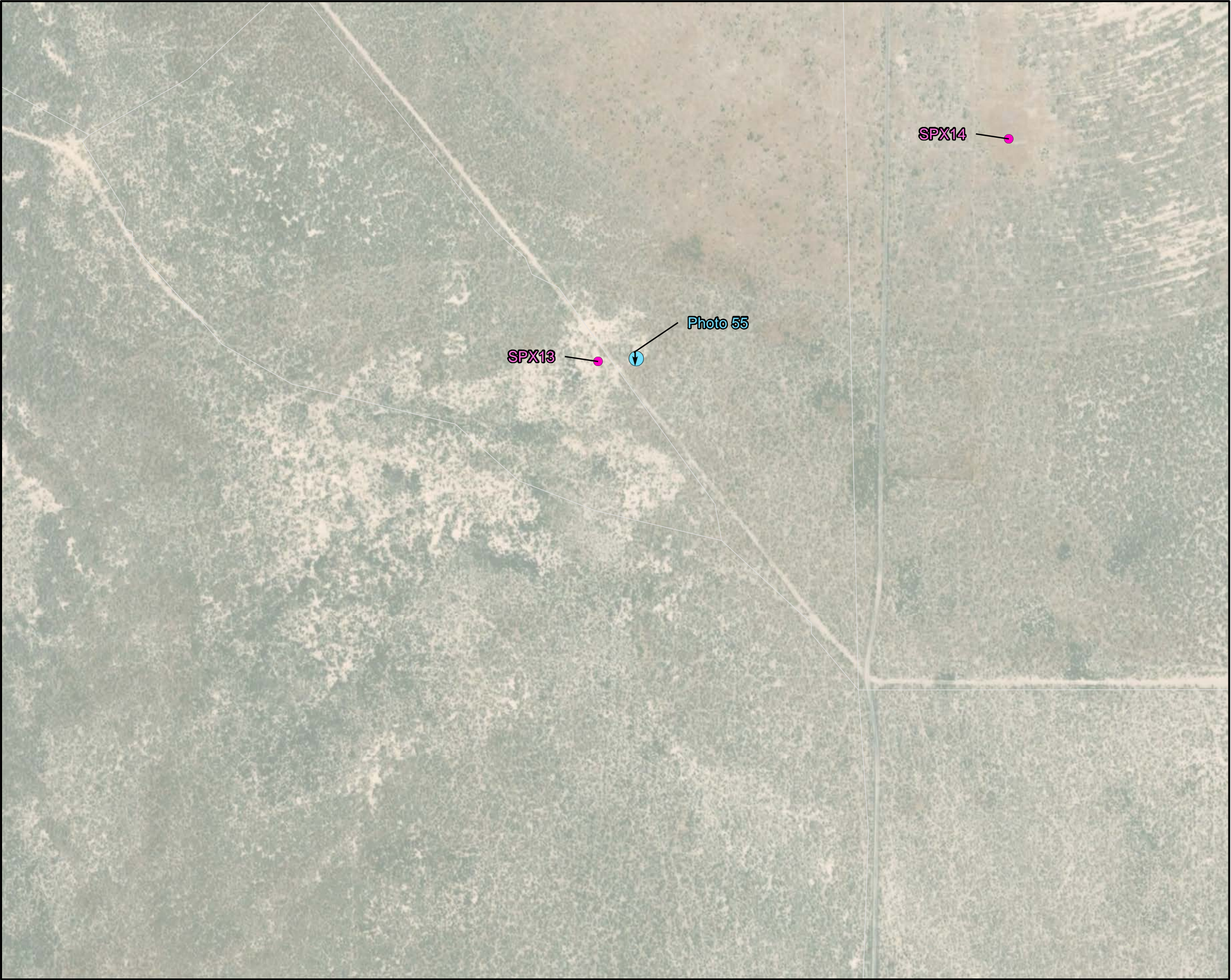
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- U
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



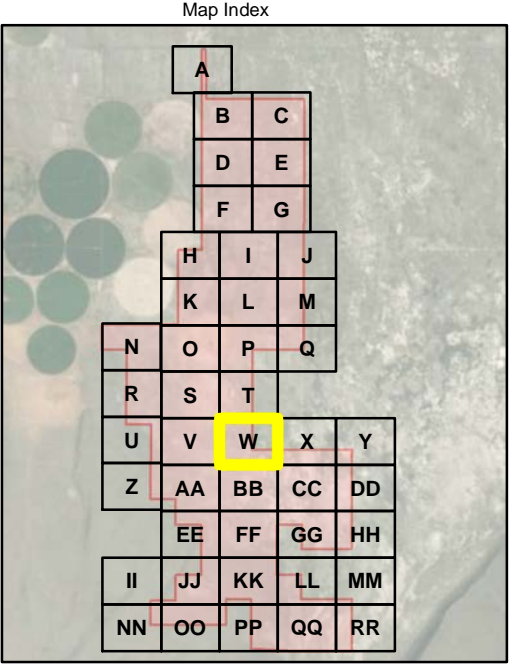
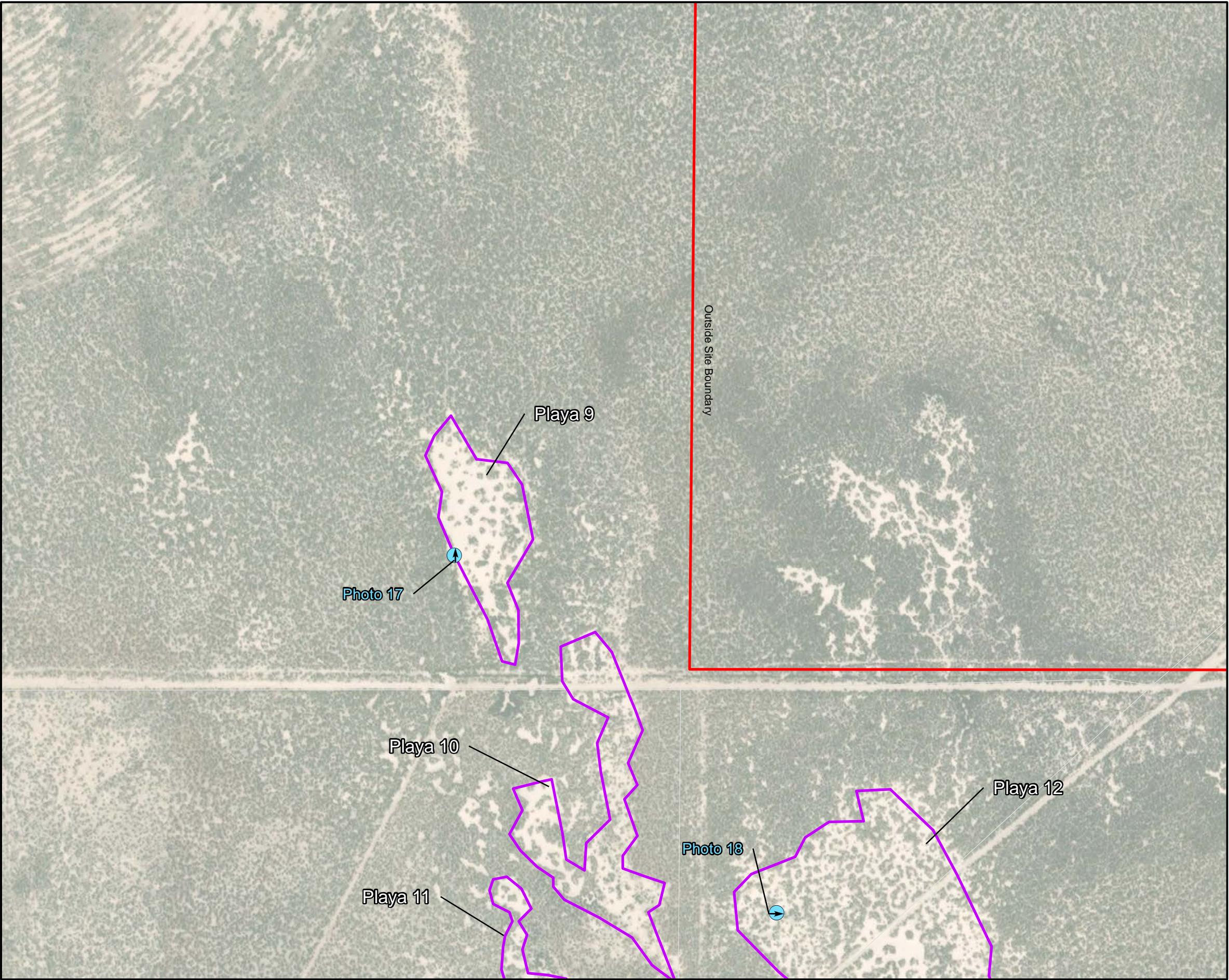
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- Sample Point
- ⬇ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- V
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



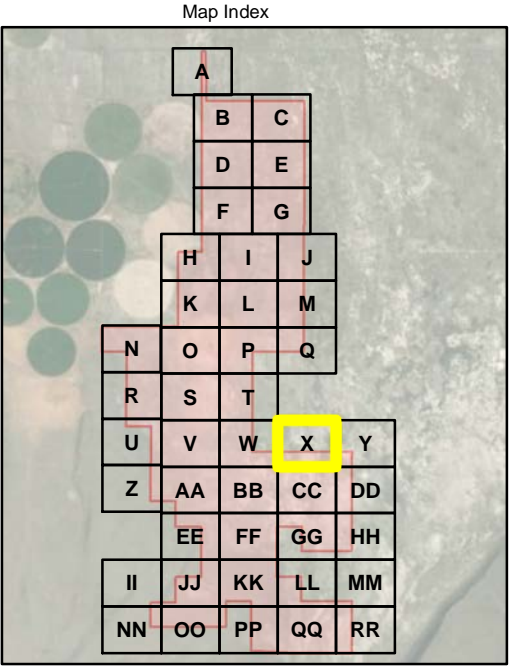
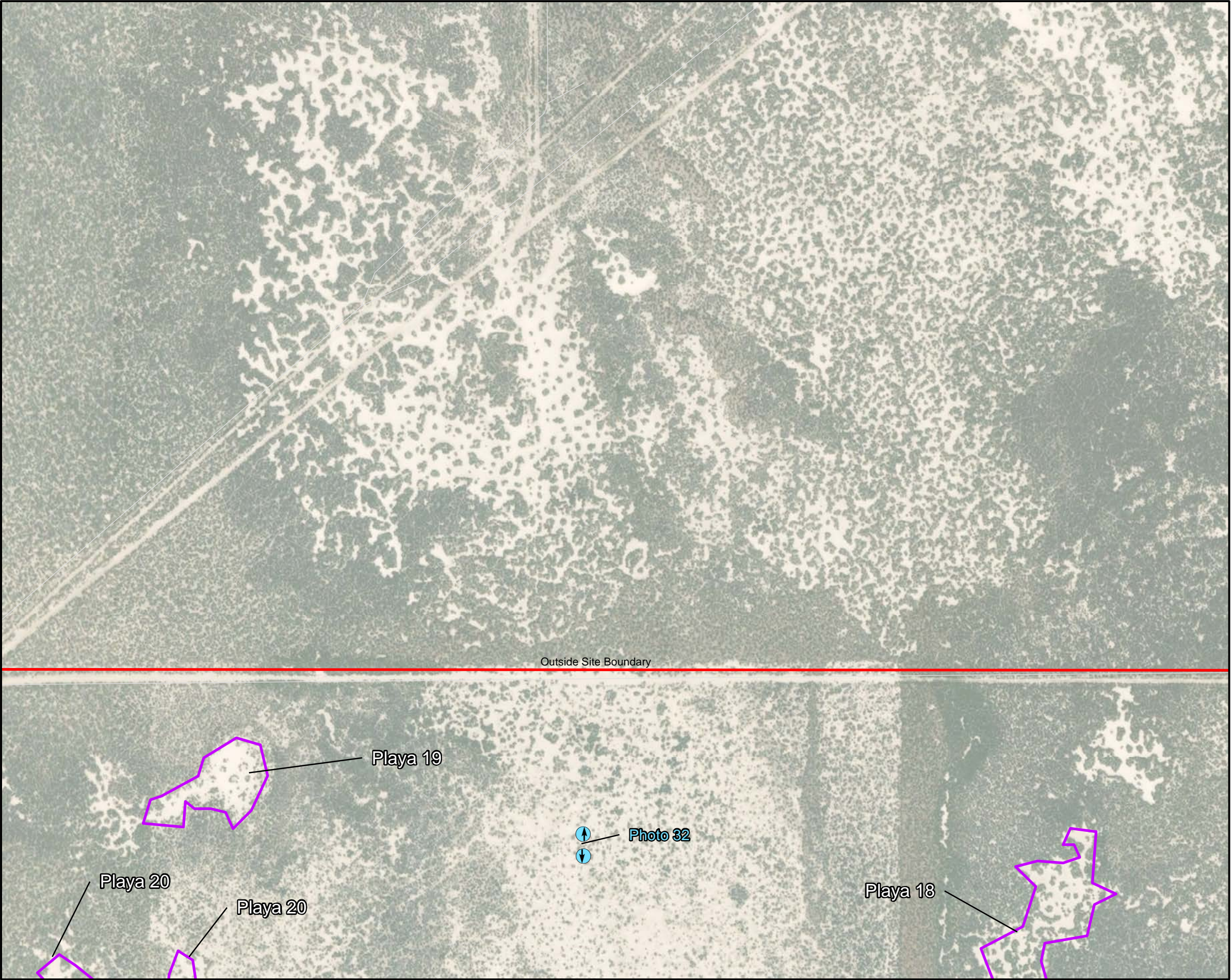
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- W
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



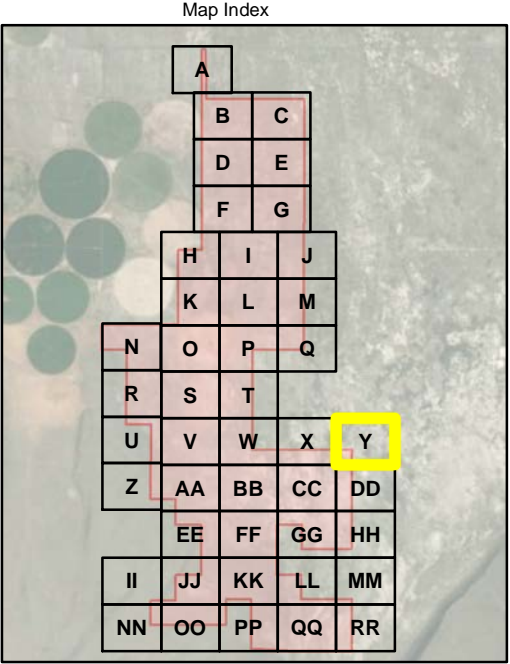
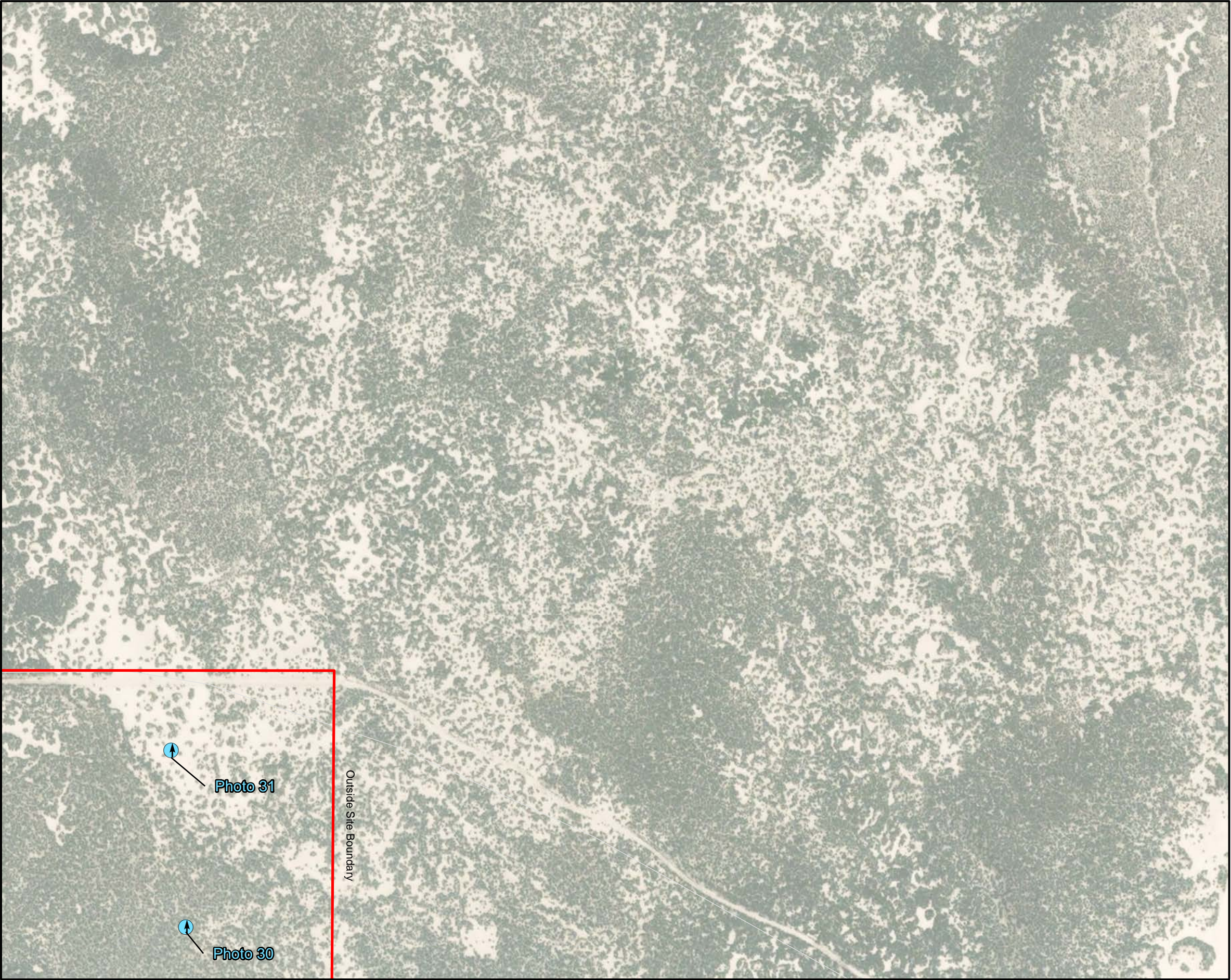
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- X
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

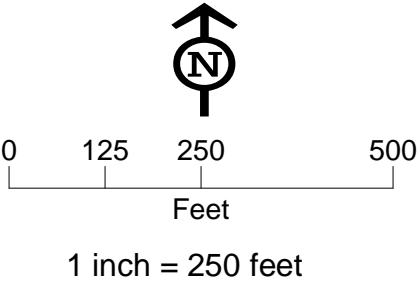
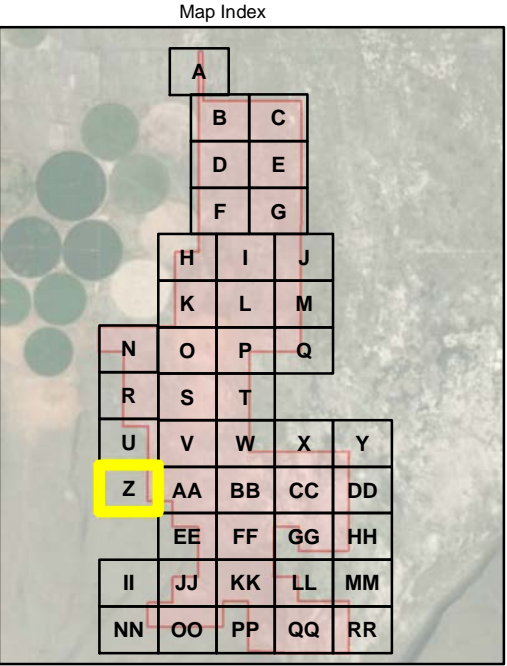
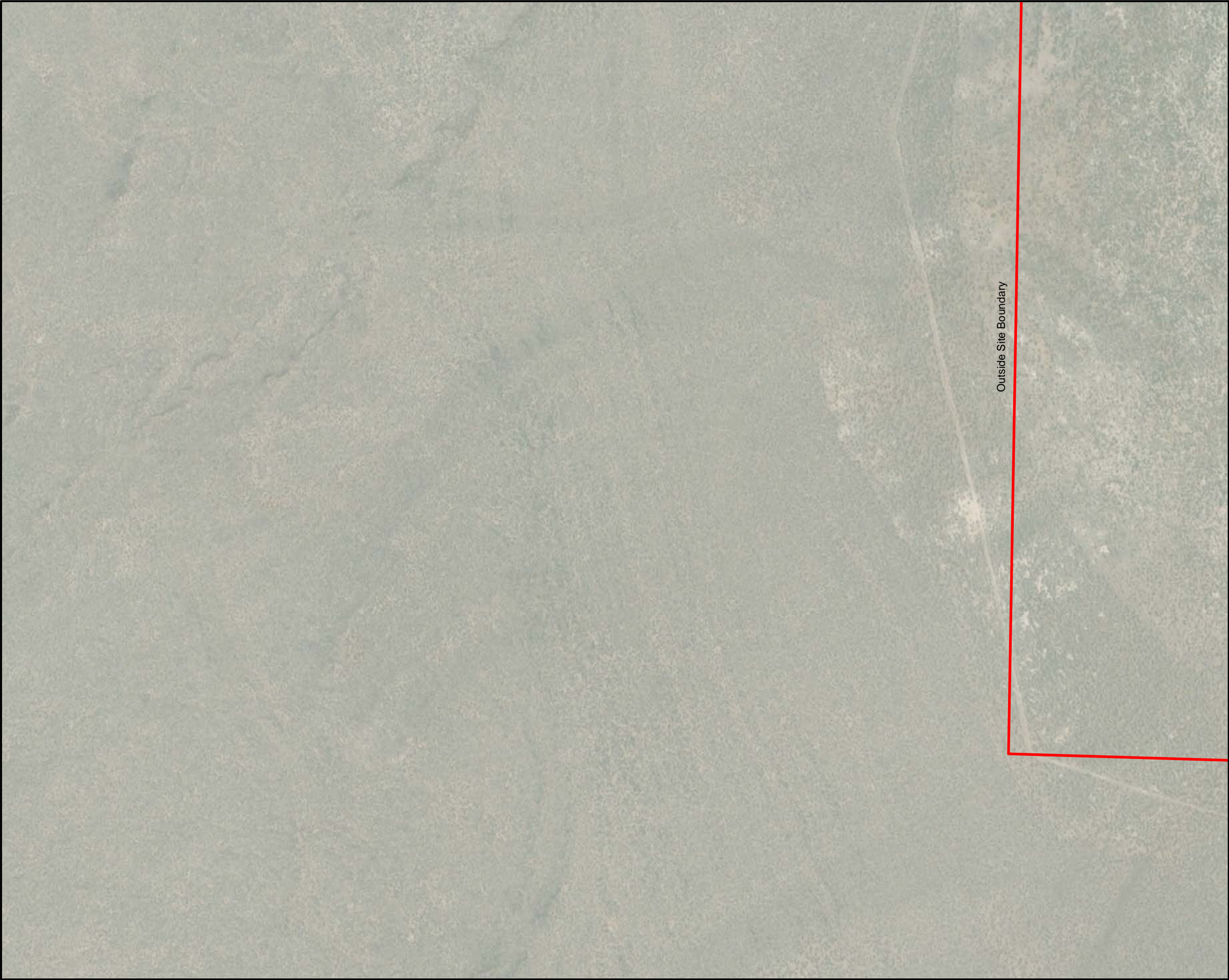


Figure 6- Y
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



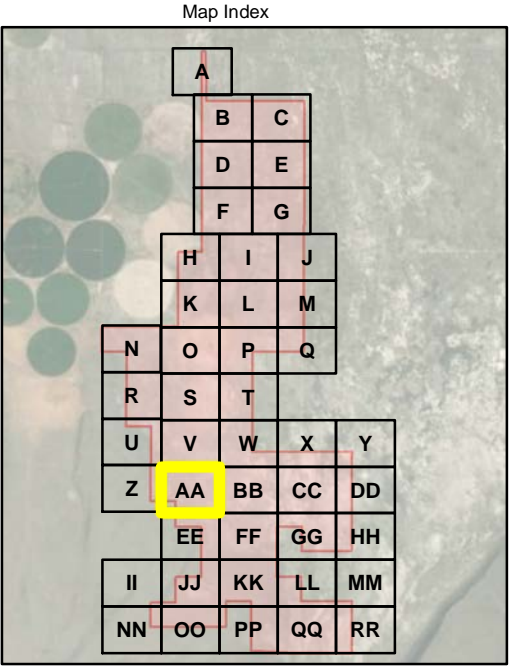
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Z
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



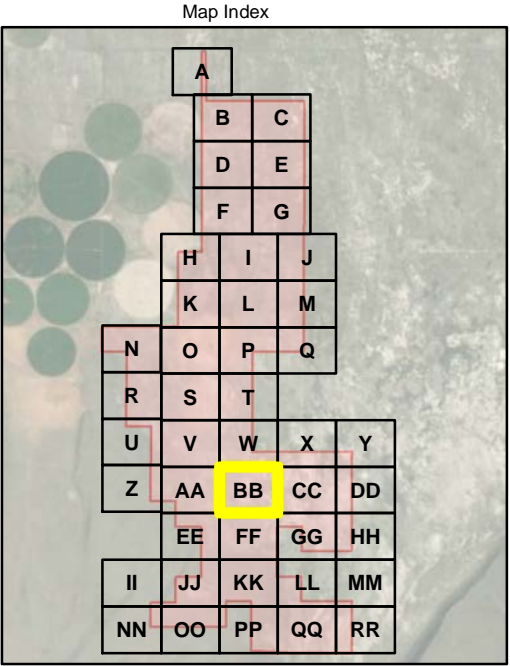
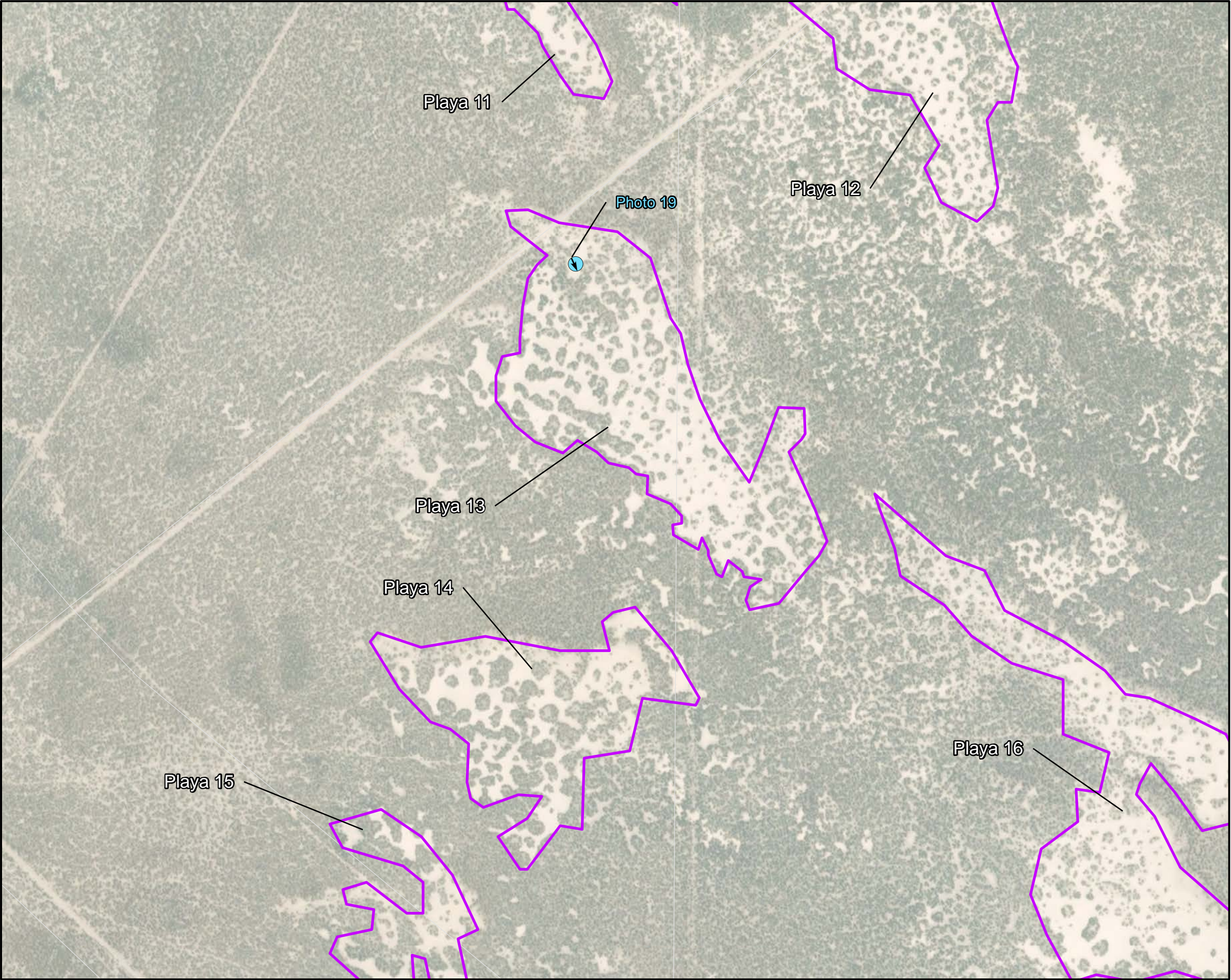
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- AA
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



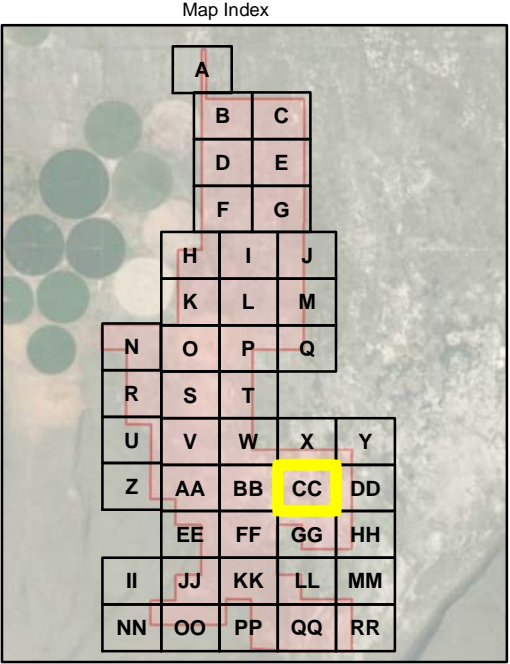
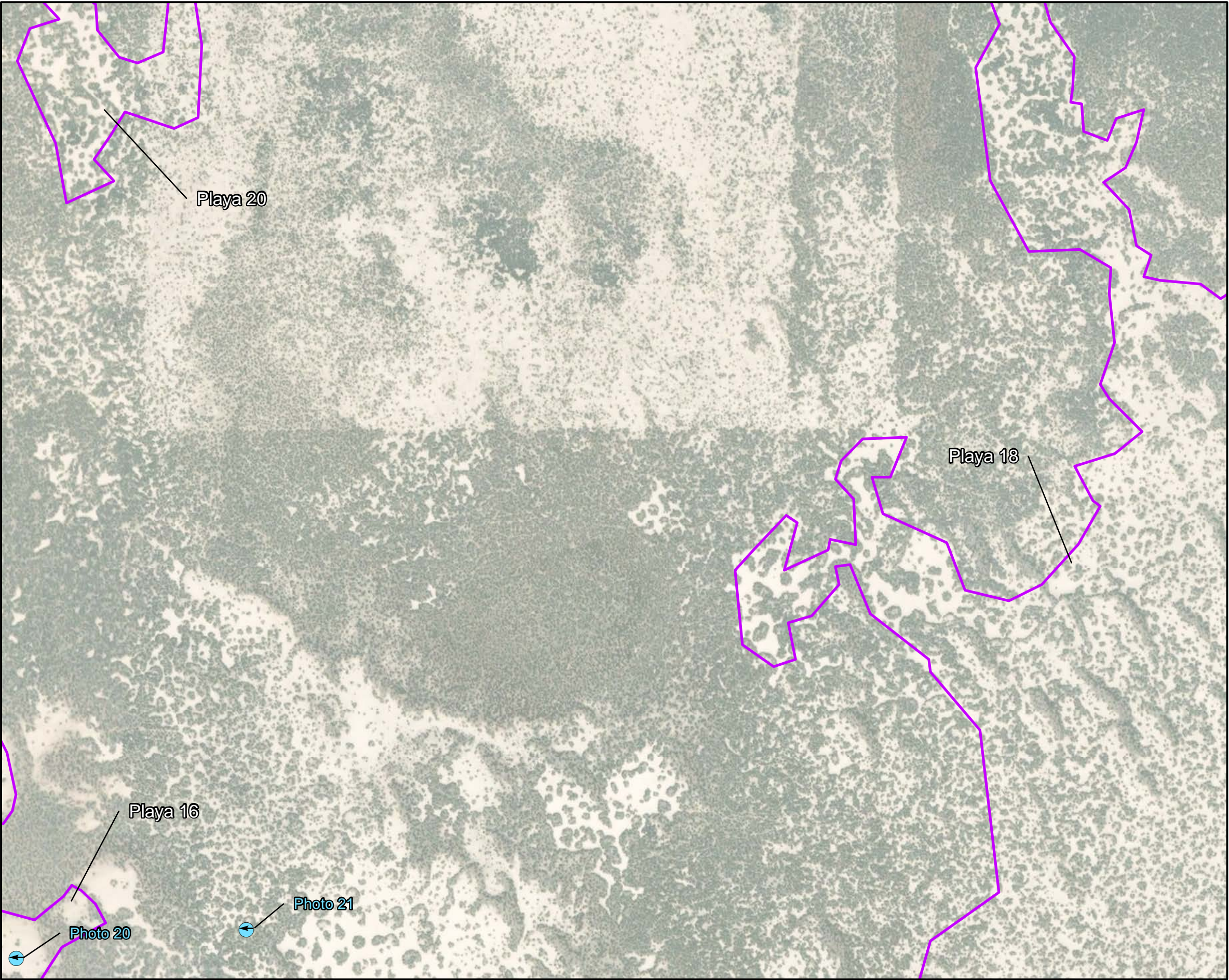
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- BB
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

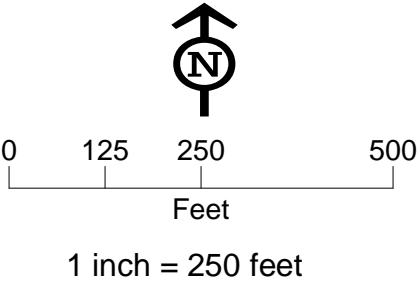
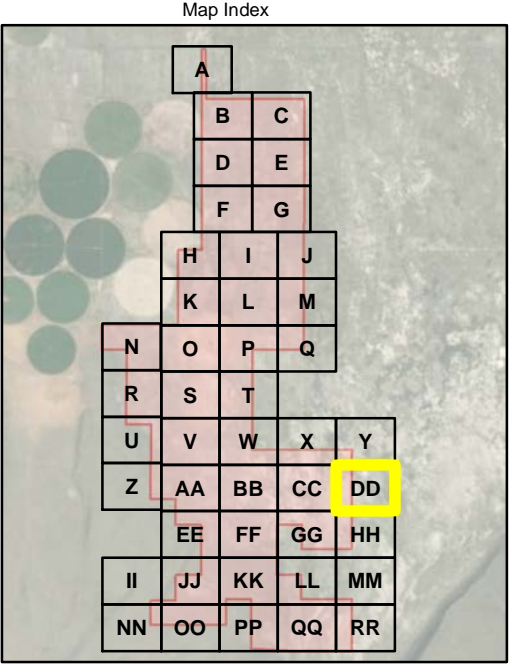
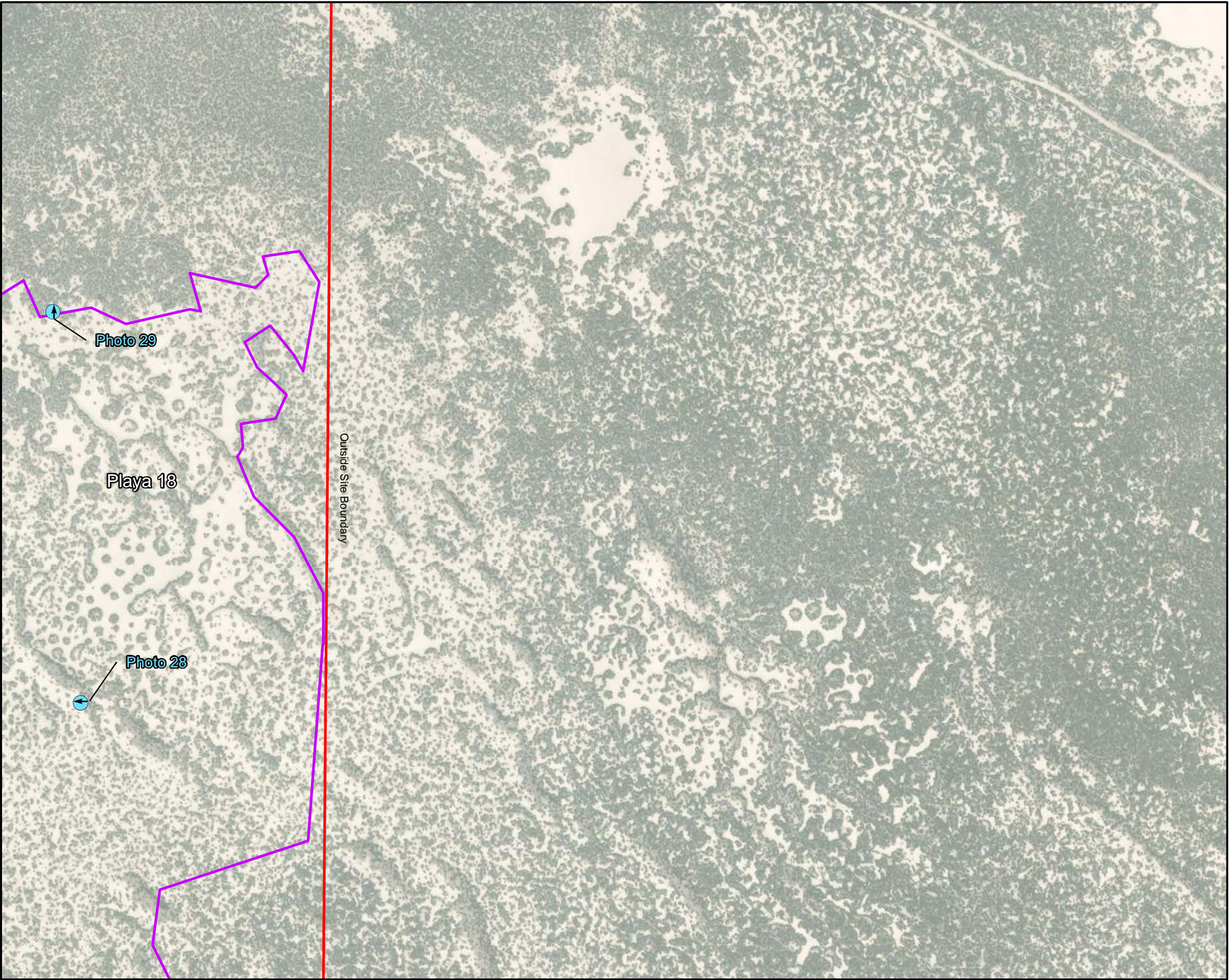


Figure 6- CC
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



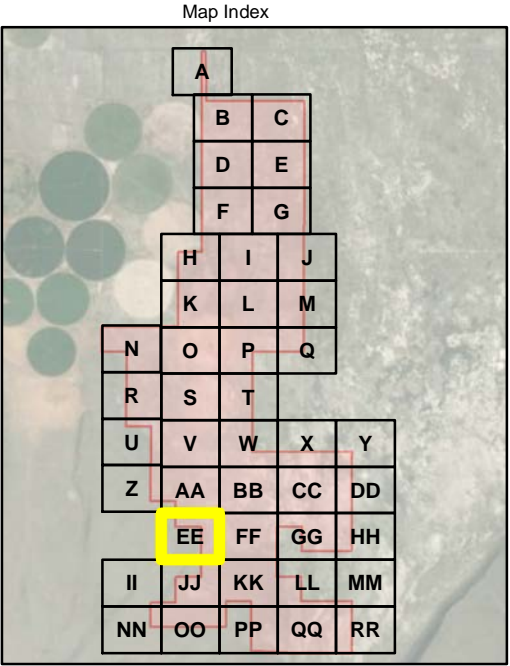
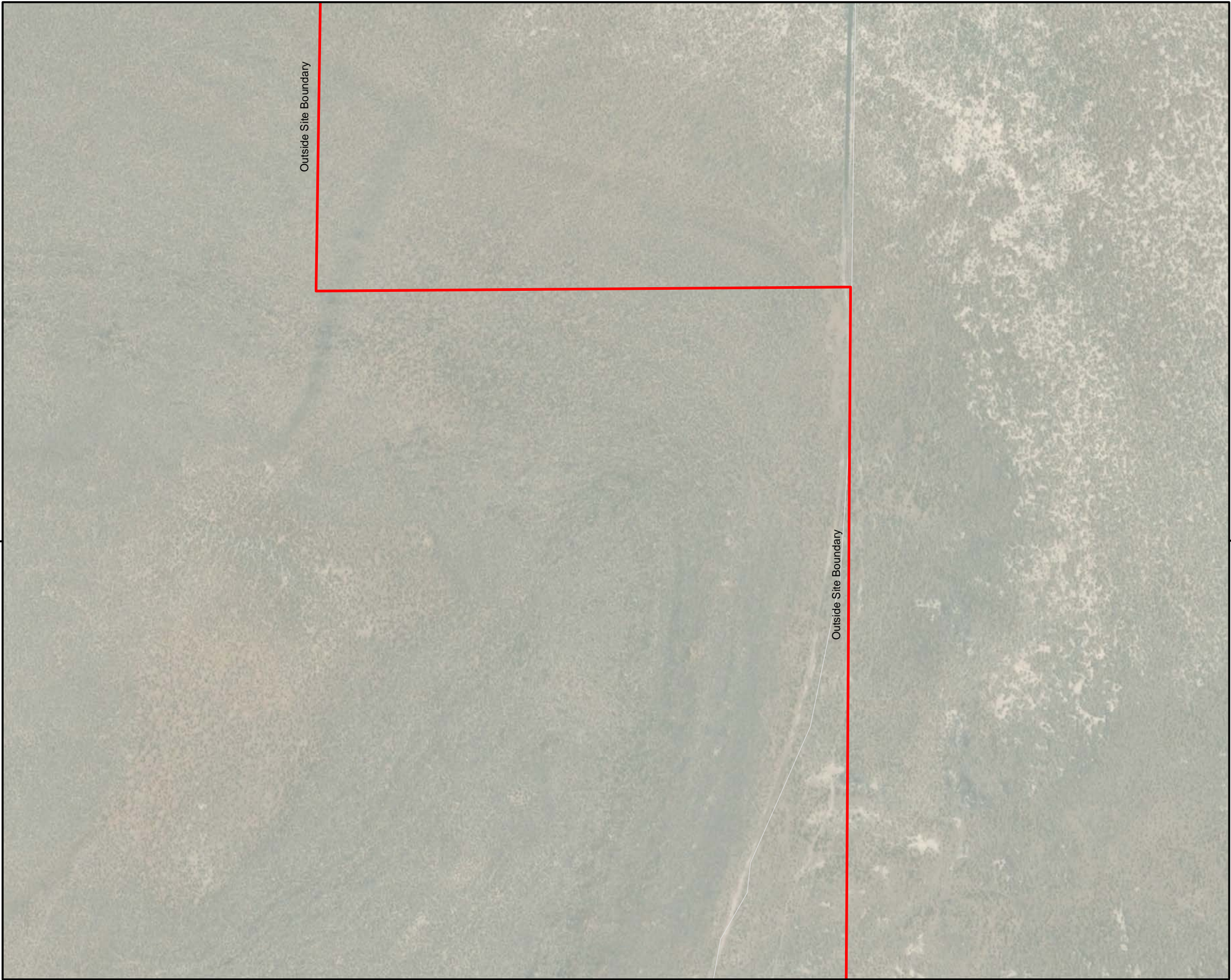
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- DD
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



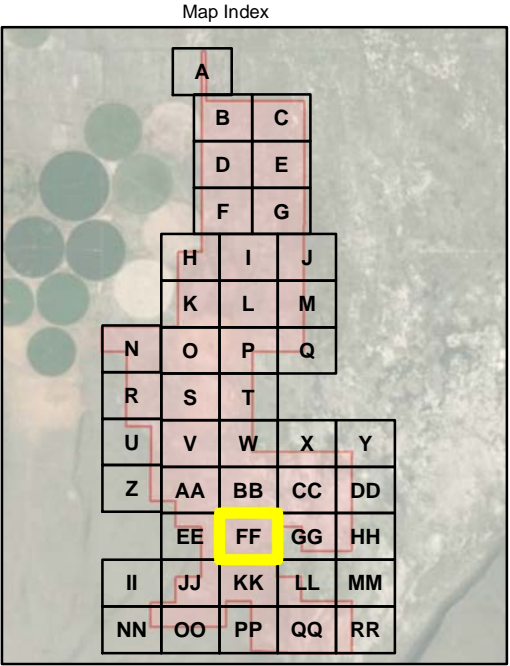
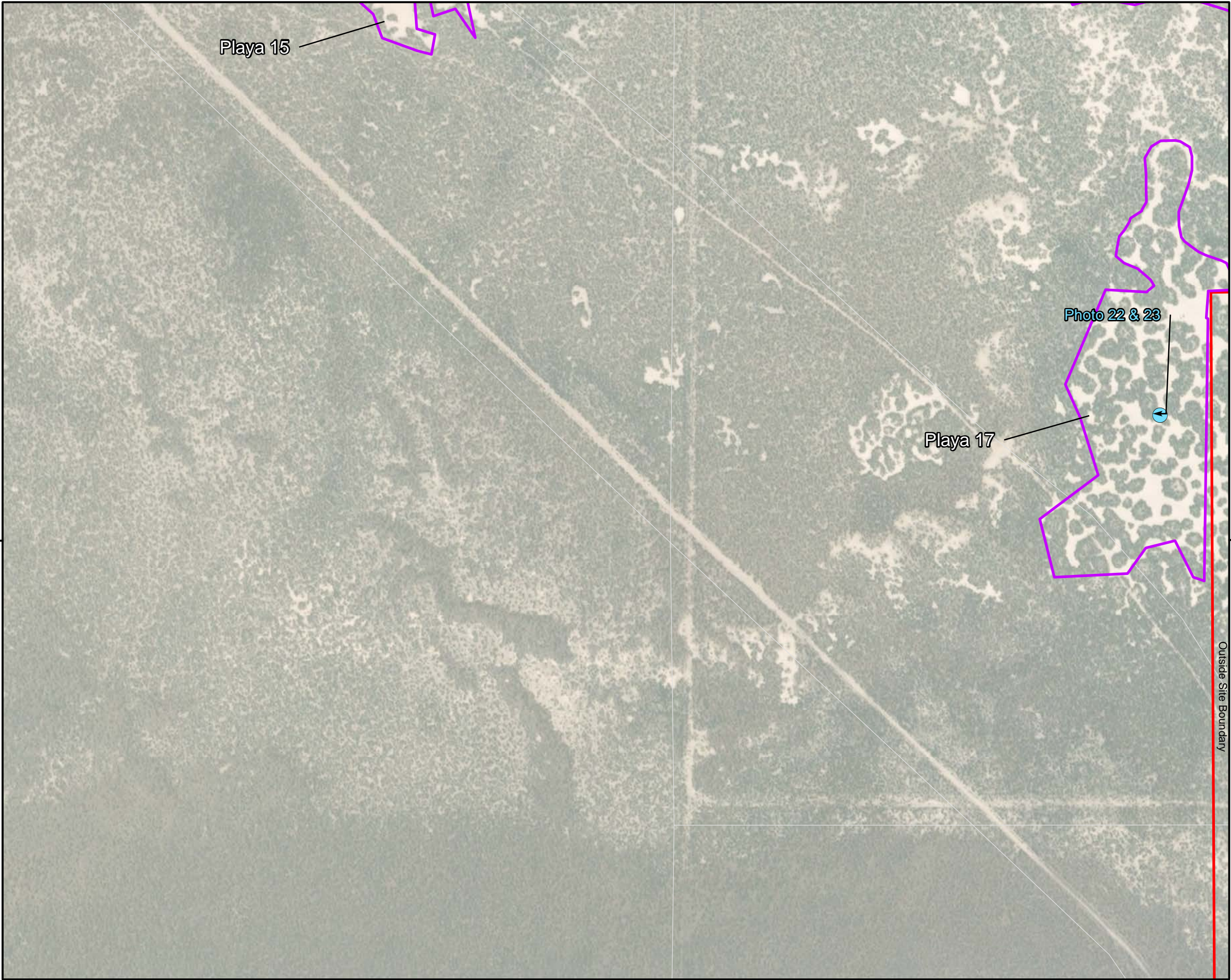
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

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Figure 6- EE
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



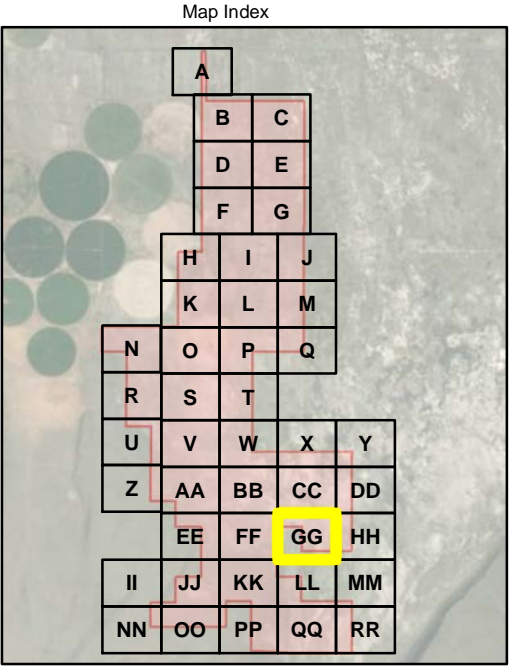
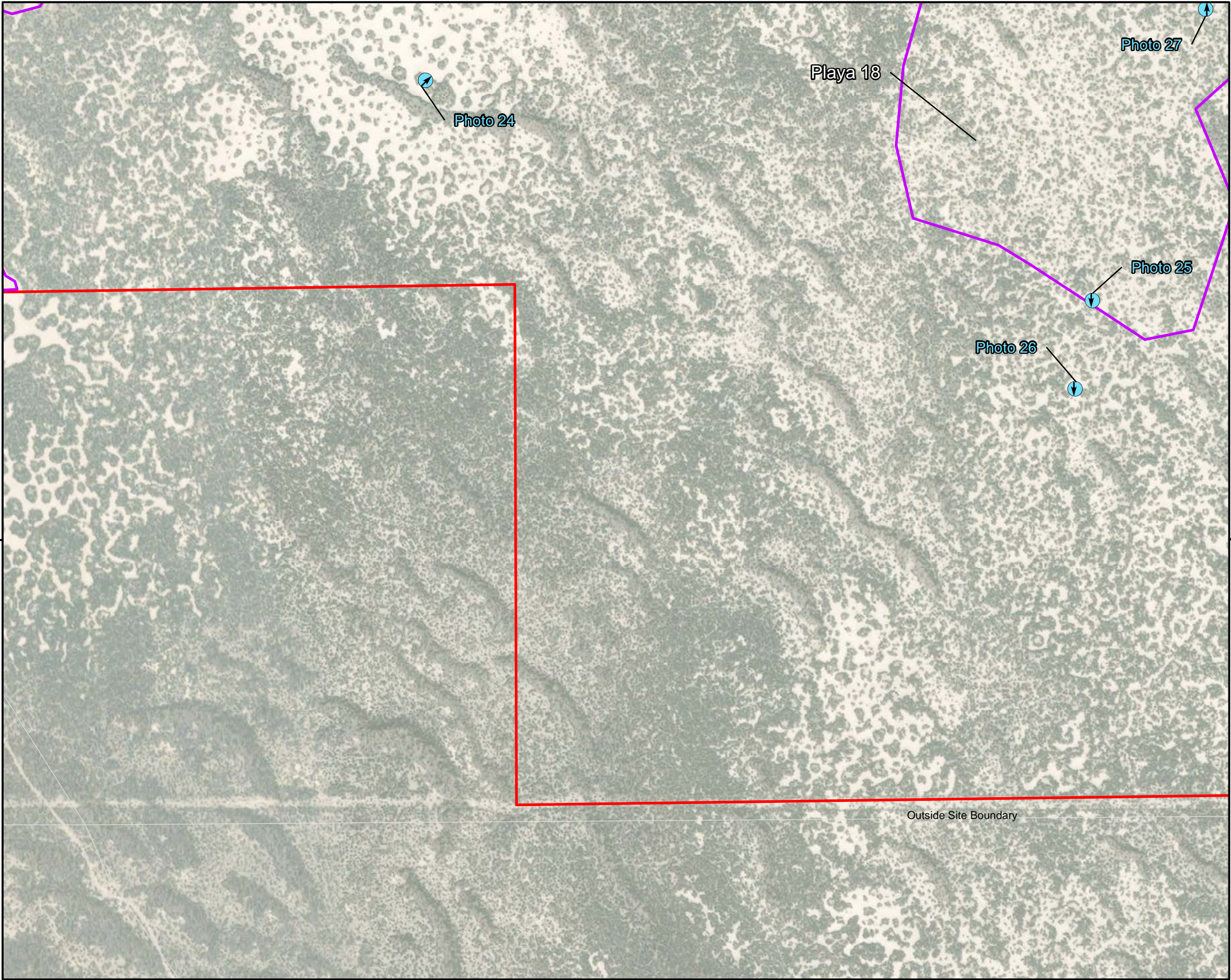
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- FF
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



