



Jordan Cove Energy Project L.P.

Resource Report No. 4

Cultural Resources

Jordan Cove Energy Project

April 2017

JCEP LNG TERMINAL PROJECT

Resource Report 4 – Cultural Resources	
MINIMUM FILING REQUIREMENTS	See the Following Resource Report Section:
1. Initial cultural resources consultation and documentation, and documentation of consultation with Native Americans (§ 380.12(f)(1)(I) & (2)).	App'x 4-C
1. Overview / Survey Reports (§ 380.12(f)(1)(ii) & (2)).	App'x 4-A
2. Identify the project APE in terms of direct or indirect effects to known cultural resources.	Section 4.2.1
3. Provide documentation of consultation with SHPOs, THPOs, and applicable landmanaging agencies regarding the need for and required extent of cultural resource surveys.	App'x 4-C
4. Provide a narrative summary of overview results, cultural resource surveys completed, identified cultural resources and any cultural resource issues.	Section 4.2.4
1. Provide a project specific Ethnographic Analysis (can be part of Overview / Survey Report).	Section 4.2.3
2. Provide written comments on the Overview and Survey Reports, if available, from the SHPOs or THPOs, as appropriate, and applicable land-managing agencies.	App'x 4-A
3. Provide a Summary Table of identified cultural resources, and SHPO or THPO and land-managing agency comments on the eligibility recommendations for those resources.	Tables 4.2-1 and 4.3-1
4. Provide a brief summary of the status of Native American consultation, including copies of all related correspondence and records of verbal communications.	Table 4.1-1
5. Provide an Unanticipated Discoveries Plan for the project area, referencing appropriate state statutes.	Section 4.3
INFORMATION RECOMMENDED OR OFTEN MISSING	
Information	Section
Identify the project area and the project's impacts in terms of direct and indirect effects on cultural resources.	4.2.1

INFORMATION RECOMMENDED OR OFTEN MISSING		See the Following Resource Report Section:
Information	Section	
	Provide a project map with mileposts clearly showing boundaries of all survey areas (right-of- way, extra work areas, access roads, etc.). Ensure that you mark mileposts, clearly specify survey corridor widths, and clearly indicate where you have not completed surveys.	N/A
<input checked="" type="checkbox"/>	Provide documentation of consultation with applicable State Historic Preservation Offices (SHPO), Tribal Historic Preservation Offices (THPO), and land-managing agencies regarding the need for and required extent of cultural resource surveys.	4.1
<input checked="" type="checkbox"/>	Provide a narrative summary of overview results, cultural resource surveys completed, identified cultural resources, and any cultural resource issues.	4.2
<input checked="" type="checkbox"/>	Provide a project specific Ethnographic Analysis (can be part of Overview / Survey Report).	4.2.3, Appendix A.4
	Identify by mileposts any areas requiring survey for which the landowner denied access.	N/A
	Provide written comments on the Overview and Survey Reports from the applicable SHPOs, THPOs, and land-managing agencies, if available.	N/A
<input checked="" type="checkbox"/>	Provide a Summary Table of completion status of cultural resource surveys, and applicable SHPO or THPO and land-managing agency comments on the reports.	Table 4.2-2
<input checked="" type="checkbox"/>	Provide a Summary Table of identified cultural resources, and applicable SHPO or THPO and land-managing agency comments on the eligibility recommendations for those resources.	Table 4.3-1
<input checked="" type="checkbox"/>	Provide a brief summary of the status of contact with federally recognized Indian tribes, including copies of all related correspondence and records of verbal communications.	4.1.1
	Provide a brief summary of comments received from stakeholders regarding cultural resources.	N/A
<input checked="" type="checkbox"/>	Provide a schedule for completing any outstanding cultural resource studies.	4.4, Table 4.4-1
<input checked="" type="checkbox"/>	Provide an Unanticipated Discoveries Plan for the project area, referencing appropriate state statutes.	4.3, Appendix B.4

JCEP LNG TERMINAL PROJECT

RESOURCE REPORT 4 CULTURAL RESOURCES

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- Appendix C.4 Correspondence and Communications
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ACRONYMS