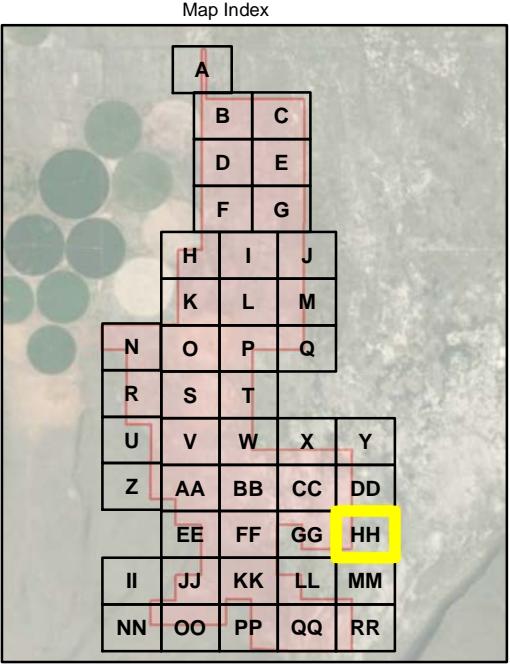
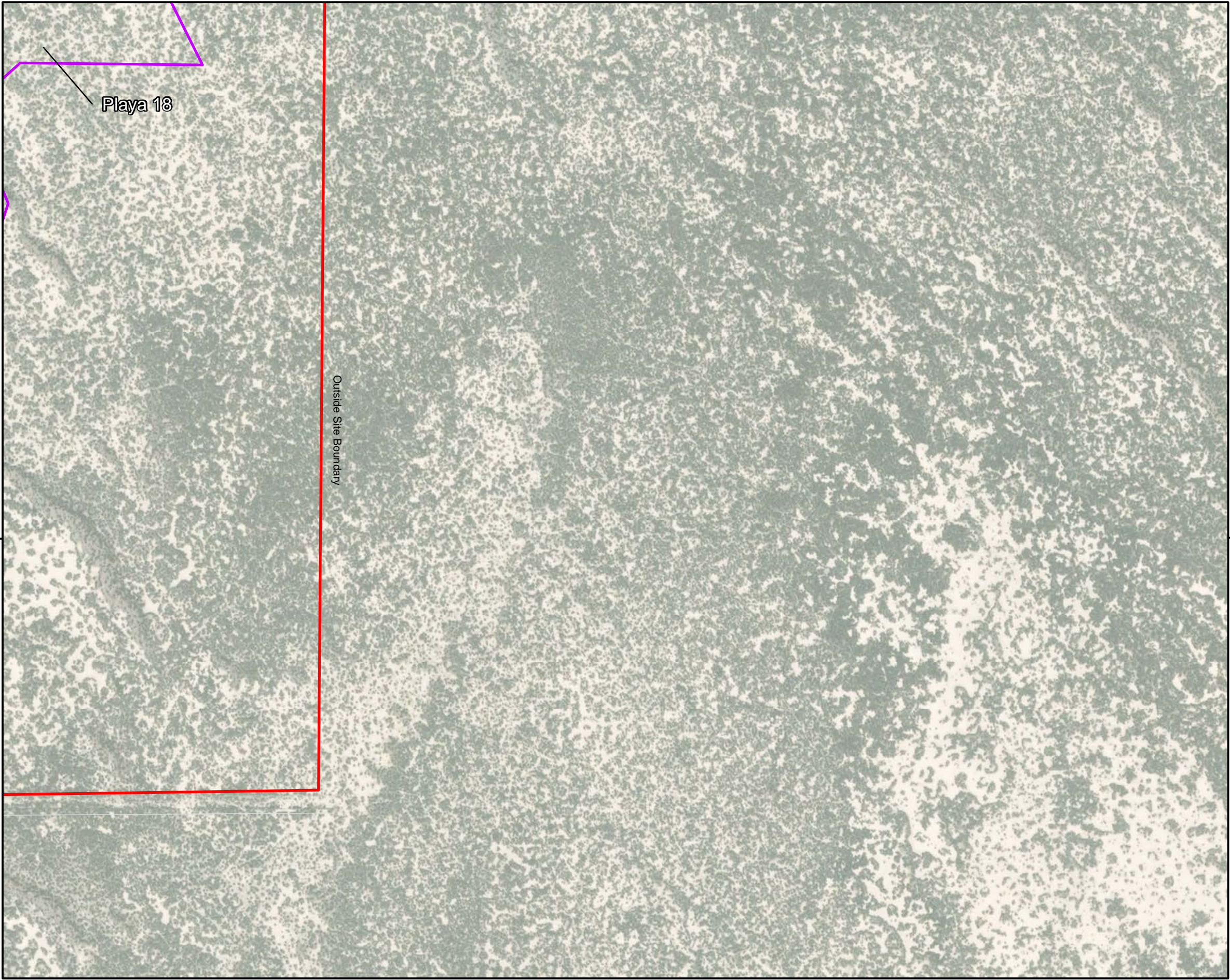
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- GG
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



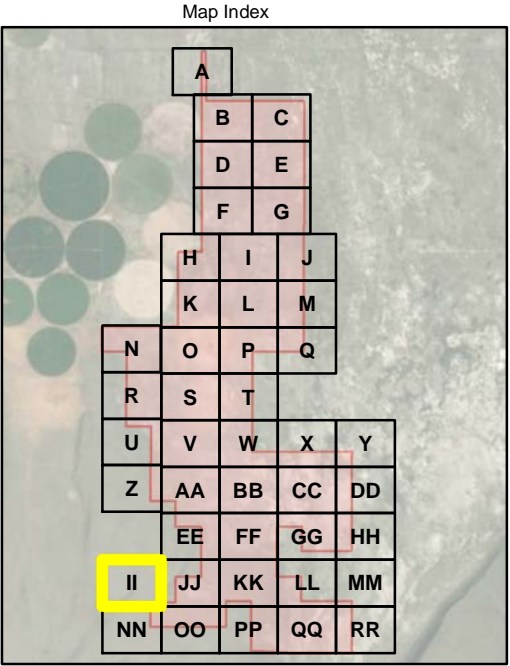
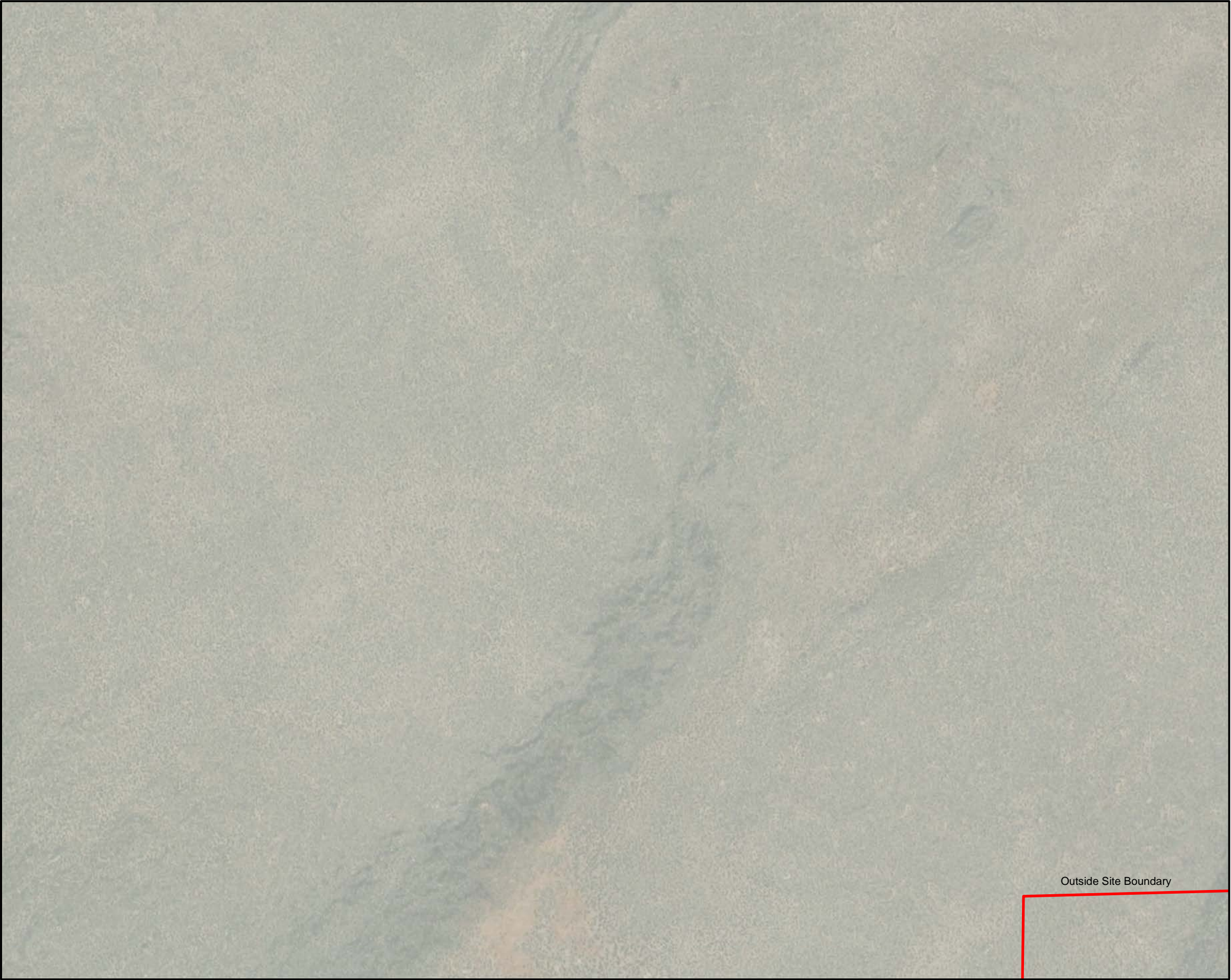
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- HH
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



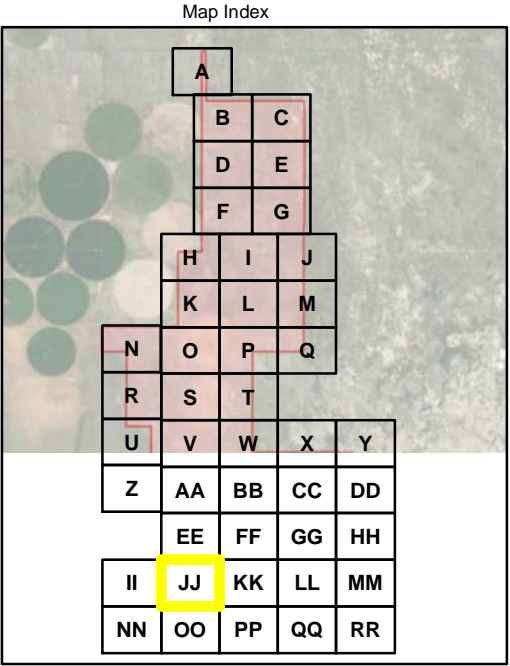
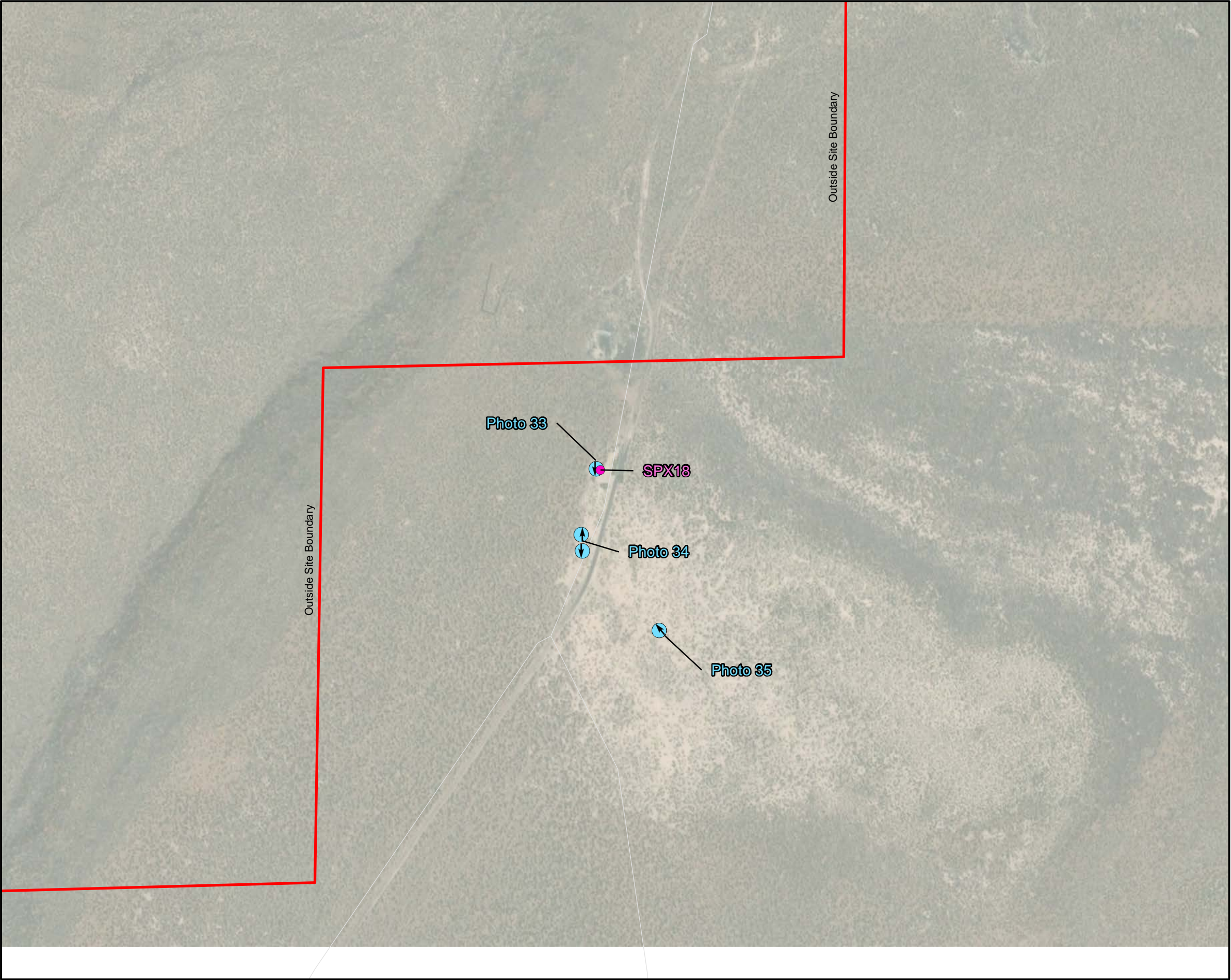
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- II
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



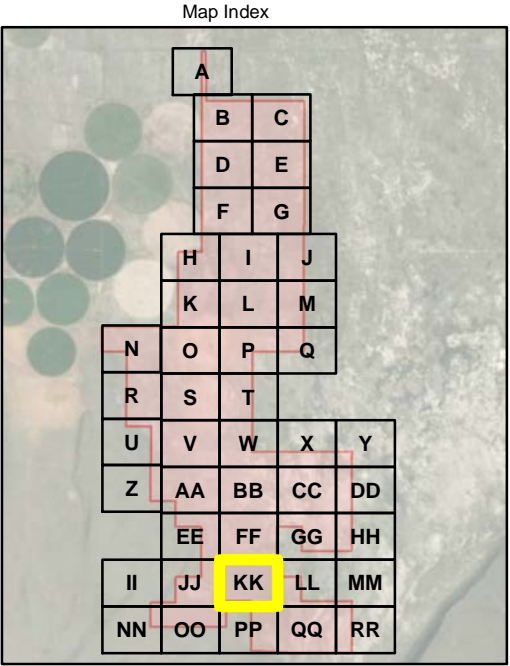
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- JJ
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



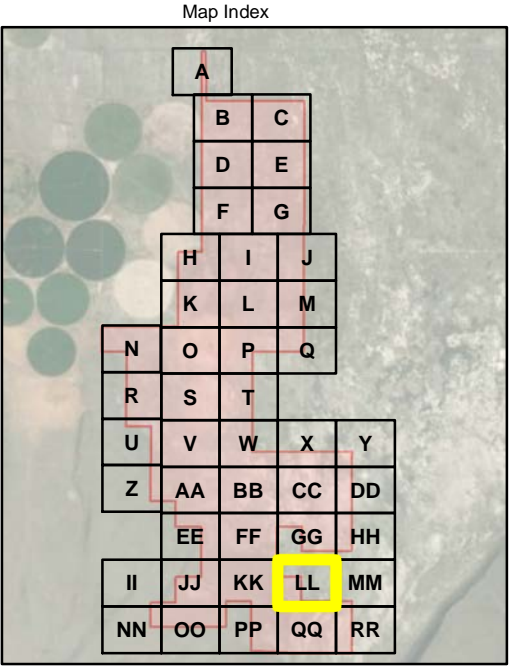
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- 📍 Photo Point (with direction)
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- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- KK
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



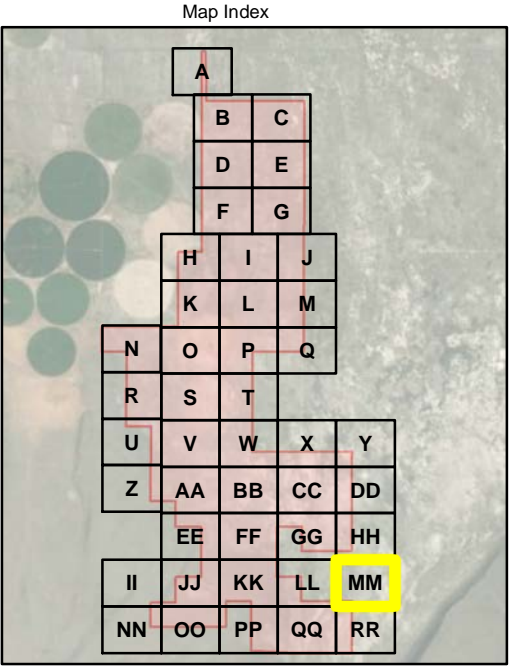
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- LL
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



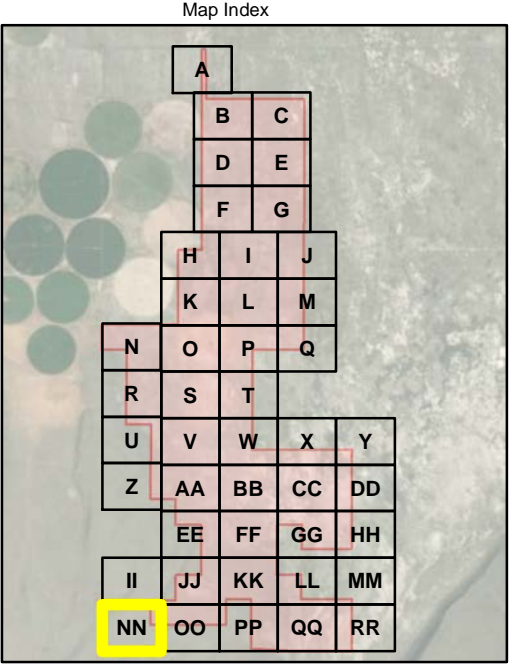
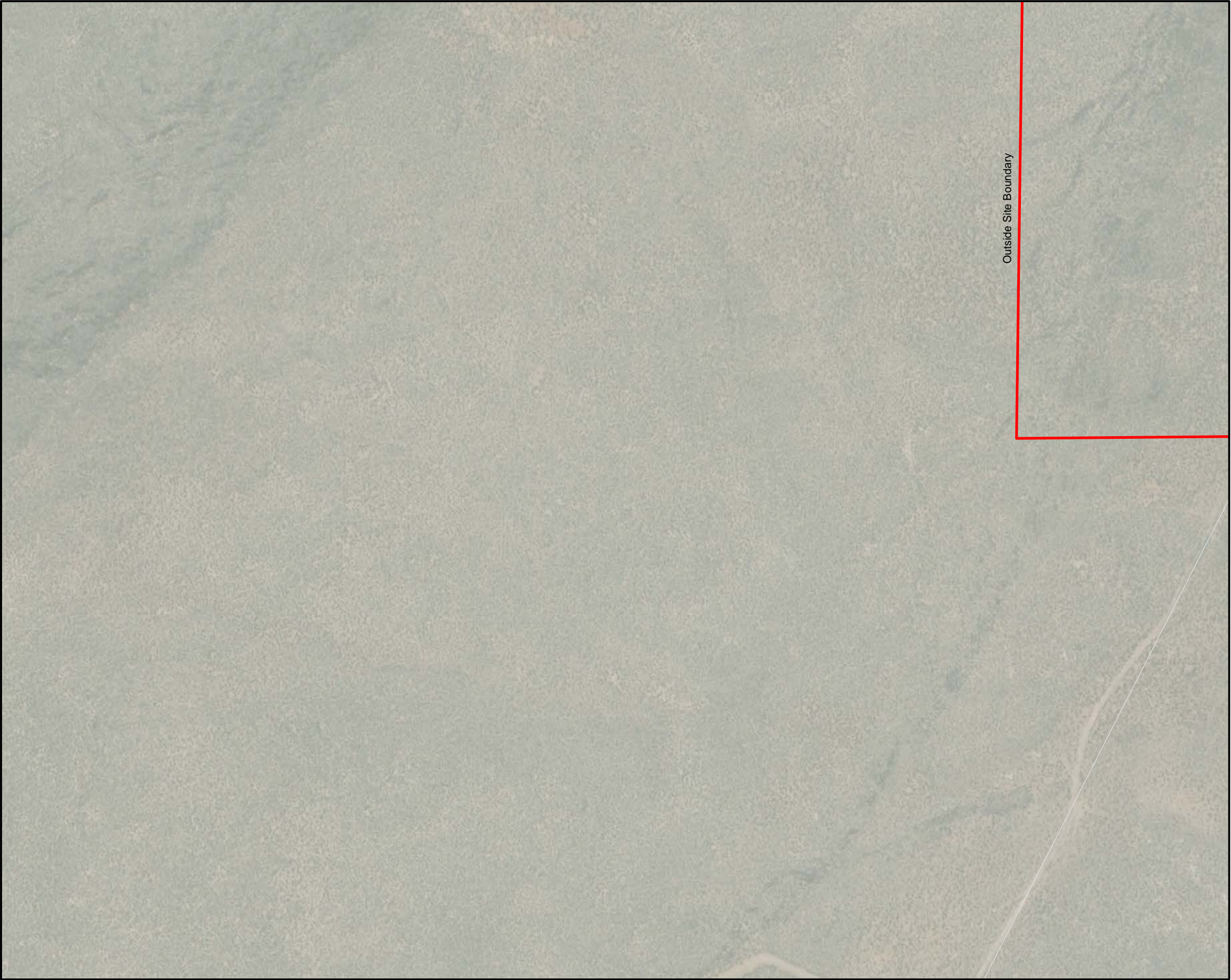
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 - Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- MM
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



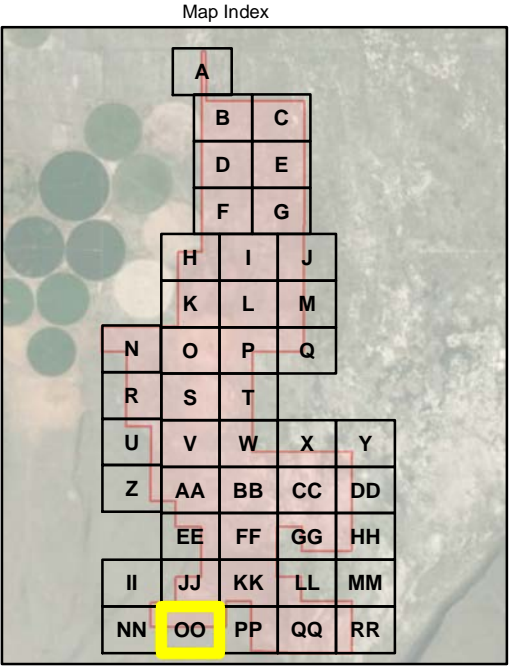
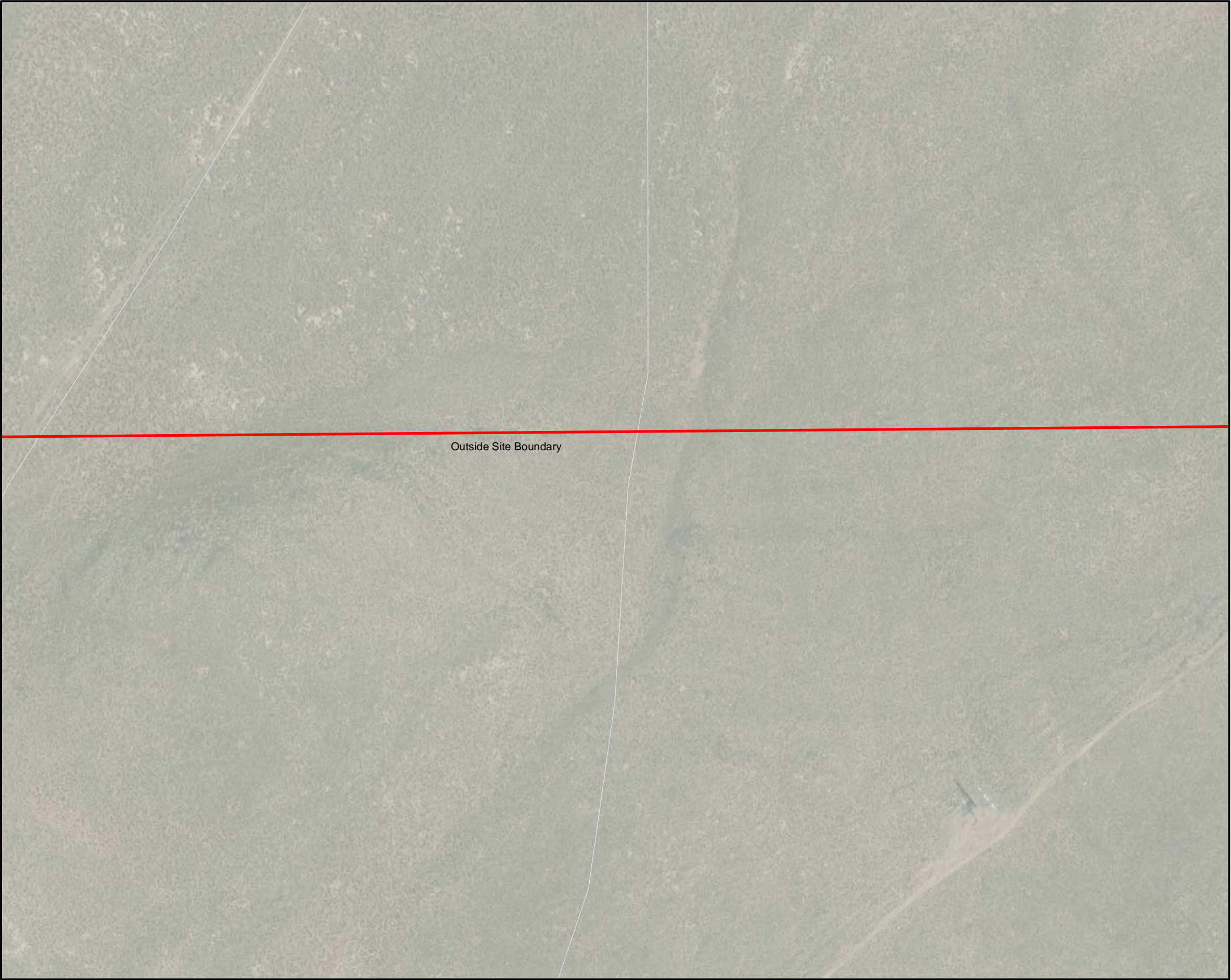
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- NN
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



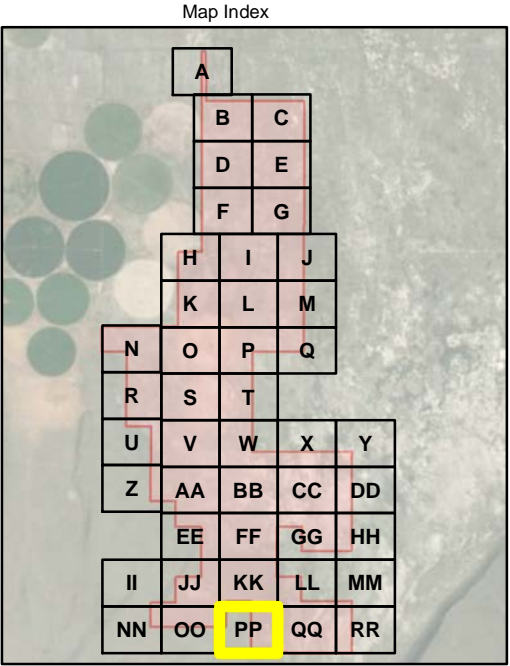
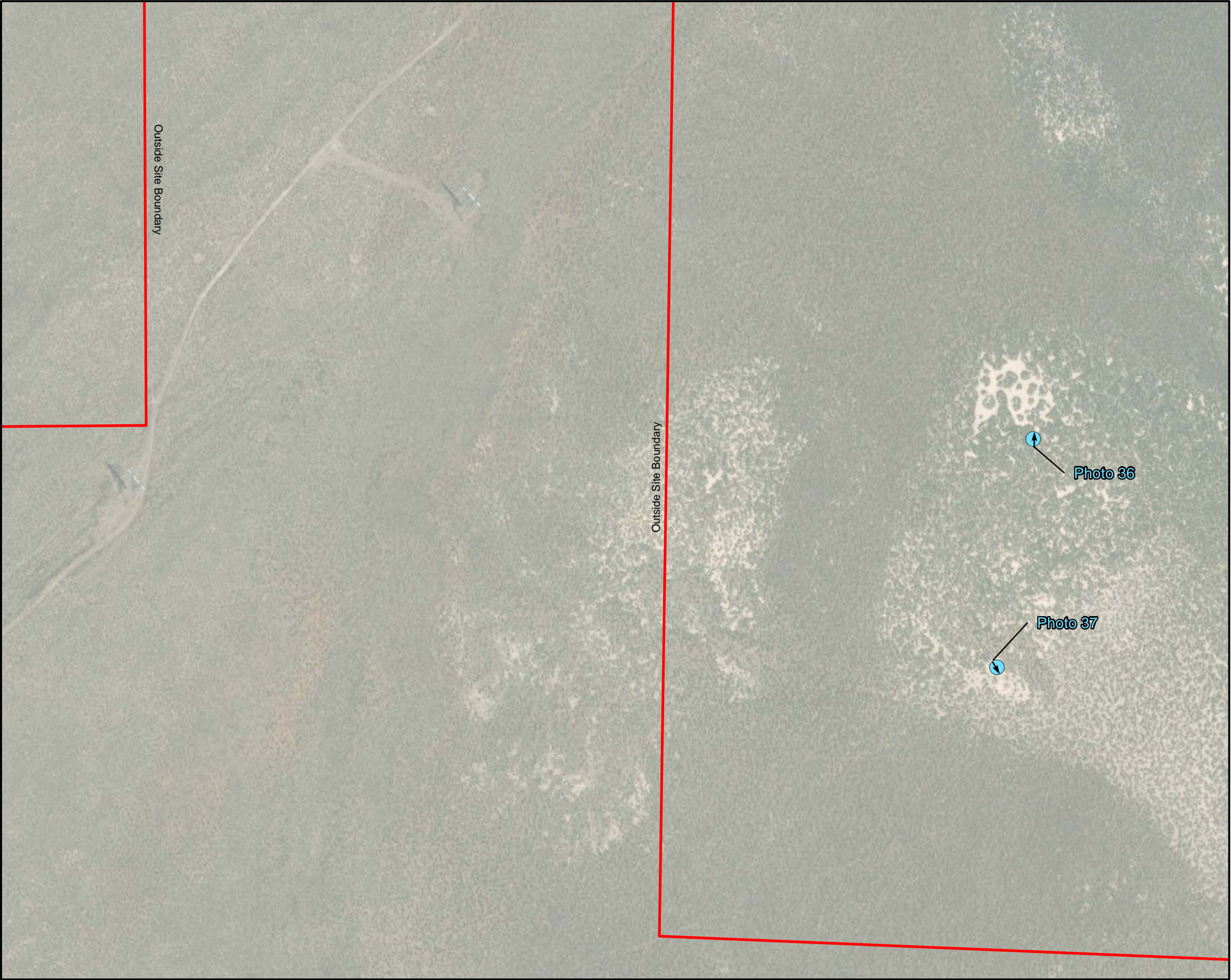
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- OO
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

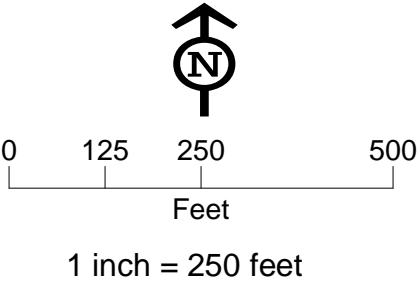
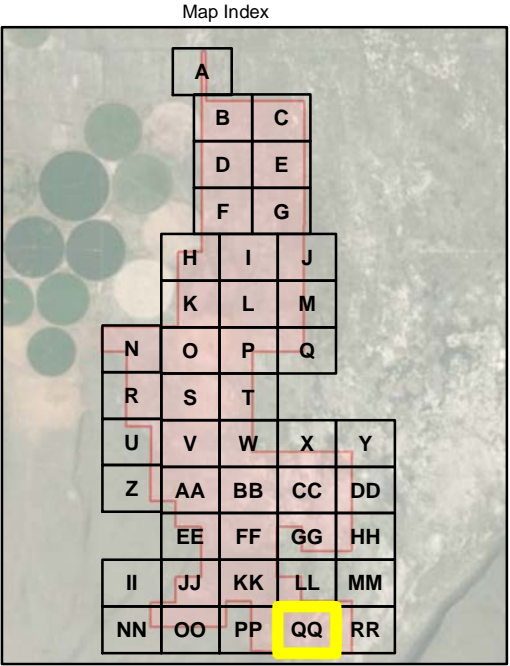


Figure 6- PP
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



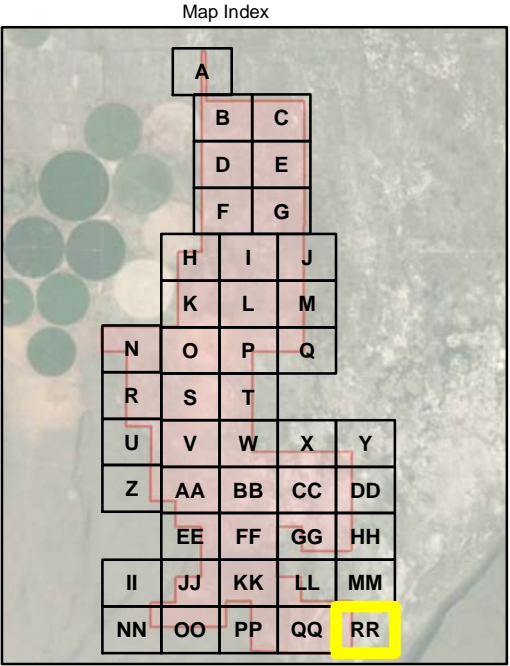
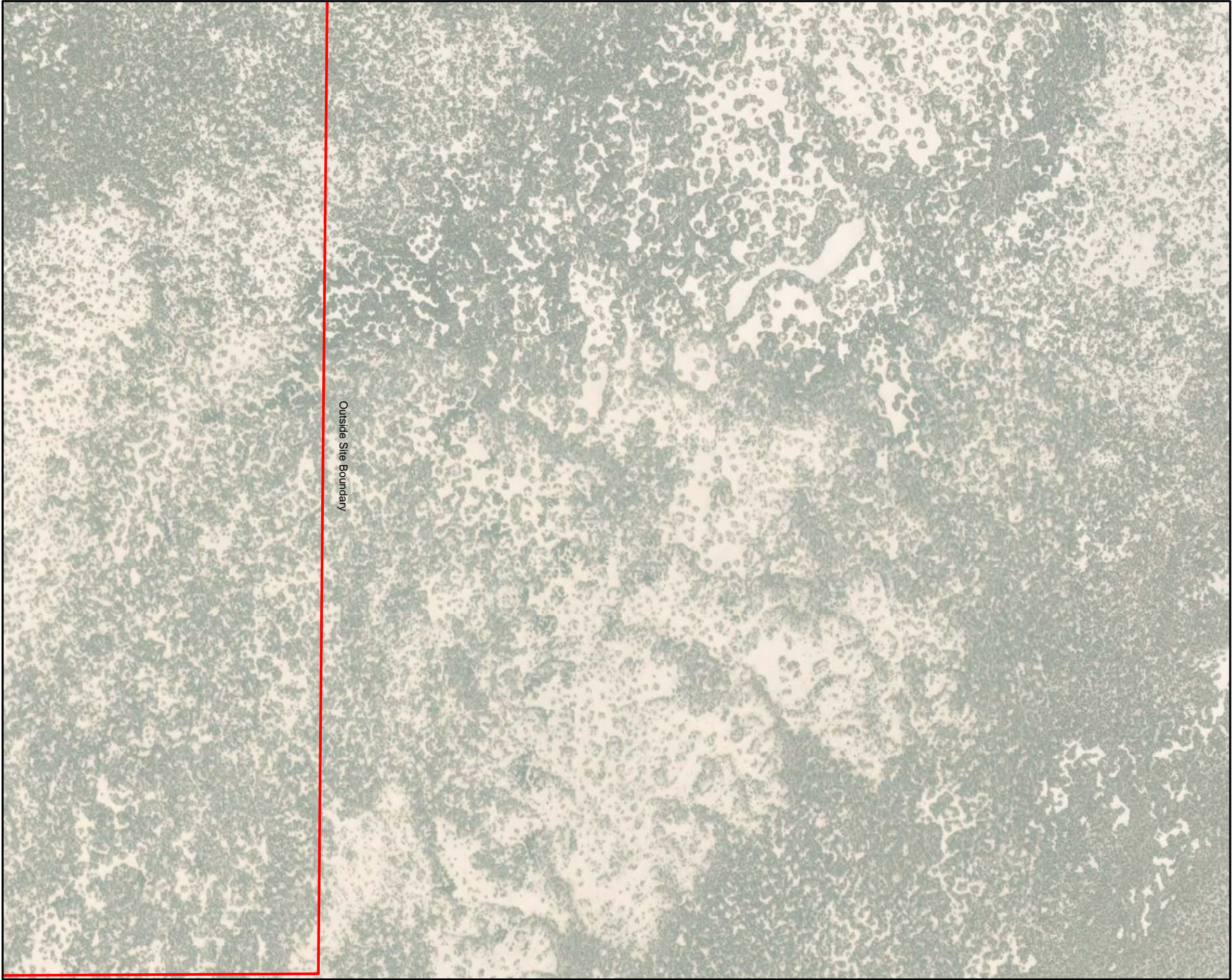
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- QQ
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



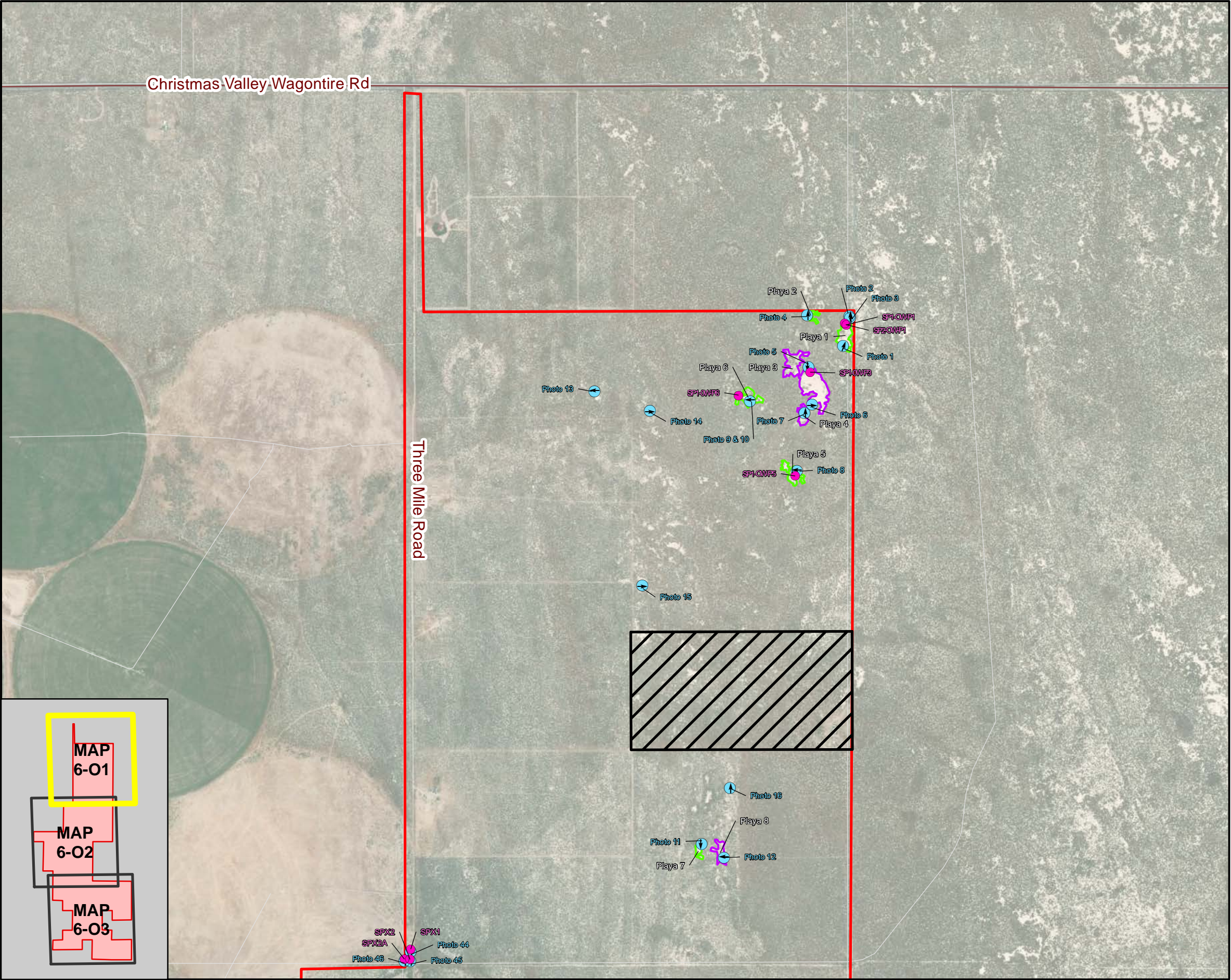
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- RR
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area
- Highway
- Road

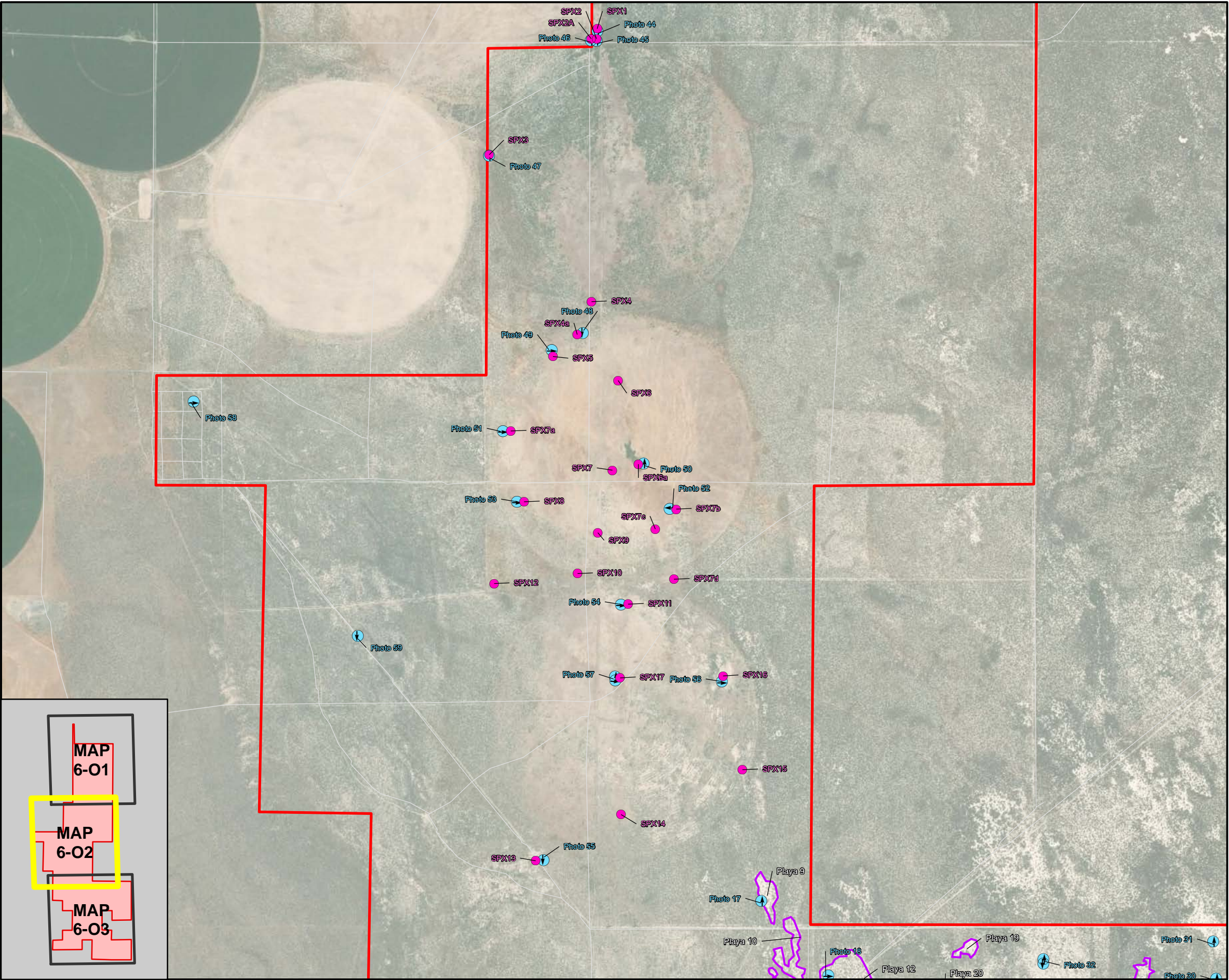
- Notes:
1. Area of interest subject to change.
 2. National Wetlands Inventory - U.S. Fish and Wildlife Service
<https://www.fws.gov/wetlands/data/Data-Download.html>
 3. USGS National Hydrography Dataset
<https://viewer.nationalmap.gov>
 4. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 5. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 6. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



0 500 1,000 2,000
Feet

1 inch = 1,200 feet

Figure 6-O1
Wetland Delineation Overview Maps
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access
- ▭ Archway Project Study Area
- Highway
- Road

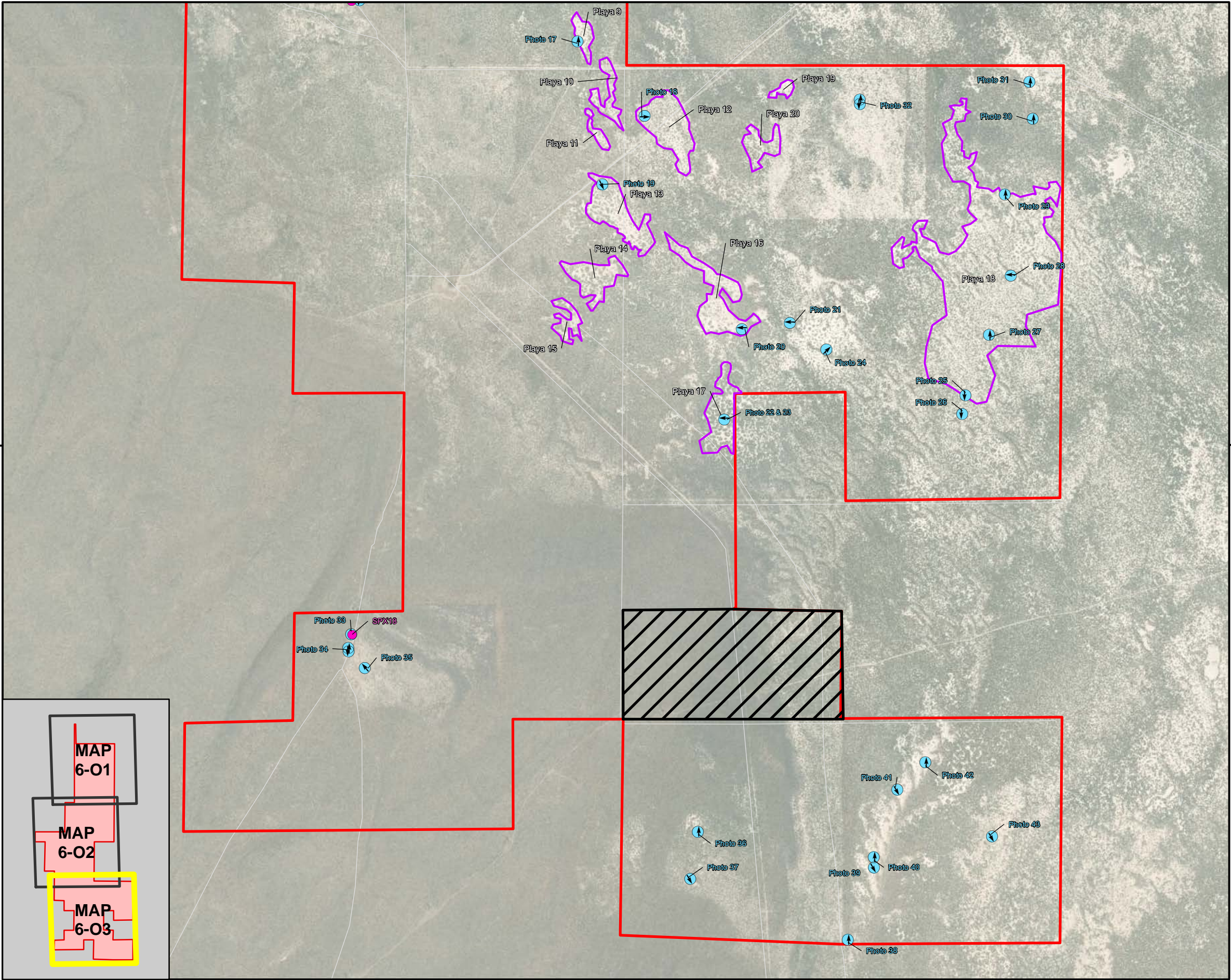
- Notes:
1. Area of interest subject to change.
 2. National Wetlands Inventory - U.S. Fish and Wildlife Service
<https://www.fws.gov/wetlands/data/Data-Download.html>
 3. USGS National Hydrography Dataset
<https://viewer.nationalmap.gov>
 4. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 5. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 6. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



0 500 1,000 2,000
Feet

1 inch = 1,200 feet

Figure 6-O2
Wetland Delineation Overview Maps
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- ⬮ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▨ No Access
- ▭ Archway Project Study Area
- Highway
- Road

- Notes:
1. Area of interest subject to change.
 2. National Wetlands Inventory - U.S. Fish and Wildlife Service
<https://www.fws.gov/wetlands/data/Data-Download.html>
 3. USGS National Hydrography Dataset
<https://viewer.nationalmap.gov>
 4. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 5. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 6. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



0 500 1,000 2,000
Feet

1 inch = 1,200 feet

Figure 6-O3
Wetland Delineation Overview Maps
Archway Solar Energy Project
Lake County, Oregon

Appendix B

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SP1-OW-P1
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): flats Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D -Interior deserts Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Flagstaff-Playas complex, 0 to 1 percent slopes NWI classification: PUSJ

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Area is nonwetland waters and delineated utilizing OHWM	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>2</u> x 5 = <u>10</u> Column Totals: <u>2</u> (A) <u>10</u> (B) Prevalence Index = B/A = <u>5</u>
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>) 1. <u>Adenostoma fasciculatum</u> <u>2</u> Yes UPL 2. _____ 3. _____ 4. _____ 5. _____ <u>2</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ <u>0</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>) 1. _____ 2. _____ <u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u> % Cover of Biotic Crust <u>0</u>				

Hydrophytic Vegetation Indicators:
 ___ Dominance Test is >50%
 ___ Prevalence Index is ≤3.0¹
 ___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ☒

Remarks:

SOIL

Sampling Point: SP1-OW-P4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 5/3						silty clay loam	
4-12	10 YR 4/4						sandy loam	3 % fine gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

No redoximorphic

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenenergy, LLC State: OR Sampling Point: SP1-OW-P3
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): western region Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>) 1. 2. 3. 4. _____ 0 = Total Cover Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>) 1. 2. 3. 4. 5. _____ 0 = Total Cover Herb Stratum (Plot size: <u>5' x 5'</u>) 1. 2. 3. 4. 5. 6. 7. 8. _____ 0 = Total Cover Woody Vine Stratum (Plot size: <u>10' x 10'</u>) 1. 2. _____ 0 = Total Cover % Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Remarks:	

SOIL

Sampling Point: SP1-OW-Pa

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 5/3						silty clay loam	
5-8	10YR5/3						sandy loam	
8-12	10YR4/3						sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/09/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SP1-OW-P5
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section15 SESE
 Landform (hillslope, terrace, etc.): flats Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D -Interior deserts Lat: 43.22441488250 Long: -120.44550010400 Datum: NAD 83
 Soil Map Unit Name: Flagstaff-Playas complex, 0 to 1 percent slopes NWI classification: PUSJ

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: Area is nonwetland waters and delineated utilizing OHWM			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = <u>5</u>
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Artemisia rigida</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>0</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>85</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

SOIL

Sampling Point: SP1-OW-P4**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 5/3						silty clay loam	
4-12	10 YR 4/4						sandy loam	3 % fine gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes _____ No ✓ Depth (inches): _____Water Table Present? Yes _____ No ✓ Depth (inches): _____Saturation Present? Yes _____ No ✓ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/09/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SP1-OW-P6
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section15 NESE
 Landform (hillslope, terrace, etc.): flats Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D -Interior deserts Lat: 43.22707880300 Long: -120.448045001 Datum: NAD 83
 Soil Map Unit Name: Flagstaff-Playas complex, 0 to 1 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Area is nonwetland waters and delineated utilizing OHWM	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = <u>5</u>
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. _____	<u>15</u>	<u>Y</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>_____</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>100</u> % Cover of Biotic Crust <u>0</u>				
Remarks: No vegetation.				

SOIL

Sampling Point: SP1-OW-P6**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 5/3	100					silty clay loam	
4-10	10 YR 4/4	100					sandy loam	3 % fine gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenenergy, LLC State: OR Sampling Point: SP2-OW-P1
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: 027S R019E Section14 NWNWSW
 Landform (hillslope, terrace, etc.): Flats Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D -Interior deserts Lat: 43.229414 Long: -120.44321143100 Datum: NAD 83
 Soil Map Unit Name: Flagstaff-Playas complex, 0 to 1 percent slopes NWI classification: No (If no, explain in
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation , Soil , or Hydrology naturally problematic? needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <u> </u> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <u> </u> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <u> </u> No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1.				
2.				
3.				
4.				
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: <u> </u> OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u>4</u> x 4 = <u>16</u> UPL species <u>55</u> x 5 = <u>275</u> Column Totals: <u>59</u> (A) <u>291</u> (B) Prevalence Index = B/A = <u>4.9</u>
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <i>Adenostoma fasciculatum</i>	10	Yes	UPL	
2. <i>Atriplex canescens</i>	5	No	UPL	
3.				
4.				
5.				
<u>15</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <i>Bromus tectorum</i>	40	Yes	UPL	
2. <i>Lepidium perfoliatum</i>	4	No	FACU	
3.			UP	
4.				
5.				
6.				
7.				
8.				
<u>44</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.				
2.				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>38</u> % Cover of Bioic Crust <u> </u>				Hydrophytic Vegetation Present? Yes <u> </u> No <input checked="" type="checkbox"/>
Remarks:				
3 percent cover of biotic crust				

SOIL

Sampling Point: SP2-OW-P4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	7.5 YR 3/2						silty loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soil dry and difficult to dig beyond 8 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

biotic crust within 3-feet of pit, only within the upland, above OHWM

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenenergy, LLC State: OR Sampling Point: SPX1
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section22 SWSW
 Landform (hillslope, terrace, etc.): flats Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D -Interior deserts Lat: 43.208815 Long: -120.462844 Datum: _____
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: NHD waterbody

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>105</u> (A) <u>440</u> (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. <u>Matricaria discoidea</u>	<u>80</u>	Yes	FACU	
2. <u>Chenopodium berlandieri</u>	<u>5</u>	No	UPL	
3. <u>Agropyron cristatum</u>	<u>5</u>	No	UPL	
4. <u>Bromus tectorum</u>	<u>10</u>	No	UPL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX1

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Mapped NWI		
Remarks:		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenenergy, LLC State: OR Sampling Point: SPX2
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section22 SWSW
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D -Interior deserts Lat: 43.20847997690 Long: -120.46287370600 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: NHD

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
<u>0</u> = Total Cover					
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>100</u> (A) <u>440</u> (B) Prevalence Index = B/A = <u>4.4</u>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
<u>0</u> = Total Cover					
Herb Stratum (Plot size: <u>5' x 5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
1. <u>Sisymbrium altissimum</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>		
2. <u>Agropyron cristatum</u>	<u>40</u>	<u>Y</u>	<u>NL/UPL</u>		
3. <u>Leymus cinerus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
4. _____	_____	_____	_____		
<u>100</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>					
Remarks:					

SOIL

Sampling Point: SPX2

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Mapped NWI		
Remarks:		

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX2a
Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section22 SWSW
Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
Subregion (LRR): D -Interior deserts Lat: 43.20847997690 Long: -120.46287370600 Datum: NAD 83
Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>✓</u> Hydric Soil Present? Yes _____ No <u>✓</u> Wetland Hydrology Present? Yes _____ No <u>✓</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>✓</u>
Remarks:	

Tree Stratum (Plot size: 20' x 20')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 20' x 20')				
1. <u>Artemisia rigida</u>	25	Y	NOL	
2. <u>Ericameria nauseosa</u>	5	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	30	= Total Cover		
Herb Stratum (Plot size: 5' x 5')				
1. <u>Bromus tectorum</u>	100	Y	upland	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	100	= Total Cover		
Woody Vine Stratum (Plot size: 10' x 10')				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	0	= Total Cover		
% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0				

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC: _____	(A)
Total Number of Dominant Species Across All Strata: _____	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____	(A/B)
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B)
Prevalence Index = B/A = _____	
Hydrophytic Vegetation Indicators:	
___ Dominance Test is >50%	
___ Prevalence Index is ≤3.0 ¹	
___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
___ Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Hydrophytic Vegetation Present?	
Yes _____ No <input checked="" type="checkbox"/>	

SOIL

Sampling Point: SPX2a

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u> X </u> Depth (inches): _____ Water Table Present? Yes _____ No <u> X </u> Depth (inches): _____ Saturation Present? Yes _____ No <u> X </u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u> ✓ </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Mapped NWI		
Remarks:		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenenergy, LLC State: OR Sampling Point: SPX3
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section28 NENE
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.204649 Long: -120.46773230800 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: None- NHD

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____	_____	_____	_____		
			<u>0</u> = Total Cover		
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				Prevalence Index worksheet:	
1. <u>Sarcobatus vermiculatus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
			<u>20</u> = Total Cover	UPL species _____	x 5 = _____
Herb Stratum (Plot size: <u>5' x 5'</u>)				Column Totals:	<u>_____</u> (A) <u>_____</u> (B)
1. <u>Sisymbrium altissimum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Prevalence Index = B/A = _____	
2. <u>Agropyron cristatum</u>	<u>10</u>	<u>N</u>	<u>NOL/UF</u>	Hydrophytic Vegetation Indicators:	
3. <u>Matricaria discoidea</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	___ Dominance Test is >50%	
4. <u>Lepidium perfoliatum</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	___ Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
			<u>95</u> = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes <input type="checkbox"/>	
2. _____	_____	_____	_____	No <input checked="" type="checkbox"/>	
			<u>0</u> = Total Cover		
% Bare Ground in Herb Stratum <u>5</u> % Cover of Biotic Crust <u>0</u>					
Remarks:					

SOIL

Sampling Point: SPX3

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Mapped NWI		
Remarks:		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX4
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section28 NESE
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.199794 Long: -120.46311701100 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetlands indicators observed.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Ericameria nauseosa</u>	<u>25</u>	<u>Y</u>	<u>NOL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Sisymbrium altissimum</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Bromus tectorum</u>	<u>50</u>	<u>Y</u>	<u>NOL</u>	
4. <u>Lepidium perfoliatum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>100</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10 YR 4/3	100					silty clay	
7-16	10 YR 4/4	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

No wetland indicators observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX4a
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section 28 NESE
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Substrate (HRR): D Lat: 43.198716 Long: -120.46376411600 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators observed.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Sarcobatus vermiculatus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Agropyron cristatum</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
2. <u>Matricaria discoidea</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Lepidium perfoliatum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
<u>60</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>40</u> % Cover of Biotic Crust <u>0</u>				
Remarks: No hydrophytic vegetation.				

SOIL

Sampling Point: SPX4a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10 YR 5/3						silty clay	
13-14	10 YR 4/3						silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX5
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section 28 NESE
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Substrate (HRR): D Lat: 43.197984144 Long: -120.464860824 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators observed (Photo 49).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Sarcobatus vermiculatus</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Agropyron cristatum</u>	<u>15</u>	<u>N</u>	<u>UPPL</u>	
2. <u>Matricaria discoidea</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Lepidium perfoliatum</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
<u>75</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust <u>0</u>				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes ☐ No ☒

Remarks:

No hydrophytic vegetation.

SOIL

Sampling Point: SPX5**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10 YR 5/3						silty clay	
12-18	10 YR 4/3						silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX6
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section27 SWSW
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.1971952544 Long: -120.461915457 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: No wetland indicator.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ <u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Agropyron cristatum</u> <u>45</u> <u>Y</u> <u>UPL</u> 2. <u>Lepidium perfoliatum</u> <u>30</u> <u>Y</u> <u>FACU</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ <u>75</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>) 1. _____ 2. _____ <u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust <u>0</u>				
Remarks: No wetland indicators observed.				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

SOIL

Sampling Point: SPX6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-3	10 YR 5/3						silty clay	
3-11	10 YR 4/3						silty clay	
11-16	10 YR 4/6						silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX6a
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section27 SWSW
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.19443716520 Long: -120.46100108500 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: No wetland indicator (photo 50).			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>) 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Herb Stratum (Plot size: <u>5' x 5'</u>) 1. <u>Agropyron cristatum</u> <u>65</u> <u>Y</u> <u>UPL</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: <u>10' x 10'</u>) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>35</u> % Cover of Biotic Crust <u>0</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks:
No wetland indicators observed (photo 50). Area heavily grazed.

SOIL

Sampling Point: SPX6a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-3	10 YR 5/3						silty clay	
3-11	10 YR 4/3						silty clay	
11-16	10 YR 4/6						silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX7
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section27 SWSW
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.19422926020 Long: -120.46217696300 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Agropyron cristatum</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Lepidium perfoliatum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Matricaria discoidea</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<u>45</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>55</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 4/3						ashy loam	
4-15	10 YR 4/3						silty clay #	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX7a
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section28 SESE
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.1955282509 Long: -120.46676081100 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators (see photo 51).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Lepidium perfoliatum</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<u>75</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX7a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-4	10 YR 5/3						Silt loam
4-18	10 YR 4/3						silty clay #

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	Secondary Indicators (2 or more required) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Mapped NWI	
Remarks:	

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX7b
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section34 NWNW
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.19294393750 Long: -120.45929578400 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetland indicator (see photo 52).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Agropyron cristatum</u>	<u>15</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Matricaria discoidea</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<u>20</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX7b**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 5/3						ashy loam	
4-18	10 YR 4/3						silty clay #	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

SOIL

Sampling Point: SPX7c

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 4/3						ashy loam	
4-17	10 YR 4/3						silty clay #	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX7d
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section34 NWNW
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.19063452220 Long: -120.45939119600 Datum: _____
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Sarcobatus vermiculatus</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Lepidium perfoliatum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. <u>Bromus tectorum</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
<u>45</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>55</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX7d

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 3/3	100					silt loam	
6-17	10YR4/4	100					silt clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX8
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section33 NENE
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.19319370900 Long: -120.46615691100 Datum: _____
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators (see photo 53).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Sarcobatus vermiculatus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Lepidium perfoliatum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
8. _____	_____	_____	_____	
<u>35</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>65</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 3/3						silty clay	
4-13	10 YR 4/2							

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX9
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.19217377880 Long: -120.46283791800 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: no wetland indicators.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Sarcobatus vermiculatus</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Matricaria discoidea</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Lepidium perfoliatum</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>55</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>45</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

SOIL

Sampling Point: SPX9**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3.5	10 YR 4/3	100					ashy silt loam	
3.5-9	10YR5/3	100					ashy silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenenergy, LLC State: OR Sampling Point: SPX10
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section33 NENE
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.19082438700 Long: -120.46375561700 Datum: NAV 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators observed.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>20' x 20'</u>)	_____	_____	_____	
1. <u>Sarcobatus vermiculatus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' x 5'</u>)	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Sisymbrium altissimum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Bromus tectorum</u>	<u>20</u>	<u>Y</u>	<u>NOL</u>	
4. <u>Lepidium perfoliatum</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>10' x 10'</u>)	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

SOIL

Sampling Point: SPX10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 4/3	100					ashy silt loam	
5-16	10 YR 3/3	100					silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9) <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>✓</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>✓</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Mapped NWI		
Remarks:		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX11
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section22 NWSE
 Landform (hillslope, terrace, etc.): flats Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.21227697210 Long: -120.44972299900 Datum: _____
 Soil Map Unit Name: Flagstaff-Playas complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators observed (see photo 54).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Lepidium perfoliatum</u>	<u>60</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
3. <u>Bromus tectorum</u>	<u>4</u>	<u>No</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>66</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>34</u>	% Cover of Biotic Crust <u>0</u>			
Remarks:				

SOIL

Sampling Point: SPX11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 4/2	100					sandy clay loam	
6-10	10 YR 3/2	100					sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX12
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section33 NENE
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.19048865270 Long: -120.46751502900 Datum: NAD83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators observed (see photo 54).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Lepidium perfoliatum</u>	<u>55</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
3. <u>Bromus tectorum</u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> Total Cover				
% Bare Ground in Herb Stratum <u>30</u>	% Cover of Biotic Crust <u>0</u>			

Remarks:

SOIL

Sampling Point: SPX12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 4/2	100					sandy clay loam	
6-12	10 YR 3/2	100					sandy clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX13
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section33 SESE
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.18134186590 Long: -120.46564469600 Datum: _____
 Soil Map Unit Name: Thornlake complex, 0 to 2 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators (see photo 55).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Sarcobatus vermiculatus</u>	<u>10</u>	_____	_____	
2. <u>Ericameria nauseosa</u>	<u>5</u>	_____	_____	
3. <u>Atriplex spinose</u>	<u>3</u>	_____	_____	
<u>18</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>_____</u> = Total Cover				
% Bare Ground in Herb Stratum <u>82</u> % Cover of Biotic Crust <u>0</u>				

Remarks:

SOIL

Sampling Point: SPX13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10 YR 5/2	100					silt	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hardpan

Depth (inches): 8

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX14
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section34 NWSW
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.18287022880 Long: -120.46178657600 Datum: NAD 83
 Soil Map Unit Name: Flagstaff complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: No wetland indicators.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Lepidium perfoliatum</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Sisymbrium altissimum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>	% Cover of Biotic Crust <u>0</u>			

Remarks:

SOIL

Sampling Point: SPX14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10 YR 4/3	100				silty c	silt loam	
6-12	10 YR 4/3	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Vernal Pools (F9) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Mapped NWI	
Remarks:	

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenenergy, LLC State: OR Sampling Point: SPX15
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section34 NESW
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.18434055300 Long: -120.45630782600 Datum: _____
 Soil Map Unit Name: Flagstaff-Playas complex, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			<u>0</u> = Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>45</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>4.6</u>
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Adenostoma fasciculatum</u>	<u>20</u>	Yes	UPL	
2. <u>Ericameria nauseosa</u>	<u>10</u>	No	UPL	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			<u>30</u> = Total Cover	
Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Lepidium perfoliatum</u>	<u>15</u>	Yes	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
			<u>15</u> = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
			<u>0</u> = Total Cover	
% Bare Ground in Herb Stratum <u>55</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX15

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Mapped NWI			
Remarks:			

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX16
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section28 NESE
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.18744489060 Long: -120.45718135500 Datum: NAD 83
 Soil Map Unit Name: Flagstaff-Playas complex, 0 to 1 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetlands indicators observed (see photo 56).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Ericameria nauseosa</u>	<u>2</u>	<u>Y</u>	<u>NOL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
<u>2</u> = Total Cover				
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Lepidium perfoliatum</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
2. <u>Matricaria discoidea</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
8. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOILSampling Point: SPX16**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR/5/3	100					silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):Type: hardpanDepth (inches): 10**Hydric Soil Present?** Yes ☐ No ☒

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Mapped NWI

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenergy, LLC State: OR Sampling Point: SPX17
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T027S R019E Section34 SWNW
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.18737962930 Long: -120.46182917600 Datum: NAD 83
 Soil Map Unit Name: Flagstaff-Playas complex, 0 to 1 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: No wetlands indicators observed (see photo 56).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Ericameria nauseosa</u>	<u>2</u>	<u>Y</u>	<u>NOL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>2</u> = Total Cover Herb Stratum (Plot size: <u>5' x 5'</u>)				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Matricaria discoidea</u>	<u>45</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Sisymbrium altissimum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>55</u> = Total Cover Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover % Bare Ground in Herb Stratum <u>45</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX17**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR3/3	100					silty clay	
8-18	10YR3/2	100					sl clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Archway Solar Energy Project City/County: Lake County Sampling Date: 5/9/2019
 Applicant/Owner: Invenenergy, LLC State: OR Sampling Point: SPX18
 Investigator(s): C. Steinkoenig, PWS, Mia Merck Section, Township, Range: T028S R019E Section09 SENE
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2%
 Subregion (LRR): D Lat: 43.16042911100 Long: -120.465635471 Datum: NAD 83
 Soil Map Unit Name: McConnel gravelly sandy loam, sodic substratum, 0 to 5 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: No wetlands indicators observed (see photo 56).	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20' x 20'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>20' x 20'</u>)				
1. <u>Ericameria nauseosa</u>	<u>15</u>	<u>Y</u>	<u>NOL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5' x 5'</u>)				
1. <u>Matricaria discoidea</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>5</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>10' x 10'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u> % Cover of Biotic Crust <u>0</u>				
Remarks:				

SOIL

Sampling Point: SPX18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/3	100					silty clay	
6-10	10YR4/4	100					sl clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C

Ground-Level Photographs

Project Title: Wetlands and Nonwetland Waters Delineation Report for the Archway Solar Energy Project

Location: Lake County, Oregon

Dates: May 6-10, 2019



Photo ID: Photo 1

Playa ID: Playa 1

Comment: Viewpoint facing northeast.



Photo ID: Photo 2

Playa ID: Playa 1

Comment: Driftlines adjacent to upland margin.



Photo ID: Photo 3

ID: Sample plot SP1-OW-P1

Comment: Soil profile within playa.



Photo ID: Photo 4

Playa ID: Playa 2

Comment: Viewpoint facing north. Slight elevation shift from upland edge to playa. Ordinary high water mark (OHWM) of receding water marks along upland margin.



Photo ID: Photo 5
Playa ID: Playa 3
Comment: Viewpoint facing playa upland margin. Driftlines present.



Photo ID: Photo 6
Playa ID: Playa 3
Comment: Viewpoint facing east. Slight elevation shift from upland edge to playa. Driftlines present as seen in Photo 2.



Photo ID: Photo 7
Playa ID: Playa Mosaic 4
Comment: Viewpoint facing north. Upland mound within playa. Driftlines around mounds.



Photo ID: Photo 8
Playa ID: Playa 5
Comment: Viewpoint facing west. Same OHW indicators as in Playa 3; slight elevation shift from upland edge to playa. Driftlines present.



Photo ID: Photo 9
Playa ID: Playa Mosaic 6
Comment: Viewpoint facing West; Slight elevation shift from upland edge to playa. Driftlines present similar as in Playas 2 and 3.



Photo ID: Photo 10
Playa ID: Playa 6
Comment: Pronounced soil cracks with surface curls.



Photo ID: Photo 11
Playa ID: Playa 7
Comment: Viewpoint facing south, southeast. More typical of Playas 9 to 13. OHW indicators less distinct along playa margins. Less elevation shift if any.



Photo ID: Photo 12
Playa ID: Playa 8
Comment: Viewpoint facing south, southeast. Slight elevation shift from upland edge to playa. Driftlines present, as well as upward curl of mud along cracks.



Photo ID: Photo 13

Comment: Viewpoint looking down. Typical herbaceous upland vegetation area adjacent to greasewood. Note biotic crusts and vegetation



Photo ID: Photo 13

Comment: Viewpoint facing West. Typical upland area: note soil cracking but no other OHWM observed. Some herbaceous upland vegetation growing in area with cracked soil.



Photo ID: Photo 14

Comment: Viewpoint facing east. Example of typical upland area; note soil cracking with herbaceous upland vegetation. No distinct elevation shift around margins or other OHWM.



Photo ID: Photo 15

Comment: Viewpoint facing east. Upland area. Typical greasewood community north section of Project area.



Photo ID: Photo 16

Comment: Viewpoint facing north. Typical upland greasewood community midsection of Project area



Photo ID: Photo 16

Playa ID: Playa Mosaic 9

Comment: Viewpoint facing west, northwest. OWH indicator includes shift in elevation along playa margin and some driftlines along the edge. Note ant mound in upland. Typical indicator found in Playas 9 to 11.



Photo ID: Photo 17

Playa ID: Playa Mosaic 9

Comment: pH test strip indicating a soil pH of 9.0.



Photo ID: Photo 18

Playa ID: Playa Mosaic 12

Comment: Viewpoint facing along margin of playa. Slight shift in elevation of playa to more depressional. OWHM observed next to biotic crust found in upland area.



Photo ID: Photo 18

Playa ID: Playa Mosaic 12

Comment: Viewpoint facing east; Slight shift in elevation of playa to more depressional. OHWM observed next to biotic crust which was always found on upland area.



Photo ID: Photo 19

Playa ID: Playa Mosaic 13

Comment: Viewpoint facing south east. Typical of Playas 14 and 15.



Photo ID: Photo 19

Playa ID: Playa Mosaic 13

Comment: Viewpoint playa/upland margin. Water mark adjacent to biotic crust on upland.



Photo ID: Photo 20

Playa ID: Playa Mosaic 16

Comment: Viewpoint facing west. Large isolated mounds with waterlines around base. Mounds likely relic dunes.



Photo ID: Photo 21
Playa ID: Northeastern edge of Playa Mosaic 16
Comment: Viewpoint facing west. Start of sand dunes; note lunate dune features.



Photo ID: Photo 22
Playa ID: Playa Mosaic 17
Comment: Viewpoint facing west. Cracks large 10 x 12 inches. OHWM subtler. See Photo 23.



Photo ID: Photo 23
Playa ID: Playa Mosaic 17
Comment: View of upland edge and playa margin. Waterline extends to edge of biotic crust.



Photo ID: Photo 24
Comment: Viewpoint facing east, northeast. The start of dunes and relic lunettes that extend east and south of the Project area. No OHWM observed in area below dunes.



Photo ID: Photo 25

Playa ID: Playa Mosaic Playa 18

Comment: Viewpoint facing down. This is a large playa mosaic complex that extends to the north. OHWM consist of waterlines adjacent to the upland biotic crust.



Photo ID: Photo 26

Comment: Viewpoint facing south. Upland south of Playa Mosaic 18. Vegetation denser and no OHW indicators observed.



Photo ID: Photo 27

Playa ID: Playa Mosaic 18

Comment: Viewpoint facing north. Driftline along playa edge.



Photo ID: Photo 28

Playa ID: Playa Mosaic 18

Comment: Viewpoint facing west. OHWM includes clear shift in elevation and driftlines.



Photo ID: Photo 29

Playa ID: Northern edge of Playa Mosaic 18.

Comment: Viewpoint facing north at edge of playa looking outside of limit to nonwater areas.



Photo ID: Photo 30

Comment: Viewpoint facing north. Typical vegetated upland of greasewood, sage community.



Photo ID: Photo 31

Comment: Viewpoint facing north. Typical unvegetated area with cracked soils. No OHW indicators observed.



Photo ID: Photo 32

Comment: Viewpoint facing north. No OHW indicators observed.



Photo ID: Photo 32

Comment: Viewpoint facing south. No OHW indicators observed.



Photo ID: Photo 33

Comment: Viewpoint looking at sample point SPX20. No wetland or OHW indicators observed.



Photo ID: Photo 34

Comment: Viewpoint facing north. No OHW indicators observed.



Photo ID: Photo 34

Comment: Viewpoint facing south. No wetland or OHW indicators observed.



Photo ID: Photo 35

Comment: Viewpoint facing down. Margin with biotic crust next to sage and on cracked surface with no OHW indicators observed.



Photo ID: Photo 35

Comment: Viewpoint facing north, northeast, and east. No OHW indicators observed.



Photo ID: Photo 36

Comment: Viewpoint facing north, northeast. No OHW indicators observed.



Photo ID: Photo 37

Comment: Viewpoint facing southeast. No OHW indicators observed.



Photo ID: Photo 38

Comment: Viewpoint facing north. General perspective of southern end of Project area.



Photo ID: Photo 39

Comment: Viewpoint facing southeast. Start of sand dunes at southern end.



Photo ID: Photo 40

Comment: Viewpoint facing north. Sand dune area. No OHW indicators observed.



Photo ID: Photo 41

Comment: Viewpoint facing southeast. Sand dune area. No OHW indicators.



Photo ID: Photo 42

Comment: Viewpoint facing north. Sand dune area. No OHW indicators.



Photo ID: Photo 43

Comment: Viewpoint facing southeast. No OHW indicators observed.



Photo ID: Photo 44

ID: SPX1 (mapped National Hydrography Dataset [NHD] feature)

Comment: Viewpoint facing north. Depressional area adjacent to mapped National Wetlands Inventory (NWI) location. Upland area with no wetland indicators.



Photo ID: Photo 45

ID: SPX2 (mapped NHD feature)

Comment: Viewpoint facing north. Depressional area adjacent to mapped NWI. Upland area with no wetland indicators.



Photo ID: Photo 46
ID: SPX2a (mapped NWI feature)
Comment: Viewpoint facing north. Upland area consisting of sage shrub-steppe area with no wetland indicators.



Photo ID: Photo 47
ID: SPX3 (mapped NHD feature)
Comment: Viewpoint facing north. Upland area with no wetland indicators.



Photo ID: Photo 48
ID: SPX4a (mapped NWI feature)
Comment: Viewpoint facing south. No wetland indicators.



Photo ID: Photo 49
ID: SPX5 (mapped NWI feature)
Comment: Viewpoint facing east. No wetland indicators. Area in relic pivot area and is heavily grazed.



Photo ID: Photo 50
ID: SPX6a (mapped NWI feature)
Comment: Viewpoint facing north. No wetland indicators. Area in relic pivot area and is heavily grazed.



Photo ID: Photo 51
ID: SPX7a (mapped NWI feature)
Comment: Viewpoint facing east. No wetland indicators. Area in relic pivot area and is heavily grazed.



Photo ID: Photo 52
ID: SPX7b (mapped NWI feature)
Comment: Viewpoint facing west. No wetland indicators. Area in relic pivot area and is heavily grazed.



Photo ID: Photo 53
ID: SPX8 (mapped NWI feature)
Comment: Viewpoint facing east. No wetland indicators. Area in relic pivot area and is heavily grazed.



Photo ID: Photo 54
ID: SPX11 (mapped NWI feature)
Comment: Viewpoint facing east. Upland herbaceous and no wetland indicators. Area in relic pivot area and is heavily grazed.



Photo ID: Photo 55
ID: SPX13 (mapped NWI feature)
Comment: Viewpoint facing south. No wetland indicators or OHW indicators.



Photo ID: Photo 55
ID: SPX13 (mapped NWI feature)
Comment: Viewpoint facing pH strip showing soil pH 9.0



Photo ID: Photo 56
ID: SPX16 (mapped NWI feature)
Comment: Viewpoint facing east. No wetland indicators or OHW indicators.



Photo ID: Photo 57

ID: SPX17

Comment: Viewpoint facing north. Typical upland view of relic pivot area that is heavily grazed.



Photo ID: Photo 57

ID: SPX17

Comment: Viewpoint facing east. Typical upland view of relic pivot area that is heavily grazed.



Photo ID: Photo 58

ID: SPX18

Comment: Viewpoint facing south. Sample point taken in Thornlake complex 0-2 percent soils unit.



Photo ID: Photo 59

Comment: Viewpoint facing south. Sample point taken in Thornlake complex 0-2 percent soils unit. Habitat shift from greasewood to sage and green rabbitbrush.

Appendix D
Additional Information
Agency Correspondence.

2020 SW Fourth Avenue, Suite 300
Portland, Oregon 97201
United States
T +1.503.235.5000
F +1.503.736.2000
www.jacobs.com

Subject	Oregon Department of State Lands Jurisdiction Guidance for Playas
Client	Invenergy Solar Development North America LLC
Date	Telephone Call: May 15, 2019, 3:00 p.m. Pacific Submittal: August 26, 2019
Project Name	Archway Solar Energy Project, Lake County, Oregon
Project Number	704737CH.E2.02.02
Documented by	Claudia Steinkoenig, PWS, Jacobs
Call Received from	Lynne McAllister, Jurisdiction Coordinator, Oregon Department of State Lands 503.508.2126
Copies to	Paul Seilo, Jacobs

Lynne McAllister returned Claudia Steinkoenig's telephone call regarding determining the jurisdiction of playas in Oregon.

Some guidance for delineating **playa wetlands and lakes** is offered in the *Regional Supplement to the Corps of Engineers Manual: Arid West Region* (Version 2) (USACE, 2008). Many playas fail the three-factor wetland test, and the area must be examined for ordinary high water (OHW) indicators.

Ms. McAllister stated that there is no **specific** guidance for delineating OHW of playas **beyond the OHW indicators provided in the Oregon Administrative Rule (OAR) and DSL's Removal/Fill Guide (RFG)**. The U.S. Army Corps of Engineers has published a literature review on playas, and there are some additional **literature sources available about playas**. Additionally, much of the high desert areas in central Oregon contain bare areas (unvegetated) that are surrounded by upland vegetation that may have some surface cracking along with some salt deposits **distributed in patterns that do not represent a high-water mark**. If these areas do not have other distinct OHW indicators, **as defined in the OAR/RFG**, DSL does not consider these features jurisdictional, **until which time better guidance is developed**.

Playas with large open areas and a minimal amount of upland mounded areas **[but this is subjective—see note below]** and that have clearer OHW indicators such a drift lines at the margins, could be considered jurisdictional as other water of the state. Ms. McAllister recommends photo-documenting evidence of potential OHW indicators to assist in determining the potential jurisdiction of a feature.

Note: There is great variation from site to site and we can't generalize. The size of open areas or the number of upland mounds does not necessarily define a waterbody. On the phone I suggested that although areas most likely to exhibit OHW indicators may be the larger playa barrens, smaller areas with mounds may also exhibit distinct water line indicators. Therefore, the entire study area should be investigated. Until better information and guidance are available, use the indicators in OAR and the Removal-Fill Guide, for example drift lines, impression on the shore, concentric rings made by receding water. Algal crusts should also be considered in areas of sparse vegetation if they are associated with features like a landform, elevation change, or distinct polygon where a distinct shoreline impression may be absent or obscure.

2020 SW Fourth Avenue, Suite 300
Portland, Oregon 97201
United States
T +1.503.235.5000
F +1.503.736.2000
www.jacobs.com

Subject	U.S. Army Corps of Engineers Jurisdiction Guidance for Playas
Client	Invenergy Solar Development North America LLC
Date	Telephone Call: May 15, 2019 Submittal: August 26, 2019
Project Name	Archway Solar Energy Project, Lake County, Oregon
Project Number	704737CH.E2.02.02
Documented by	Claudia Steinkoenig, PWS, Jacobs
Call Received from	Benny A. Dean Jr., Regulatory Project Manager, Eugene Field Office, U.S. Army Corps of Engineers, 541.465.6769
Copies to	Paul Seilo, Jacobs

Claudia Steinkoenig contacted Mr. Dean regarding the jurisdiction of playas located in the Christmas Valley area in Oregon. Mr. Dean replied that those features do not have hydric soils or a hydrophytic plant community; therefore, they are similar to puddles and the U.S. Army Corps of Engineers does not consider these features jurisdictional. The playa features would need to be within the floodplain of a tributary and have a direct hydrological connection to the tributary (a drainage or ditch) that flows to a water of the United States.

Appendix E

Literature Cited

Appendix E. Literature Cited

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2020 SW Fourth Avenue, Suite 300
Portland, Oregon 97201
United States
T +1.503.235.5000
www.jacobs.com

Subject Responses to Questions and Comments from the Oregon Department of State Lands on the Wetlands and Nonwetland Waters Delineation Report WD2020-0127

Project Name Archway Solar Energy Project, Lake County, Oregon

Attention Lynne McAllister/Oregon Department of State Lands

From Claudia Steinkoenig, PWS/Jacobs

Date August 13, 2020

Copies to Laura Miner/Archway Solar Energy LLC
Jamie Wilson/Archway Solar Energy LLC
Paul Seilo/Jacobs

This technical memorandum (TM) provides information in response to questions and comments received from the Oregon Department of State Lands (DSL) in the agency's review of the *Wetlands and Nonwetland Waters Delineation Report for the Archway Solar Energy Project* (wetland delineation report). The questions and comments were received via email from Ms. Lynne McAllister/DSL on June 4, 2020.

Background

Jacobs Engineering Group Inc. (Jacobs) was contracted by Archway Solar Energy LLC to conduct a wetlands and nonwetland waters delineation for the potential development of the Archway Solar Energy Project (project; site), a photovoltaic solar energy generation facility in north-central Lake County, Oregon. The wetland delineation report was submitted to DSL on March 5, 2020. The report was given casefile number WD2020-0127.

Contents

This TM responds to six questions and comments received from DSL via email on June 4, 2020 and supplements the original wetland delineation report. In support of the responses, additional information is submitted in the following attachments to this TM:

- Attachment 1 – Revised Figures 2 and 6
- Attachment 2 – SPX19 Wetland Determination Data Form
- Attachment 3 – Ground-level Photo Log for Points 60-68

Responses to DSL Review Questions and Comments

Each DSL question and comment is in italics, followed by the response from Archway Solar Energy LLC.

- 1. Per OAR, because the study area contains some partial tax lots, please overlay the tax lot layer on the delineation maps.*

RESPONSE: As requested, the tax lot layer has been overlaid on the delineation maps (see the updated Figure 6 included in Attachment 1 to this memo).

- 2. For the 2 no-access tax lots, you did not delineate with offsite methods; therefore, per guidance for large or linear projects, please indicate on delineation maps that these areas were not delineated by adding “not delineated” that to the legend for the hatch pattern. These areas will not receive concurrence.*

RESPONSE: As requested, the legend for Figure 6 has been updated to include “Not Delineated” to the hatch pattern (see the updated Figure 6 included in Attachment 1 to this memo). In addition, since submittal of the original March 2020 wetland delineation report, an access road was added to the study area and evaluated on July 29, 2020. Figures 6-KK and 6-LL have been updated to include the access road as the only additional area added to the study area since the original March 2020 wetland delineation report. The remaining surrounding area is still hatched as “No access – Not Delineated”. No playas, wetlands or other non-wetland waters were observed; see data form for sampling point SPX19 in Attachment 2 and photo points 65-68 in Attachment 3.

- 3. Since the tax map is not the required assessors map from the Oregon Map web site, please present the parcels along with the tax map number for each tax lot. Use the tax map numbers from the second table on the page following the cover sheet in the report.*

RESPONSE: As requested, the tax map provided as Figure 2 has been updated to include parcels and the tax map numbers from the table following the cover sheet in the original wetland delineation report (see the updated Figure 2 included in Attachment 1 to this memo).

- 4. Please explain how you estimated the precision of the study area boundary where it doesn’t follow tax lot lines. Per OAR, the accuracy statement should include an estimate for the study area boundary. I can see that the irregular outline appears to follow straight-line extensions (North-south or East-west) of adjacent or distant tax lot boundaries (reflecting a grid pattern). Is that how the SA boundaries were drawn where they don’t follow a parcel boundary? Please explain. Per OAR, the map accuracy statement should include the accuracy/precision of the study area boundary.*

RESPONSE: That is correct, in areas where the study area boundary deviates from tax lot lines, the project proponent simply extended the study area boundary straight north to south or east to west. In some cases, such as shown on Figures 6-B and 6-C, this deviation was done to reflect a setback from neighbor’s property.

- 5. On map 6-W, there is a hydric soil unit that wasn’t sampled as required in OAR, or photographed (it is the only one in the study area). It surrounds the north end of Playa 12. The unit extends off site to the north and there is a definite signature to it, although the vegetation doesn’t look a whole lot different. The screenshot below shows a red circle around an area that consistently is darker in historical aeriels and appears to feed into playa 12. Please describe what you observed there, and why no plot in this soil unit.*

RESPONSE: The initial absence of the hydric sample plot was an oversight and a sample point for this hydric soil unit has been collected. See data form # SPX19 in Attachment 2 to this memo and updated Figure 6-W in Attachment 1. This area was sampled on July 29, 2020. No evidence of wetlands or nonwetland waters was observed in this area. The darker areas on the aeriels consists of upland shrubs that include *Artemisia longloba*, *Ericameria nauseosa* and *Sarcobatus vermiculatu*. No distinct flow path

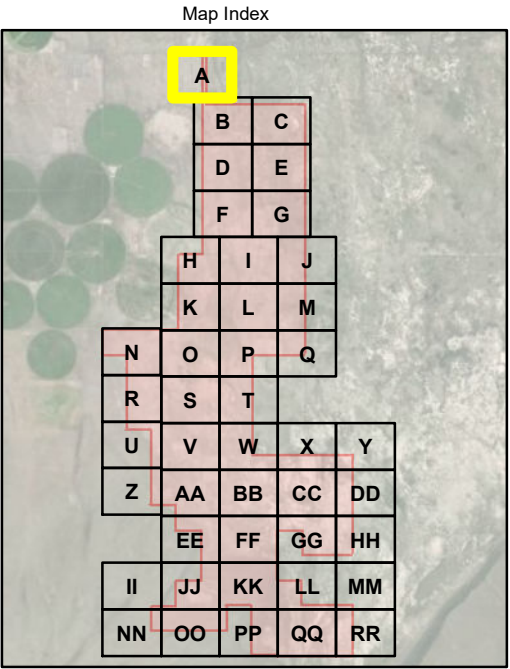
was visible on the ground nor were any hydrologic indicators or ordinary high water (OHW) mark observed in this area. See photo 64 in Attachment 3 to this memo.

- 6. *In the north-central part of the site (in general, between photos 14 and 15), there are a number of small open areas appearing similar to others you have mapped as playas but with no photos or plots (Maps 6-C and 6-E). Please describe these areas and how they compare to the features documented in photos 14 and 15. Did you check them all and find no OHW indicators? There are a few more areas west of photo 16 on map 6-G. Were these represented by photo 16.***

RESPONSE: During the original wetland delineation field survey, the entire project area was walked in transects by teams of both wetland and wildlife biologists. No photos were originally taken for these areas you reference because no OHW indicators were observed and vegetation was typical of the greasewood community found in this area. These areas were revisited in July 2020 and photos taken (see photos 60-62 in Attachment 3 to this memo and updated Figures 6-C and 6-E in Attachment 1). No additional playas with OHW marks were observed. Many of these scattered, open areas have a biotic crust within the open areas which was only observed in upland areas where playas had been identified. Also, ant mounds were observed on the open areas which also had been seen only in upland areas. These same conditions were observed in the areas west of photo 16 (see photo 63 in Attachment 3 to this memo and Figure 6-G in Attachment 1).

Attachment 1

Figures



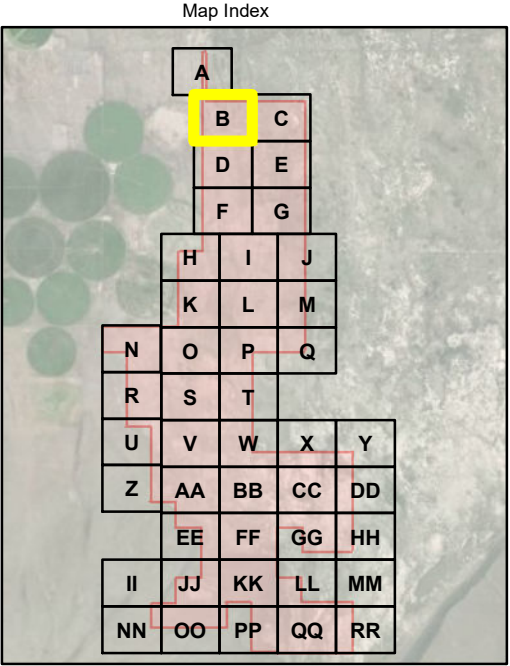
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- A
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



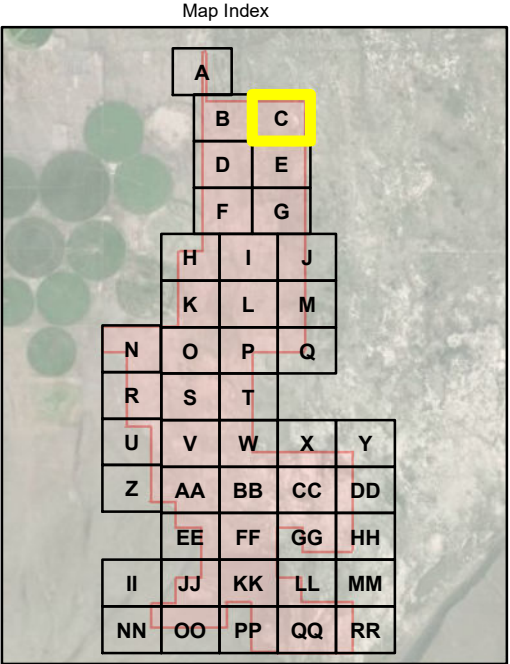
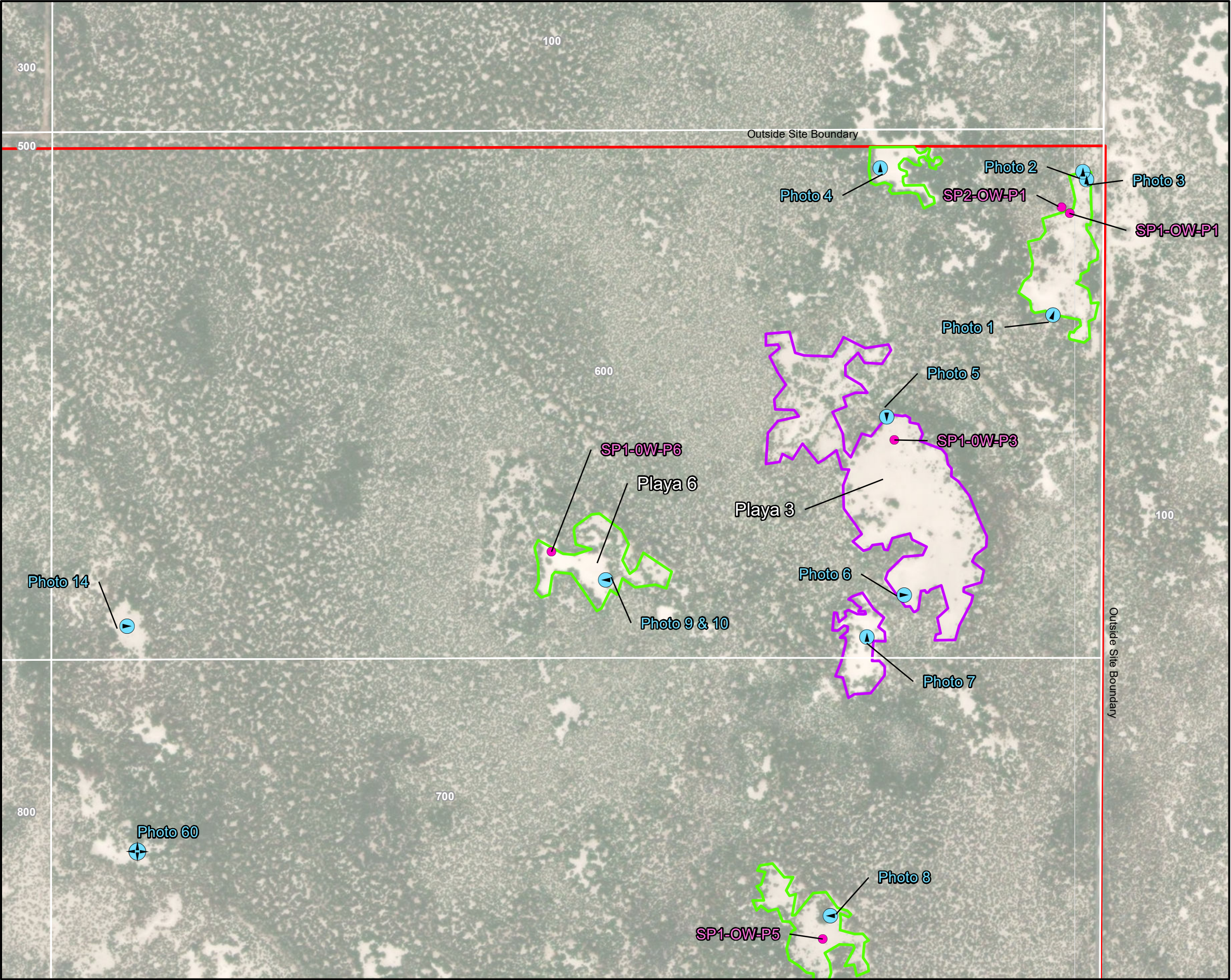
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- B
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



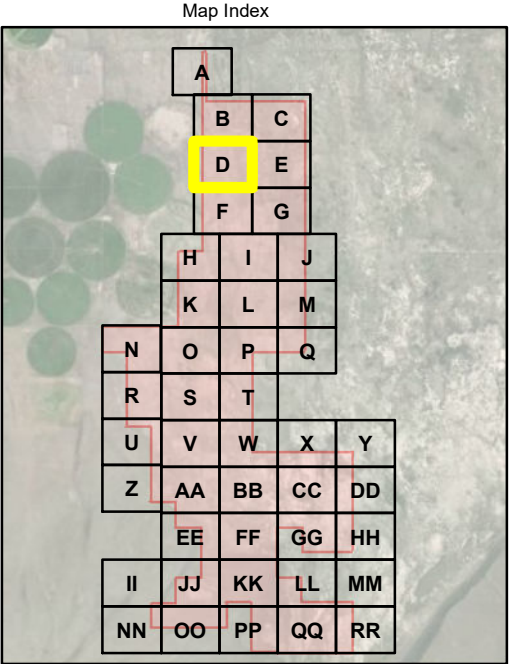
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- Sample Point
- ⓘ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- C
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



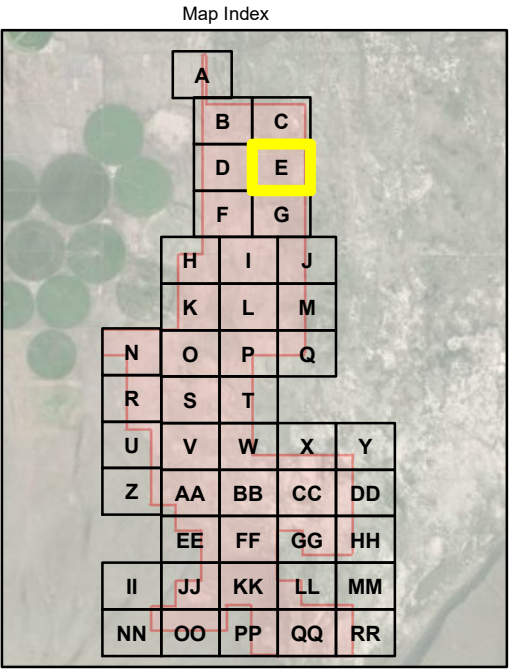
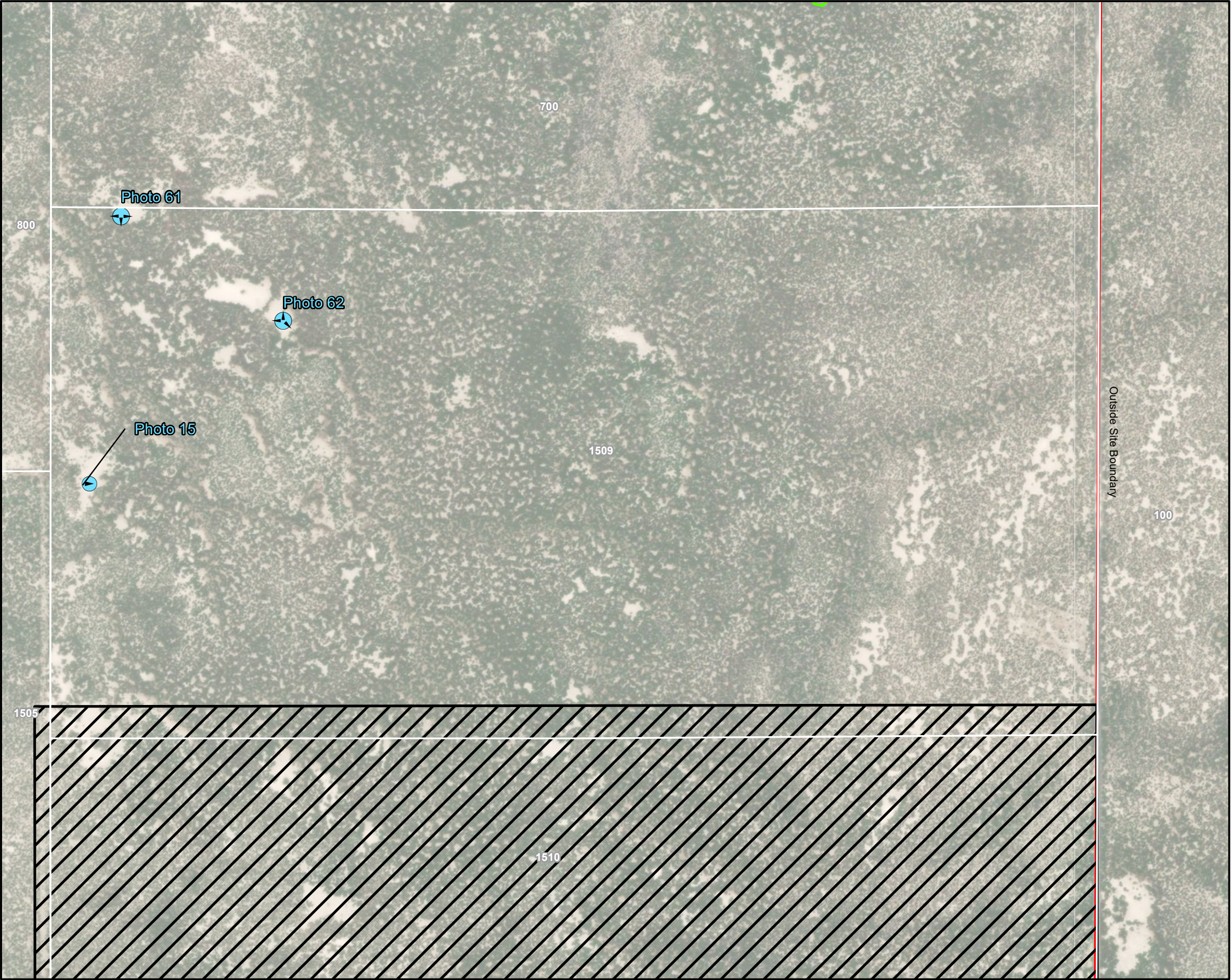
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- Sample Point
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- D
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



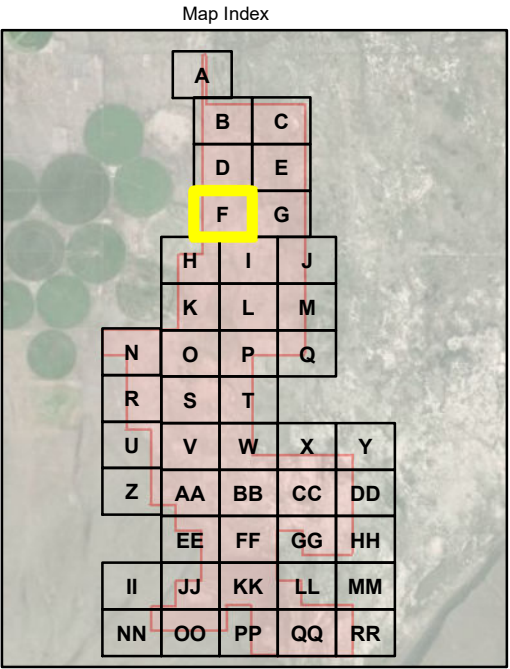
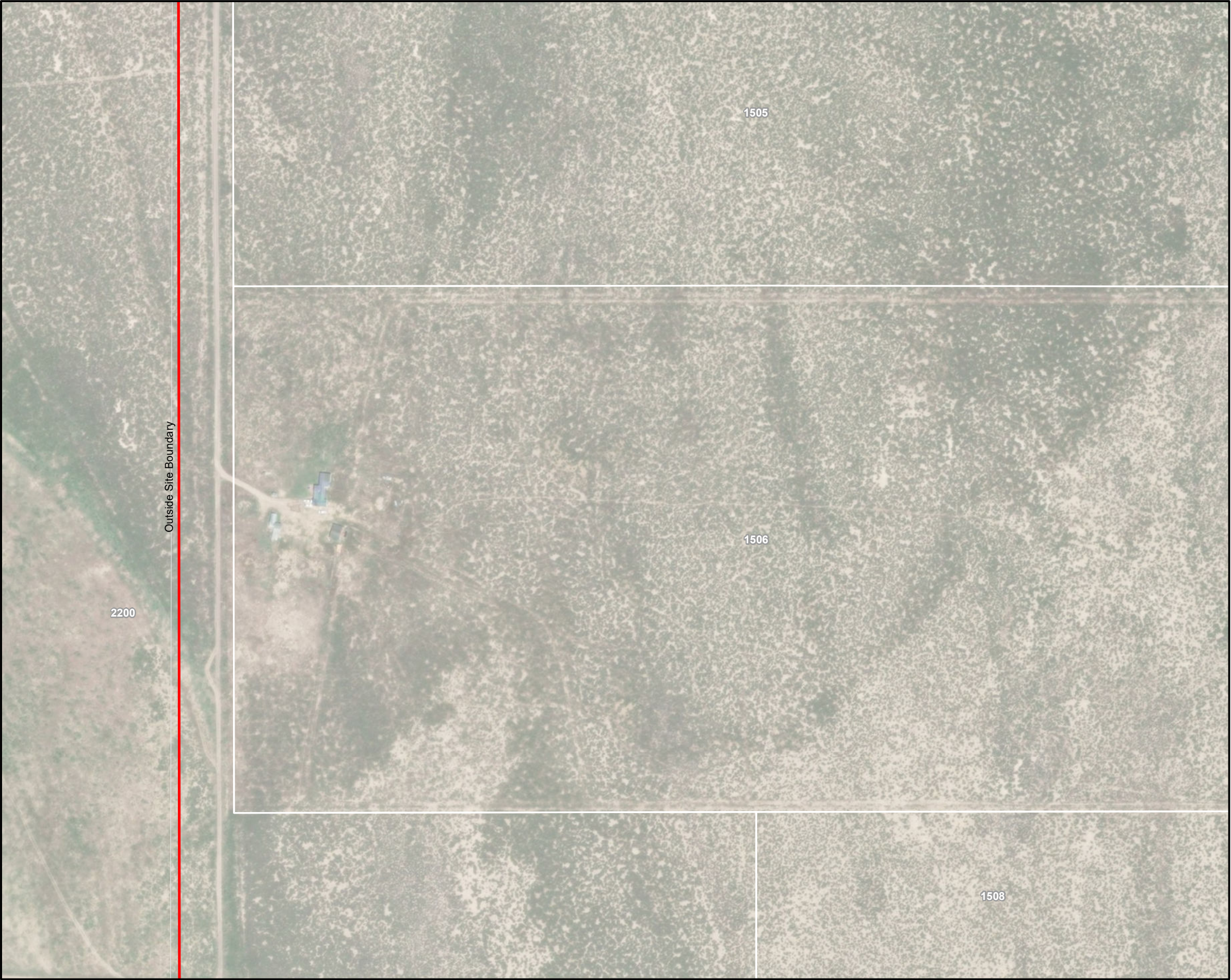
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Figure 6- E
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



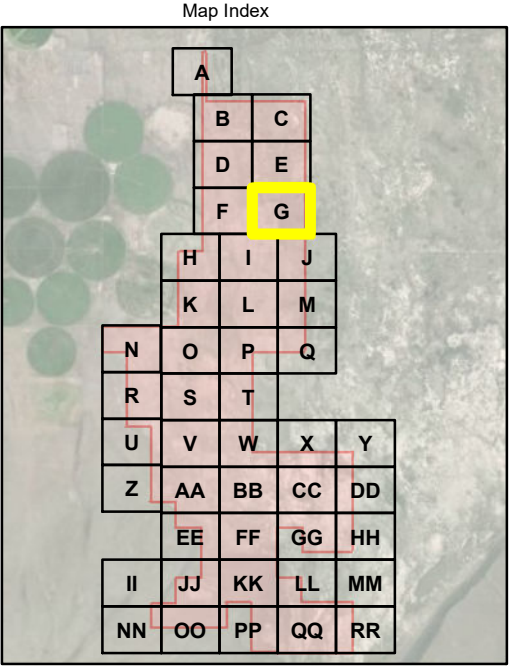
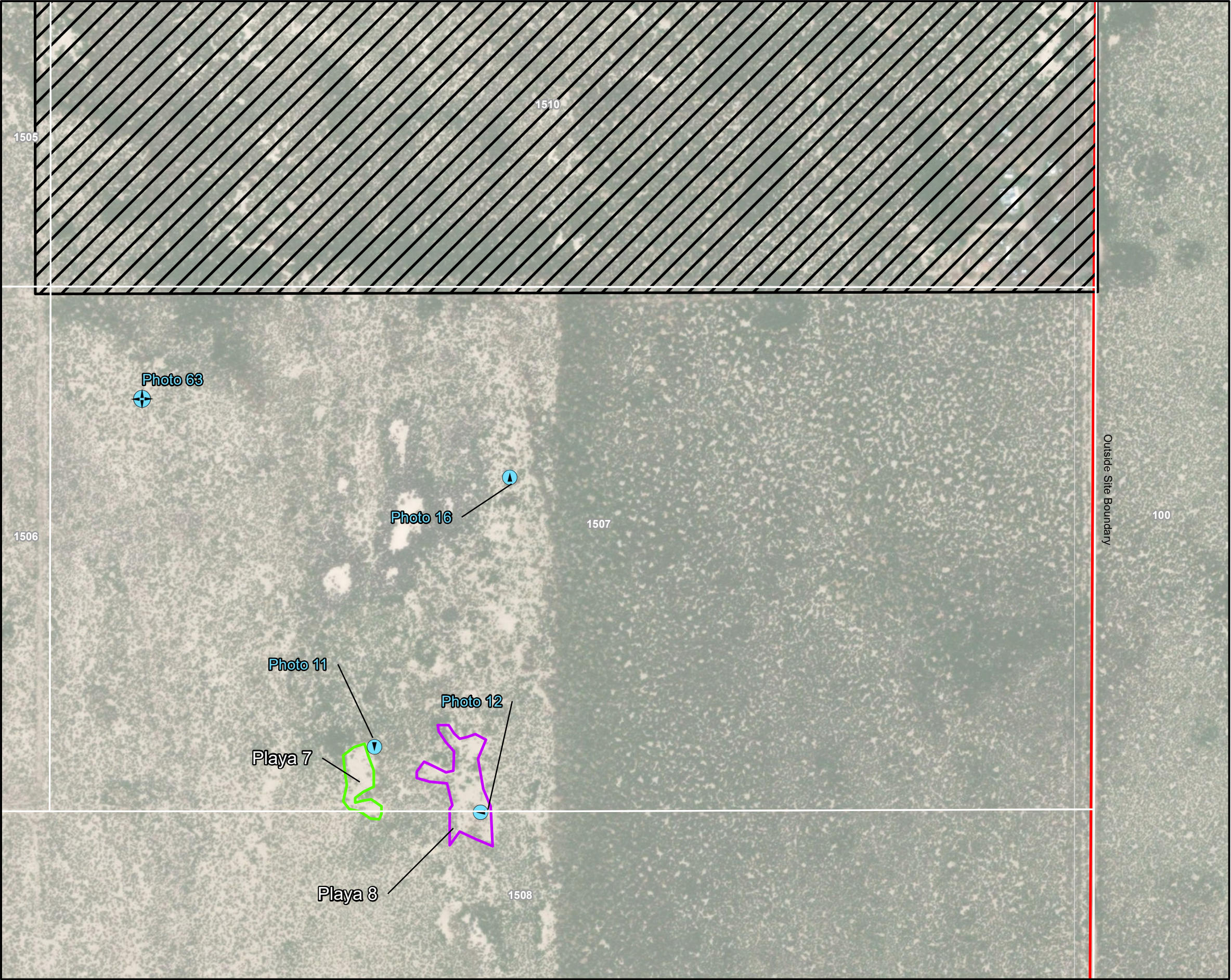
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- F
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