BLM	Bureau of Land Management
CBRL	Coos Bay Rail Line
CTCLUSI	Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians
FERC	Federal Energy Regulatory Commission
ft	feet
JCEP	Jordan Cove Energy Project L.P.
LNG	liquefied natural gas
PCGP	Pacific Connector Gas Pipeline, LP
NAVD	North American Vertical Datum
NRHP	National Register of Historic Places
RFP	Roseburg Forest Products
SHPO	State Historic Preservation Office
SOULA	Southern Oregon University's Laboratories of Anthropology
TCPs	Traditional Cultural Properties
THPO	Tribal Historic Preservation Office
UDP	Unanticipated Discovery Plan
USGS	U.S. Geological Survey

RESOURCE REPORT 4

CULTURAL RESOURCES

4.0 INTRODUCTION

Jordan Cove Energy Project, L.P. (“JCEP”) is seeking authorization from the Federal Energy Regulatory Commission (“FERC” or “Commission”) under Section 3 of the Natural Gas Act to site, construct, and operate a natural gas liquefaction and liquefied natural gas (“LNG”) export facility (“LNG Terminal”), located on the bay side of the North Spit of Coos Bay, Oregon. JCEP will design the LNG Terminal to receive a maximum of 1,200,000 dekatherms per day of natural gas and produce a maximum of 7.8 million tons per annum of LNG for export. The LNG Terminal will turn natural gas into its liquid form via cooling to about -260° Fahrenheit, and in doing so it will reduce in volume to approximately 1/600th of its original volume, making it easier and more efficient to transport.

In order to supply the LNG Terminal with natural gas, Pacific Connector Gas Pipeline, LP (“PCGP”) is proposing to contemporaneously construct and operate a new, approximately 235-mile-long, 36-inch-diameter natural gas transmission pipeline from interconnections with the existing Ruby Pipeline LLC and Gas Transmission Northwest LLC systems near Malin, Oregon, to the LNG Terminal (“Pipeline,” and collectively with the LNG Terminal, the “Project”). PCGP will submit a contemporaneous application to FERC that will include its own set of resource reports with references to certain materials in the LNG Terminal resource reports.

This Resource Report 4 provides the status of Native American communications and consultation with the Oregon State Historic Preservation Office (“SHPO”) and other entities (Section 4.1), summarizes the cultural resources investigations performed for the LNG Terminal and associated facilities and offsite mitigation areas (Section 4.2), provides the Unanticipated Discovery Plan (“UDP”) proposed for the Project (Section 4.3, Appendix B.4), identifies outstanding cultural resources investigations (Section 4.4), and lists the references that are the basis for information presented herein (Section 4.5). The Commission will be made aware of updates to this information through future filings.

4.1 COMMUNICATIONS WITH PUBLIC AGENCIES AND FEDERALLY RECOGNIZED INDIAN TRIBES

4.1.1 Federally Recognized Indian Tribes

The following Tribes have demonstrated an active interest in the LNG Terminal component of the Project during previous filing iterations:

- Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians (“CTCLUSI”),
- Coquille Indian Tribe,
- Confederated Tribes of Siletz Indians, and
- Klamath Tribes.

In January and February 2017 (details provided in Table 4.1-1 below), JCEP sent letters, jointly with PCGP, notifying these Tribes of the intention to enter into the pre-filing process and seeking feedback on concerns. This was followed by meetings between members of the Project team and Tribal staff and Council members. The majority of the meetings were spent discussing the overall Project design and plans for the LNG Terminal and the key Pipeline route

modifications. There have also been discussions regarding methods for geotechnical investigations and additional cultural resource surveys on the LNG Terminal site.

Since members of the Project team have met with representatives from these Tribes on several occasions regarding previous iterations of this Project, appropriate representatives of those Tribes are generally familiar with the LNG Terminal site and its potential effects to cultural resources.

During these previous communications, Project team members corresponded and met with Tribal representatives on many occasions to discuss the Tribes' concerns about cultural resources issues, whether there were potentially eligible Traditional Cultural Properties ("TCPs") present, and the degree to which they wished to participate in the surveys. Relevant results of these communications regarding cultural resources and potentially eligible TCPs are presented in Sections 4.2.2-4.25 below.

Further communications with Tribes regarding concern over potential impacts the LNG Terminal may have on potentially eligible TCPs and historic properties are forthcoming. Copies of the correspondence and documentation referred to in the Table 4.1-1 above are included in Appendix C.4.