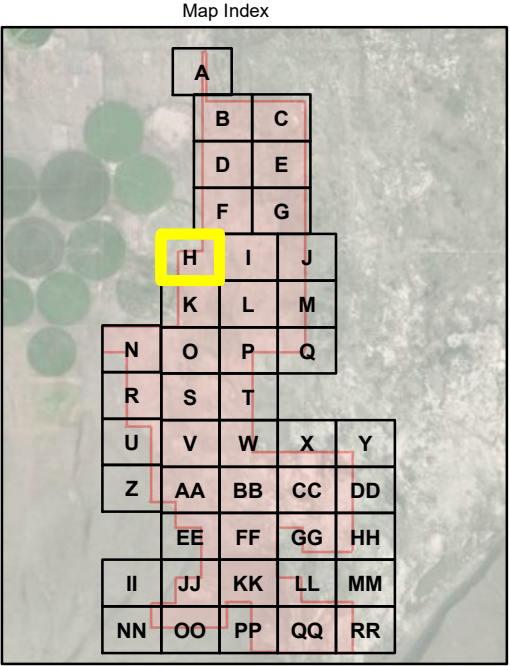
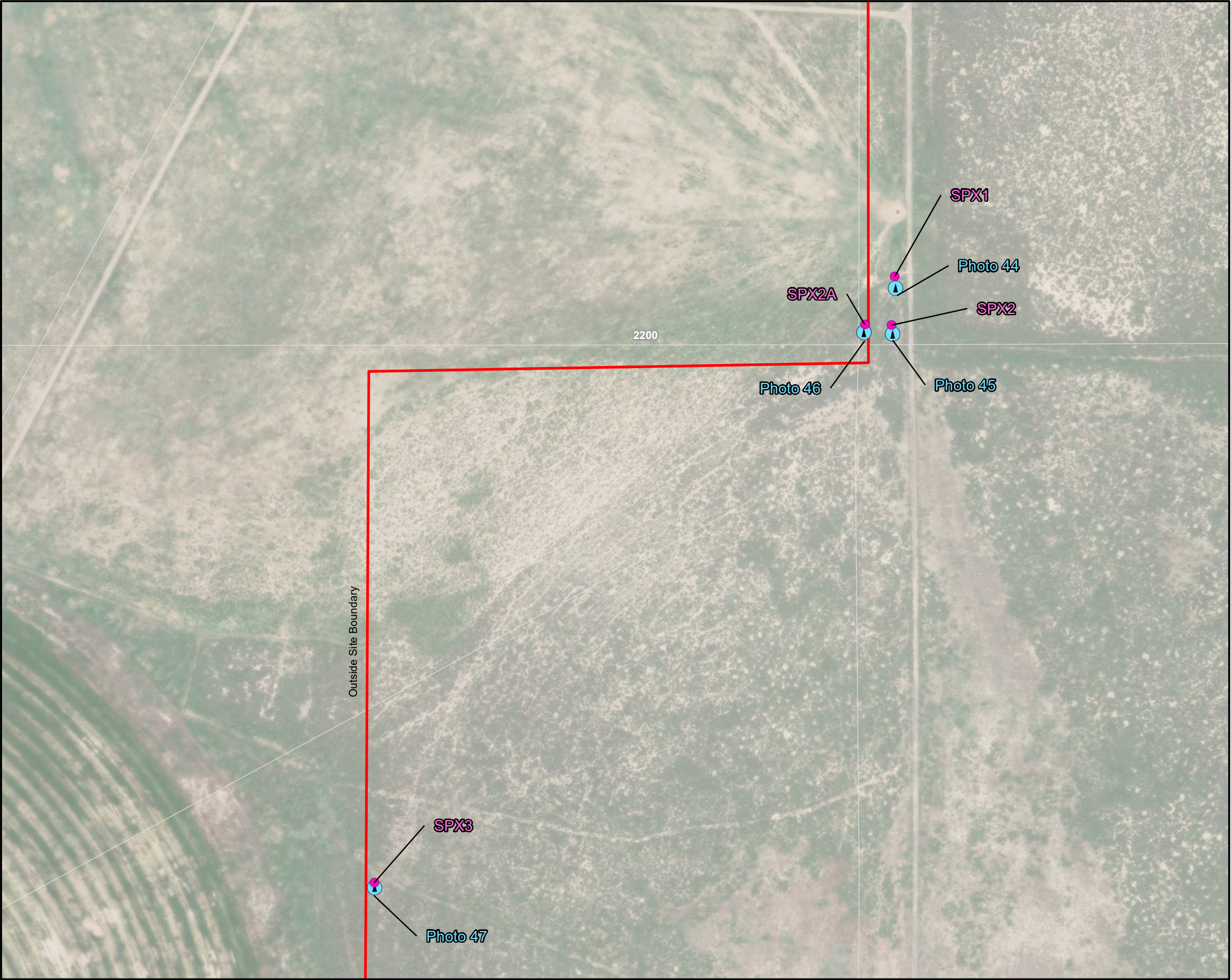
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- G
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



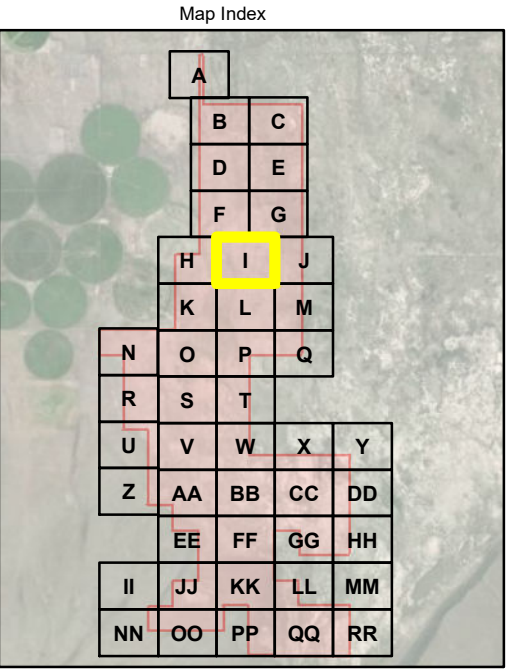
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- ▭ Playa Barrens
- ▭ Playa Mosaic
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- H
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



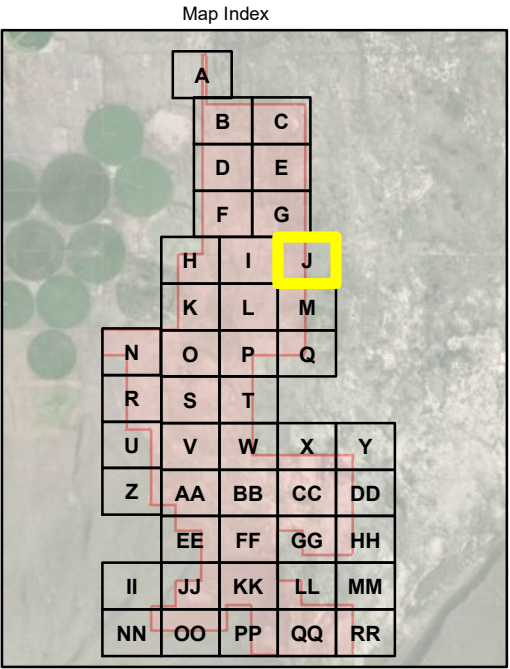
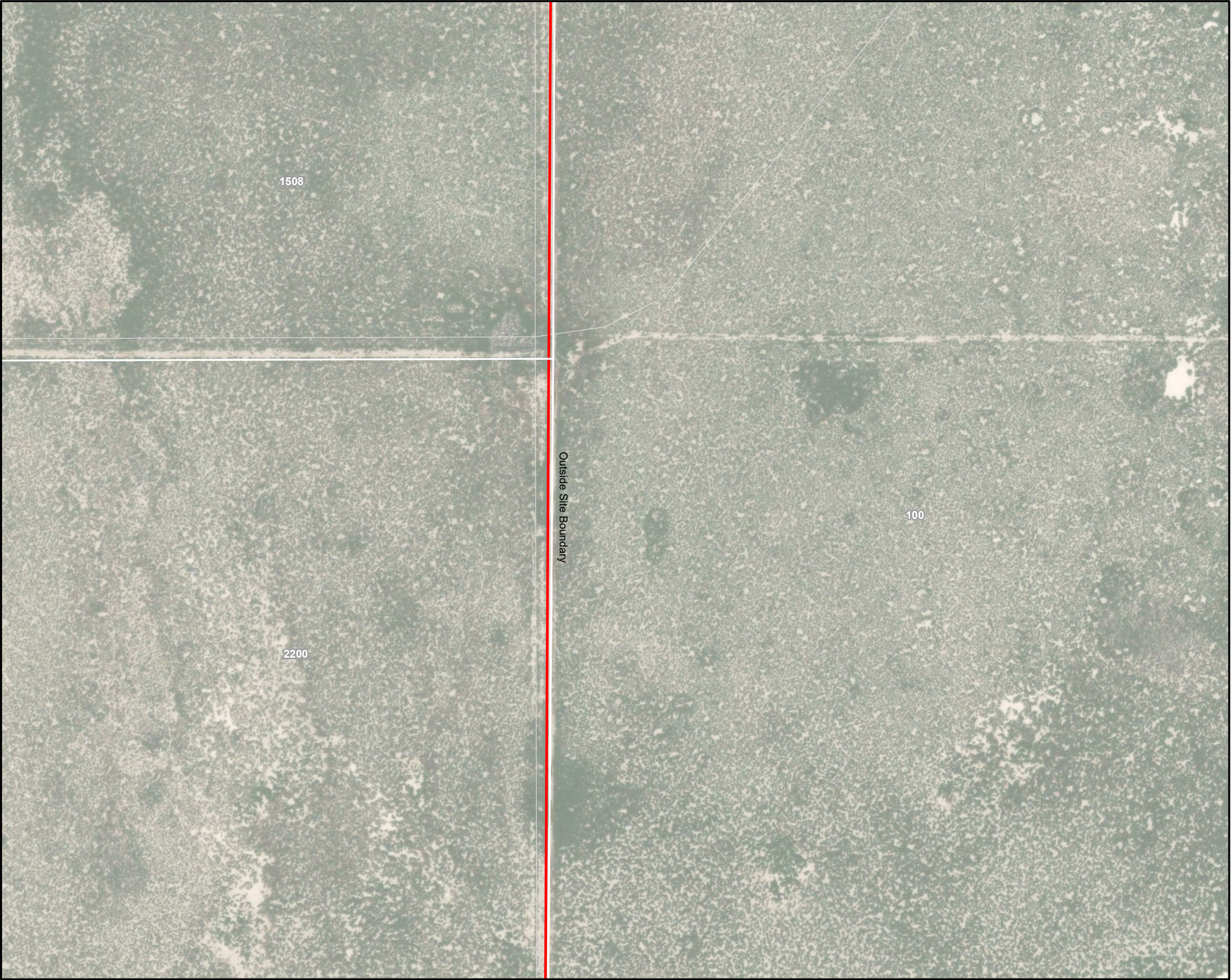
LEGEND

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- I
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



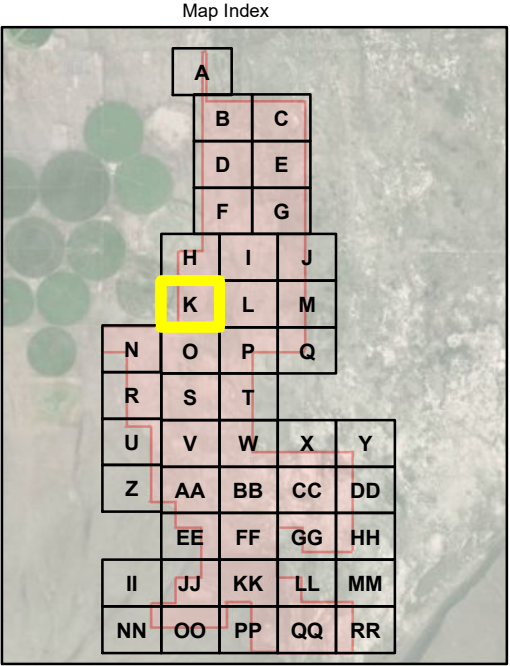
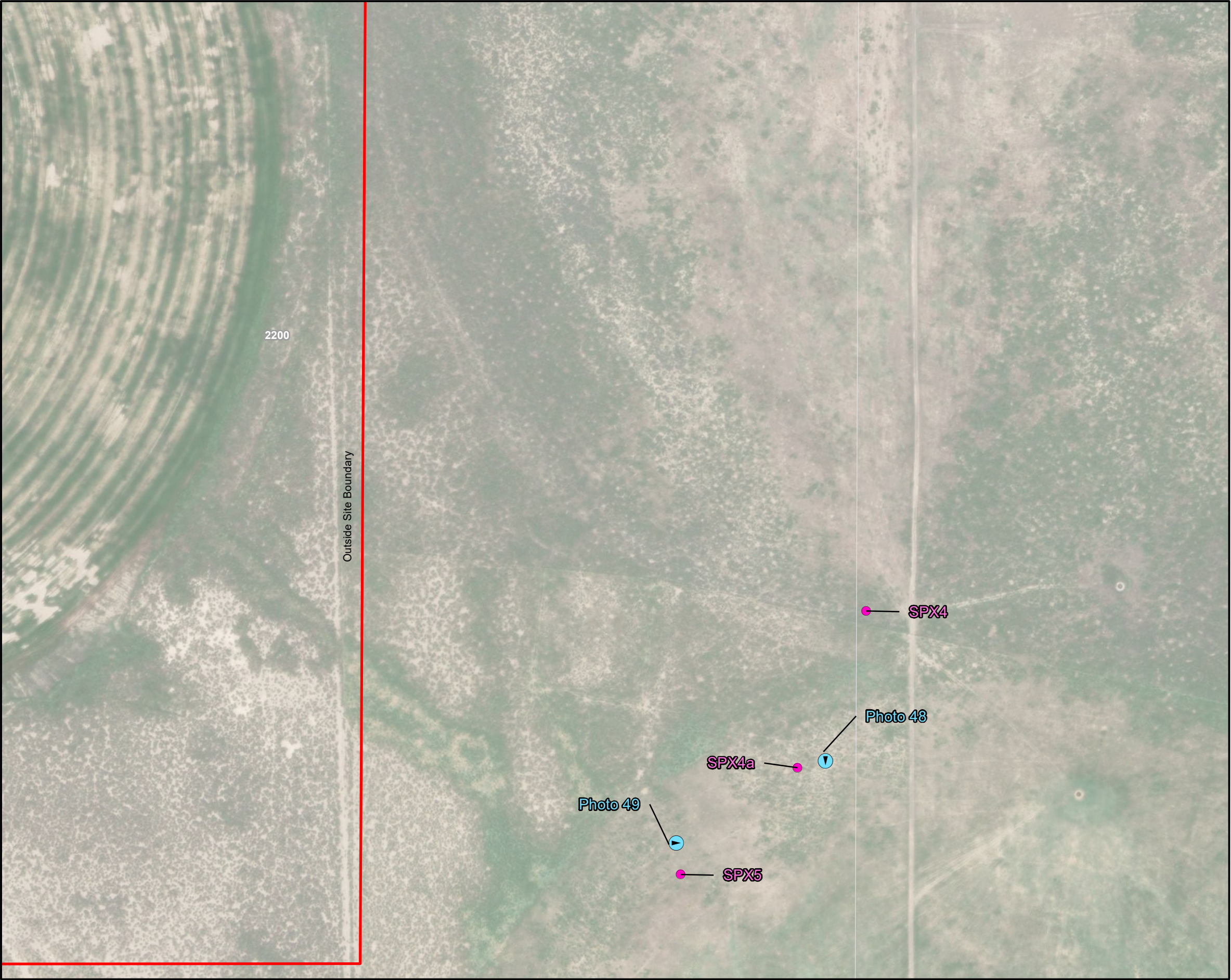
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Figure 6- J
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



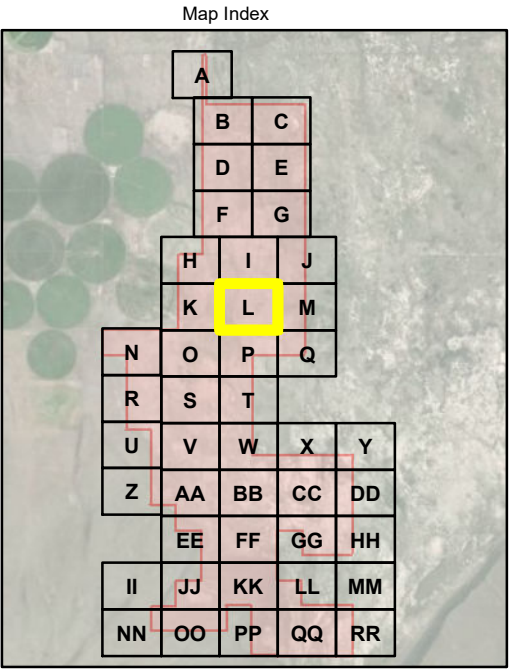
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- ⬆ Photo Point (with direction)
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Figure 6- K
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



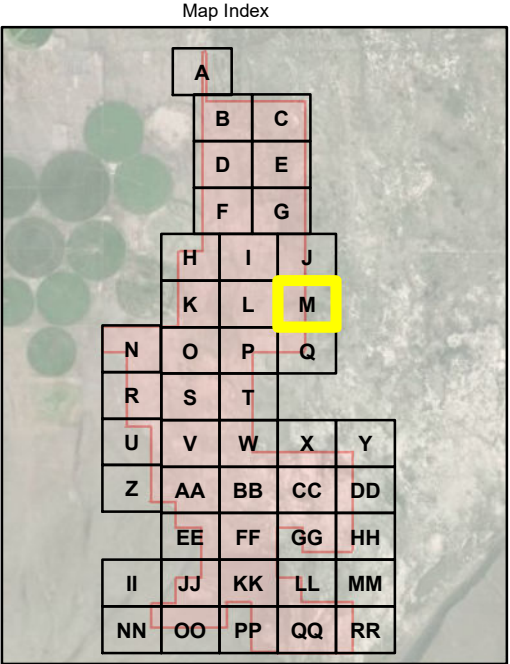
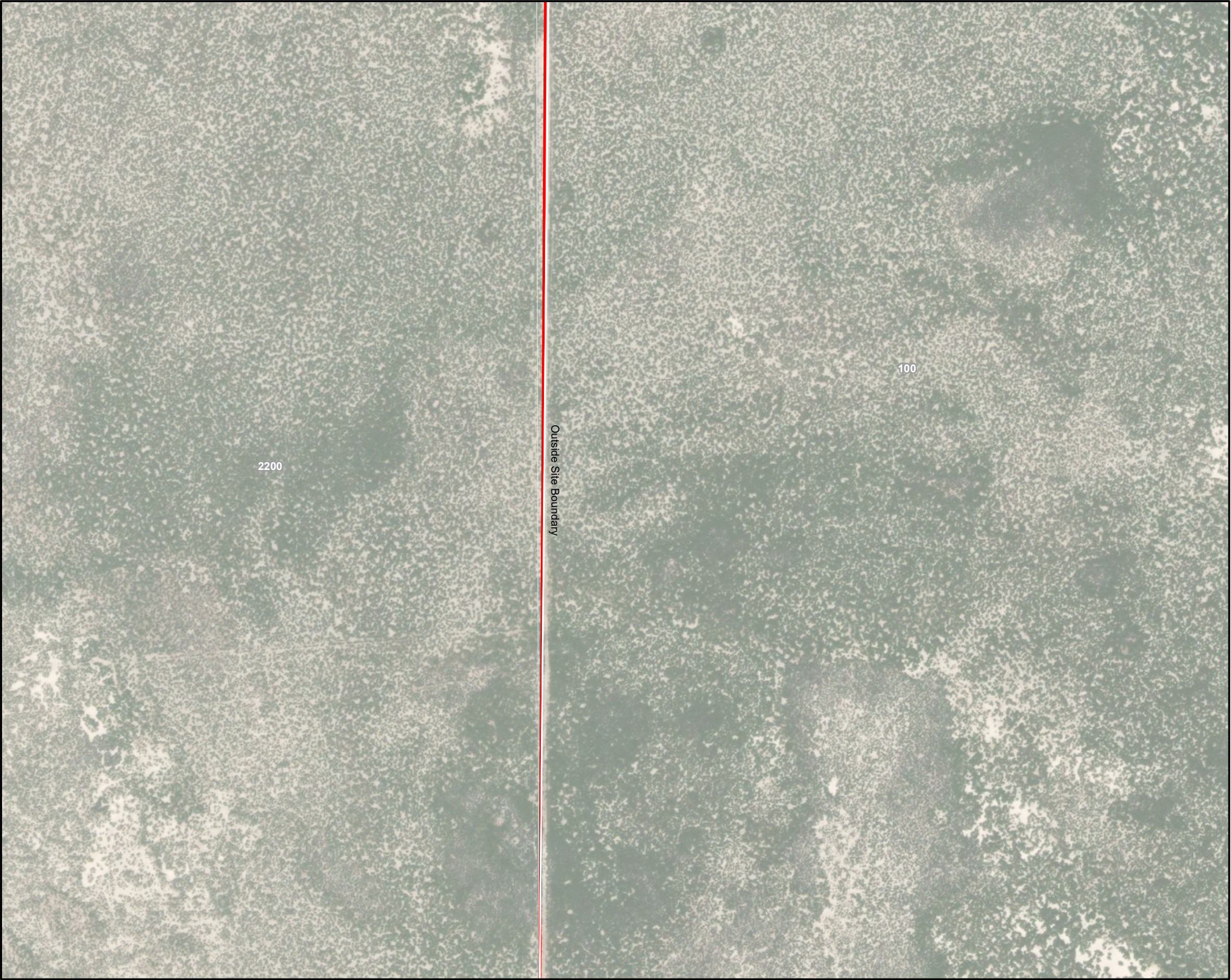
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Figure 6- L
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



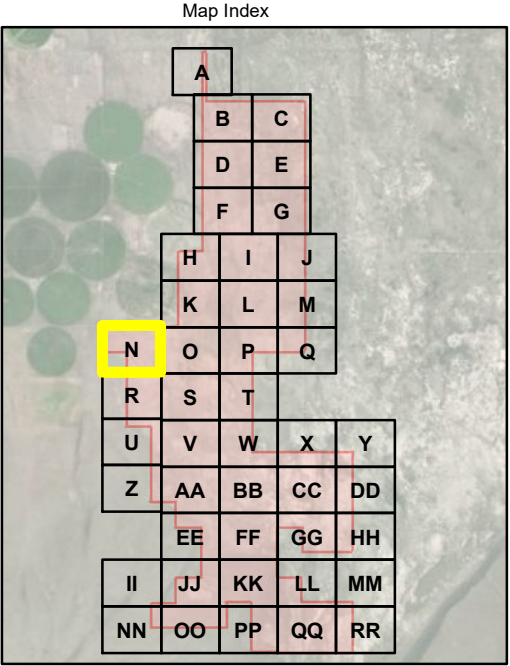
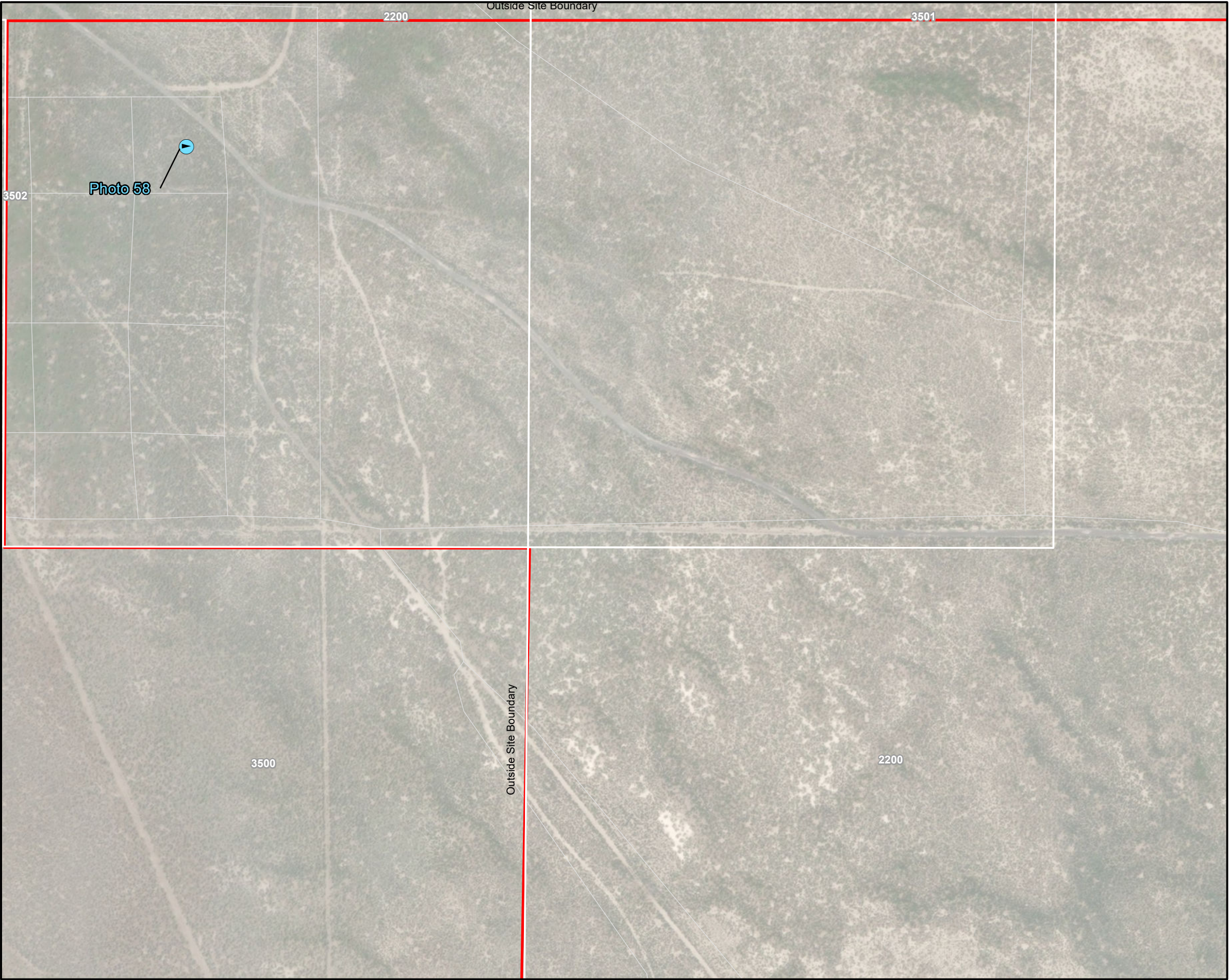
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- Sample Point
- ⬆ Photo Point (with direction)
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- ▭ Playa Mosaic
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Figure 6- M
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



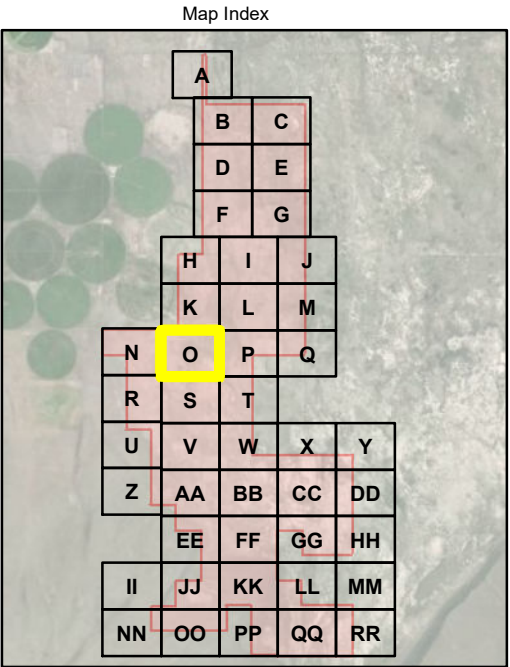
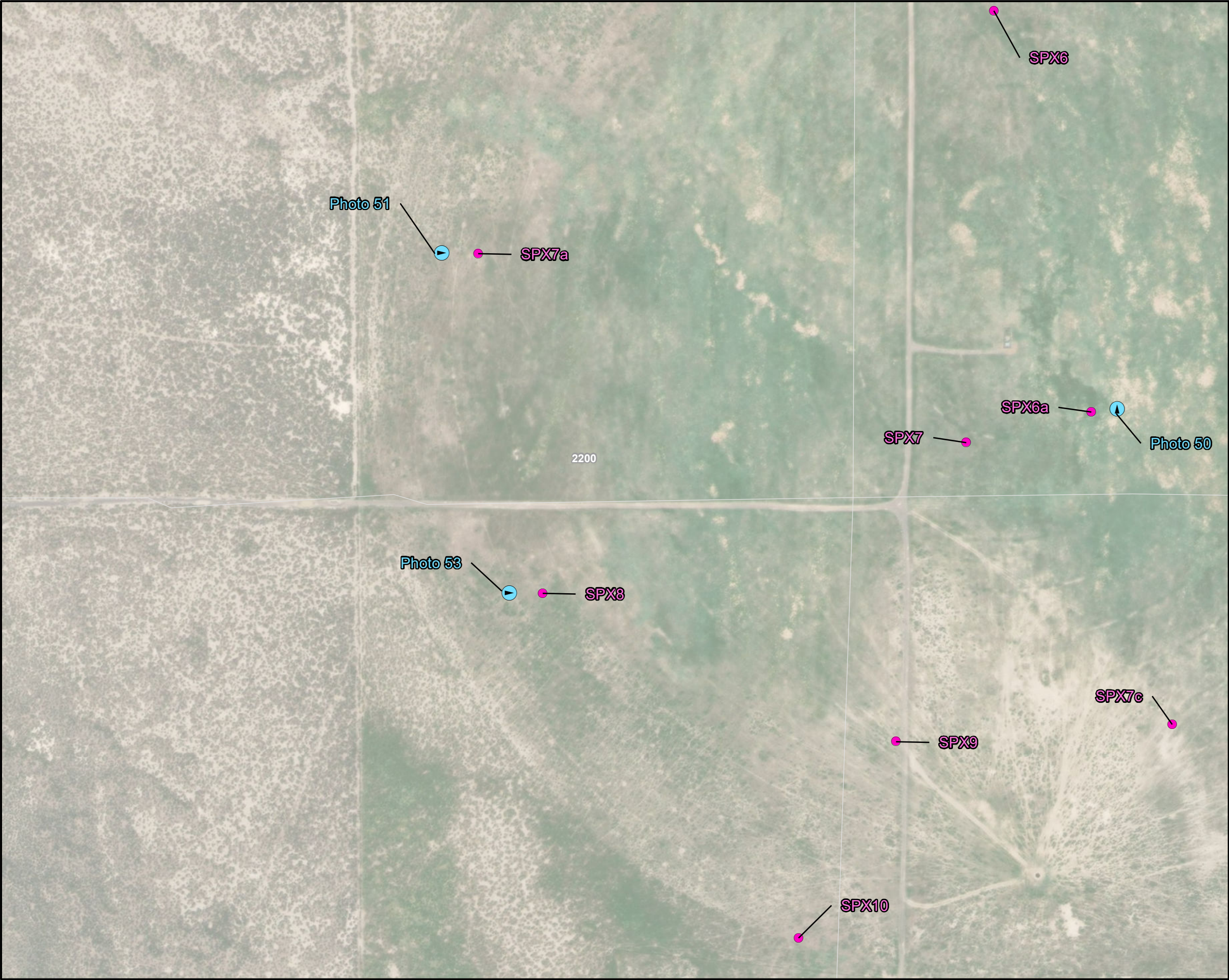
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Figure 6- N
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



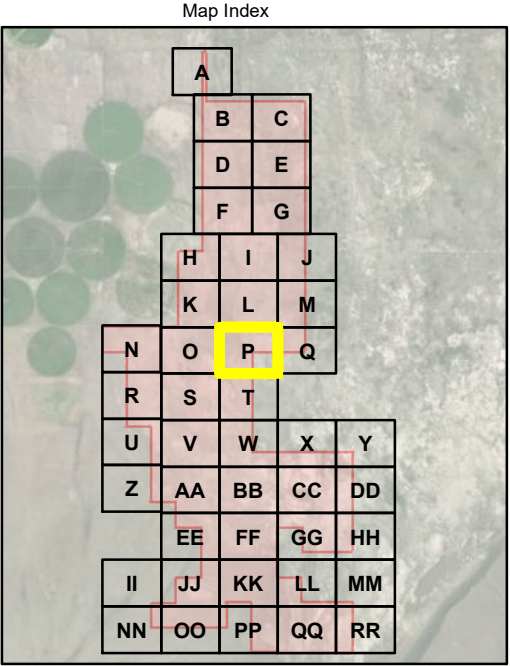
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Figure 6- O
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



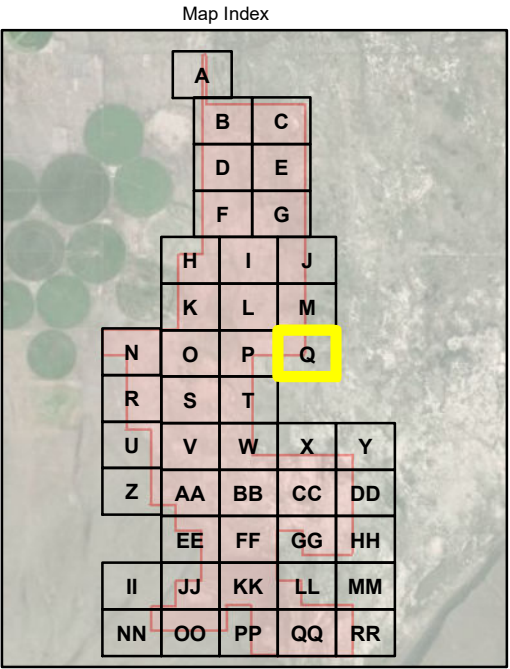
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Figure 6- P
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



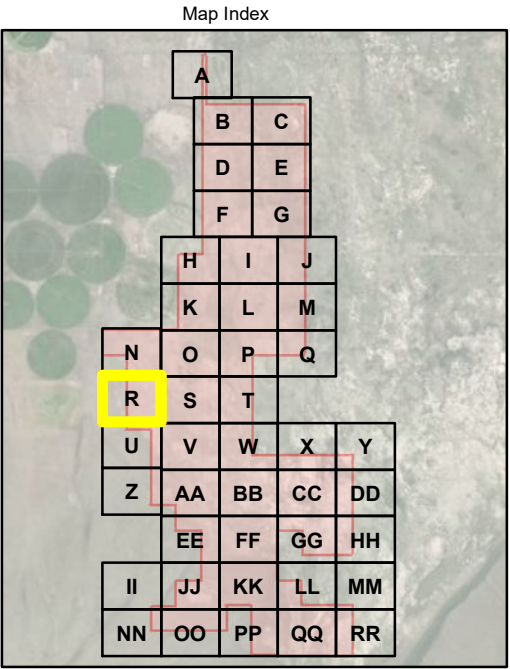
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Figure 6- Q
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



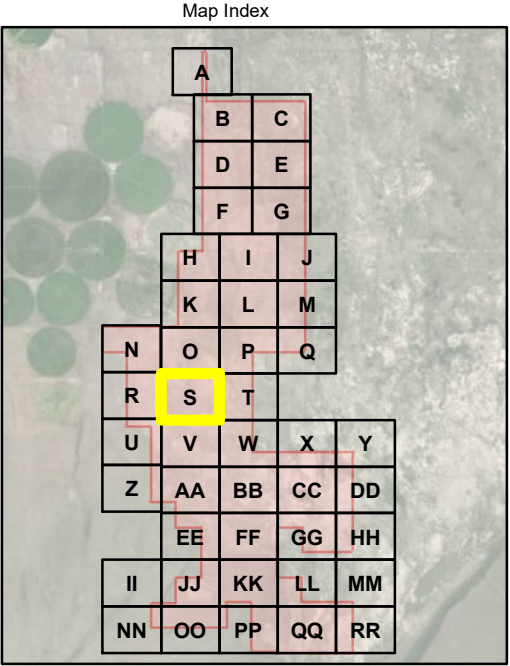
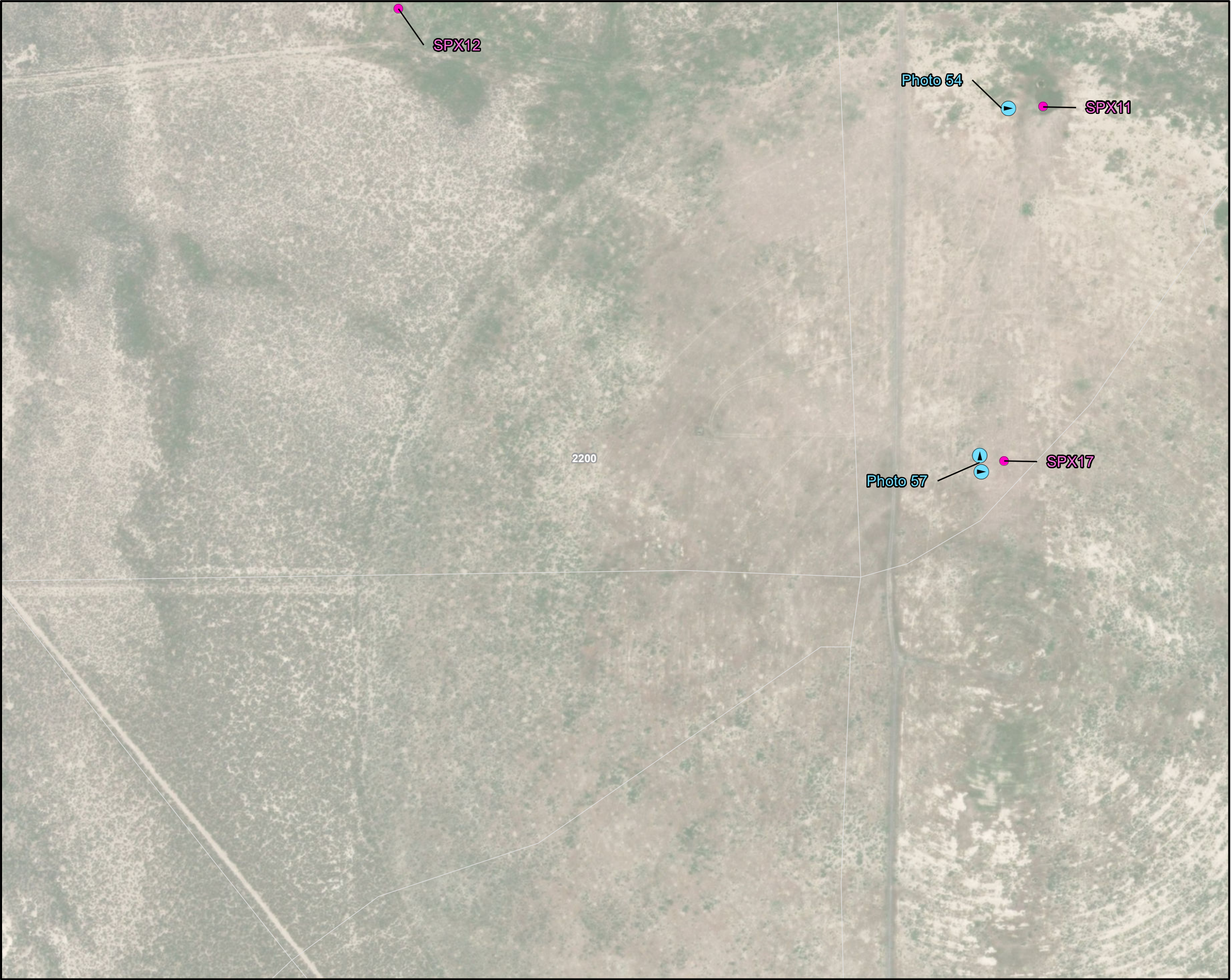
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Figure 6- R
Wetland Delineation Map
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Lake County, Oregon



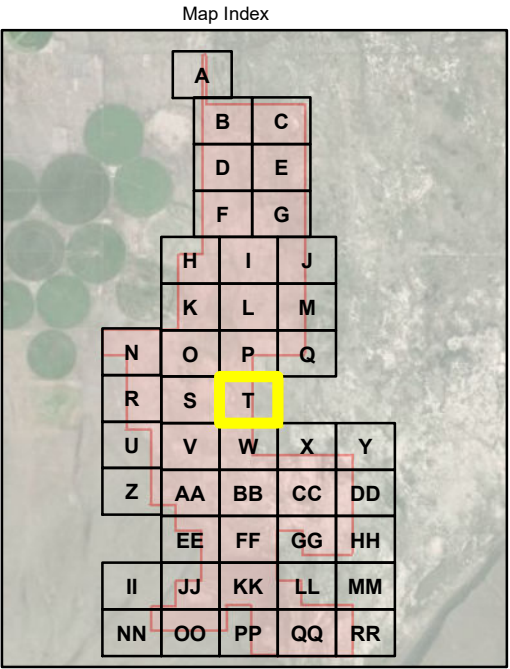
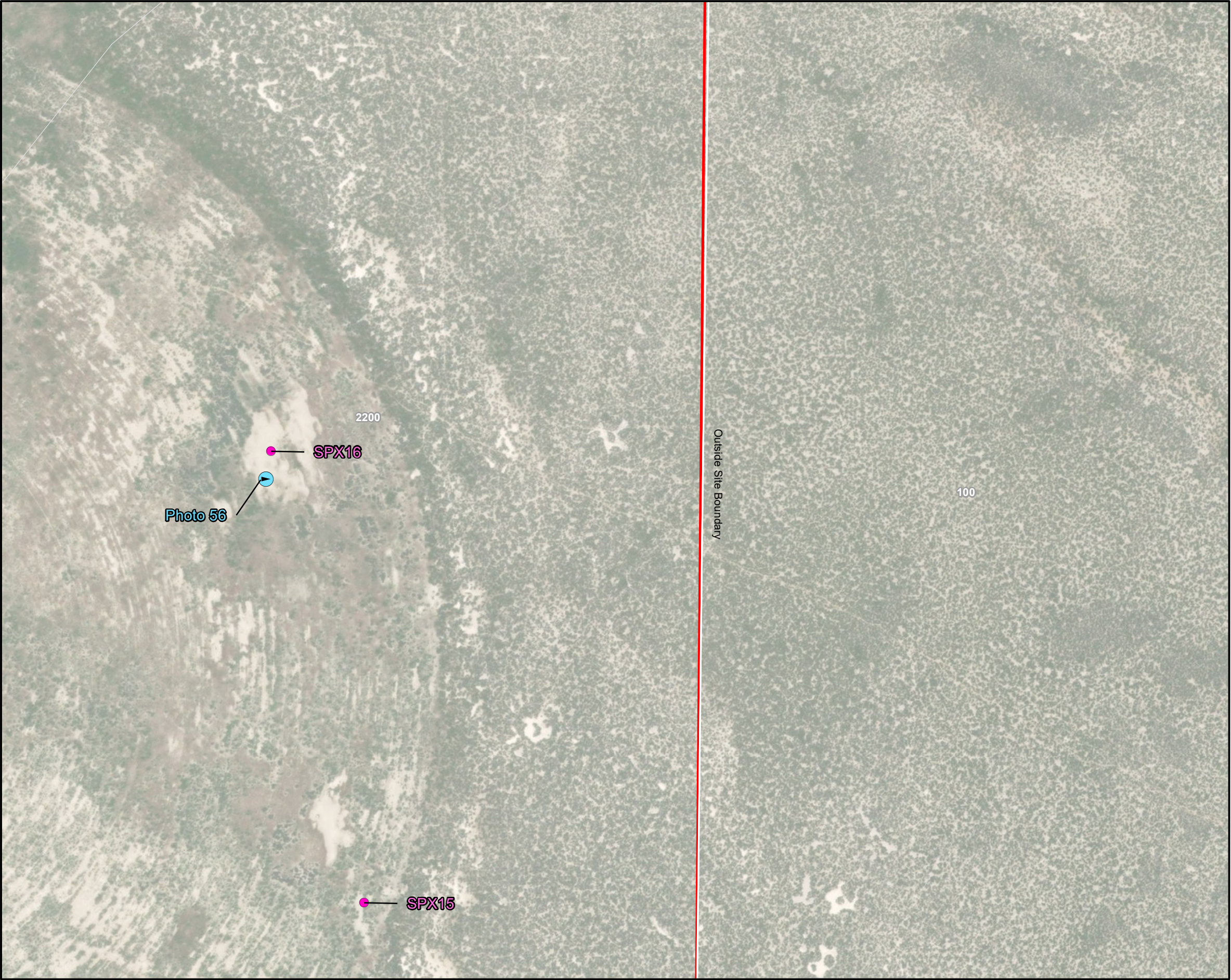
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Figure 6- S
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



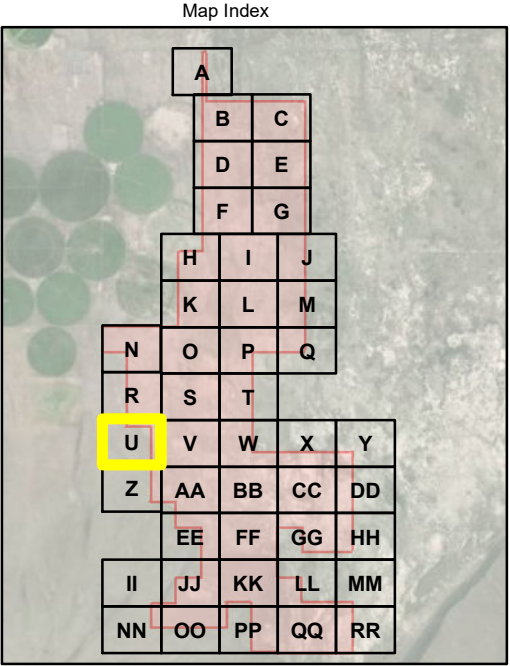
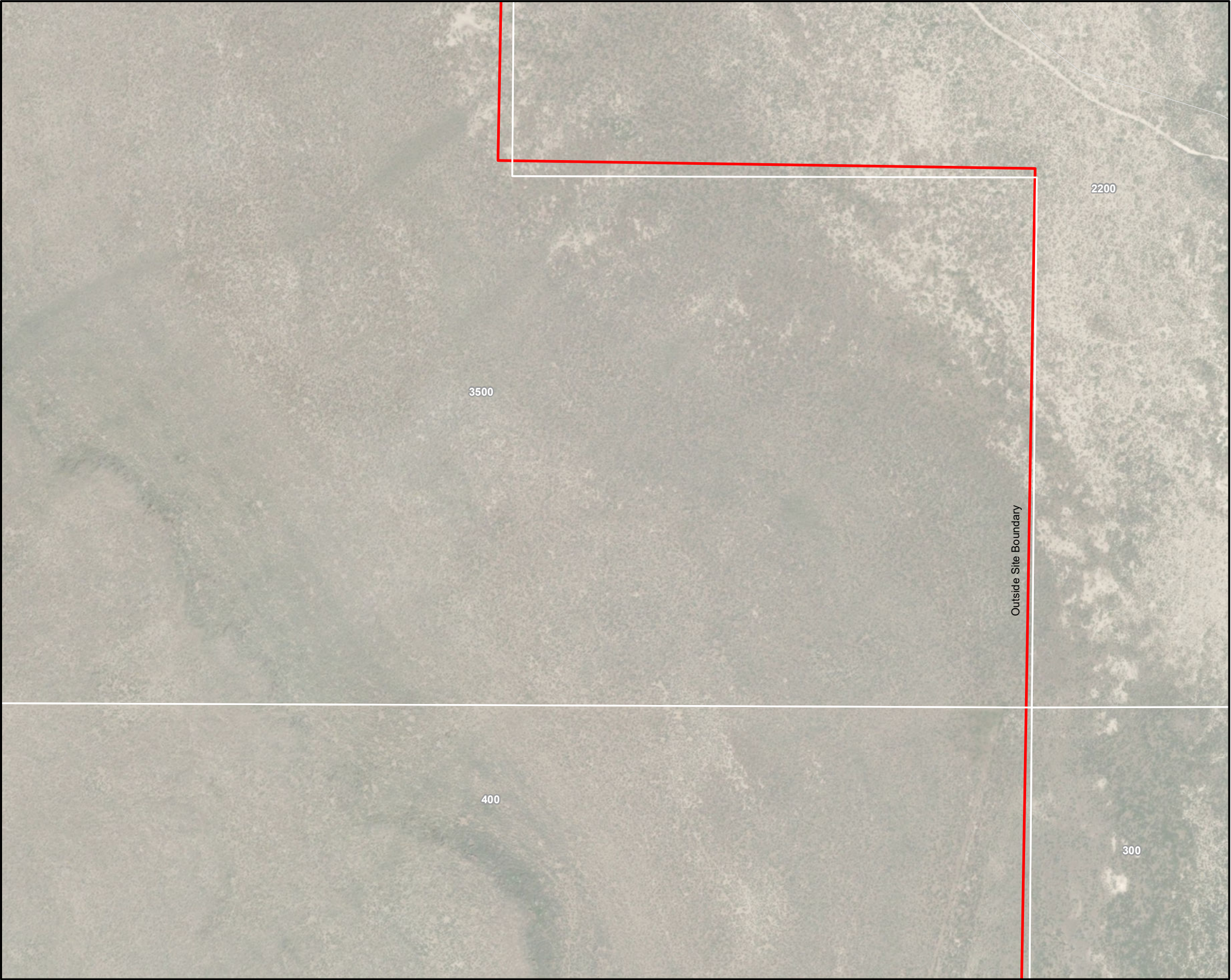
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Figure 6- T
Wetland Delineation Map
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Lake County, Oregon



LEGEND

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

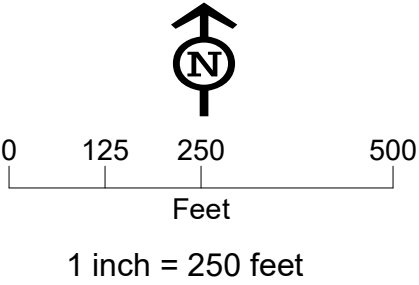
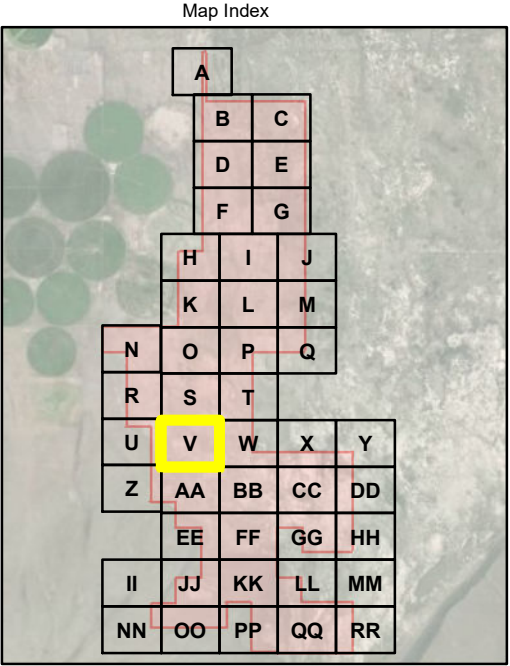
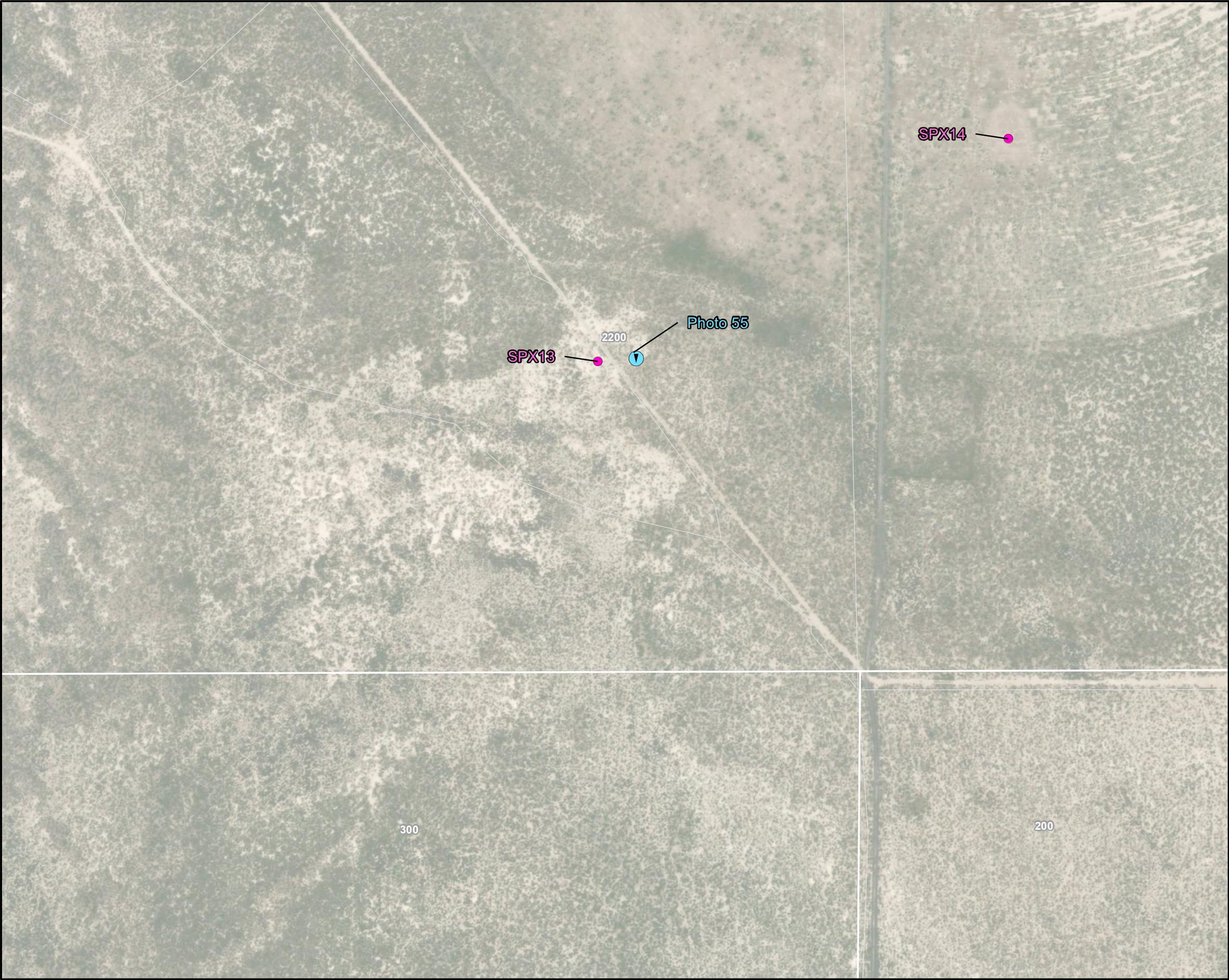


Figure 6- U
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



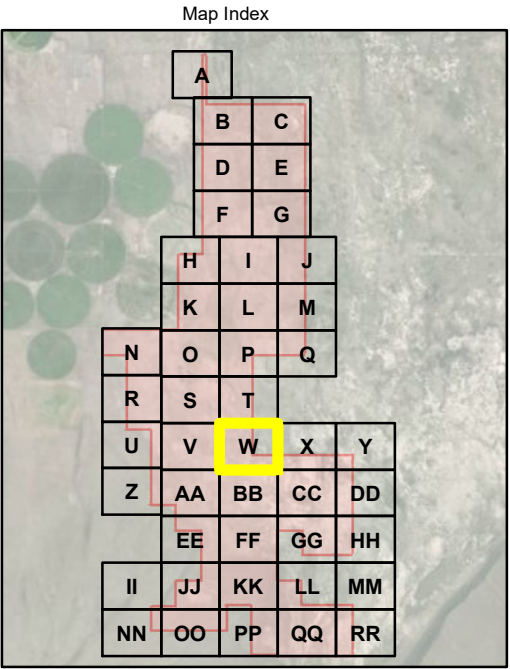
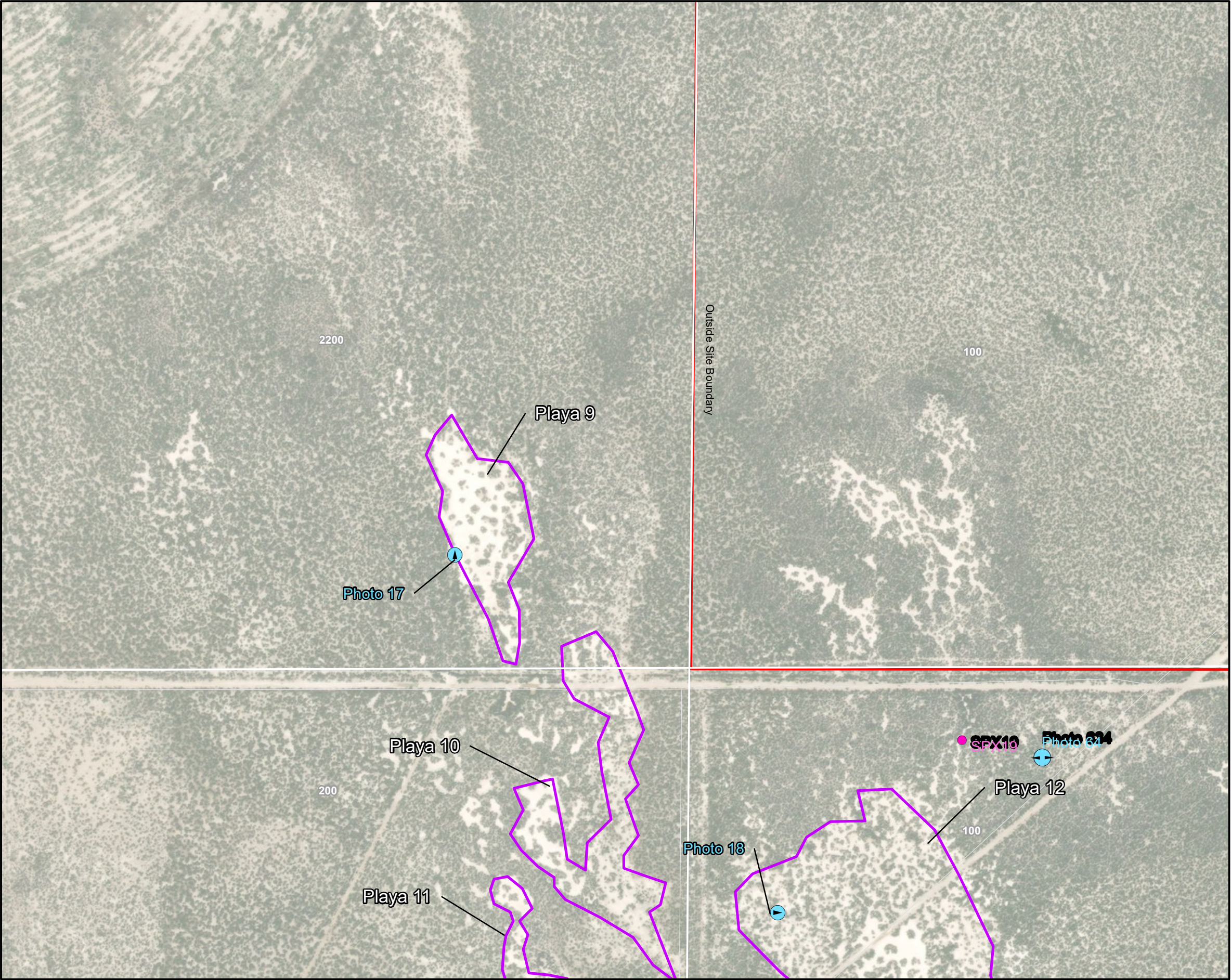
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- V
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



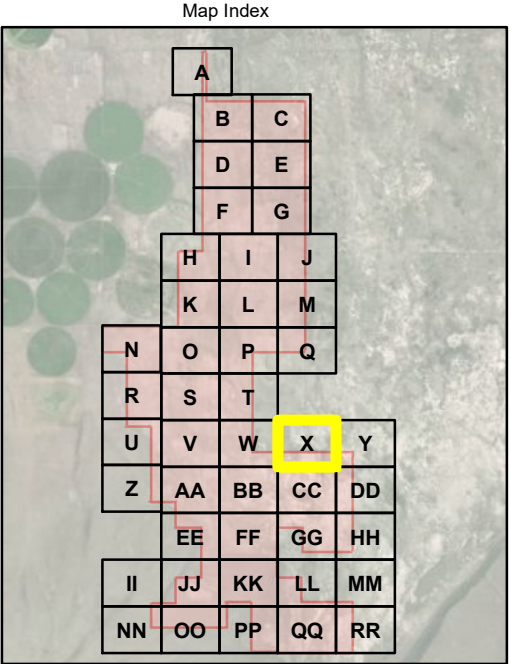
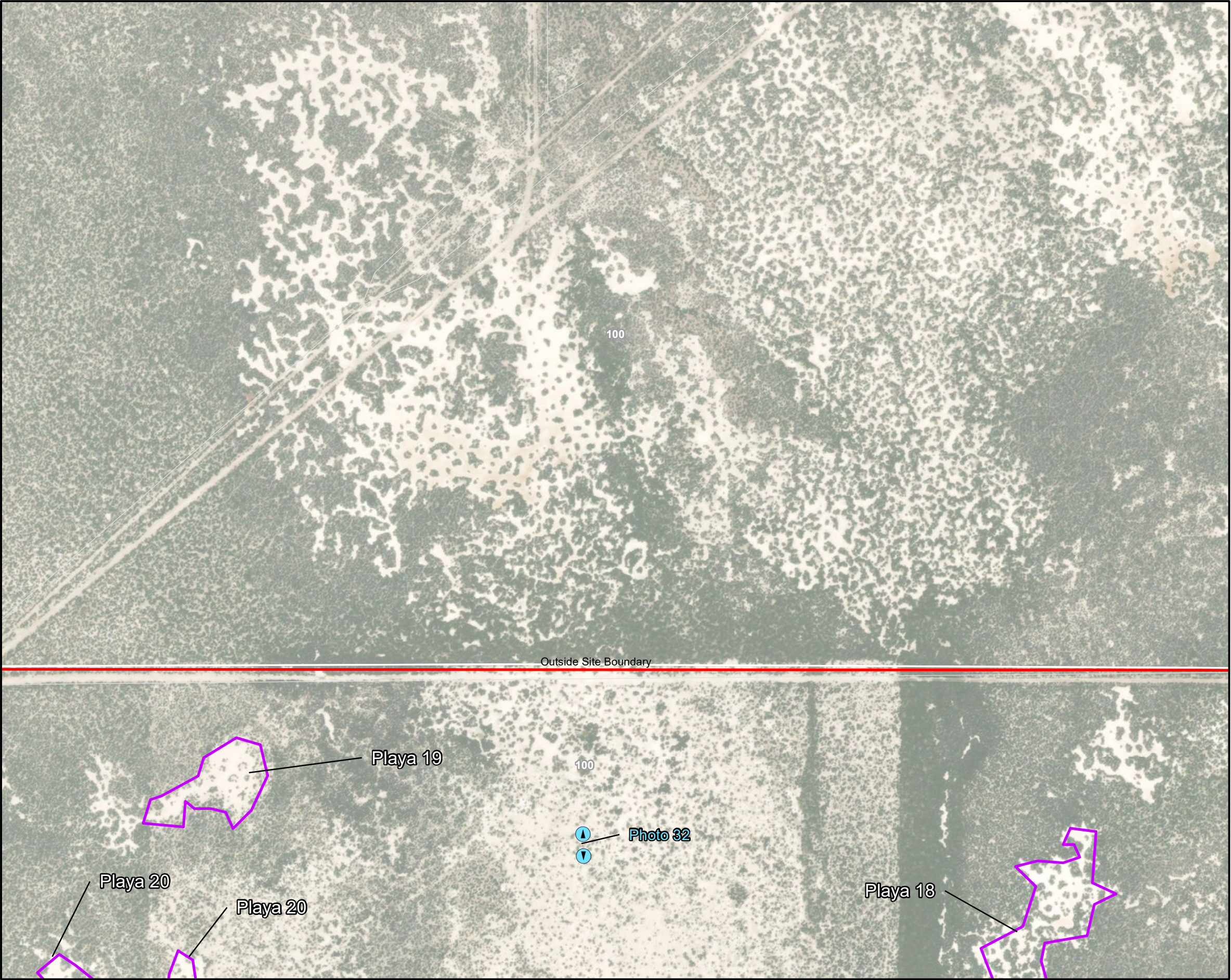
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- W
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



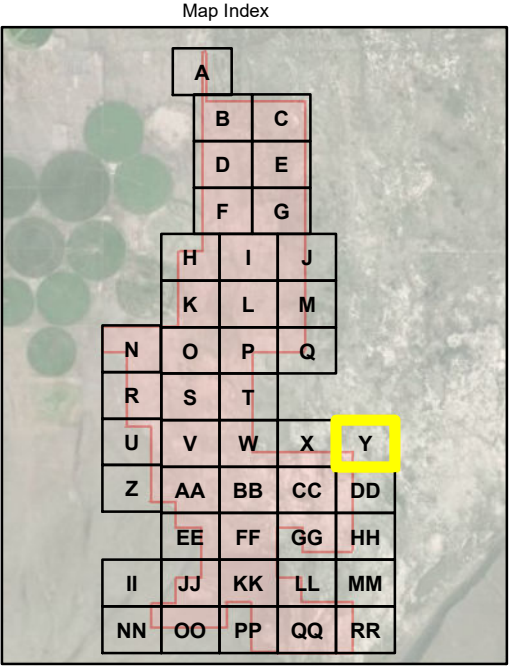
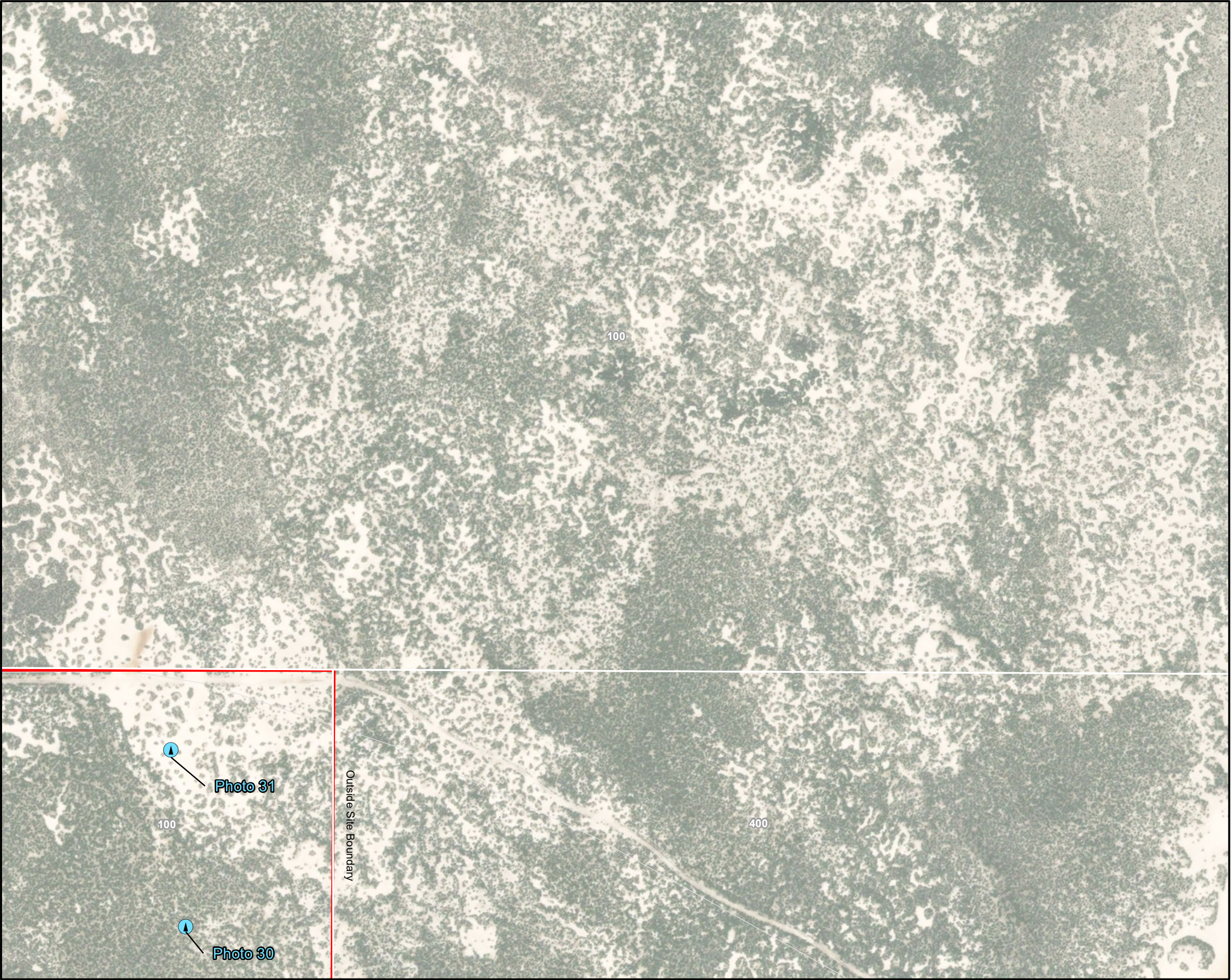
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- X
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



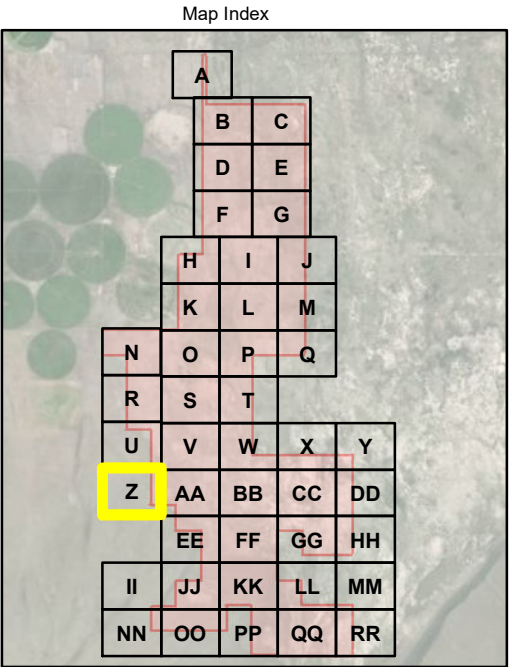
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Y
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

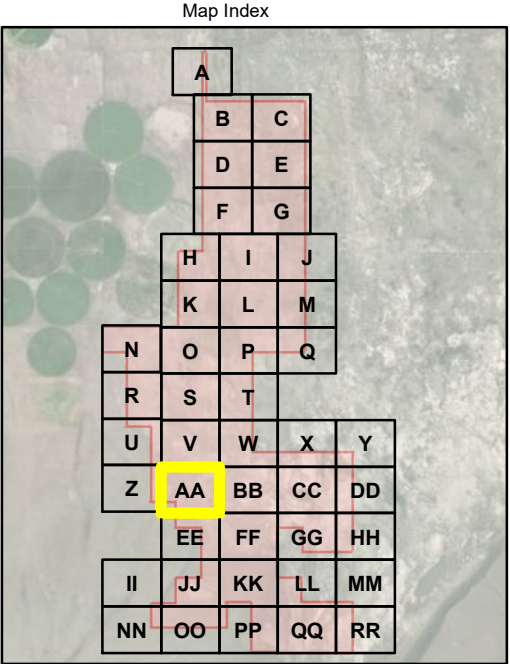
- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

Notes:

1. Area of interest subject to change.
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5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Z
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



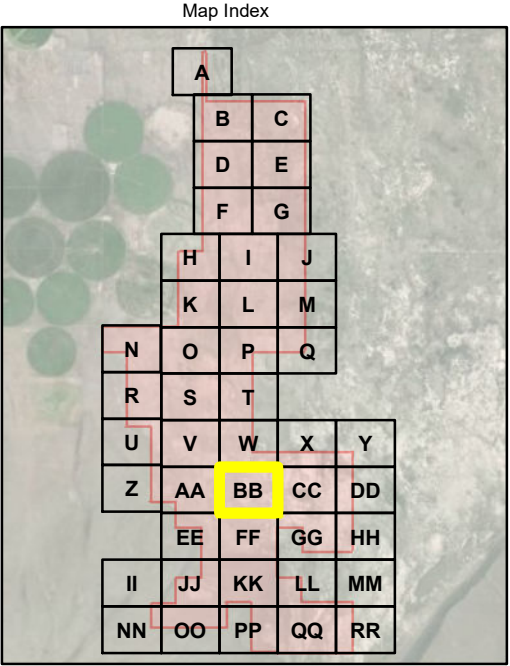
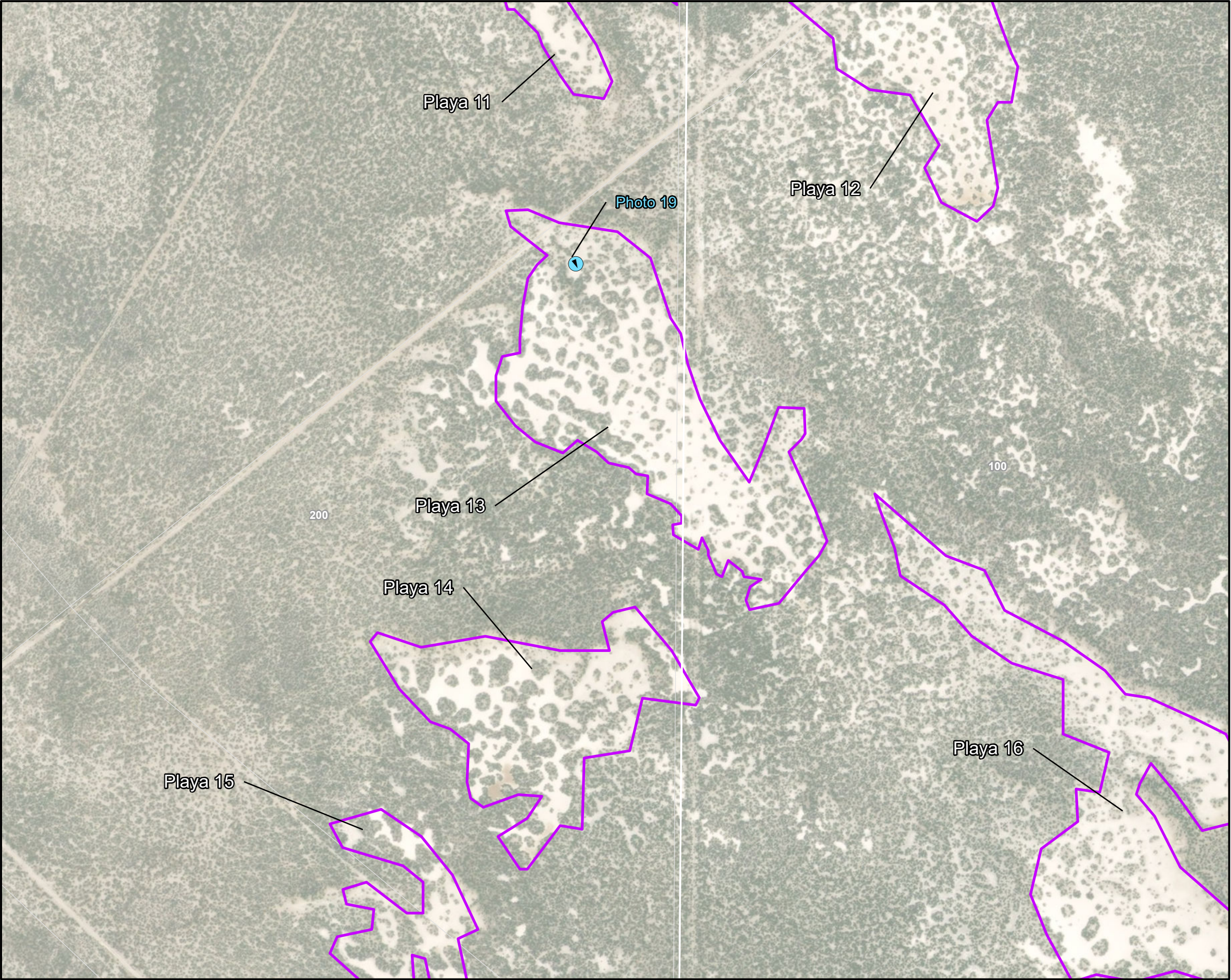
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- AA
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



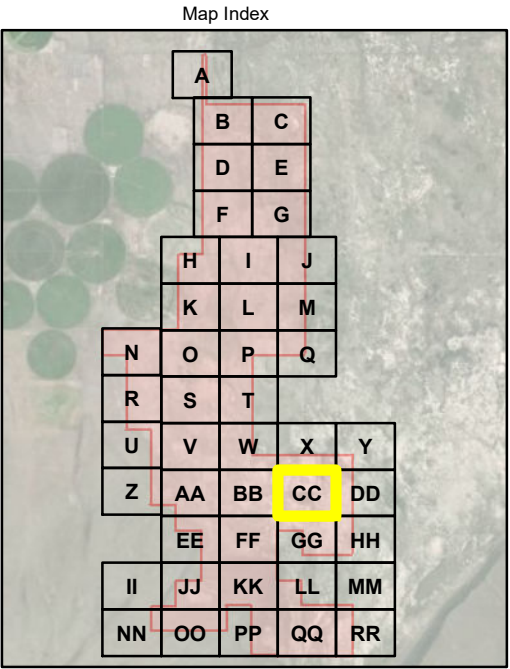
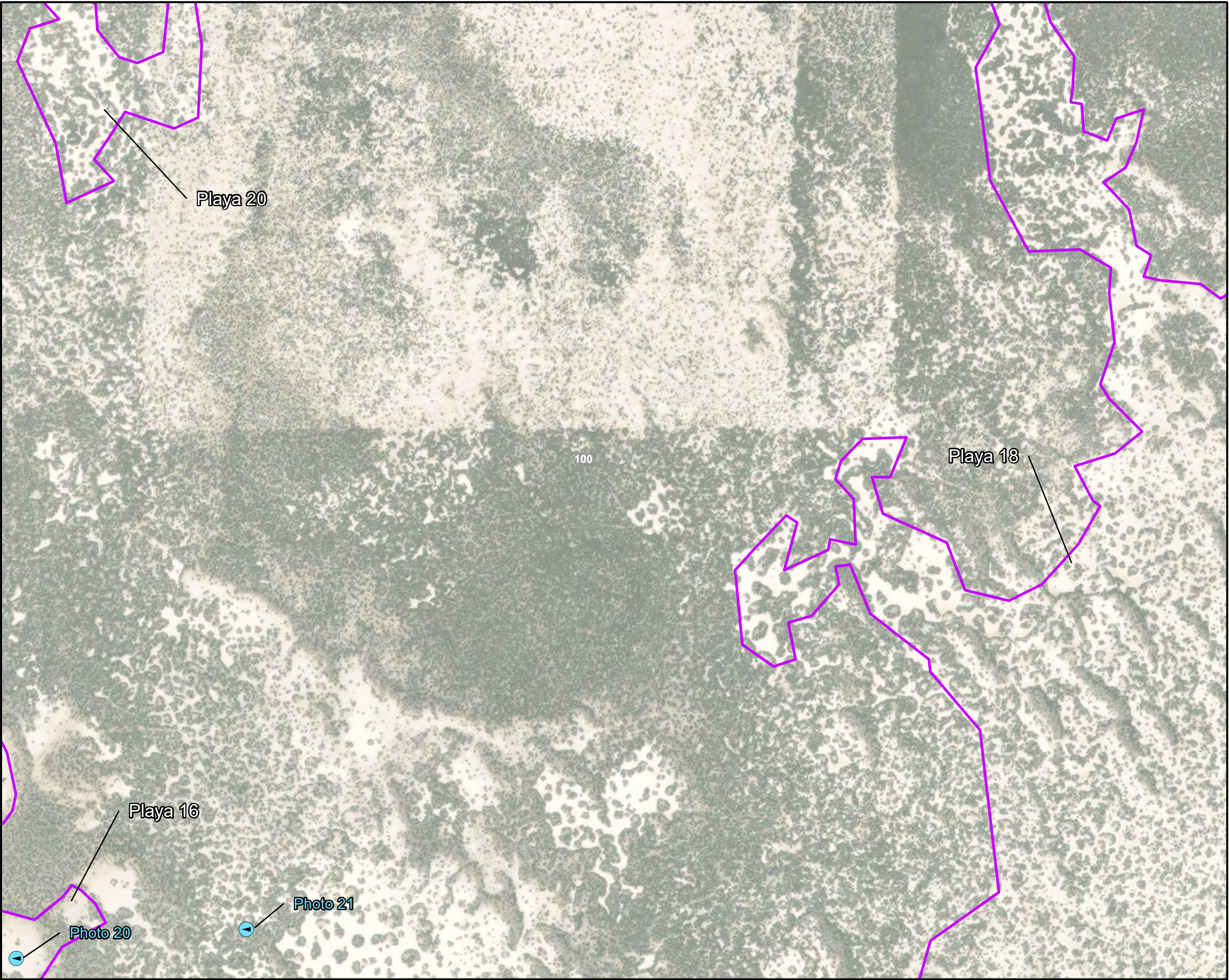
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 3. Project site within the following:
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 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- BB
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



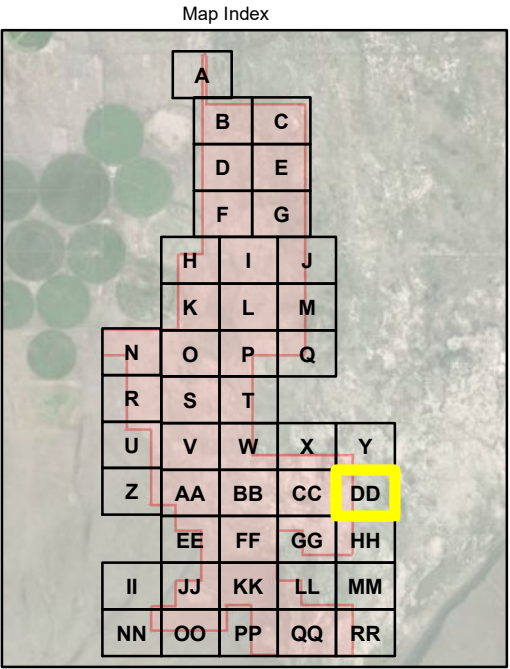
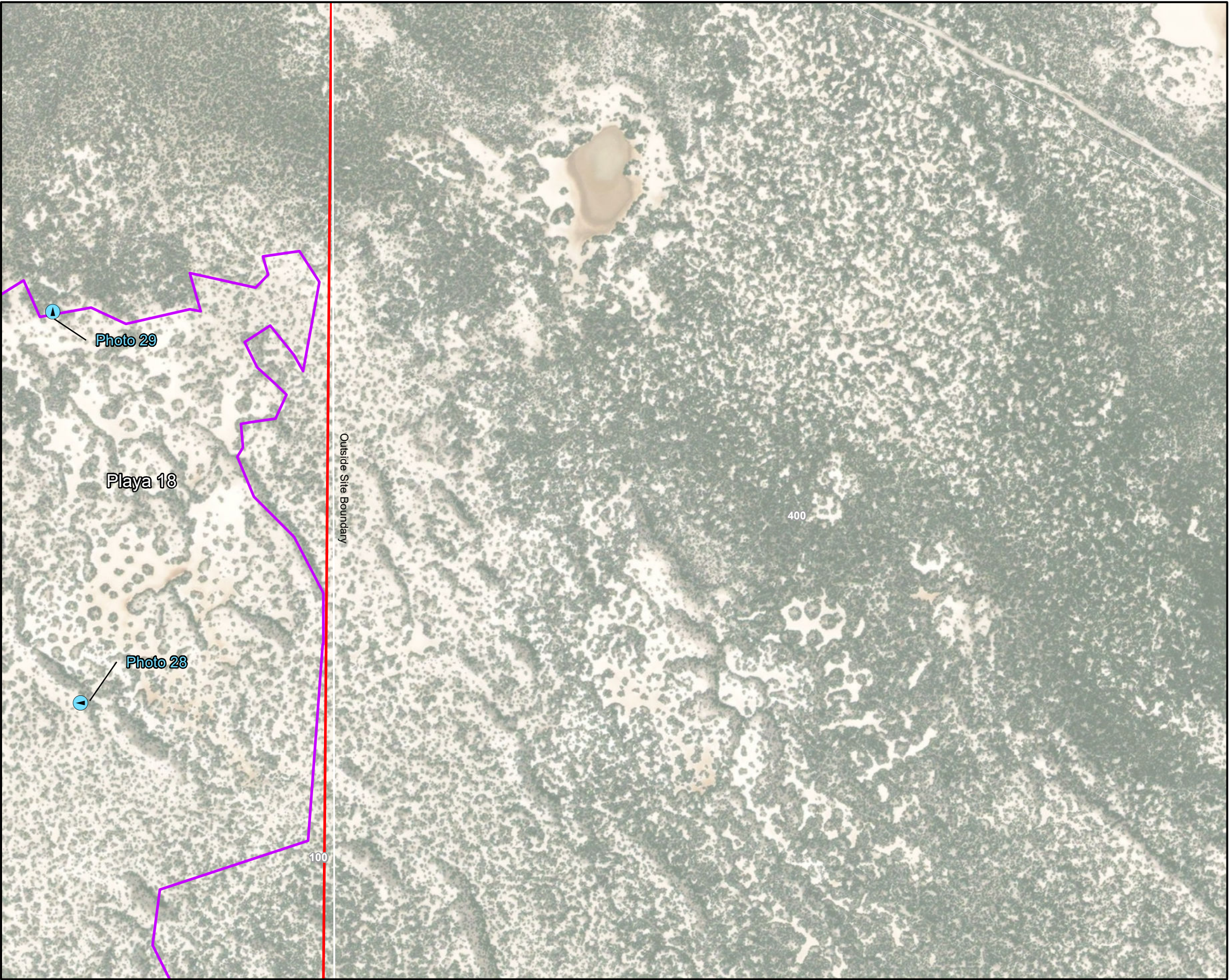
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- CC
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



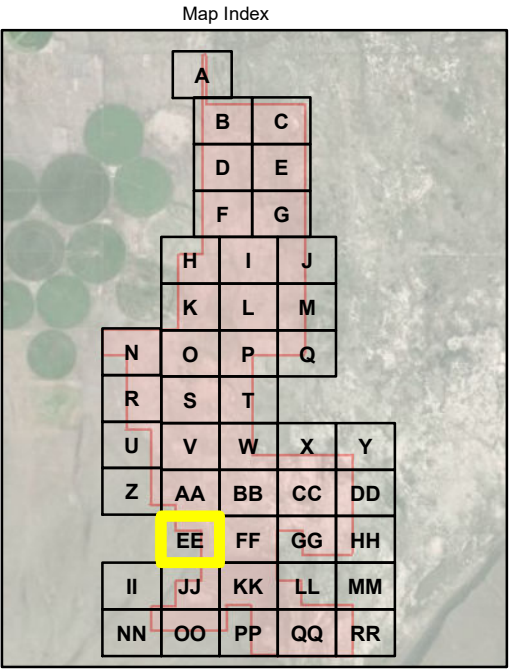
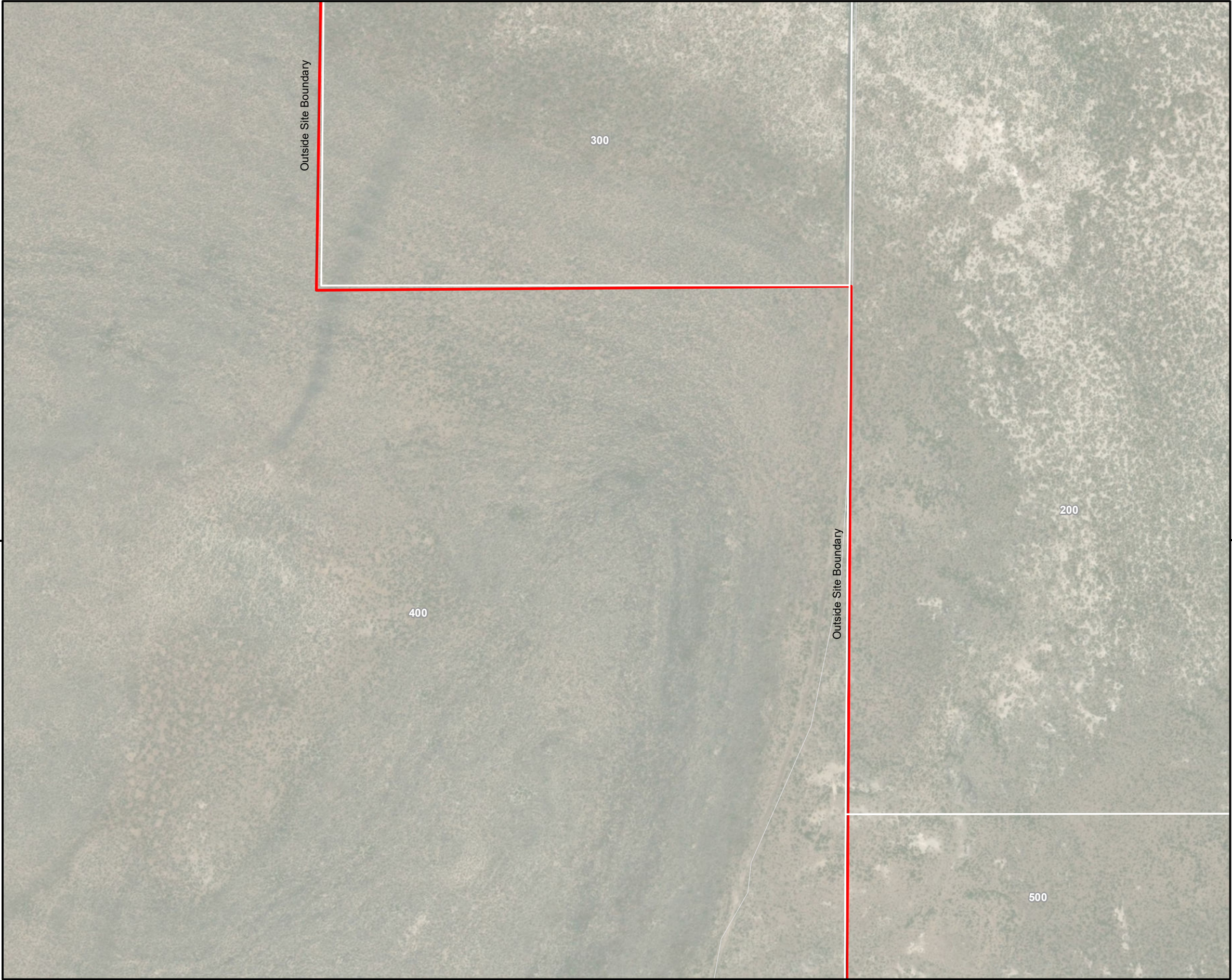
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- DD
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



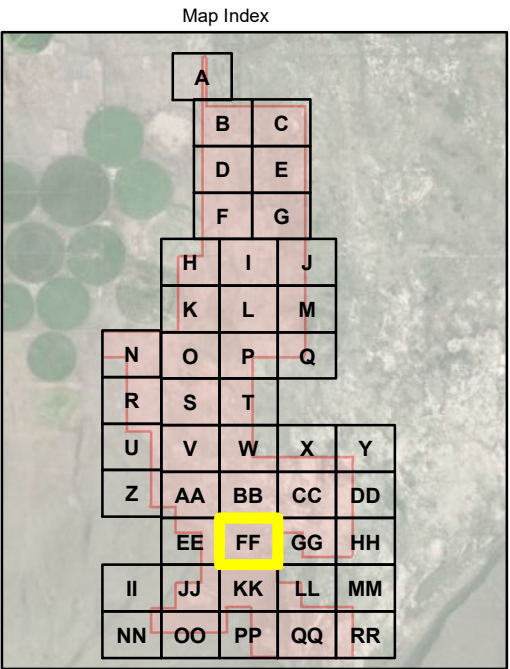
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- EE
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



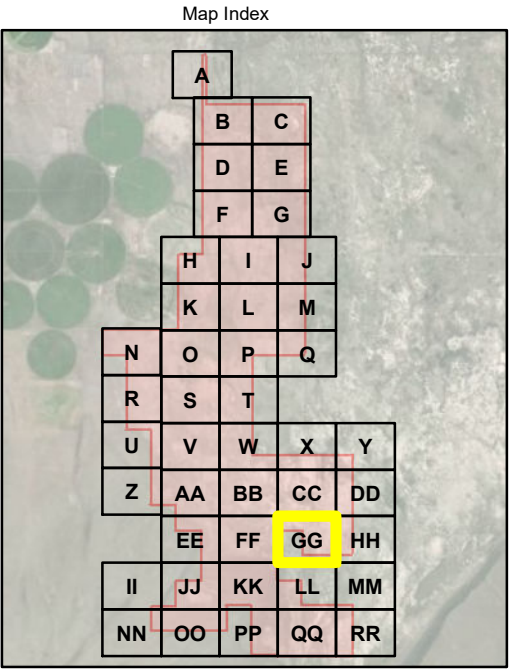
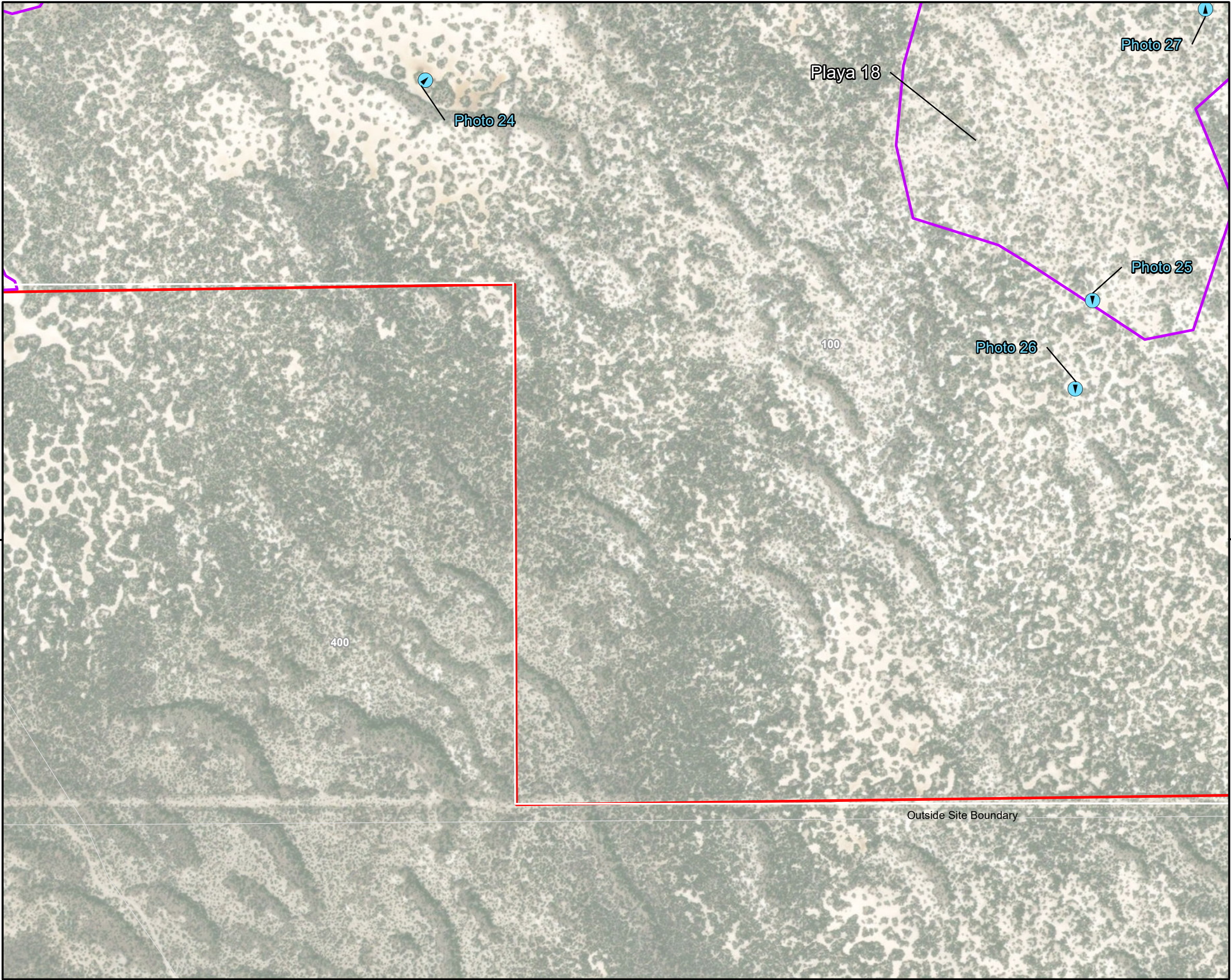
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 - Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- FF
Wetland Delineation Map
 Archway Solar Energy Project
 Lake County, Oregon



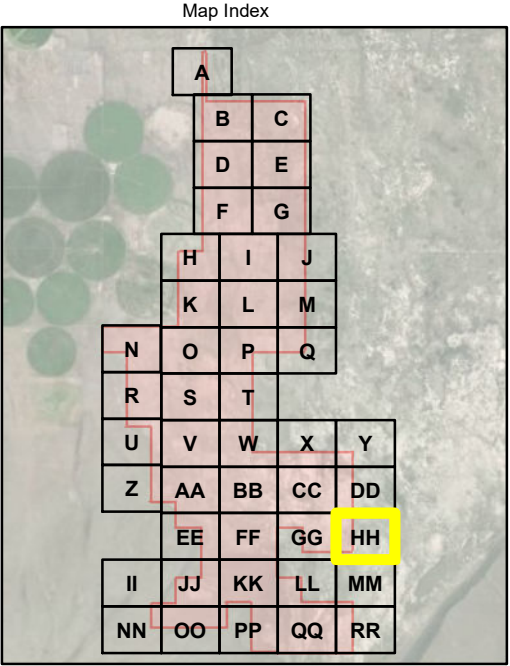
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- GG
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



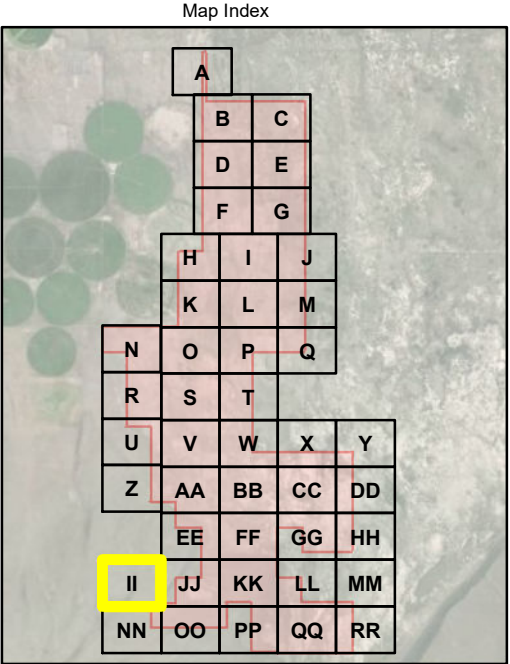
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- HH
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



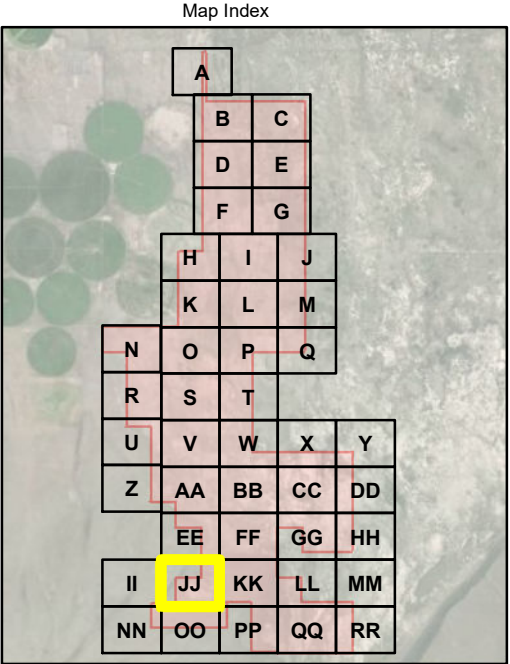
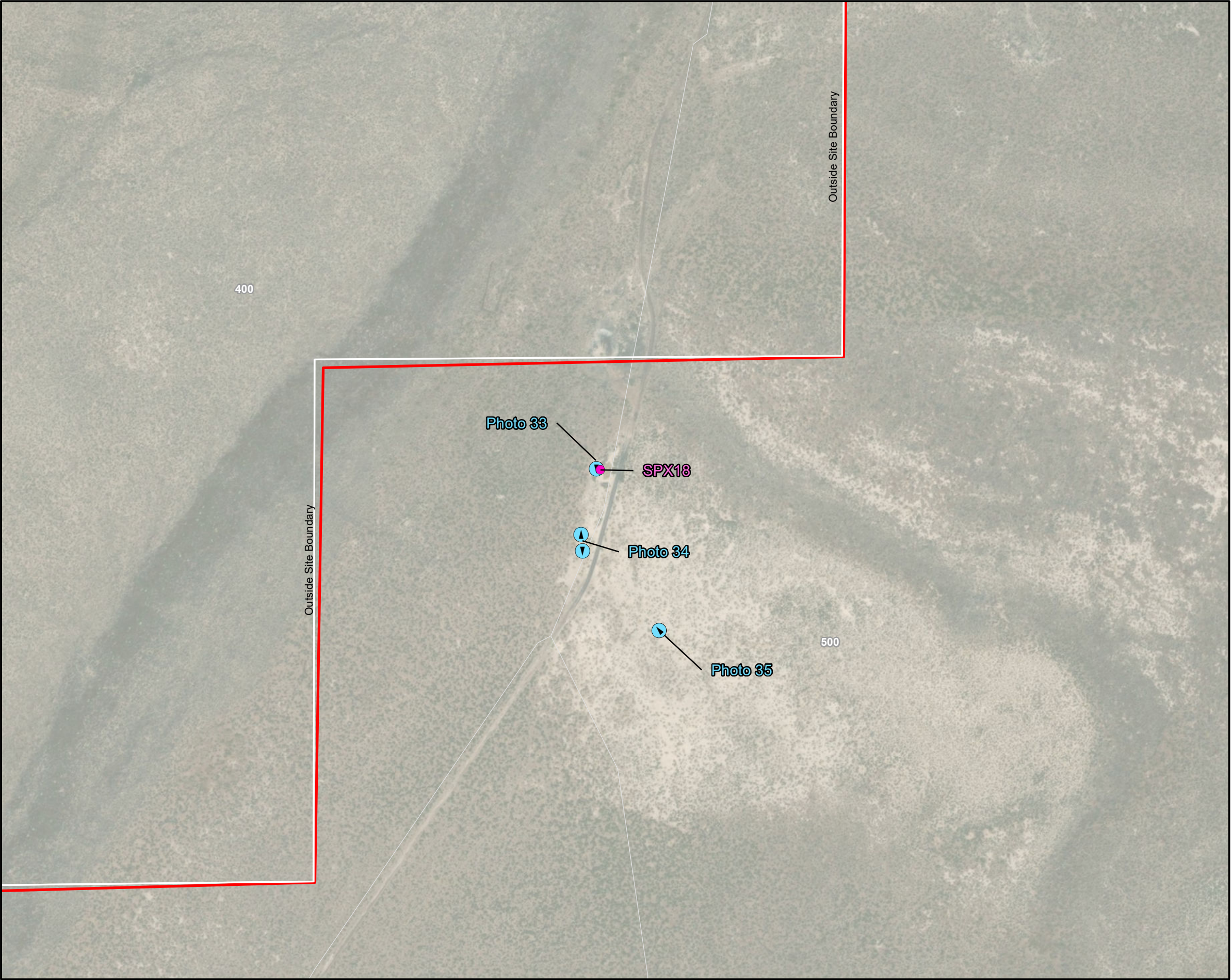
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- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- II
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



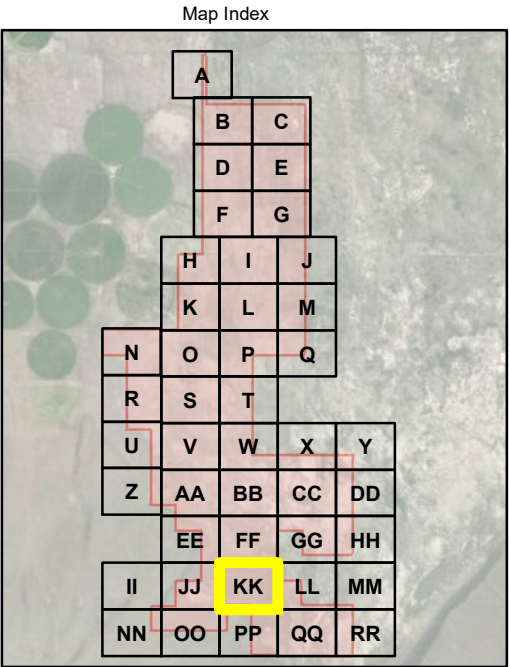
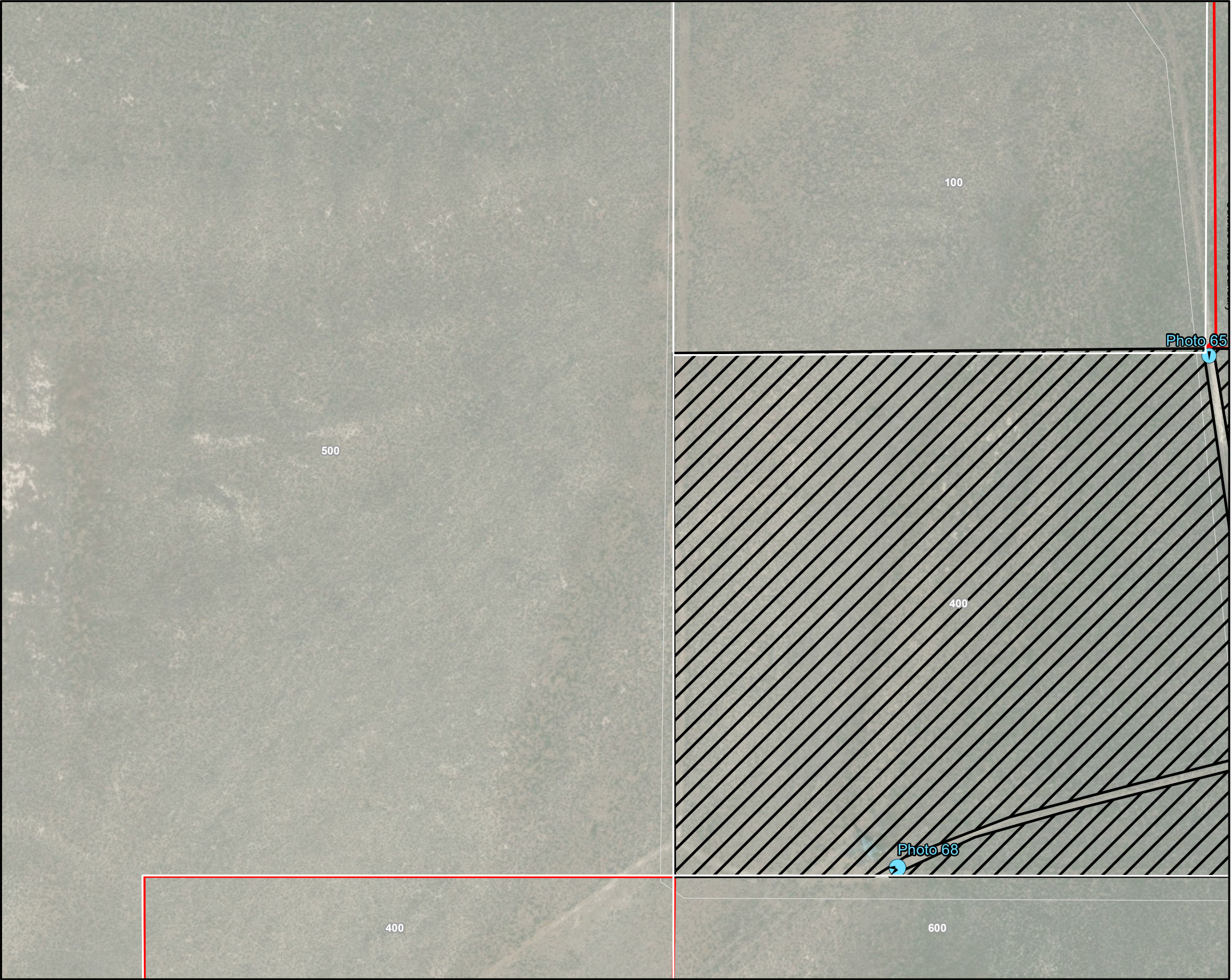
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- JJ
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



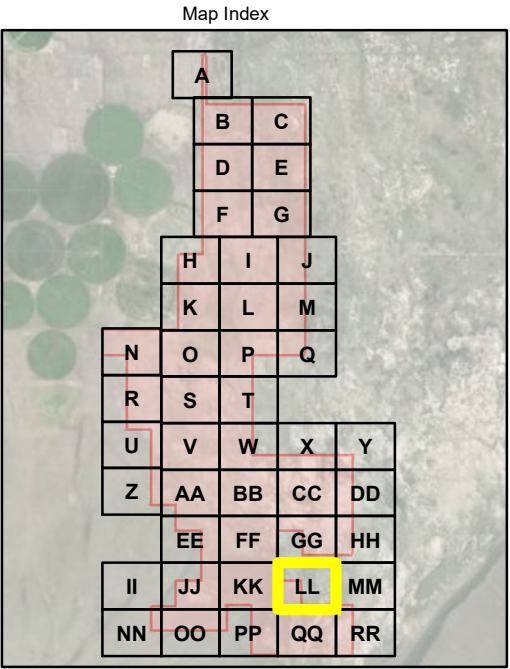
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▨ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- KK
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



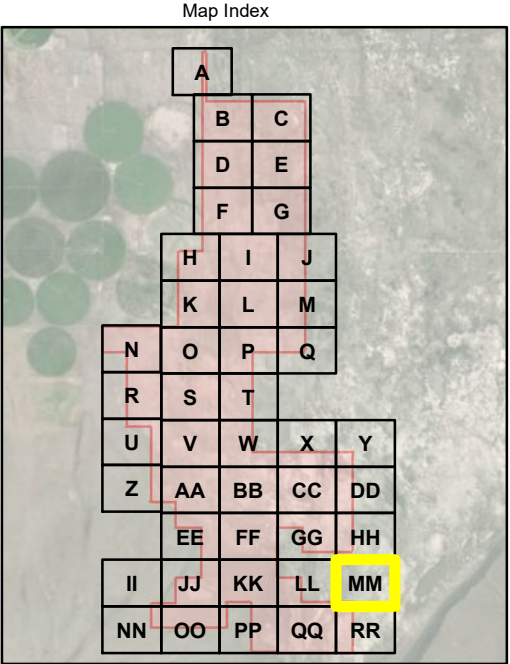
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▨ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- LL
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