Table 4.1-1. Communications with Federally Recognized Indian Tribes

Initial Contact and Other Communications	Research Design	Responses / Concerns	Ongoing Communications and Interest
Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians			
<p>Letter to Tribes from JCEP and PGCP requesting meeting to provide update on the LNG Terminal design and on changes to the proposed route for the Pipeline, and to address questions/concerns: January 5th 2017</p> <p>Meeting with Tribal Council, JCEP and PCGP provided presentation titled "Project update": January 19th, 2017</p> <p>Letter from JCEP and PGCP to Tribes on intent to enter into pre-filing and notification of open houses: February 15th 2017</p> <p>Meeting with the Tribal staff to discuss proposed cost reimbursement agreement for Tribal monitors and provide presentation titled "Project pre-construction work": February 22nd 2017</p> <p>Meeting with Tribal Administrative staff, lawyer and THPO to discuss communication protocols, confidentiality agreement and UDP: March 8th 2017</p> <p>Letter from JCEP and PCGP to Tribes requesting feedback on research design, cumulative impact analysis and TCPs: April 27, 2017.</p>	<p>Research design for LNG Terminal conveyed via email to Tribes (March 27th 2017) for review ahead of submission of SHPO permit application (April 21, 2017) for the intended work to proceed in May 2017</p>	<p>Tribal council expressed concern over subsurface disturbance on South Dunes site, the need for more surveys and a desire to work toward an agreement on protection of cultural resources;</p> <p>Tribal staff expressed interest in survey strategy and methods, results, monitoring field investigations and keeping up to date with forthcoming activities</p>	<p>Letters received by JCEP and PCGP from the Tribal administrator regarding geotechnical surveys for the LNG Terminal March 2017;</p> <p>Ongoing informal communication via e-mails and phone calls with Tribal staff concerning geotechnical and cultural surveys and permitting; discussions around communication protocols, UDP, confidentiality agreements and proposed cost reimbursement agreement for Tribal monitors.</p> <p>All survey and Phase II evaluation reports delivered for work undertaken to date.</p>

Coquille Indian Tribe			
<p>Letter to Tribe from JCEP and PGCP requesting meeting to provide update on the LNG Terminal design and on changes to the proposed route for the Pipeline, and to address questions/concerns: January 9th 2017</p> <p>Letter to Tribe from JCEP and PCGP on intent to enter into pre-filing and notification of open houses: February 15th 2017</p> <p>Meeting with the Tribal staff to providing presentation titled "Project pre-construction work": February 22nd 2017</p> <p>Meeting with Tribal Council: providing presentation titled "Project update and ground improvement summary, surveys and investigations": February 23rd 2017</p> <p>Meeting with THPO seeking input on cultural resource survey methodology: March 8th 2017</p> <p>Letter from JCEP and PCGP to Tribes requesting feedback on research design, cumulative impact analysis and TCPs: April 27, 2017.</p>	<p>Research design for LNG Terminal conveyed to Tribe (March 27th 2017) for review ahead of submission of SHPO permit application (April 21, 2017) for the intended work to proceed in May 2017</p>	<p>Tribal council expressed interest in various design aspects of the LNG Terminal (water discharges, dredging, noise sources, odor);</p> <p>Tribal staff expressed interest in survey strategy and methods, results, monitoring field investigations and keeping up to date with forthcoming activities</p>	<p>Ongoing informal communication via e-mails and phone calls with Tribal staff regarding cultural survey methods and results and geo-technical borings; confidentiality agreements, UDP and proposed cost reimbursement agreement for Tribal monitors.</p> <p>All survey and Phase II evaluation reports delivered for work undertaken to date.</p>
Confederated Tribes of the Siletz Indians			
<p>Letter to Tribes from JCEP and PGCP on intent to enter into pre-filing, notification of open houses and requesting meeting to provide project update: February 15th 2017</p> <p>Meetings with Tribal administrative staff, natural resource management staff and THPO providing project update presentation titled "Project update": March 21st, 2017.</p> <p>Letter from JCEP and PCGP to Tribe requesting feedback on research design, cumulative impact analysis and TCPs: April 27, 2017.</p>	<p>Research design for LNG Terminal conveyed to Tribes via email (March 27th 2017) for review ahead of submission of SHPO permit application (April 21, 2017) for the intended work to proceed in May 2017</p>	<p>Tribal staff expressed interest in survey strategy and methods, results, monitoring field investigations and keeping up to date with forthcoming activities</p>	<p>Previous filing involved informal communication via e-mails and phone calls with Tribal staff regarding cultural survey methods and results</p> <p>All survey and Phase II evaluation reports delivered for work undertaken to date.</p>