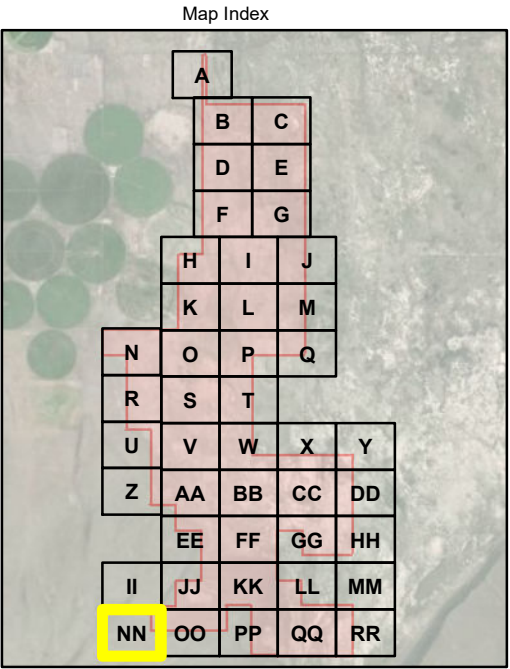
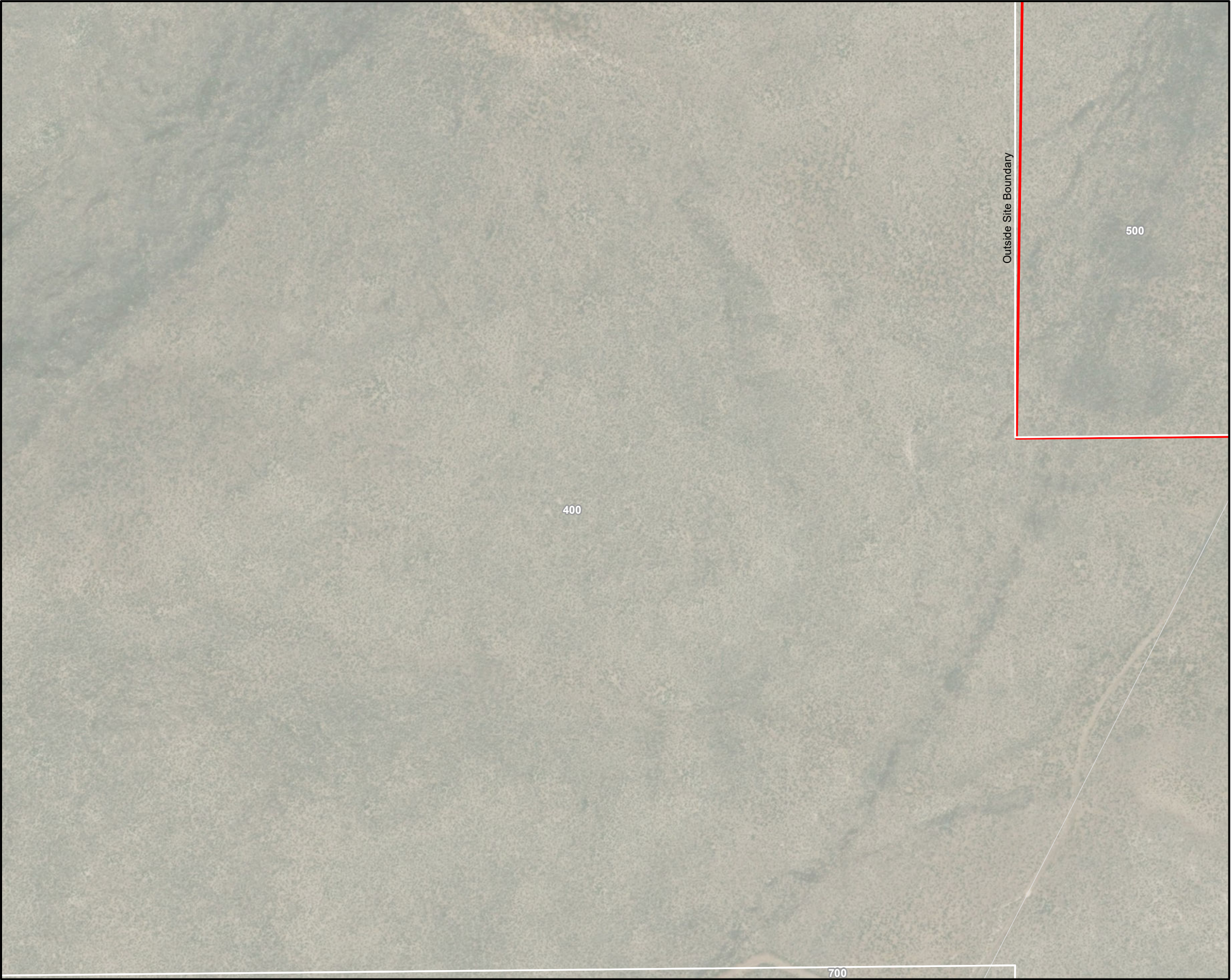
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- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- MM
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



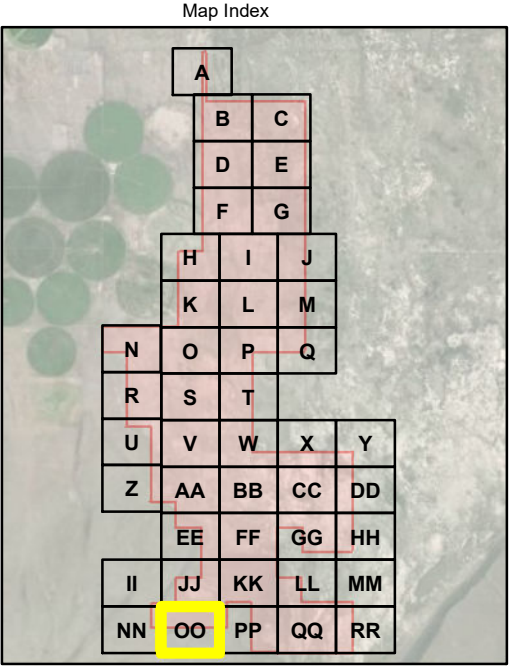
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- NN
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



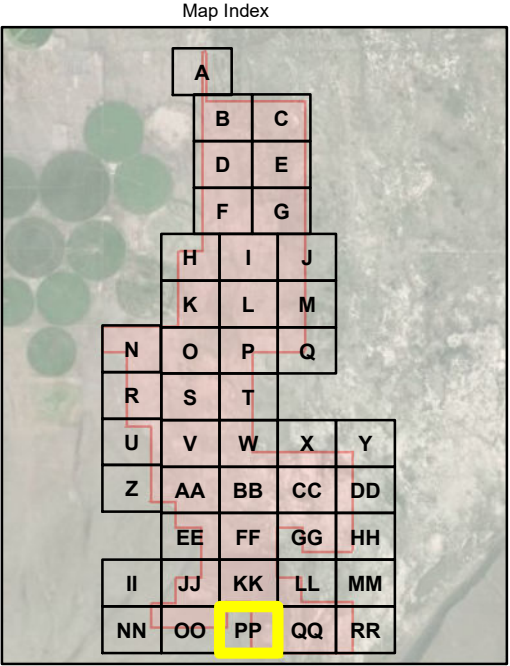
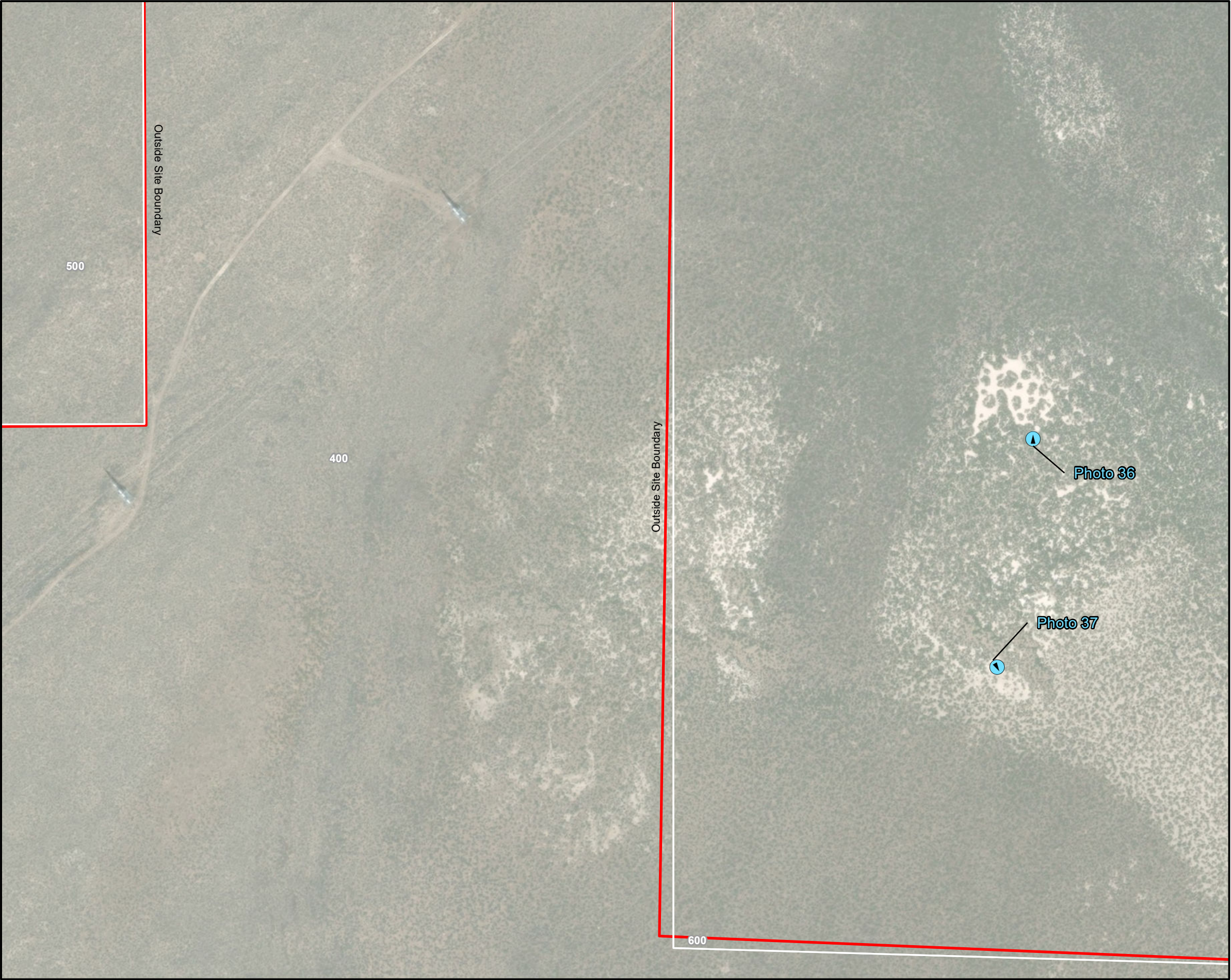
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- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- OO
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



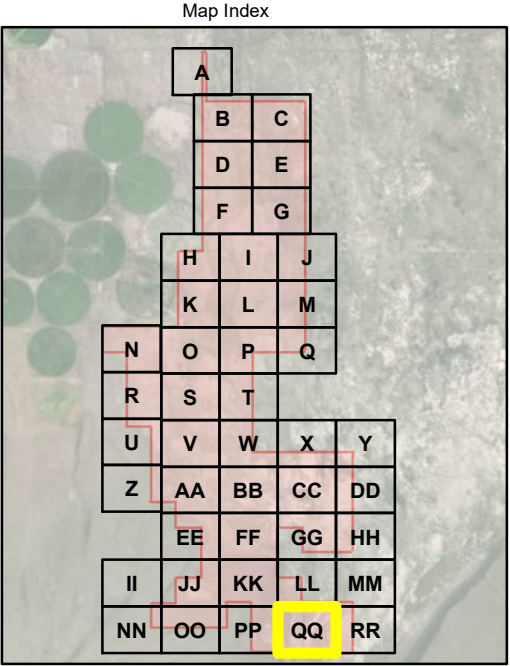
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



**Figure 6- PP
Wetland Delineation Map**
Archway Solar Energy Project
Lake County, Oregon



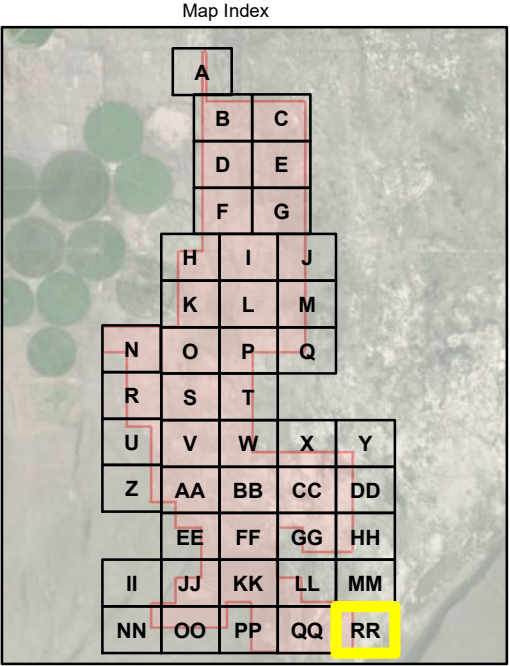
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- QQ
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

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Figure 6- RR
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon

Attachment 2
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: _____ City/County: _____ Sampling Date: _____
Applicant/Owner: _____ State: _____ Sampling Point: _____
Investigator(s): _____ Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes _____ No _____
Hydric Soil Present? Yes _____ No _____	
Wetland Hydrology Present? Yes _____ No _____	
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20' x 20')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	0 = Total Cover
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: 20' x 20')				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Herb Stratum (Plot size: 5' x 5')				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: 10' x 10')				Hydrophytic Vegetation Present? Yes _____ No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	0 = Total Cover
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust 0				
Remarks:				

SOIL

Sampling Point: _____

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Attachment 3
Ground-level Photo Log

Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 60 –Viewpoint Facing East, North, West and South



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 61 –Viewpoint Facing East, South, and West



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

- **Photo Point 62 –Viewpoint Facing North, Southeast and West**



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 63 –Viewpoint Facing North, South, East & West



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 64 –Viewpoint Facing East & West



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 64 –Viewpoint Facing East SPX 19



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 66 –Access Road Viewpoint Facing South



East side of access road



Center of access road



West side of access road

Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 67 –Access Road Viewpoint Facing South



East side of access road



Center of access road



West side of access road

Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 68 –Access Road Viewpoint Facing West, SW



North side of access road



Center of access road



South side of access road

Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 69 –Access Road Viewpoint Facing East



Northwest side of access road



Center of access road



Southeast side of access road

2020 SW Fourth Avenue, Suite 300
Portland, Oregon 97201
United States
T +1.503.235.5000
www.jacobs.com

Subject **Second Set of Responses to Questions and Comments from the Oregon Department of State Lands on the Wetlands and Nonwetland Waters Delineation Report WD2020-0127**

Project Name Archway Solar Energy Project, Lake County, Oregon

Attention Lynne McAllister/Oregon Department of State Lands

From Claudia Steinkoenig, PWS/Jacobs

Date September 4, 2020

Copies to Laura Miner/Archway Solar Energy LLC
Jamie Wilson/Archway Solar Energy LLC
Paul Seilo/Jacobs

This technical memorandum (TM) provides information in response to a **second** set of questions and comments received from the Oregon Department of State Lands (DSL) in the agency's review of the *Wetlands and Nonwetland Waters Delineation Report for the Archway Solar Energy Project* (wetland delineation report). The questions and comments were received via email from Ms. Lynne McAllister/DSL on September 1, 2020.

Background

Jacobs Engineering Group Inc. (Jacobs) was contracted by Archway Solar Energy LLC to conduct a wetlands and nonwetland waters delineation for the potential development of the Archway Solar Energy Project (project; site), a photovoltaic solar energy generation facility in north-central Lake County, Oregon. The wetland delineation report was submitted to DSL on March 5, 2020. The report was given casefile number WD2020-0127.

Contents

This TM responds to four questions and comments received from DSL via email on September 1, 2020 and supplements the original wetland delineation report and the first TM dated August 13, 2020. In support of the responses, additional information is submitted in the following attachments to this TM:

- Attachment 1 – Revised Figure 6
- Attachment 2 – Revised Ground-level Photo Log with Photo Points 60-69

Responses to DSL Review Questions and Comments

Each DSL question and comment is in italics, followed by the response from Archway Solar Energy LLC.

1. *I did not find photo 65 (though there are 2 sheets for photo 64), which is mapped at the north end of the new access road, Figure 6-KK.*

RESPONSE: Photo point 65 has been added to Figure 6-W on the updated Figure 6 included in Attachment 1 to this memo, and photo point locations for 66-69 have been corrected. The photo log for photo locations 60–69 has also been corrected and an updated version is included in Attachment 2 to this memo.

2. *Plot SPX19 is not on Figures 6KK or 6LL. I couldn't find it on any of the maps. Please map it.*

RESPONSE: Plot SPX19 is located on Figure 6-W next to photo points 64 and 65 on the updated Figure 6 included in Attachment 1 to this memo.

3. *In #4, I had requested that the accuracy/precision statement on the map include the study area precision estimate, per OAR. Your response is satisfactory to me because it is apparent that you could reproduce the study area boundary with high precision. I will send this through concurrence, but just be aware that Peter Ryan has to sign off on it, and he may request an estimate for the map statement for the study area boundary.*

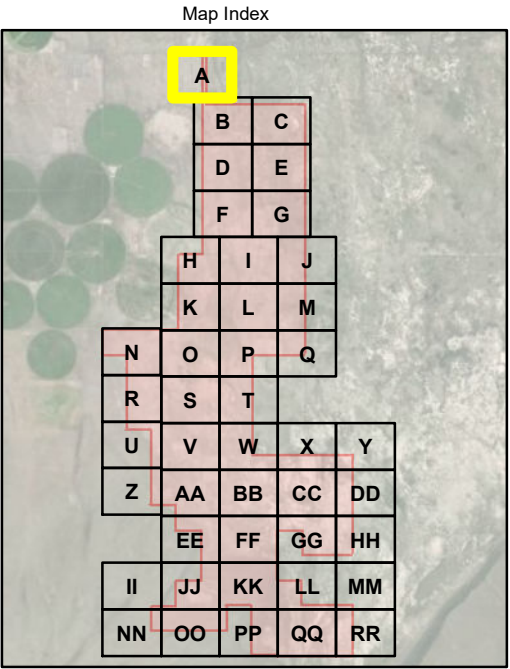
RESPONSE: Thank you for the information.

4. *I don't understand the second half of your response to #6 where you state: Many of these scattered, open areas have a biotic crust within the open areas which was only observed in upland areas where playas had been identified. But if playas had been identified, why would these be uplands? Also, are you saying that biotic crusts were only seen in uplands and not in the playas? Please explain this. Are these areas getting flooded and forming a biotic crust, but not an OHWL?*

RESPONSE: To clarify, the biotic crusts were only observed in upland areas. The biotic crust (when not disturbed) acts as a soil stabilizer and is precursor to plant seed catchment and germination. Biotic crust is absent from areas that are flooded.

Attachment 1

Figures



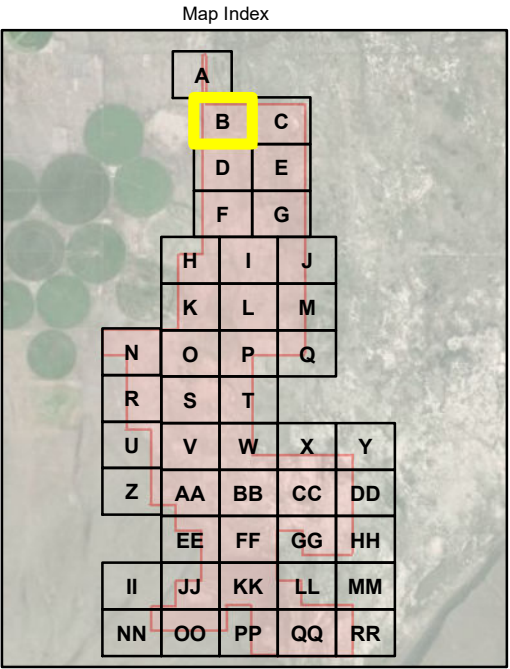
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- A
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



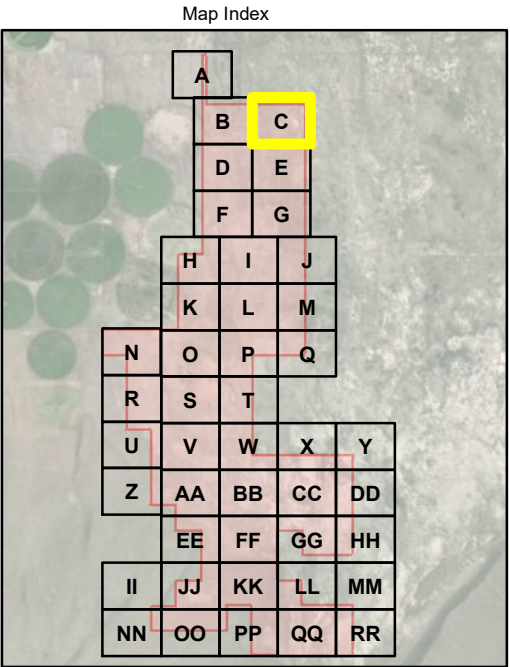
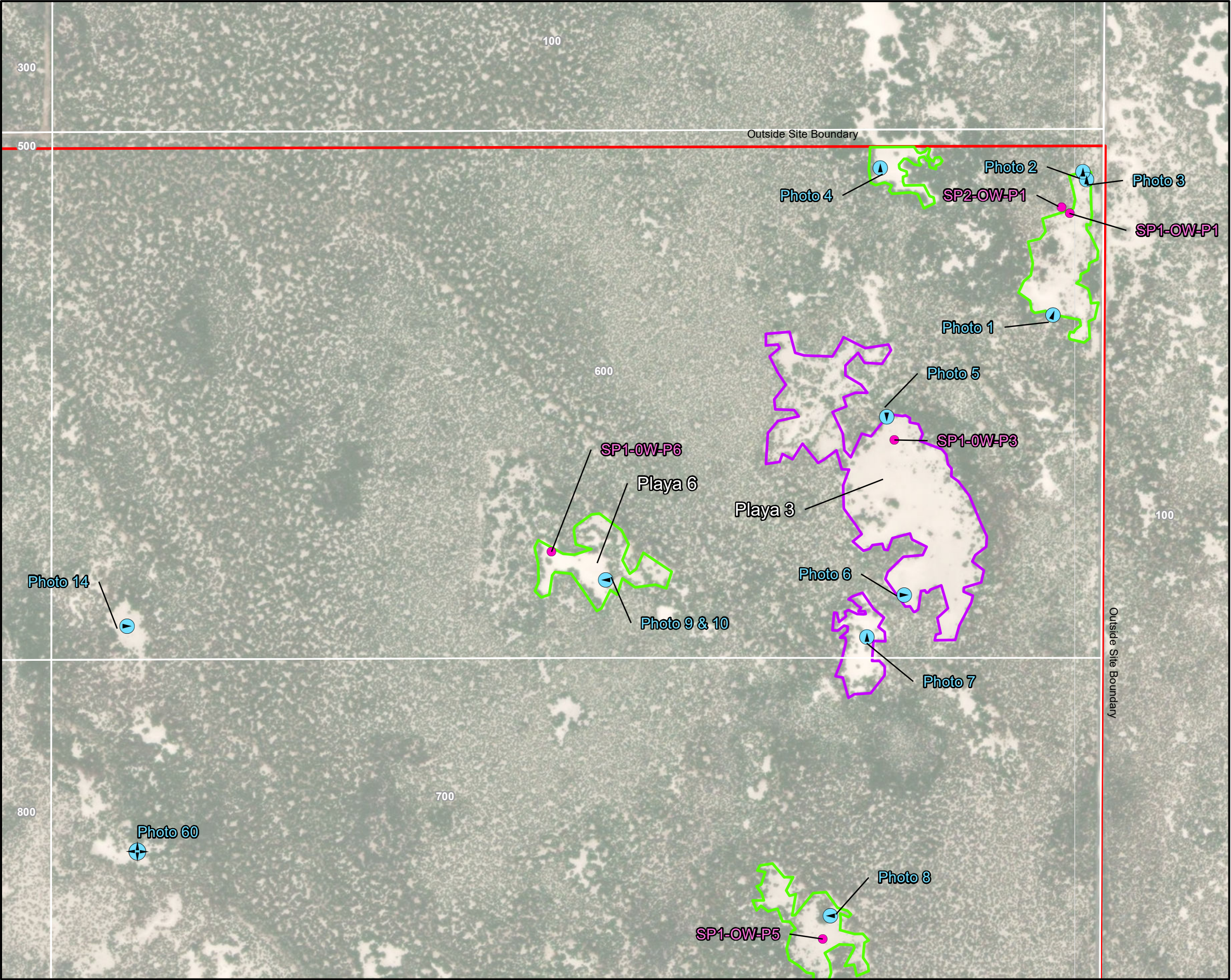
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
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Figure 6- B
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



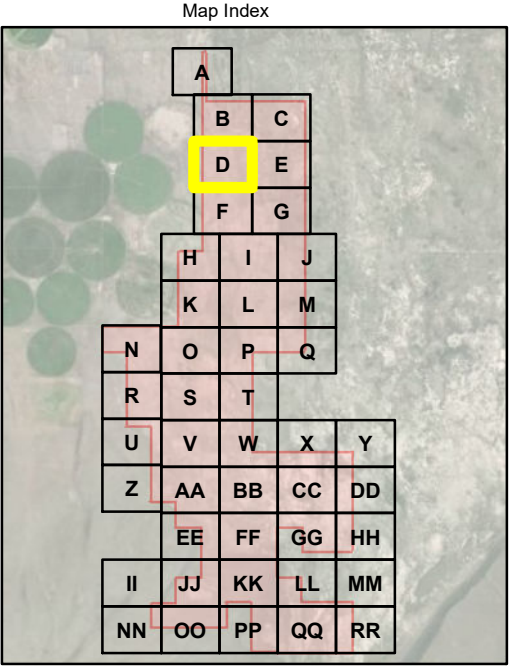
LEGEND

- Sample Point
- ⓘ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

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Figure 6- C
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



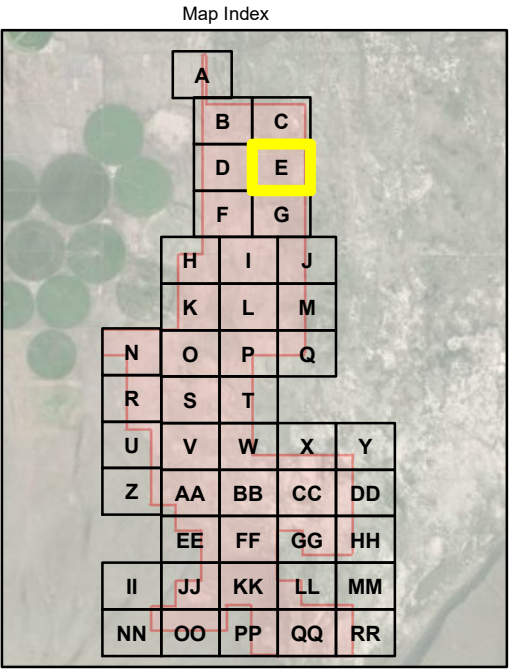
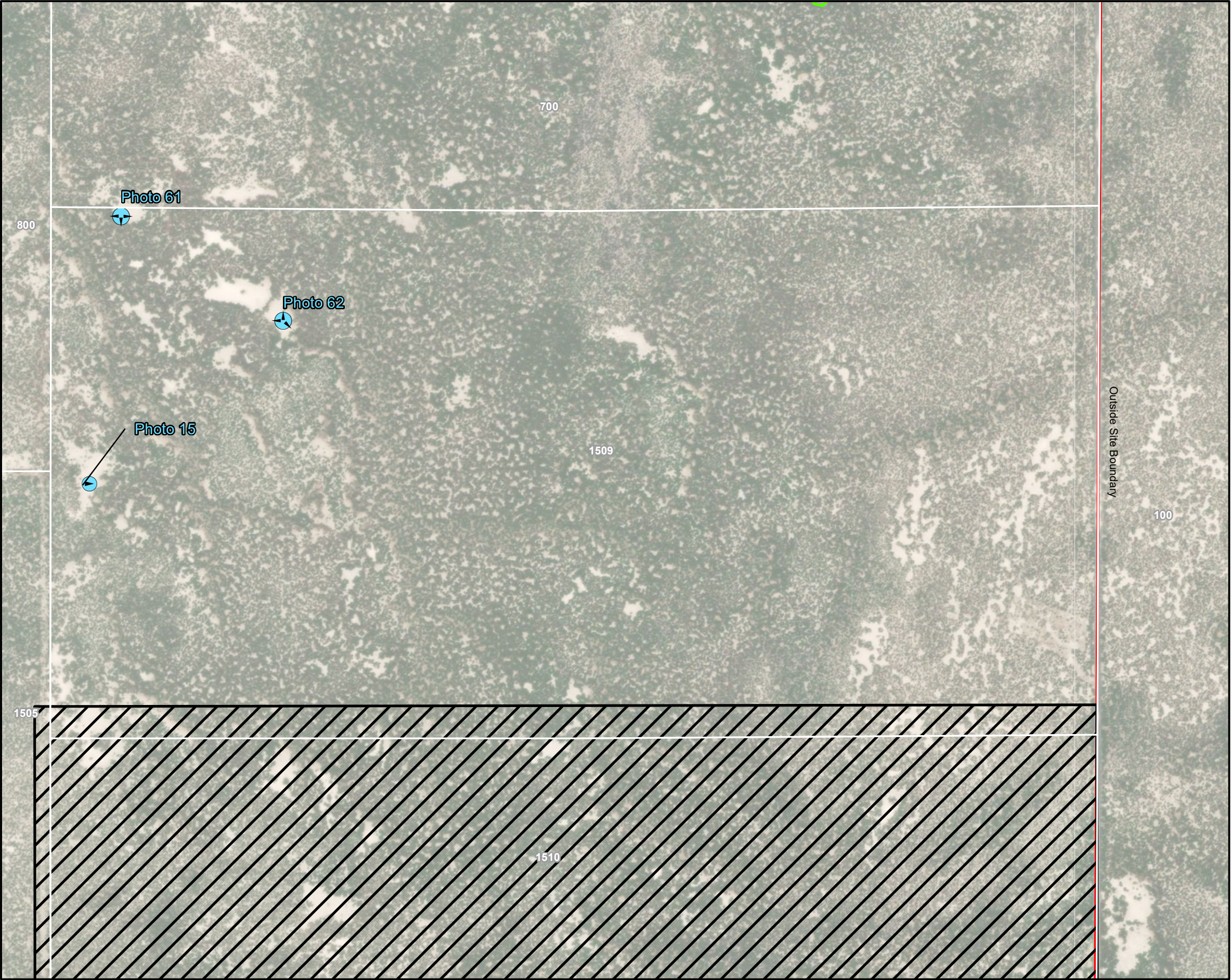
LEGEND

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- ⬆ Photo Point (with direction)
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- ▭ Playa Mosaic
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Figure 6- D
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



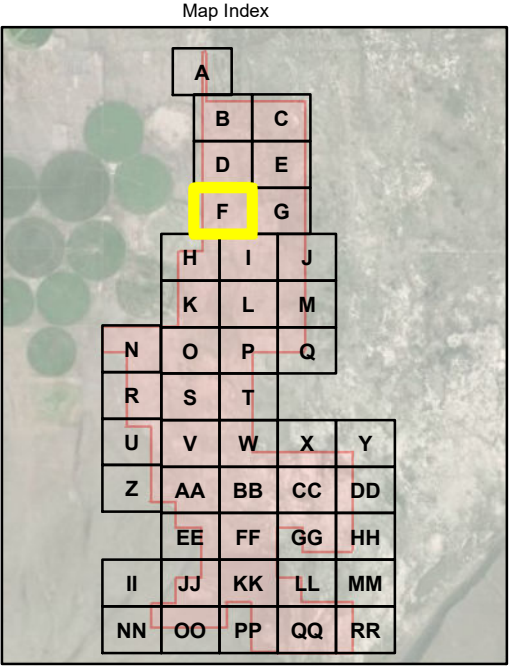
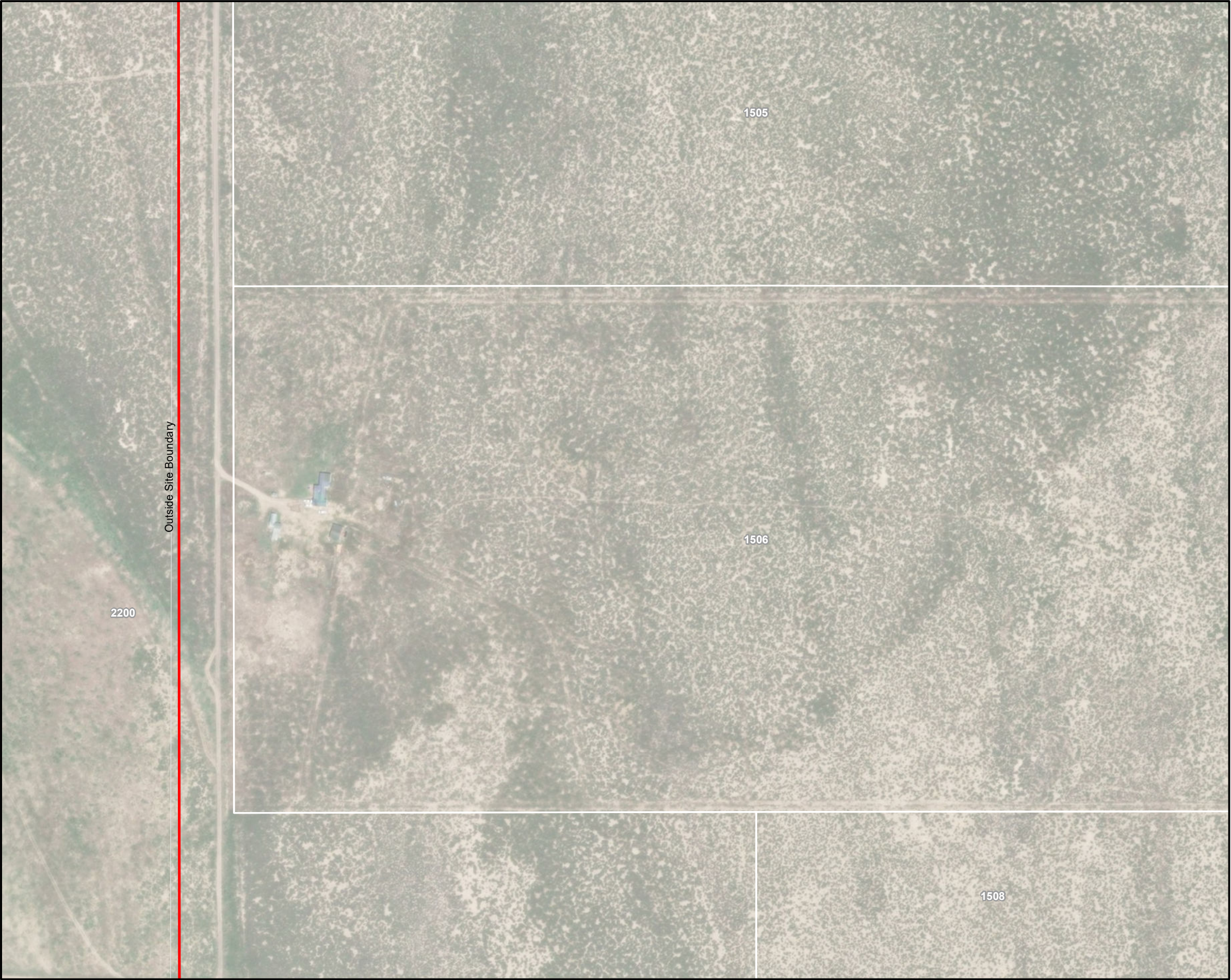
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

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Figure 6- E
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



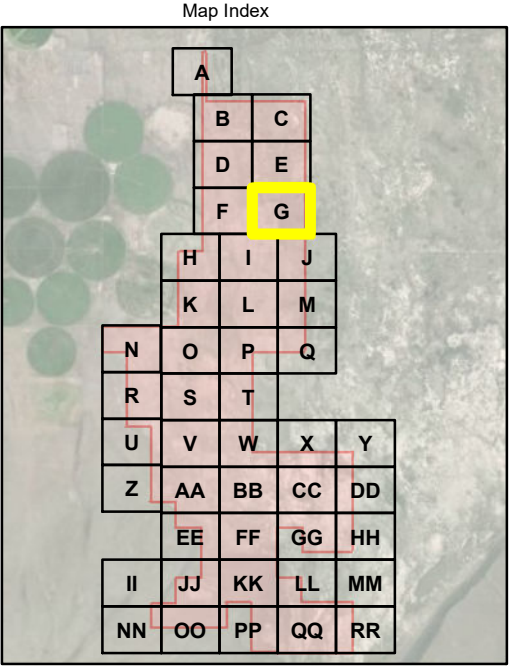
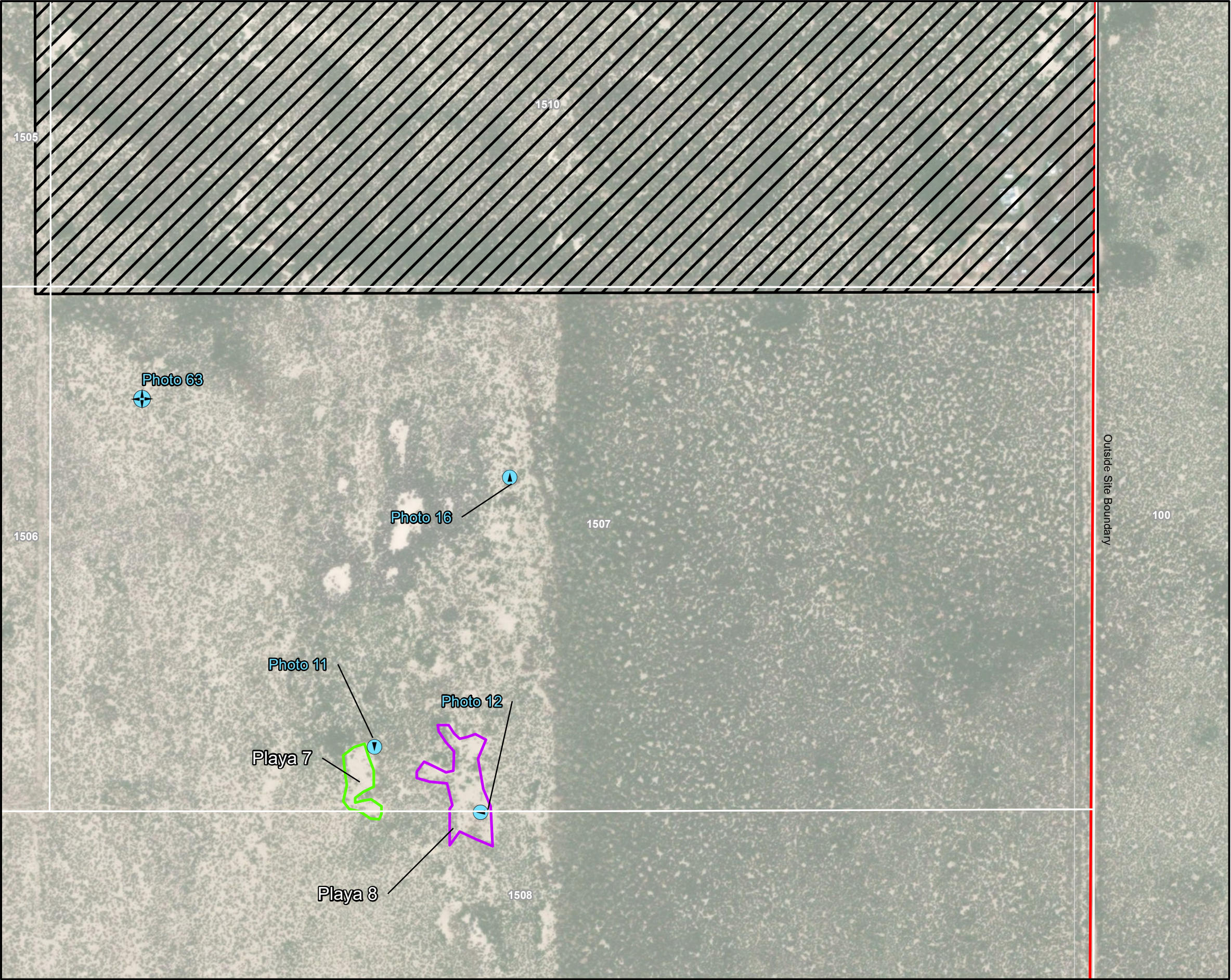
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
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- ▭ Playa Mosaic
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Figure 6- F
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



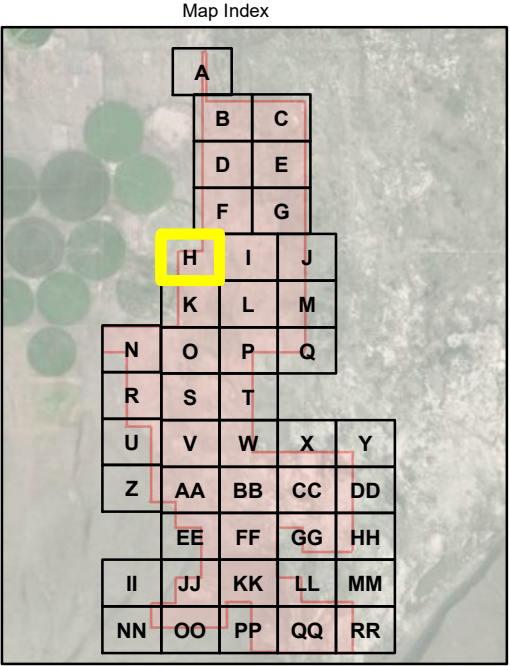
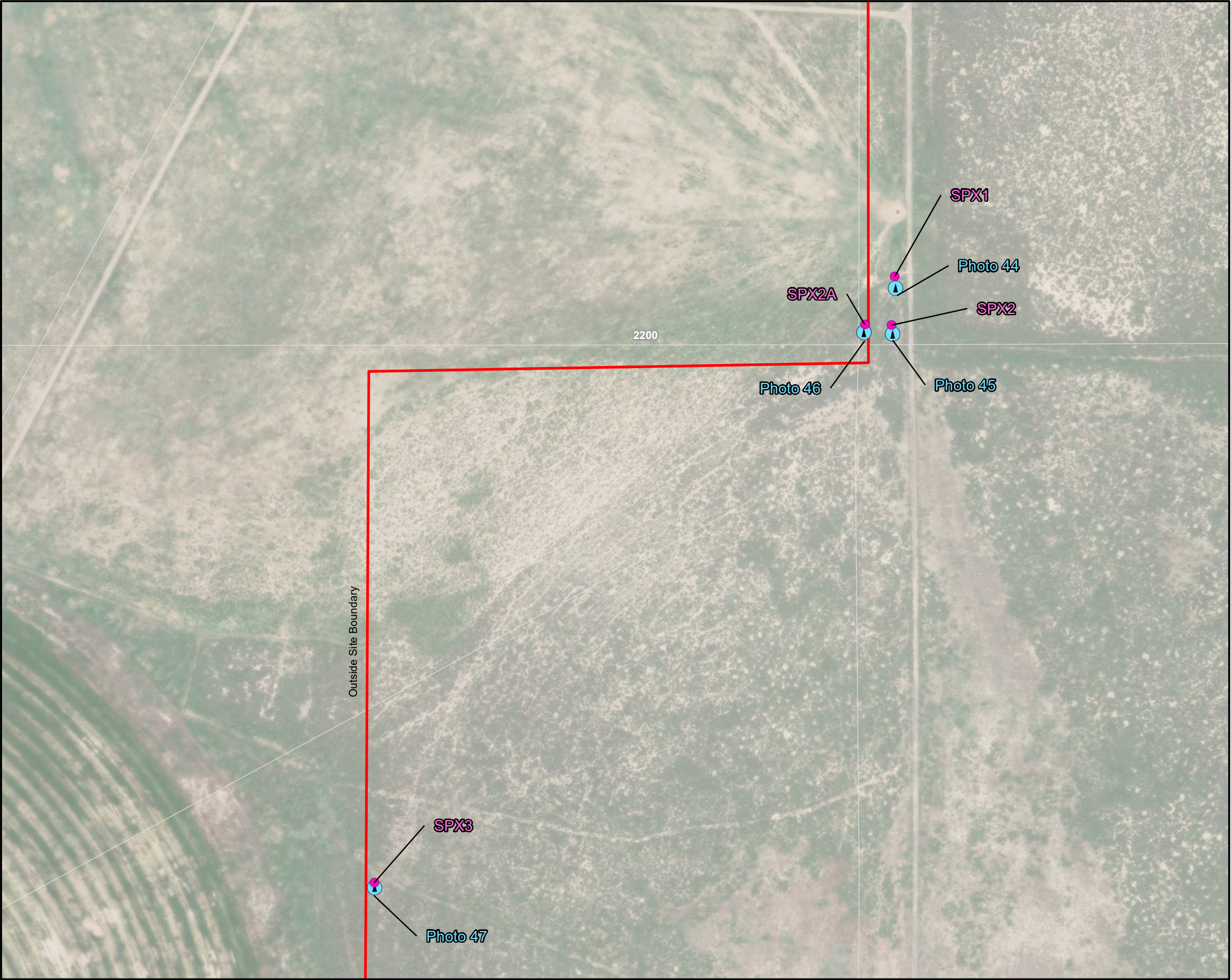
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
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- ▭ Playa Mosaic
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Figure 6- G
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



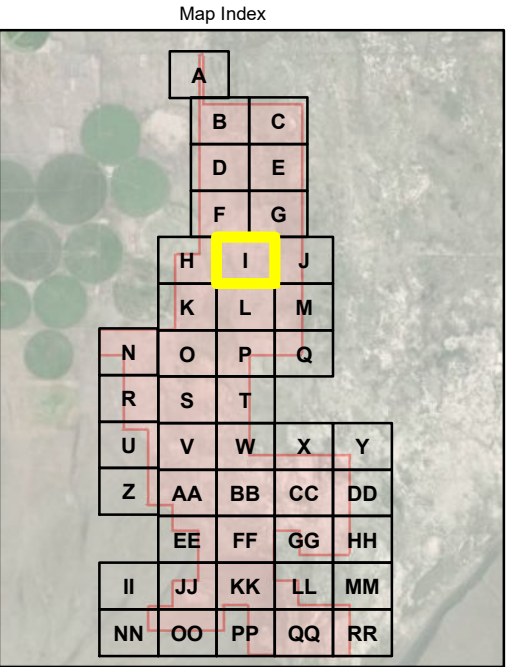
LEGEND

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Figure 6- H
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



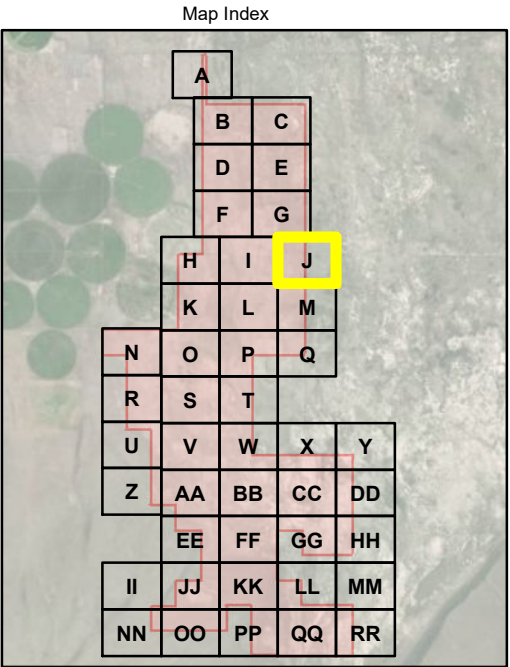
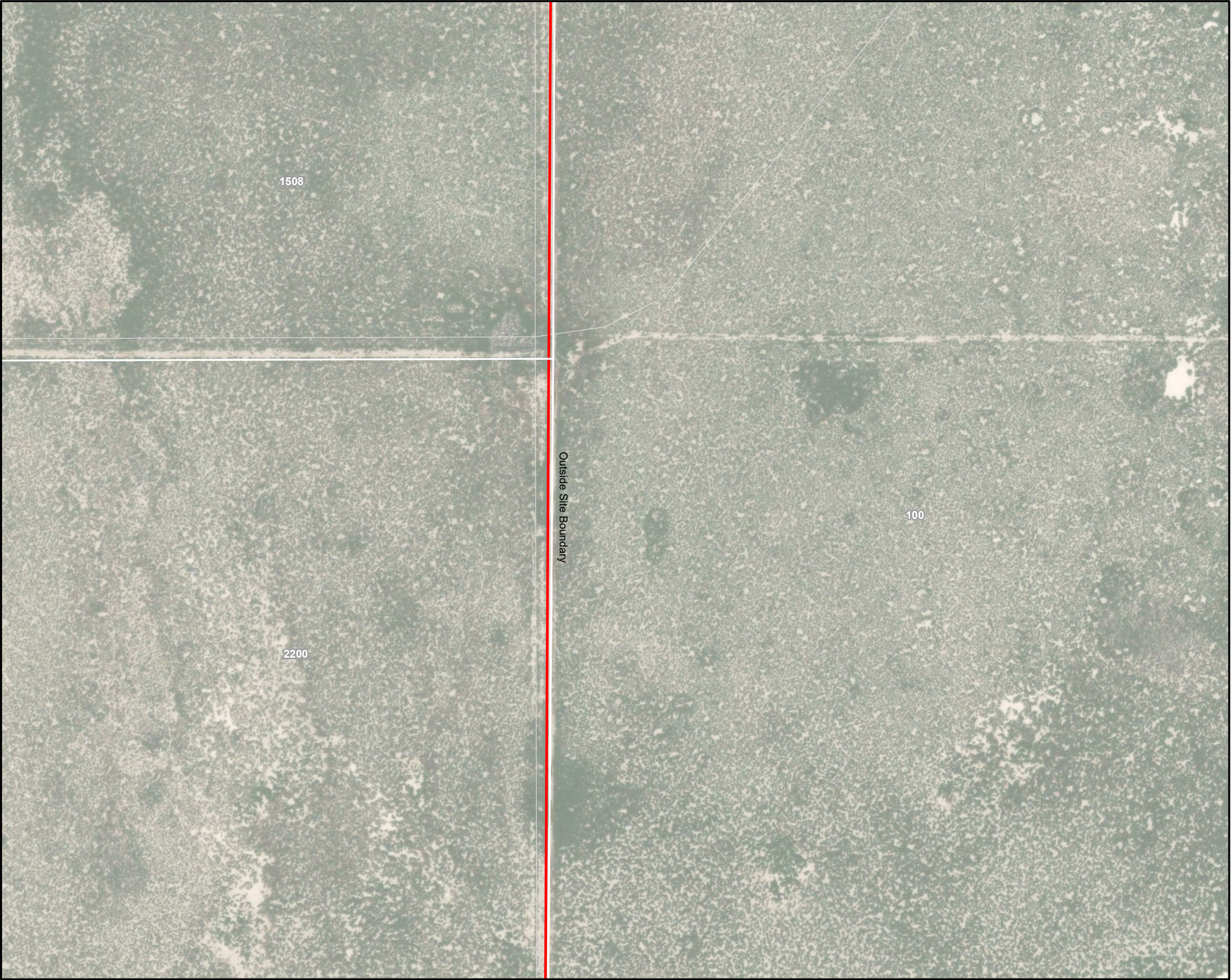
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Figure 6-1
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



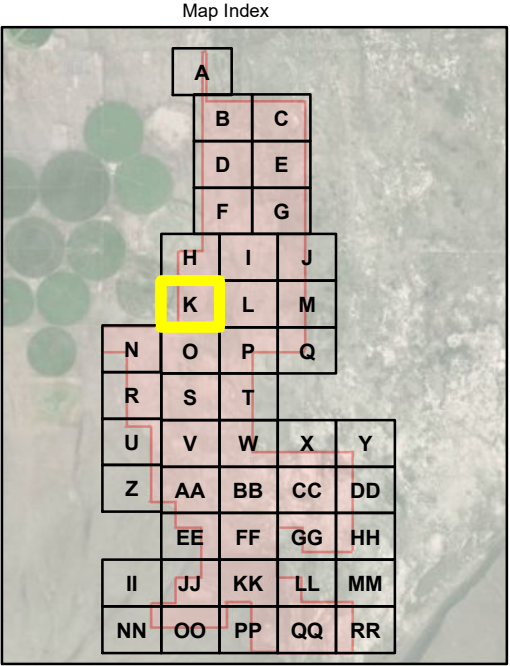
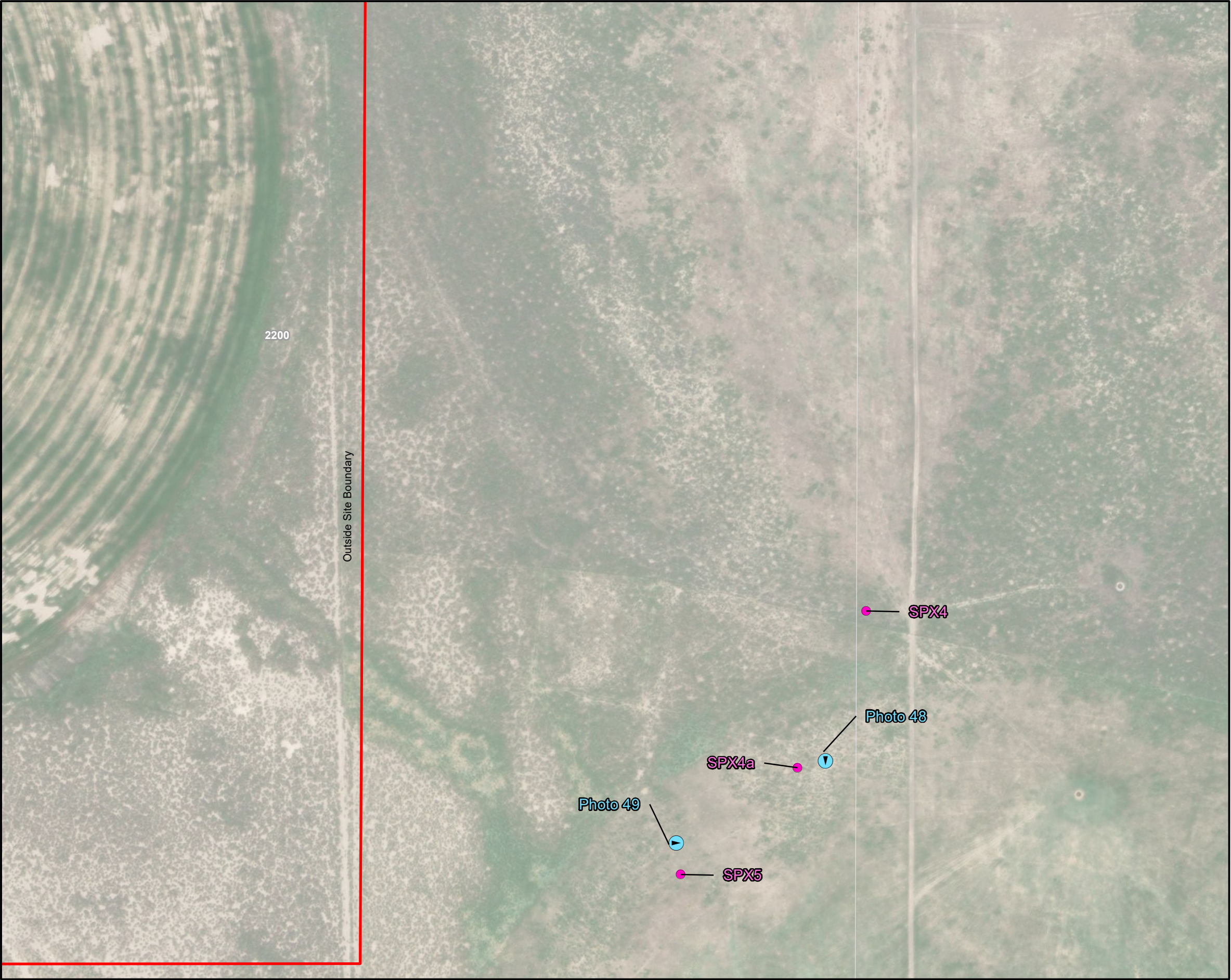
LEGEND

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Figure 6- J
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



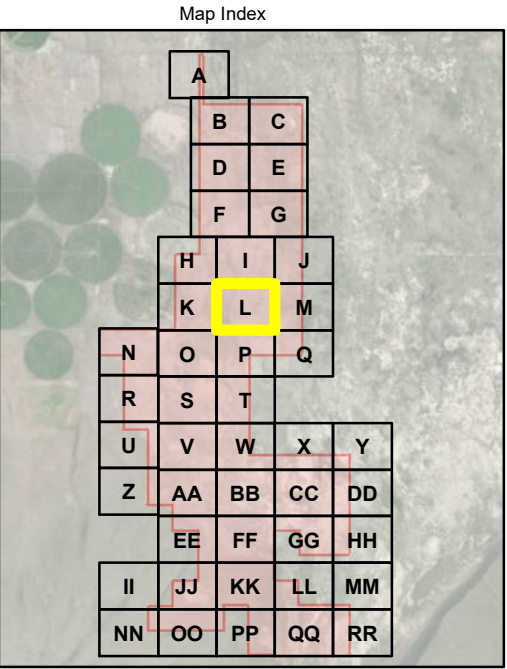
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- K
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



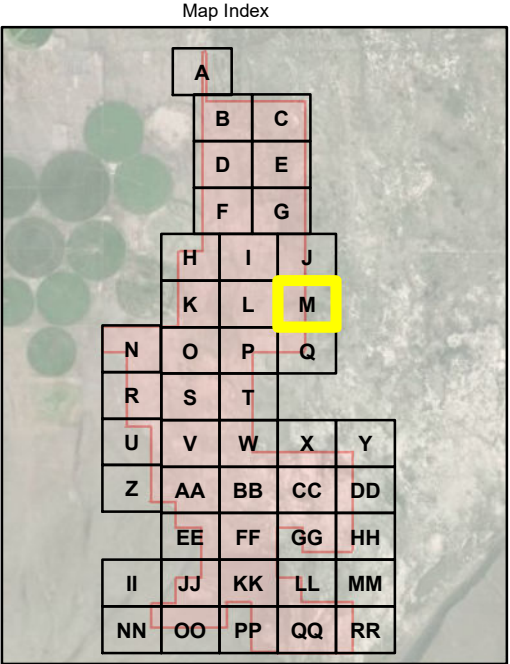
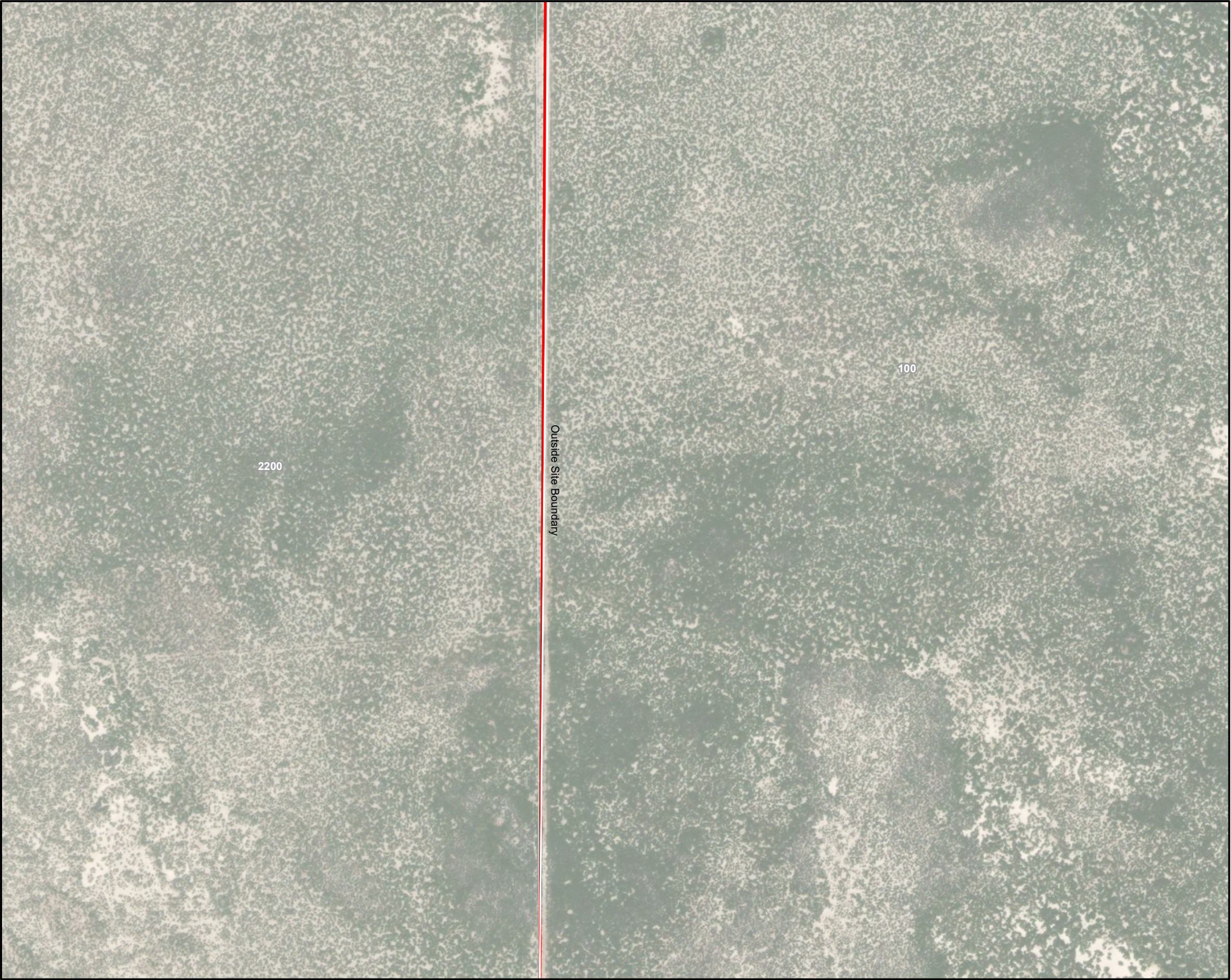
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- L
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



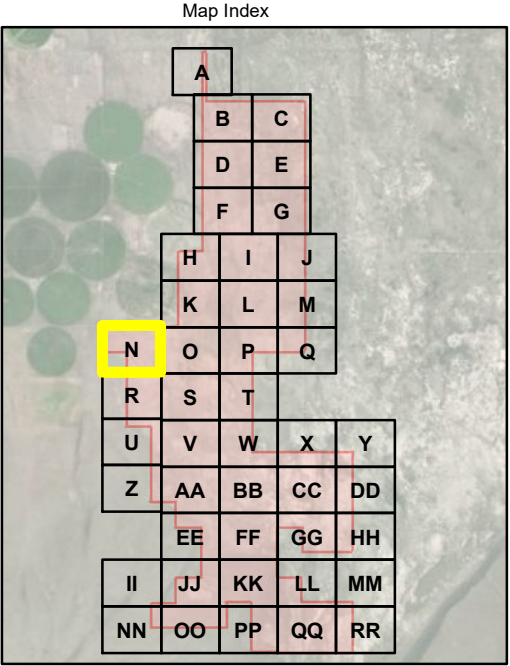
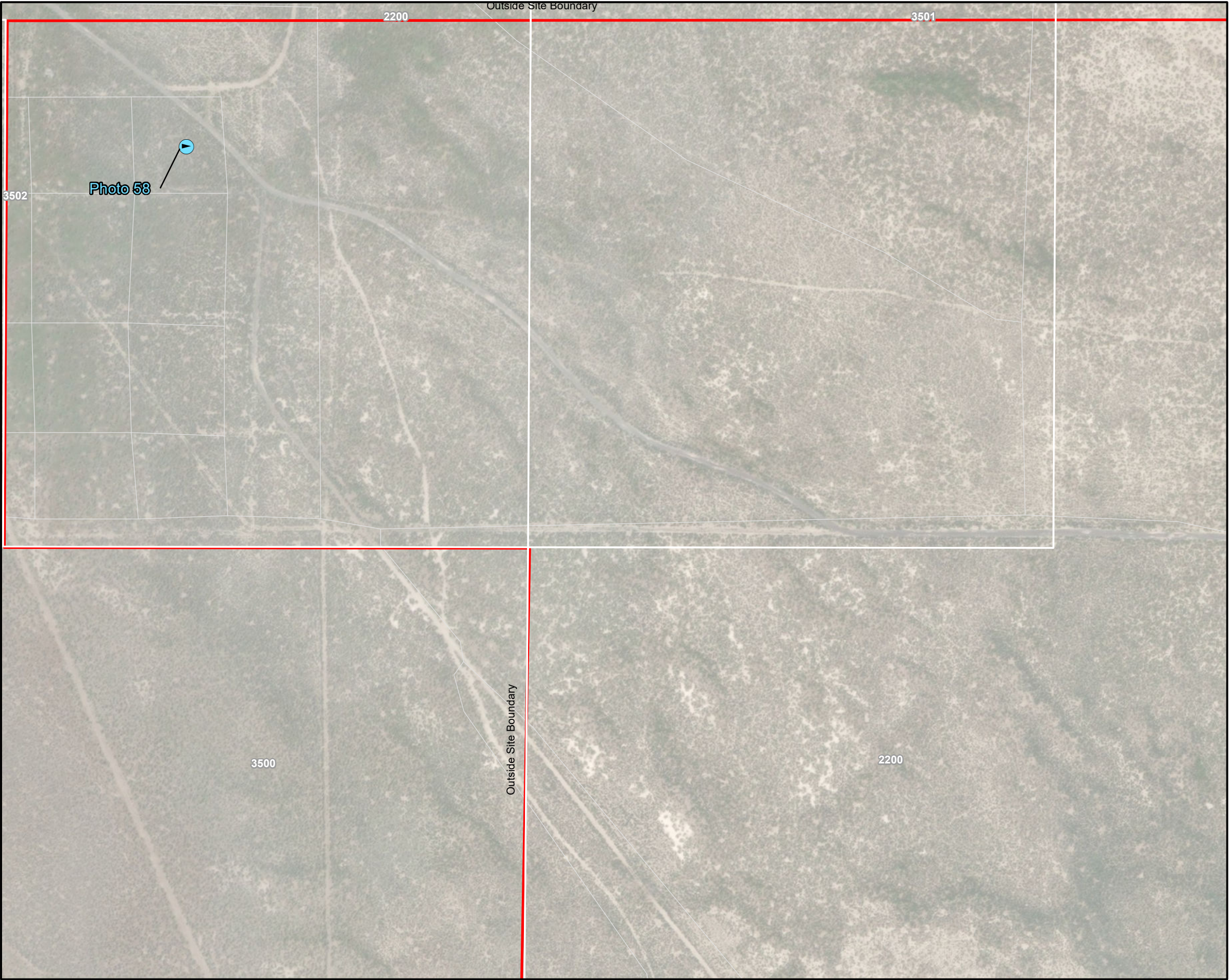
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- M
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



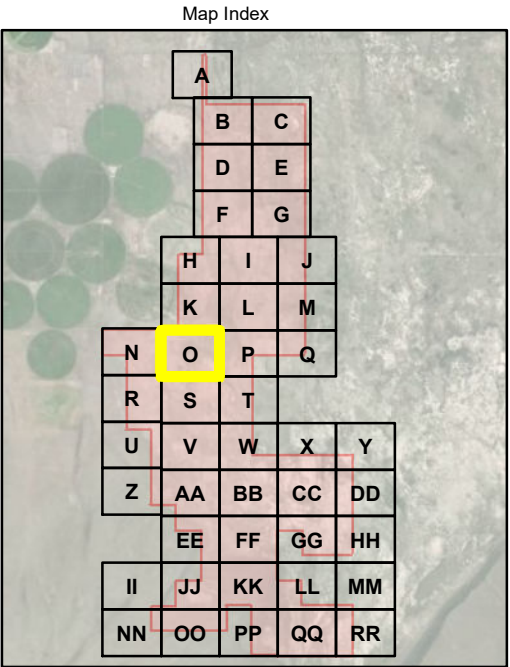
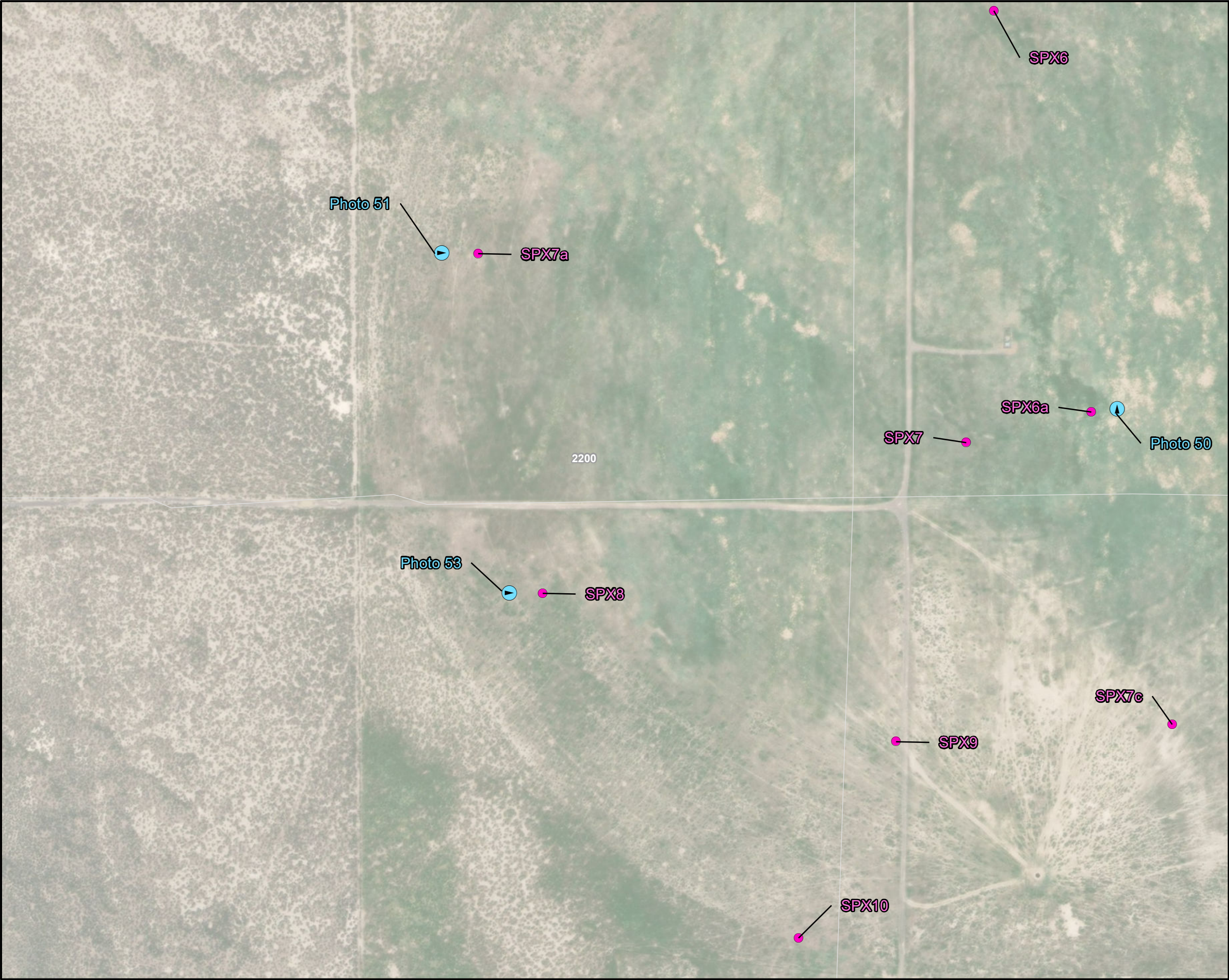
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- N
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



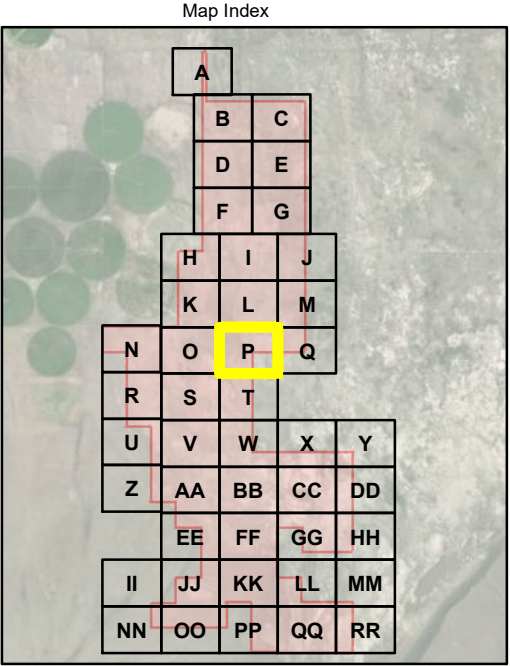
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- O
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



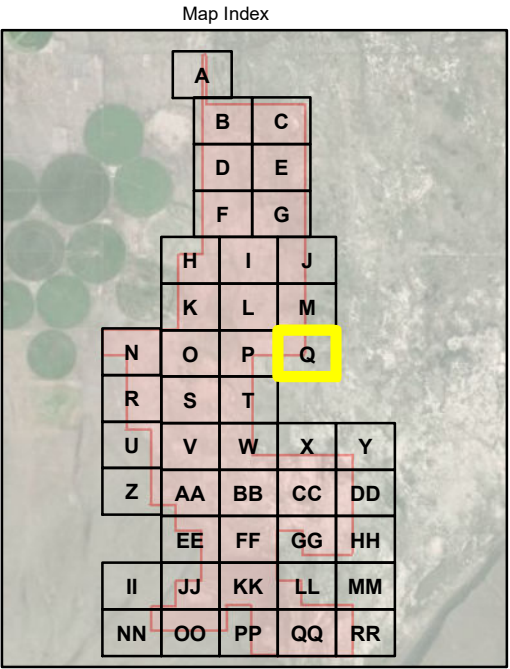
LEGEND

- Sample Point
- Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
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 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- P
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



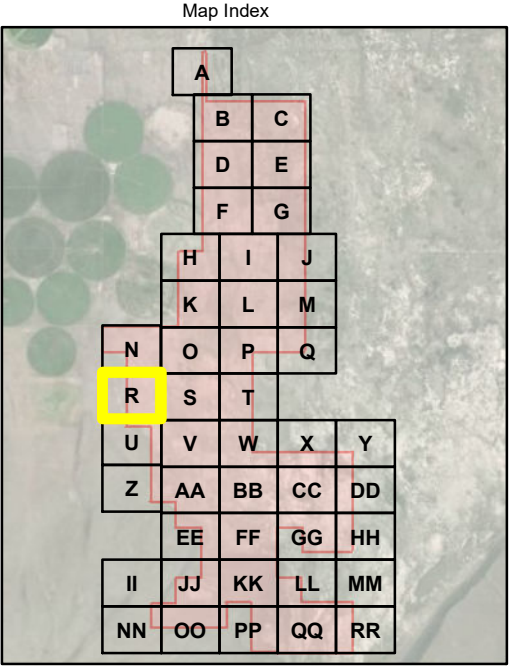
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Q
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



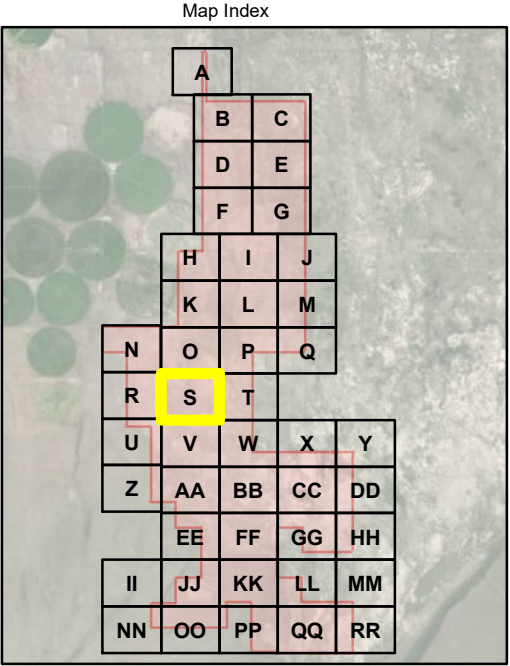
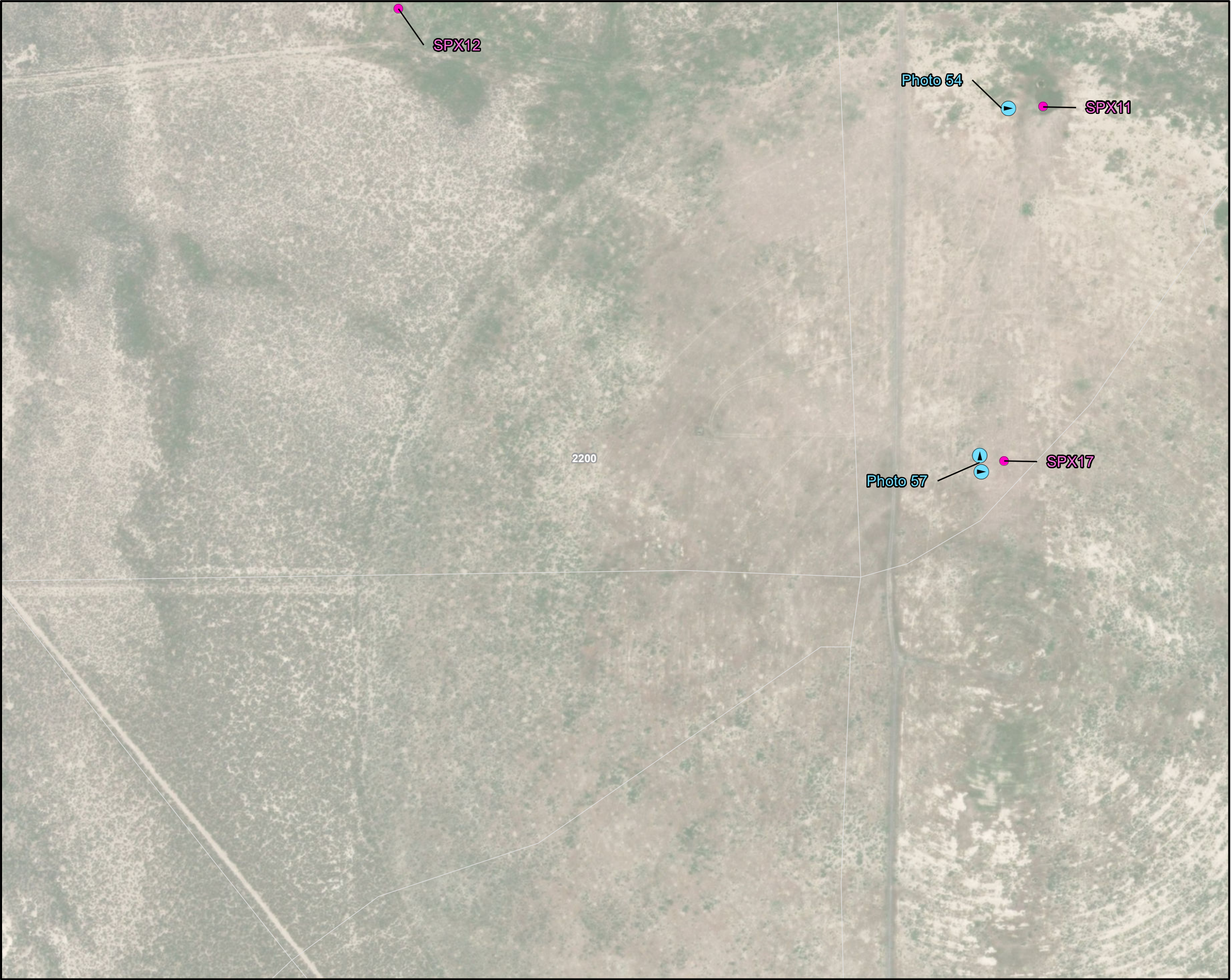
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- R
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



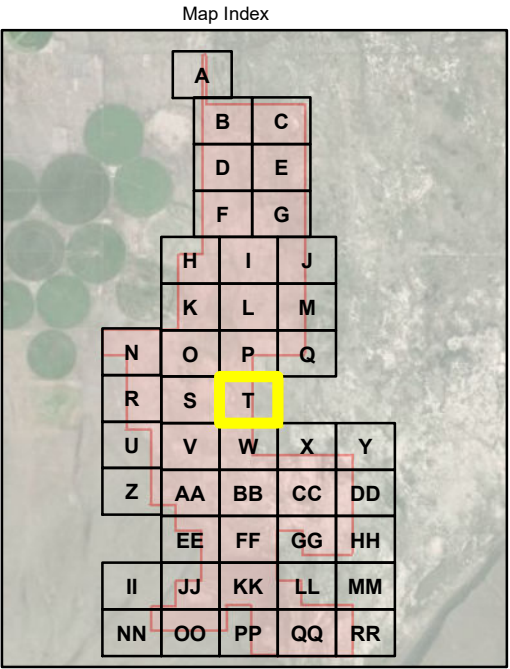
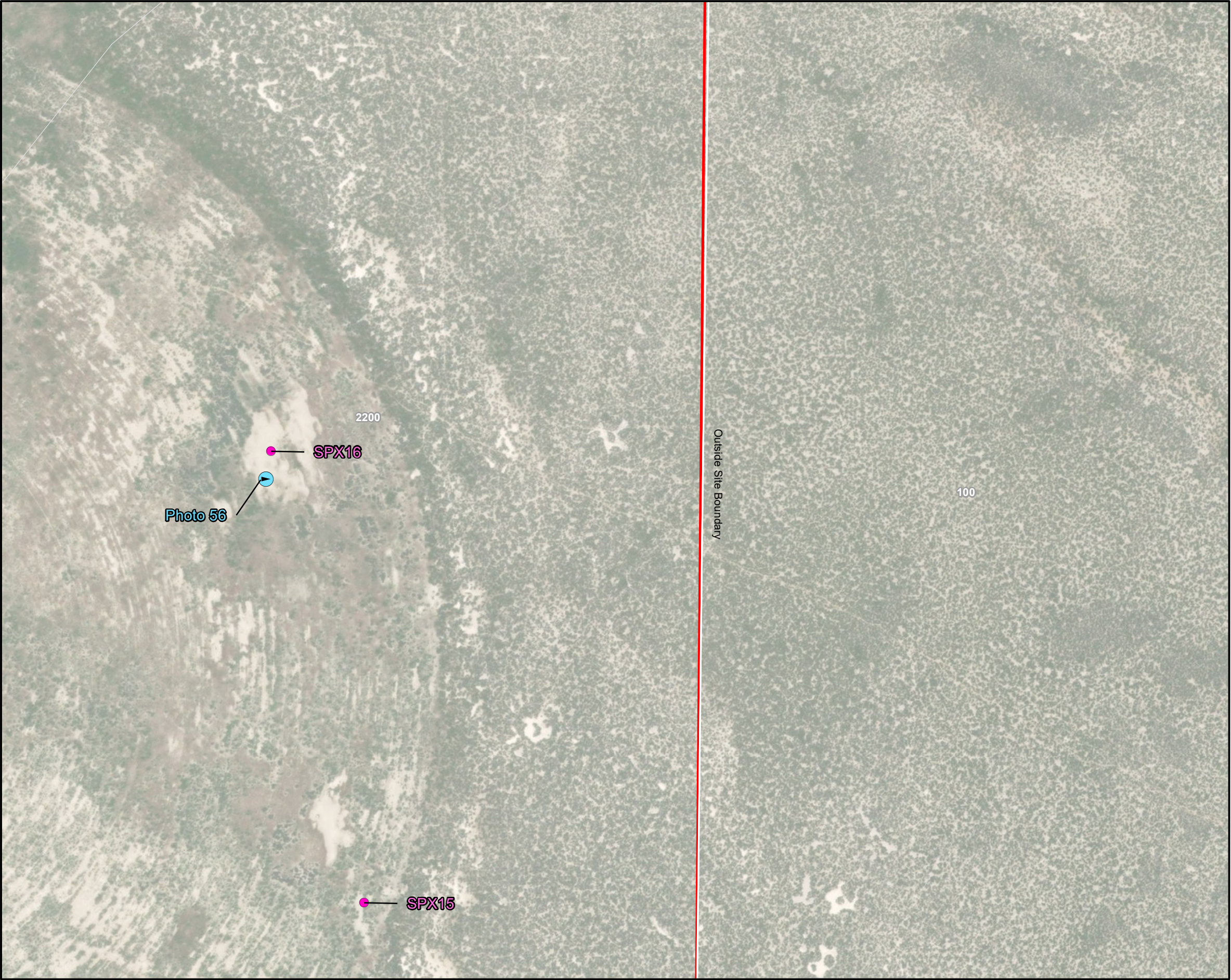
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- S
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



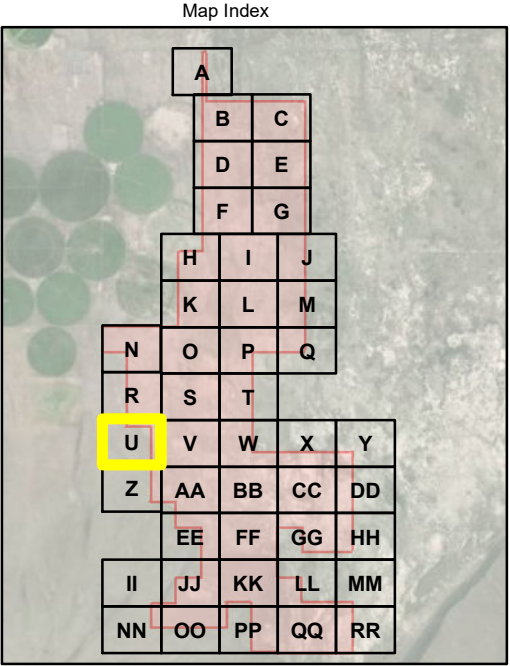
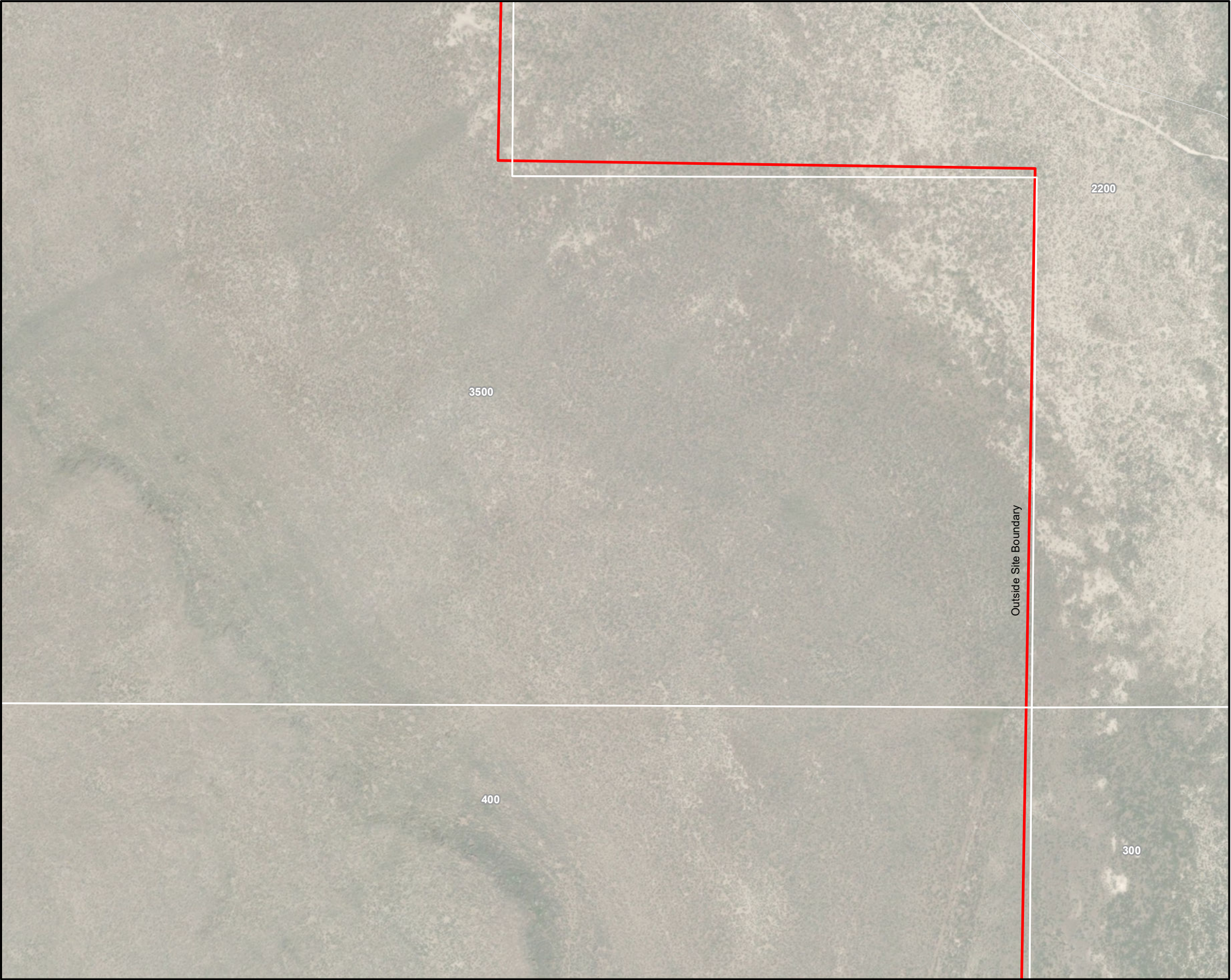
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- T
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 3. Project site within the following:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

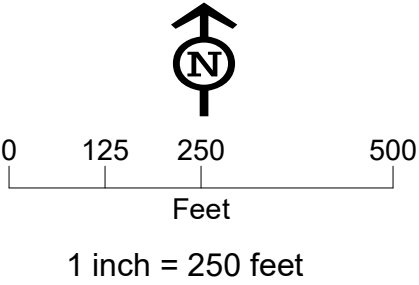
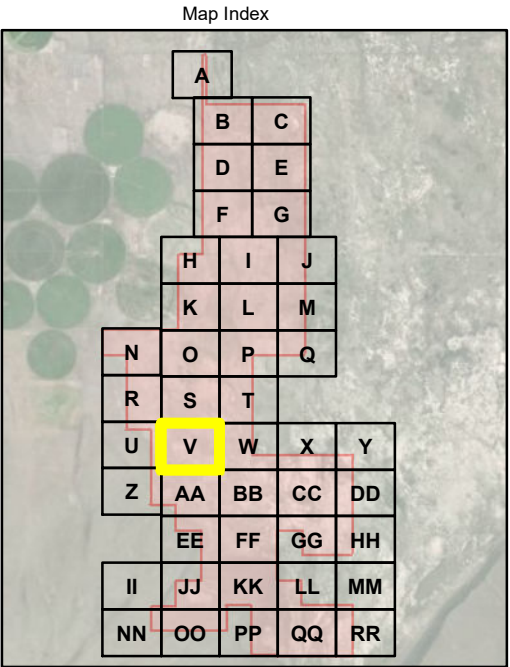
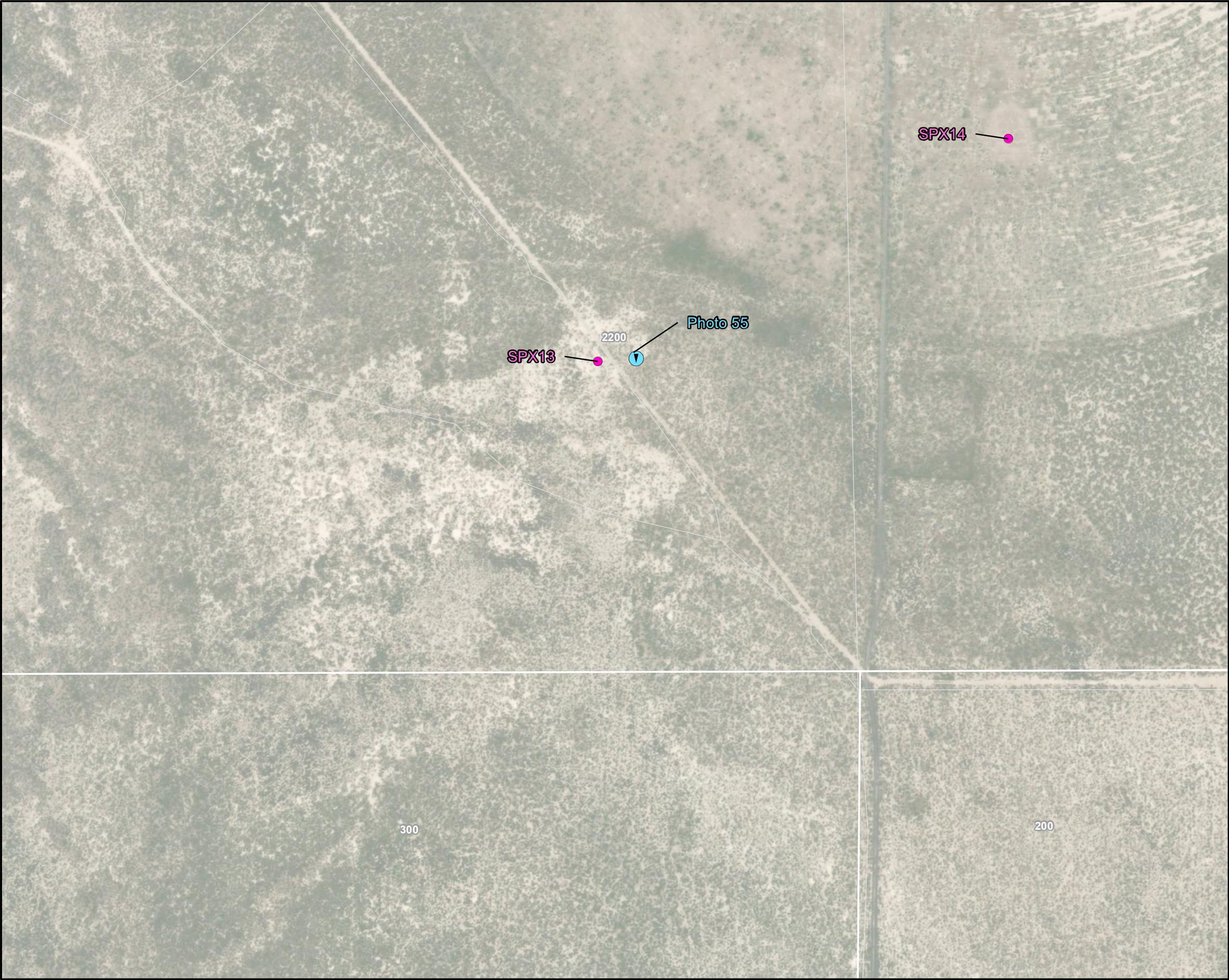


Figure 6- U
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



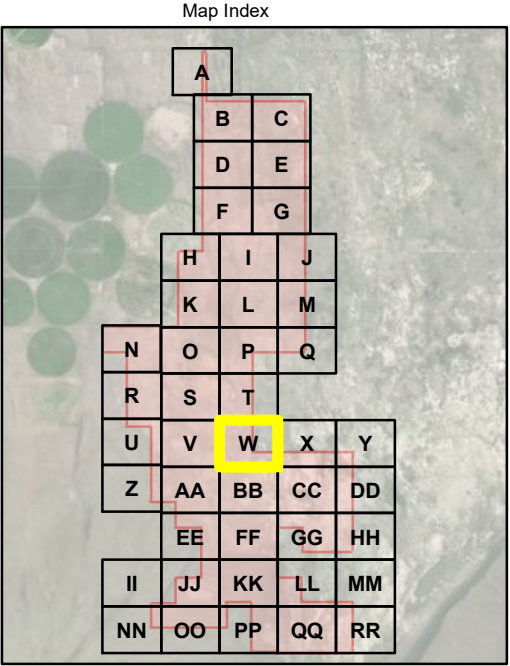
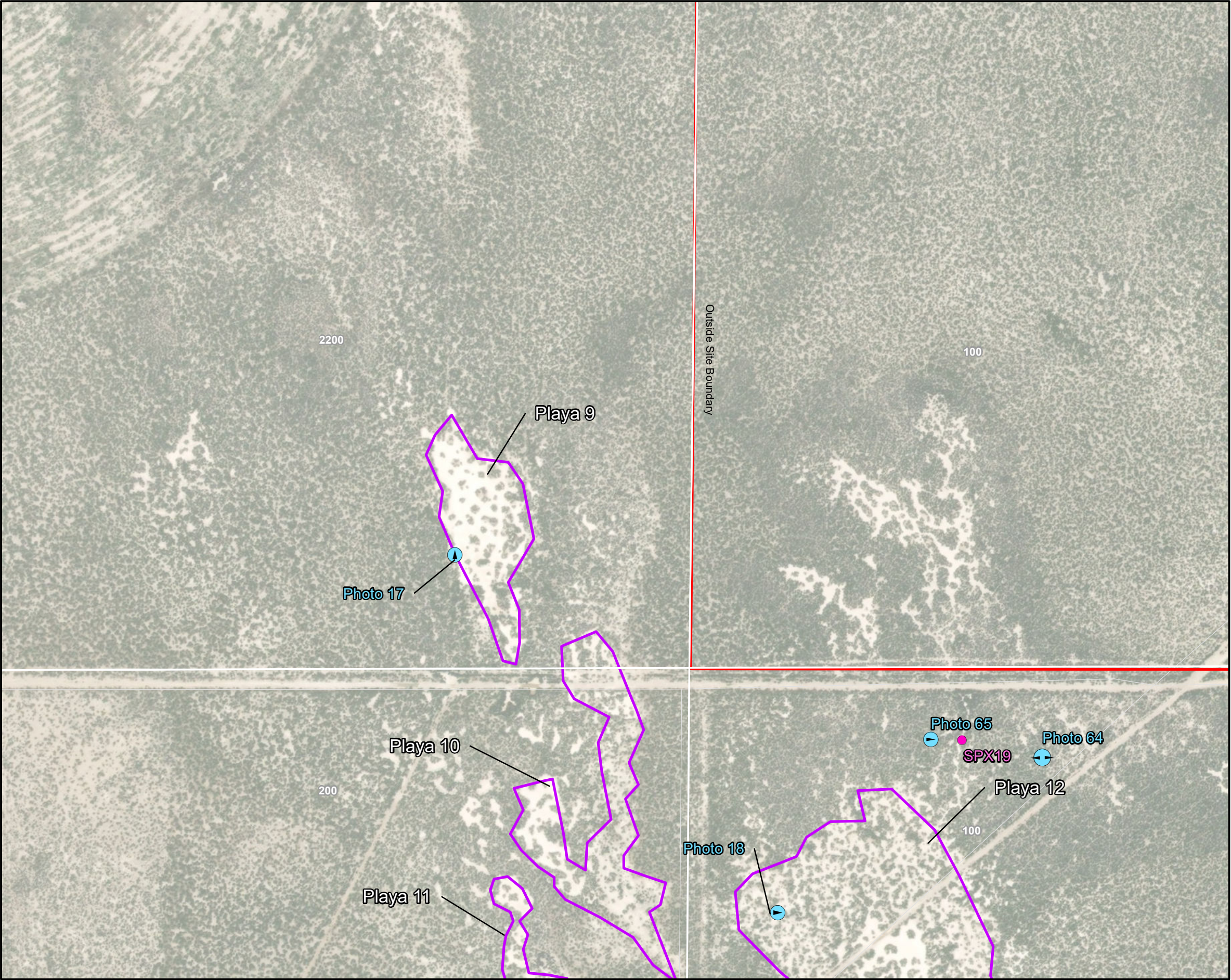
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- V
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



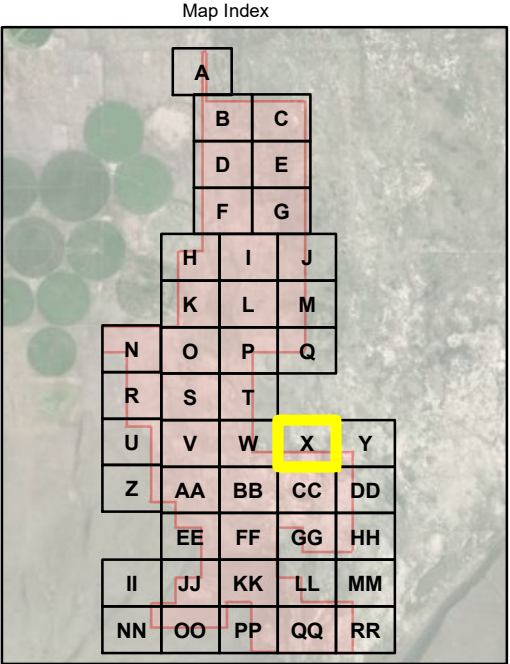
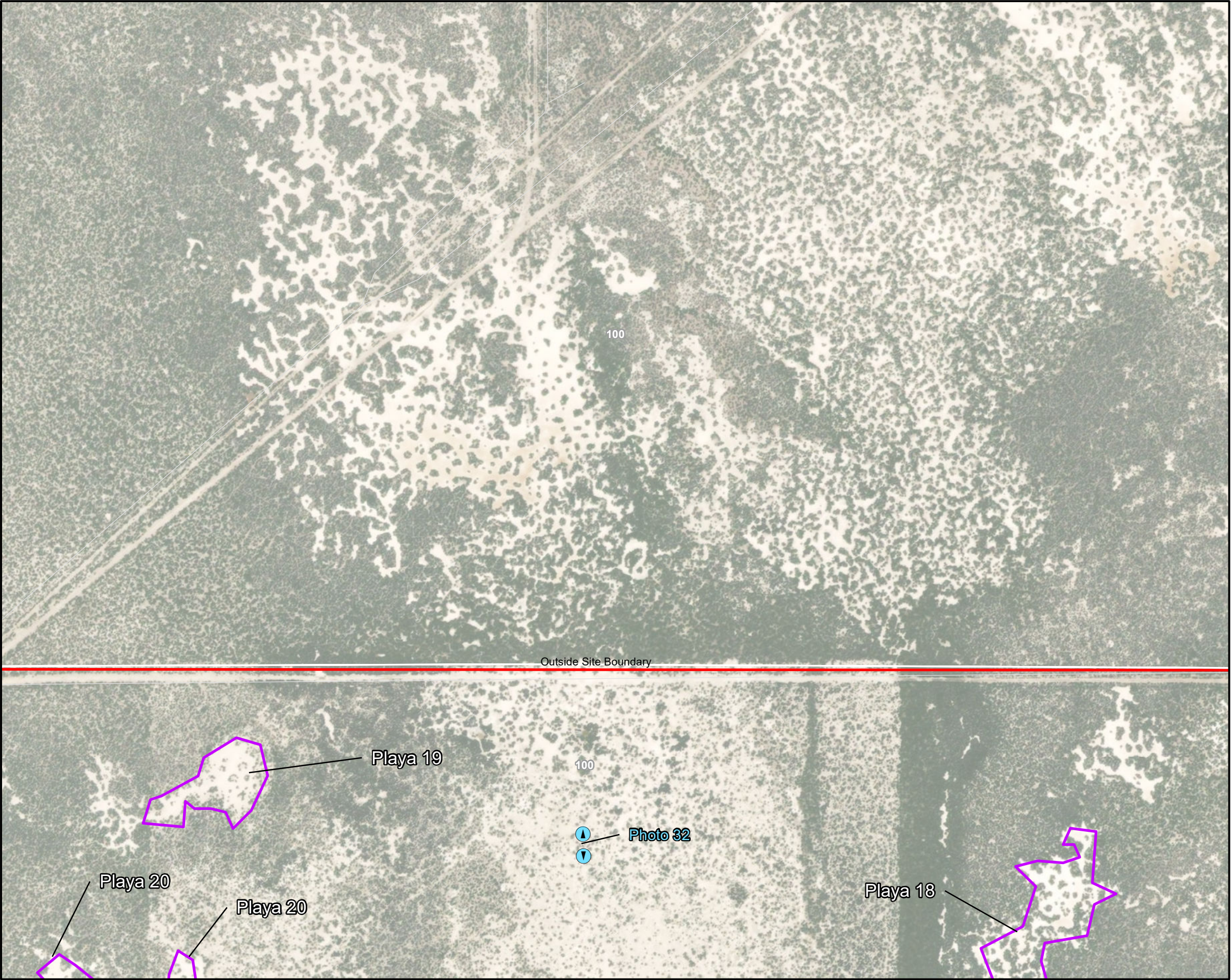
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- W
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



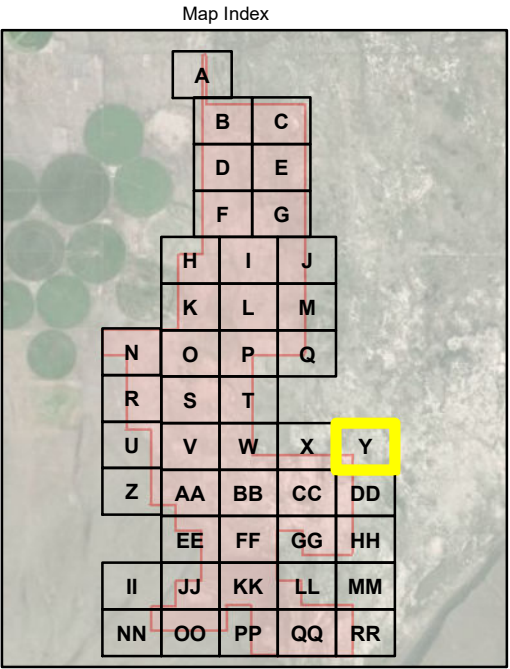
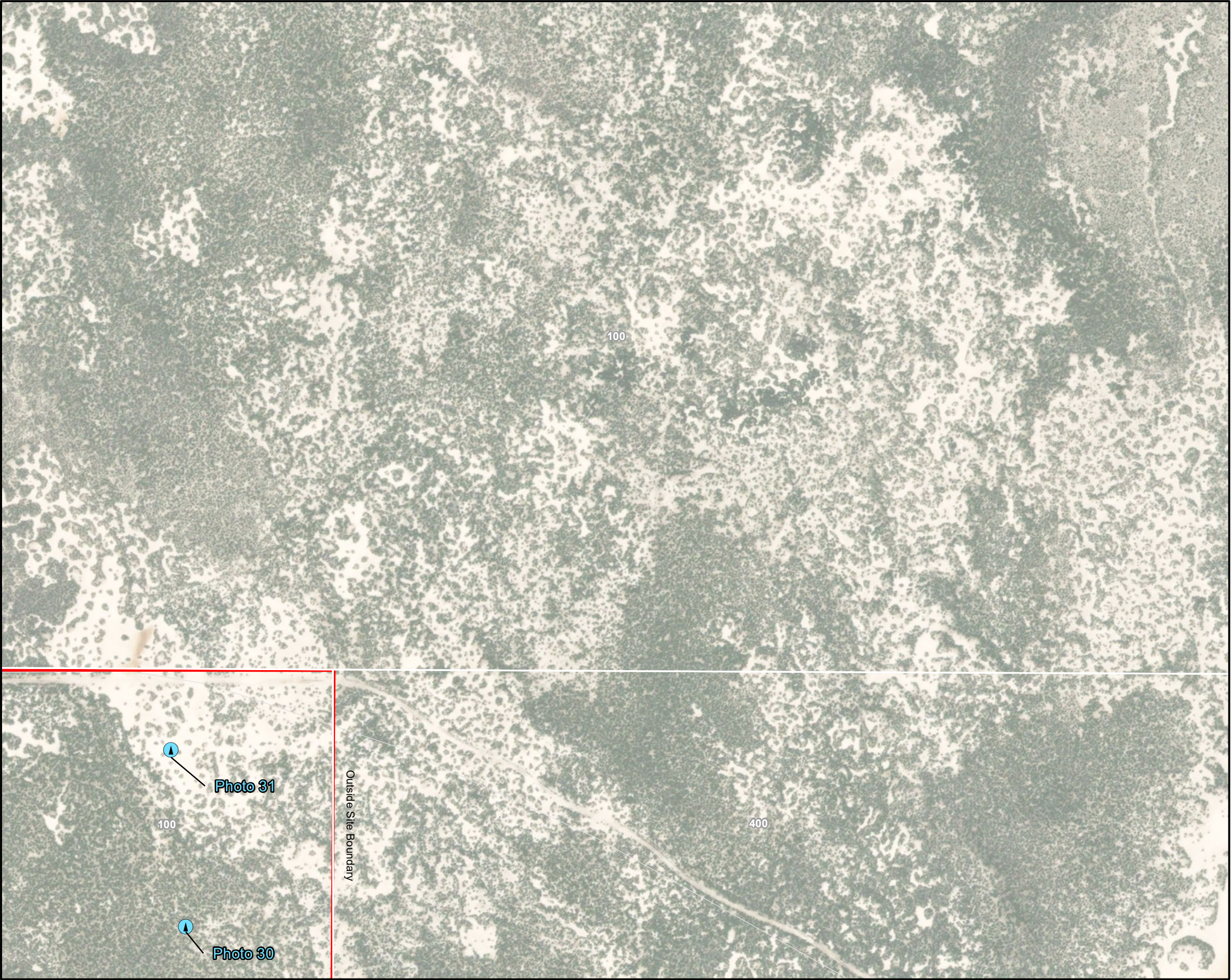
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- X
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



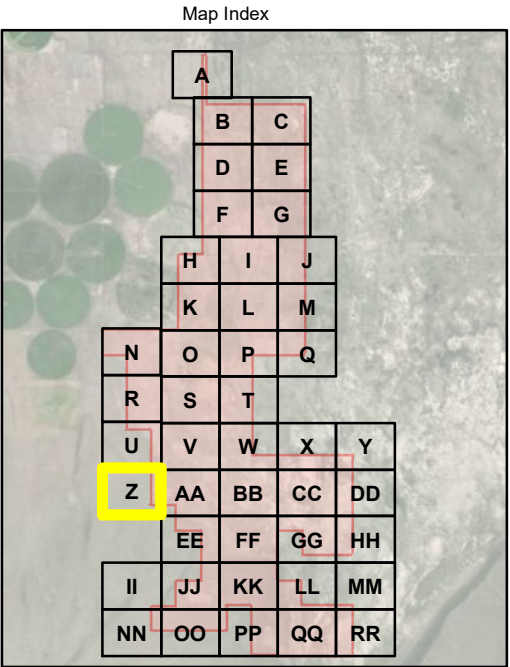
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Y
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



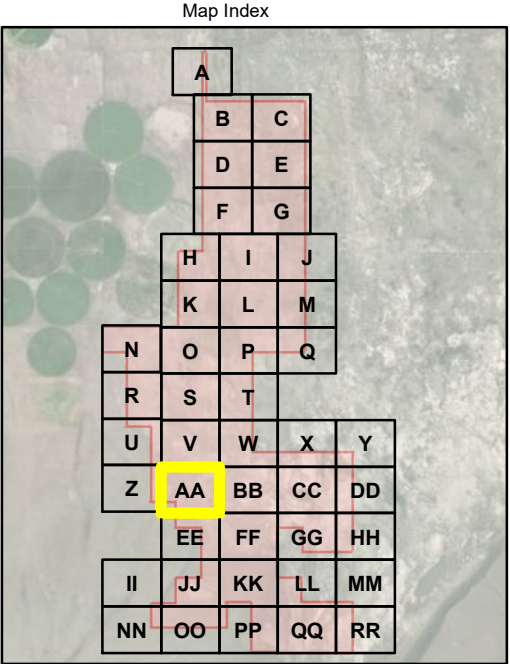
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- Z
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



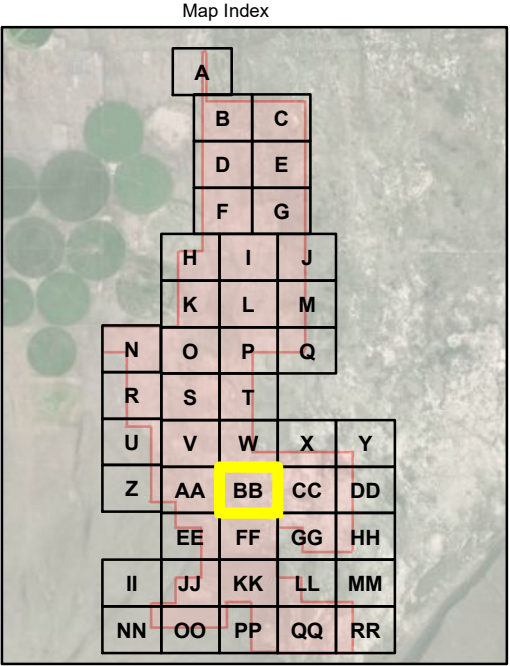
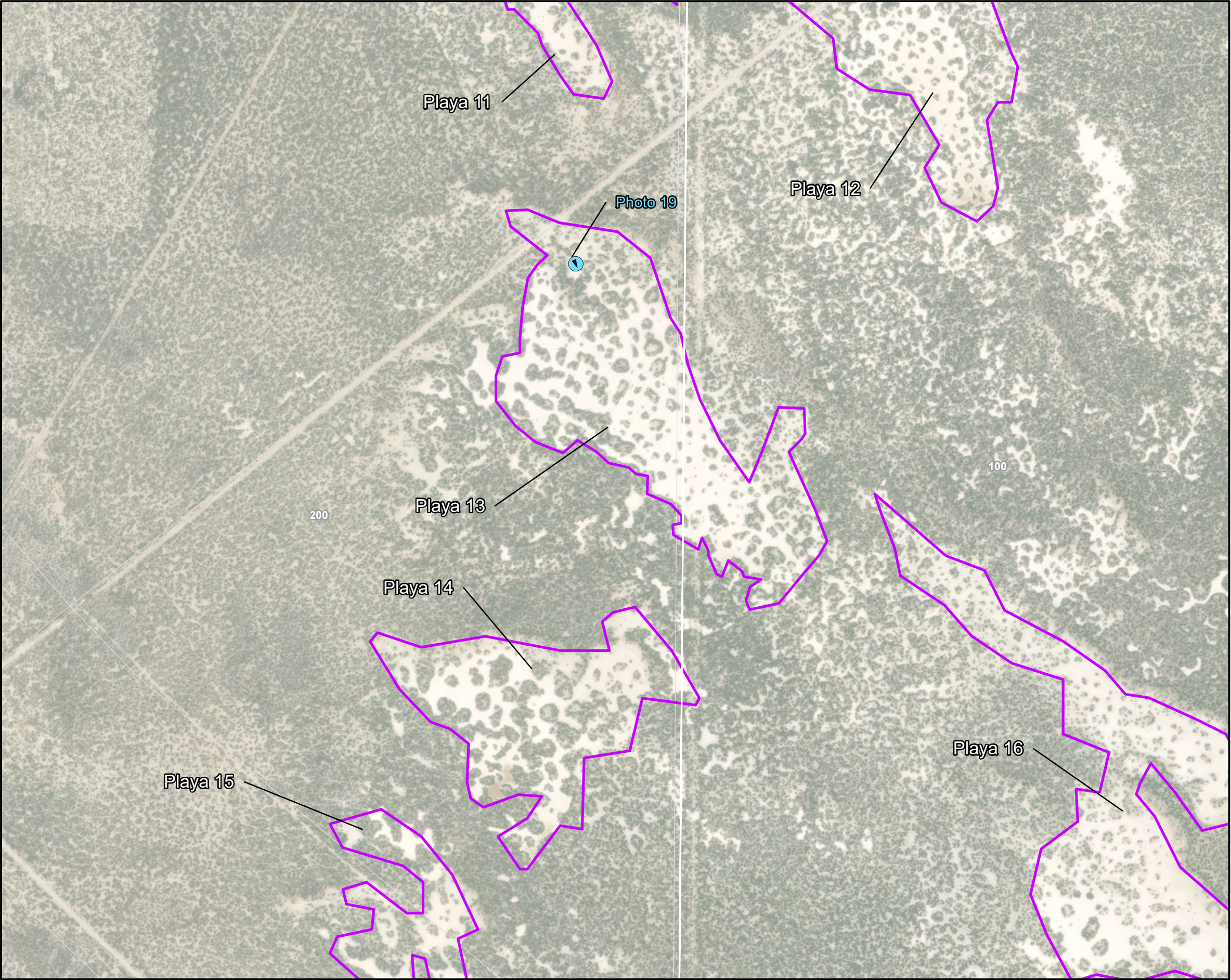
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- AA
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



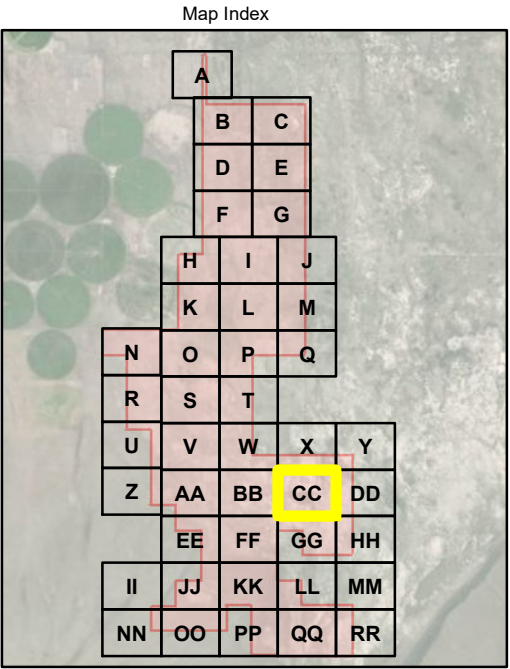
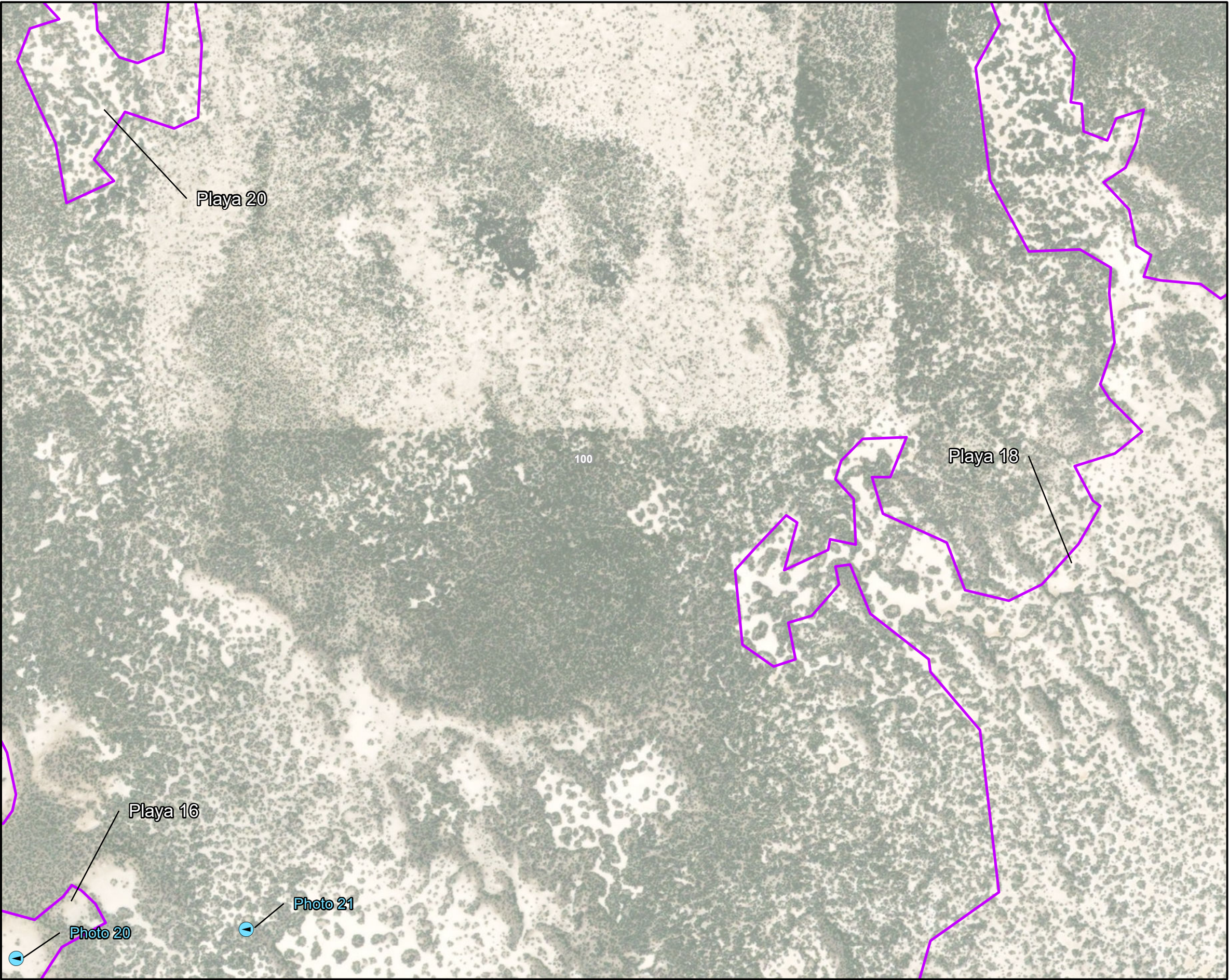
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- BB
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



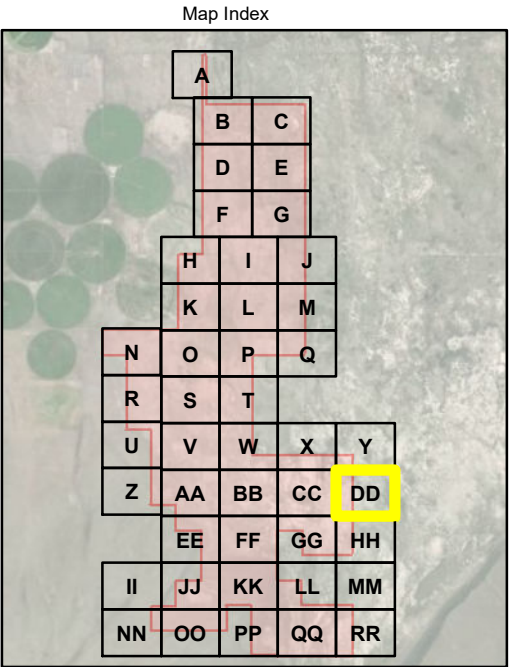
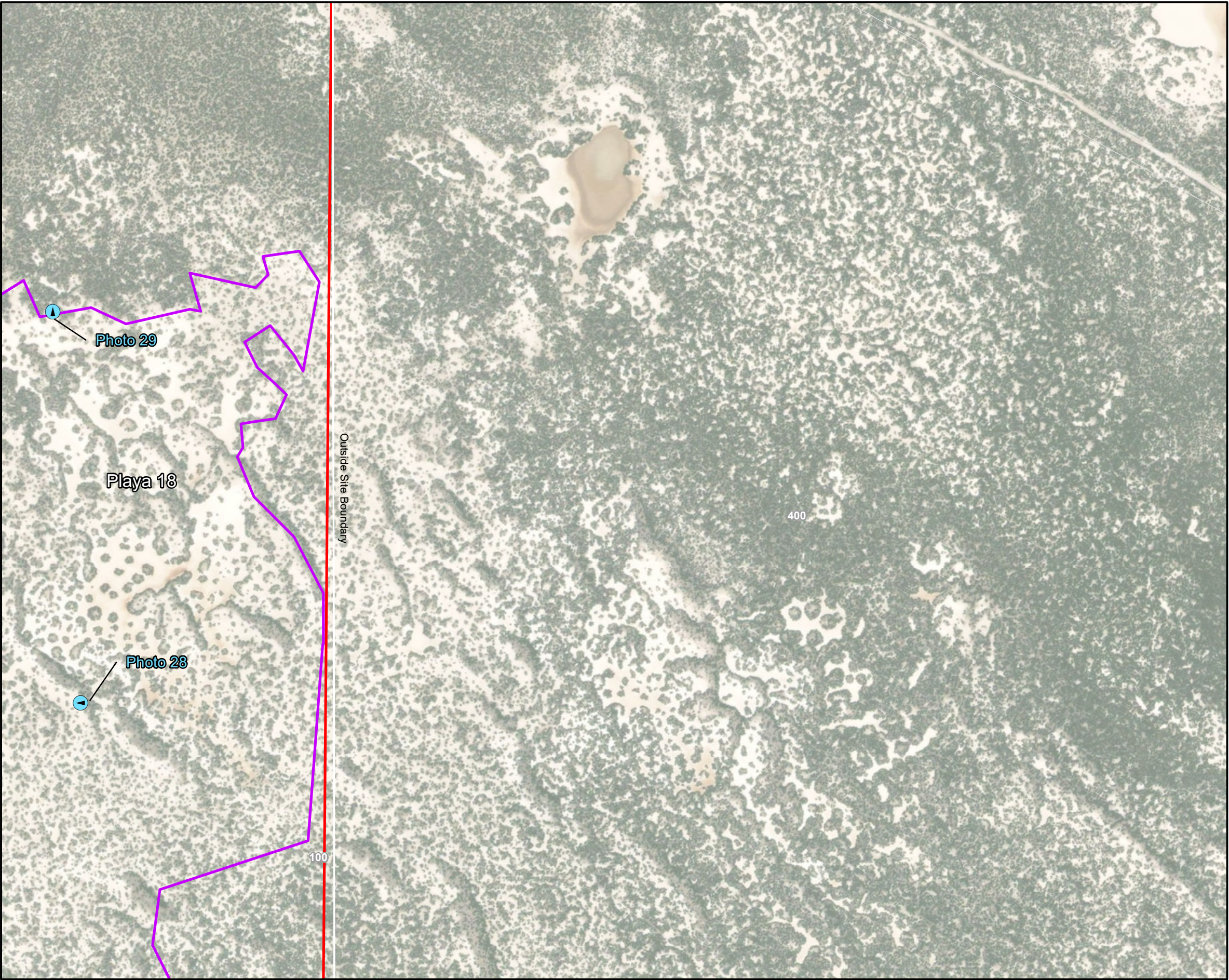
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- CC
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



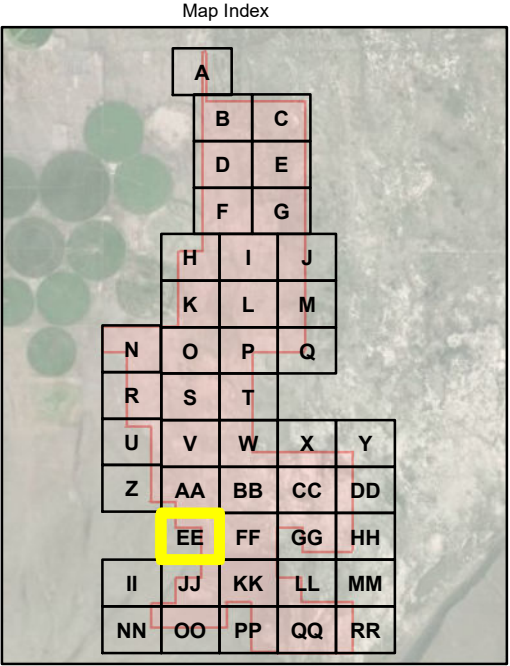
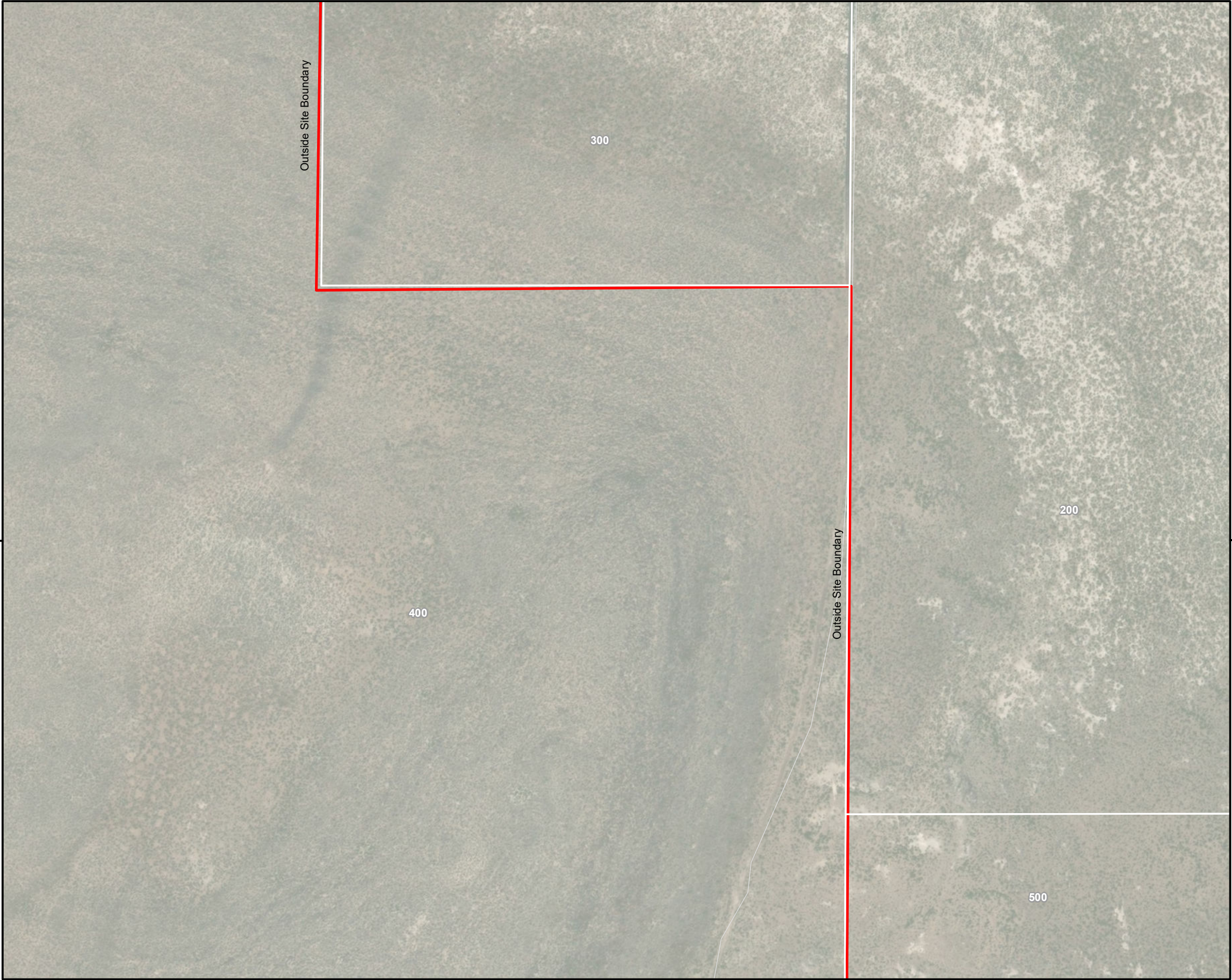
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- DD
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



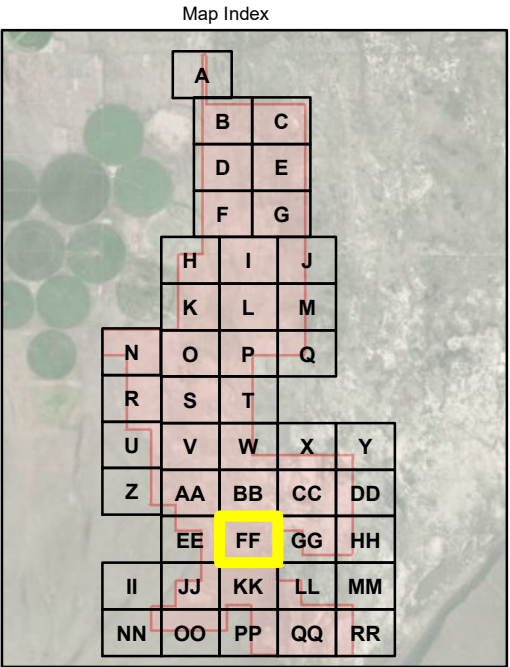
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
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 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- EE
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



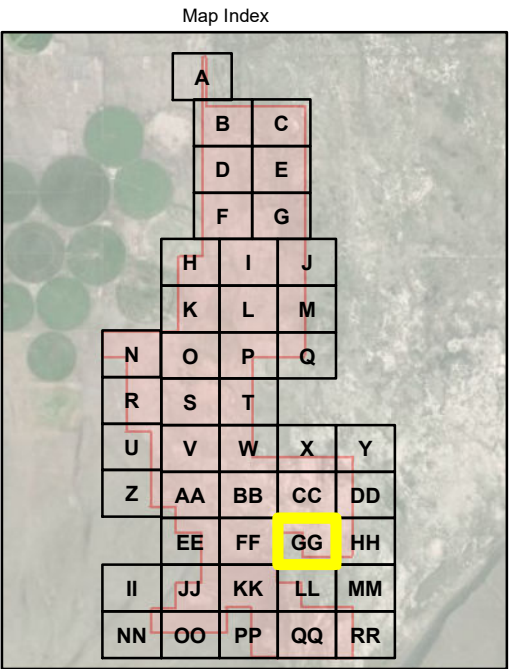
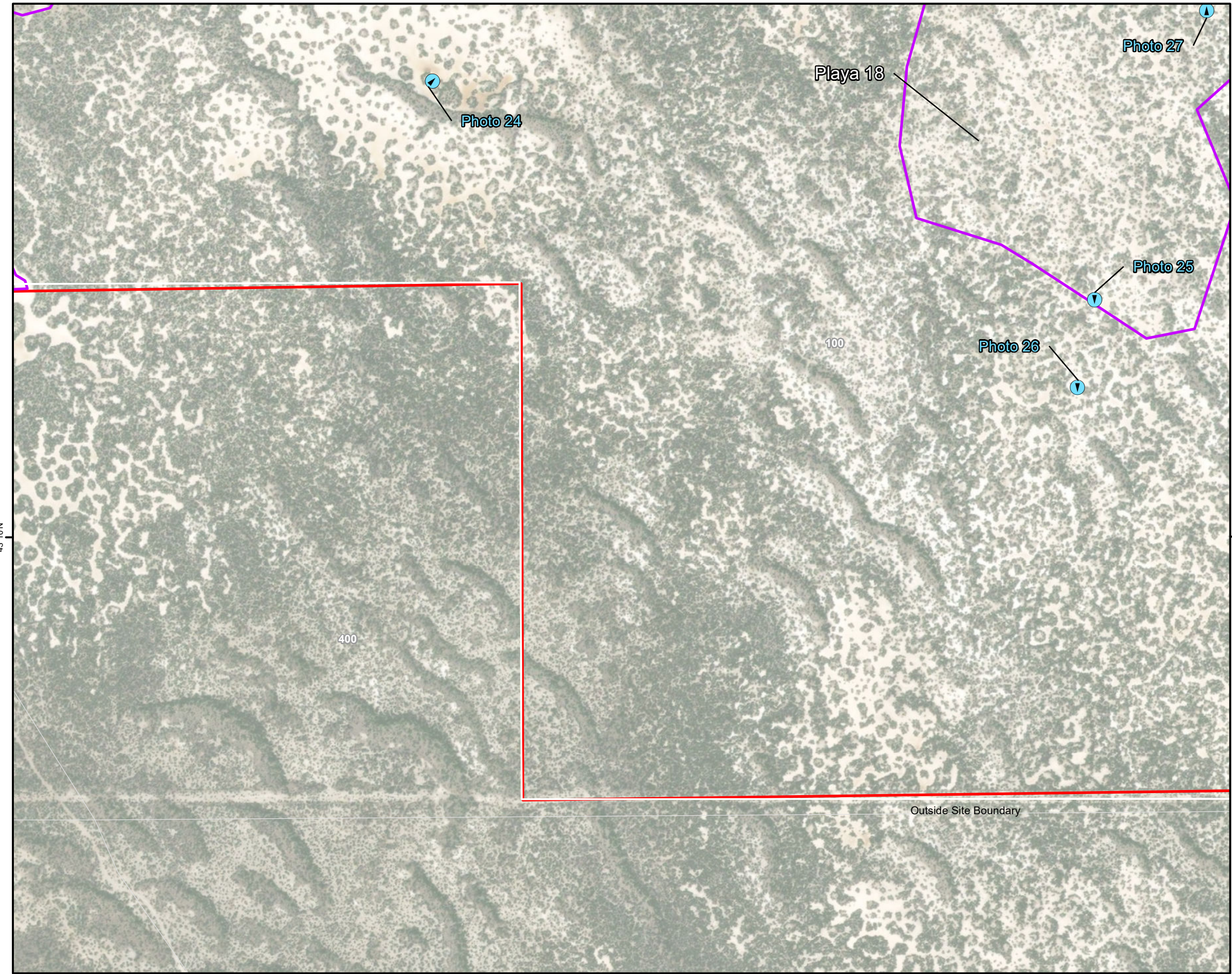
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 - Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- FF
Wetland Delineation Map
 Archway Solar Energy Project
 Lake County, Oregon



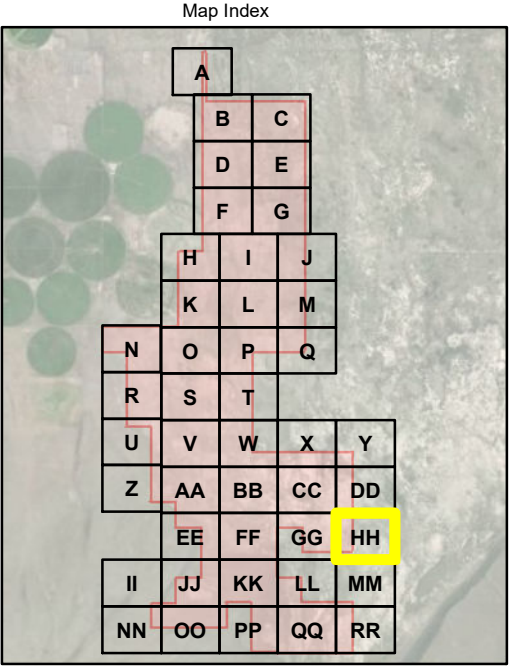
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- Playa Barrens
- Playa Mosaic
- No Access - Not Delineated
- Archway Project Study Area

- Notes:
- Area of interest subject to change.
 - Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 - Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 - Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 - ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- GG
Wetland Delineation Map
 Archway Solar Energy Project
 Lake County, Oregon



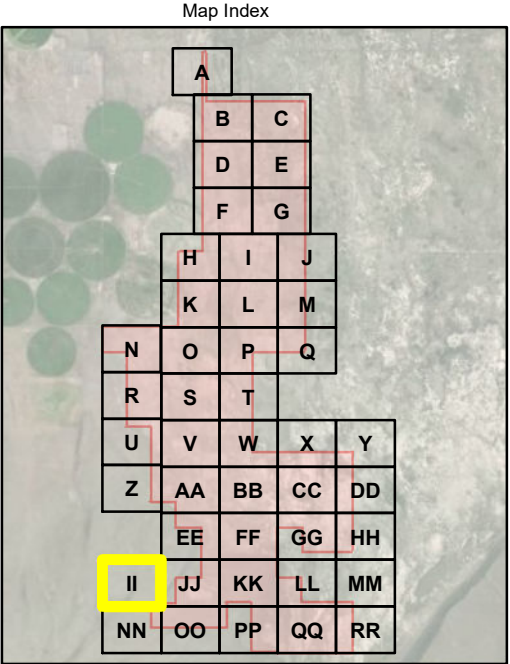
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- HH
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



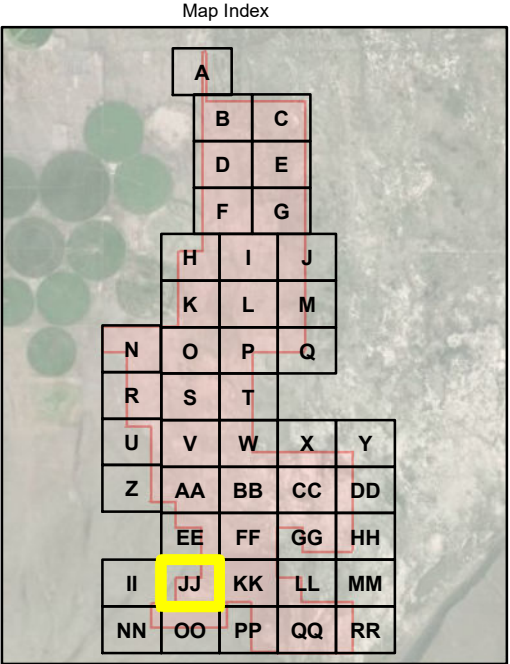
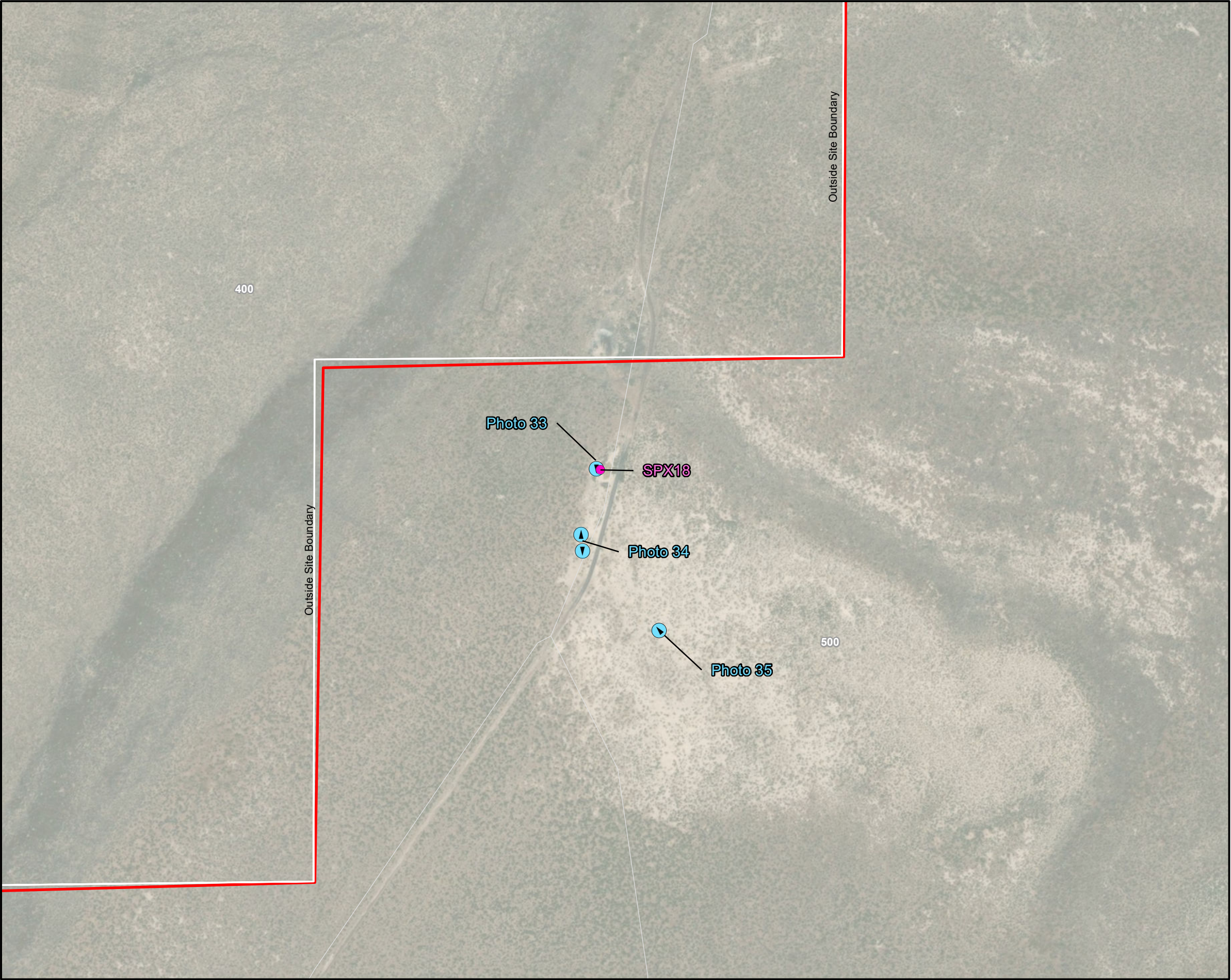
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- II
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



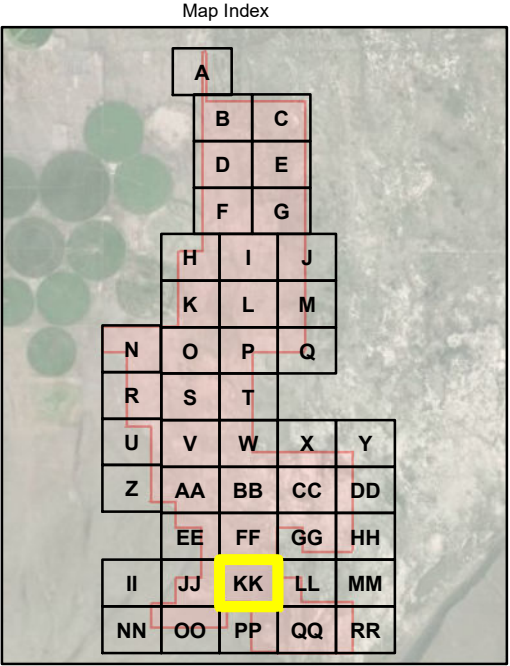
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- JJ
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



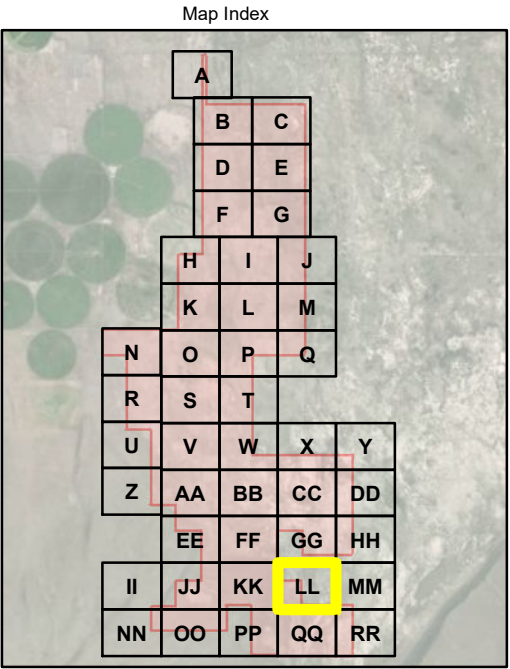
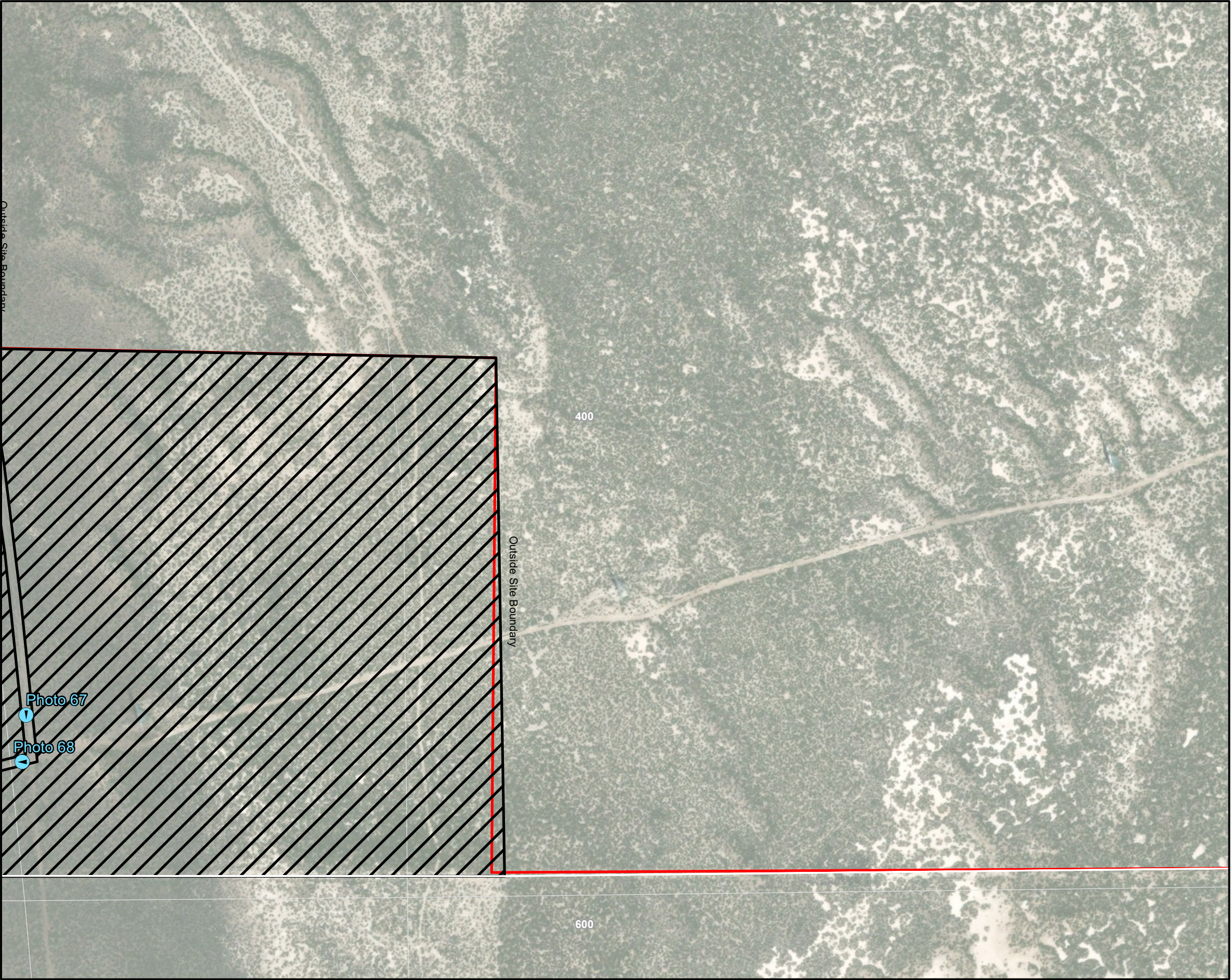
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- KK
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▨ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017

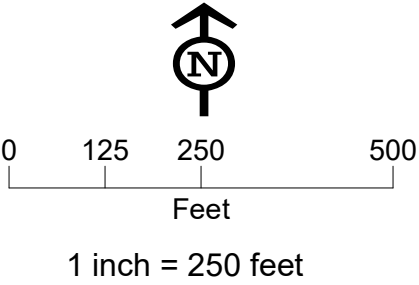
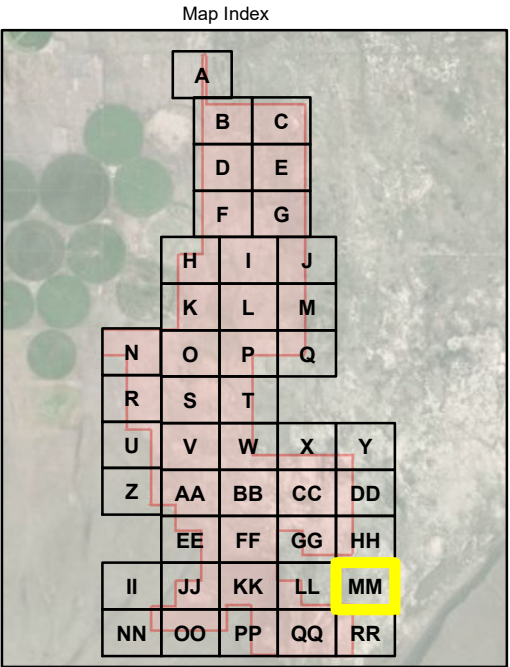


Figure 6- LL
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



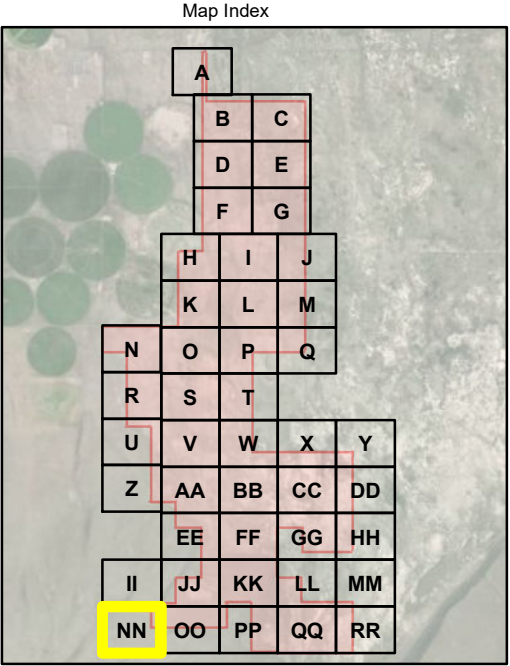
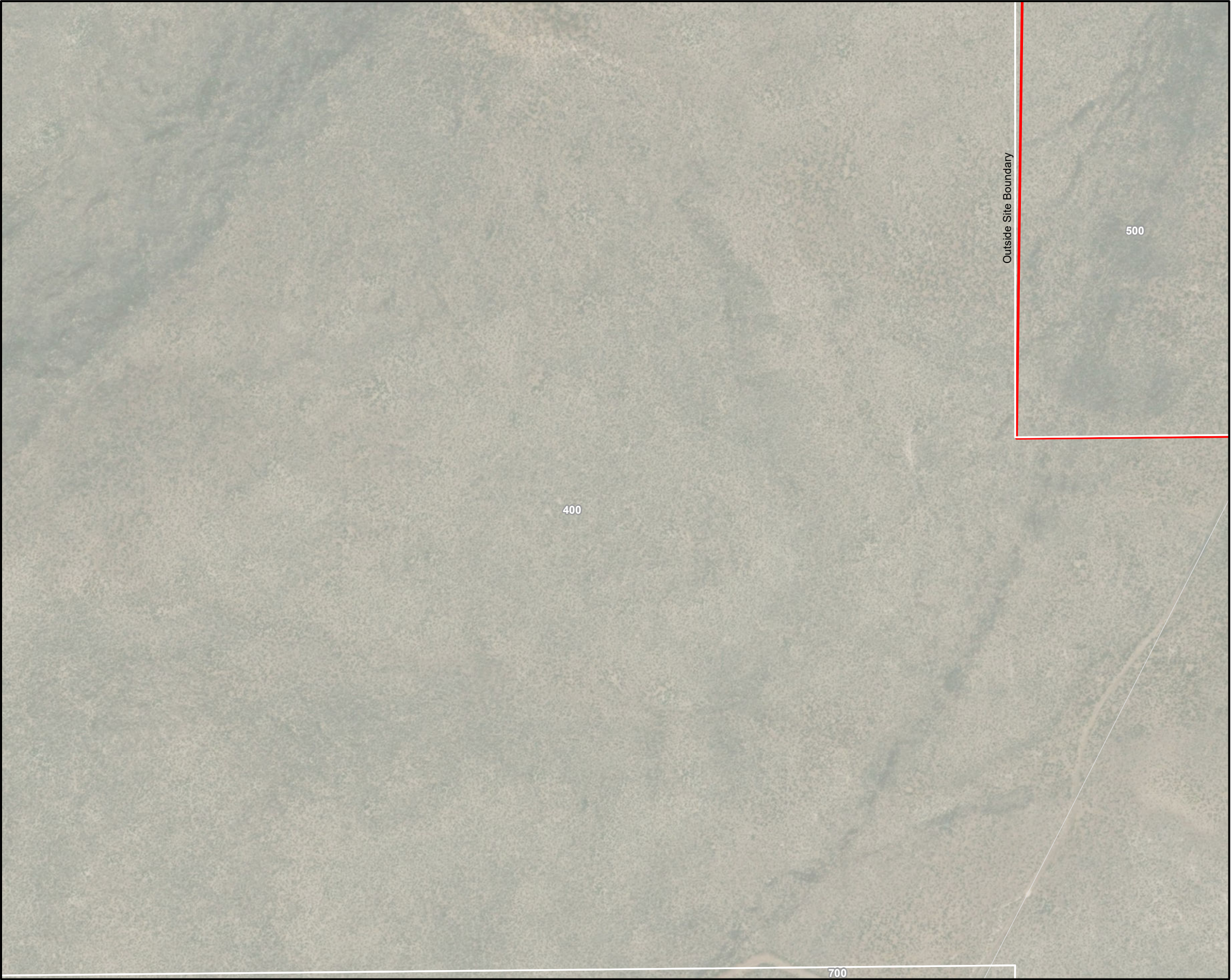
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- MM
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



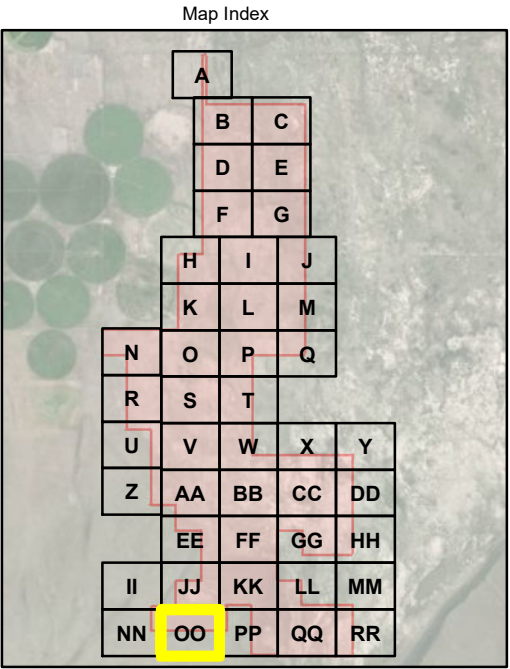
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- NN
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

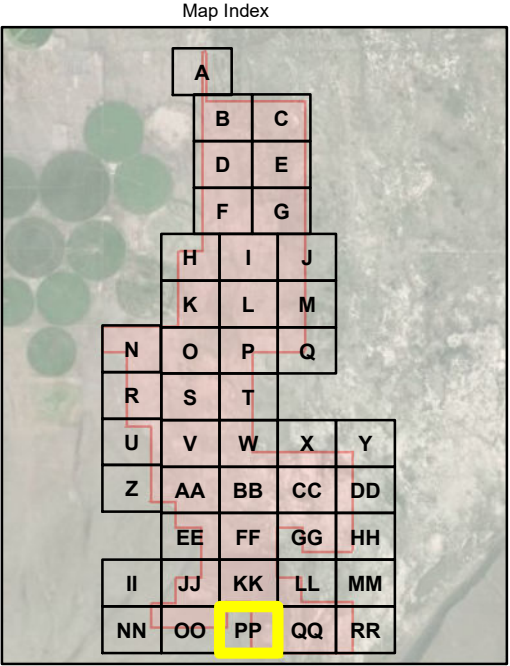
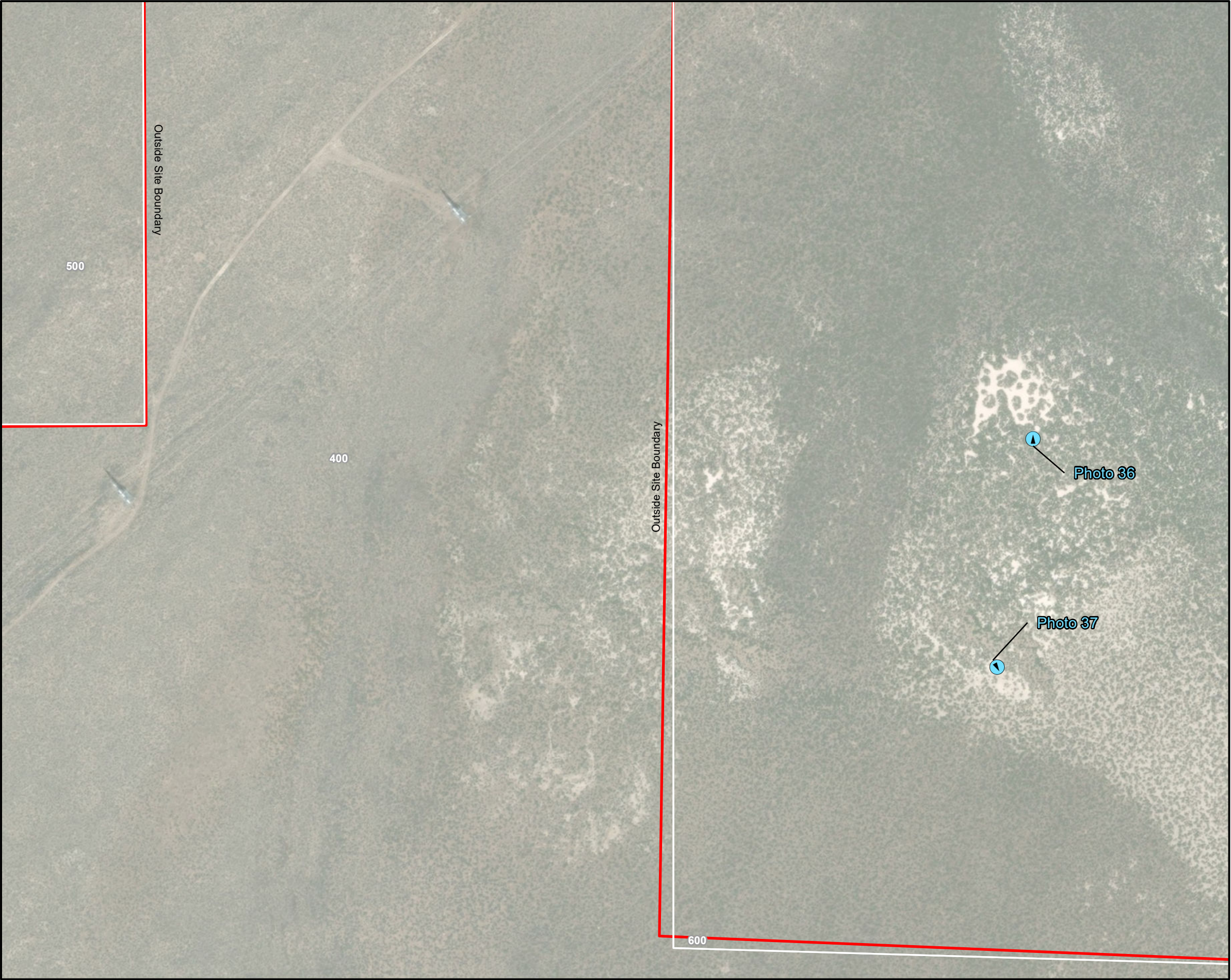
- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

Notes:

1. Area of interest subject to change.
2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- OO
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



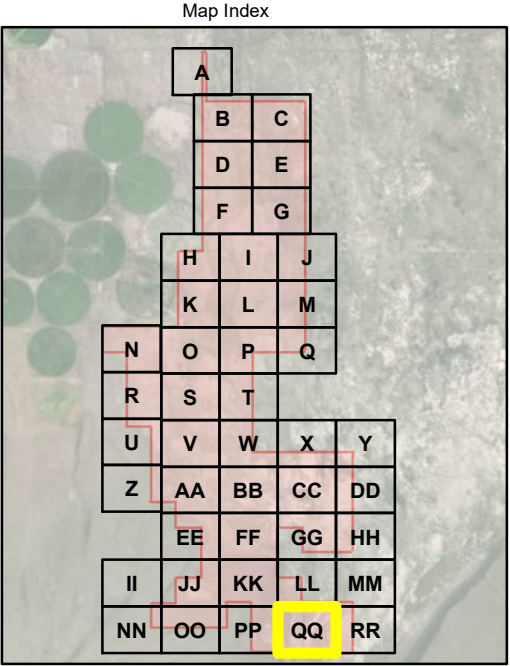
LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



**Figure 6- PP
Wetland Delineation Map**
Archway Solar Energy Project
Lake County, Oregon



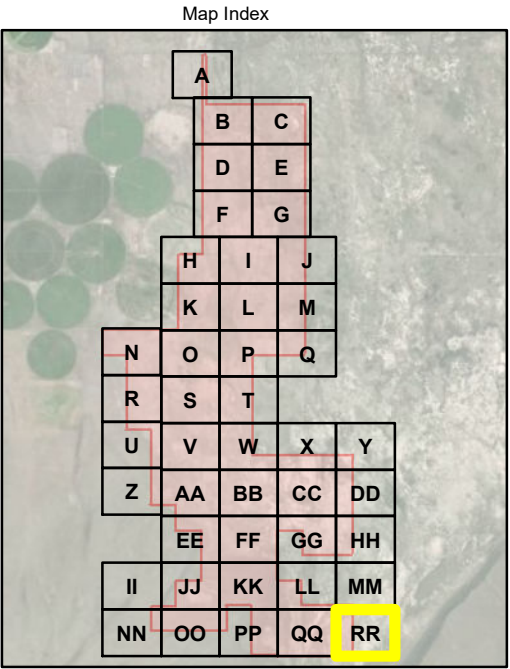
LEGEND

- Sample Point
- 📍 Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
T27S R19E Sections (14, 15, 22, 23, 26, 27, 28, 33, 34)
T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- QQ
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon



LEGEND

- Sample Point
- ⬆ Photo Point (with direction)
- ▭ Playa Barrens
- ▭ Playa Mosaic
- ▭ No Access - Not Delineated
- ▭ Archway Project Study Area

- Notes:
1. Area of interest subject to change.
 2. Projection - State Plane Oregon South FIPS 3602 Feet NAD 83
 3. Project site within the following:
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T28S R19E Sections (2, 3, 4, 9, 10, 11)
 4. Wetland and other waters boundaries and sample plot locations were surveyed using a hand-held Trimble global navigation satellite system (GNSS) receiver and post-processed using differential correction by ESRI Collector for ArcGIS and delineated with submeter accuracy.
 5. ESRI ArcGIS Online Imagery: DigitalGlobe 2017



Figure 6- RR
Wetland Delineation Map
Archway Solar Energy Project
Lake County, Oregon

Attachment 2
Ground-level Photo Log

Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 60 –Viewpoint Facing East, North, West and South



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 61 –Viewpoint Facing East, South, and West



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 62 –Viewpoint Facing North, Southeast and West



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 63 –Viewpoint Facing North, South, East & West



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 64 –Viewpoint Facing East & West



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 65 –Viewpoint Facing East SPX 19



Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 66 –Access Road Viewpoint Facing South



East side of access road



Center of access road



West side of access road

Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 67 –Access Road Viewpoint Facing South



East side of access road



Center of access road



West side of access road

Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 68 –Access Road Viewpoint Facing West, SW



North side of access road



Center of access road



South side of access road

Wetlands and Nonwetlands Delineation Report for the Archway Solar Energy Project
Lake County, Oregon
Photo Log -July 29, 2020

Photo Point 69 –Access Road Viewpoint Facing East



Northwest side of access road



Center of access road



Southeast side of access road