4.1.2 Oregon SHPO

Agency consultation for the Project began on January 17, 2017, when PCGP met with Chrissy Curran (Deputy Oregon State Historic Preservation Officer) and John Pouley (Oregon SHPO Assistant State Archaeologist) to discuss the Project and the pre-filing process. The majority of the meeting was spent discussing the overall Project design and plans for the LNG Terminal and the key Pipeline route modifications. There was also discussion regarding methods for additional cultural resource surveys on the LNG Terminal site. The SHPO also indicated that portions of the Menasha Mill, constructed in the early 1960s may now be old enough to be evaluated for the National Register of Historic Places (“NRHP”).

As discussed below, several archaeological surveys have been completed in the past that overlapped with the LNG Terminal site or specifically for an earlier version of the Project. SHPO has reviewed and concurred on the results of many of these; the most appropriate correspondence relevant to the current filing is SHPO’s review of the primary survey report that supported previous filings (Bowden et al. 2009) where it agreed with eligibility determinations on more than 100 resources. Finally, a permit application for additional survey within the LNG Terminal Site was submitted to SHPO for review and distribution to reviewing parties on April 21, 2017. A confirmation of receipt of the permit was received on April 24, 2017.

4.2 AREAS SURVEYED AND RESULTS

4.2.1 Area of Potential Effects

According to 36 CFR § 800.16(d), the area of potential effects (“APE”) is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. Because the APE may be different for different kinds of effects, JCEP is considering both direct and indirect effects APE for the JCEP Project Area, which encompasses the LNG Terminal site and other off-site improvement and mitigation areas. JCEP requests that FERC define the direct and indirect APEs as described below, and that the FERC request the SHPO to concur with these APEs.

4.2.1.1 Direct APE

The JCEP Project Area direct APE totals approximately 549 acres and includes the footprint of all ground-disturbing actions. This includes construction of all facilities on the LNG Terminal site. This also includes off-site improvements and mitigation areas, including the Industrial Wastewater Pipeline, the Trans Pacific Parkway/US-101 Intersection, the Kentuck Project, and the Eelgrass Mitigation Site, as well as off-site temporary laydown areas, including the APCO site and Boxcar Hill (see Table 4.3-1). According to Resource Report 1, permanent jurisdictional facilities will total approximately 173 acres, temporary construction and environmental restoration/enhancement areas will total 350.4 acres, and non-jurisdictional facilities (the fire department and the Southern Oregon Regional Safety Center) will total approximately 5 acres. For a complete list of all facilities and land use needs, see Section 1.4 of Resource Report 1.

Another important consideration for the LNG Terminal direct effects APE is the depth below surface that Project elements may affect. The deepest proposed impacts are associated with the installation of deep foundation elements for the LNG Terminal plant and for the marine slip. For the terminal plant, deep foundations will include pipe piles; auger cast piles, drilled piles, and sheet piles. For the marine facilities, the foundation elements will include dolphin and dock pilings, as well as piles and sheets for walls. The maximum depth of impact from these foundation elements is estimated to be around 100 feet (“ft”) below finished grade level,

terminating at approximately -80 ft (North American Vertical Datum (“NAVD”) 88) (the NAVD88 elevation is approximately 3 ft above lower mean sea level). The depth of the slip is estimated to be -46 ft (NAVD88). Sheet piles will also be installed along the corridor that connects the eastern and western portions of the study area. It is estimated that these piles will extend to around 60ft below finished ground level, terminating at around -20 ft (NAVD88). Soil improvements will include densification, which involves the vibro-compaction of sediment to densify the soil to reduce the potential for liquefaction. The depth of impact from the densification will be approximately -70ft (NAVD88) within the western portion of the LNG Terminal site. Within the eastern portion of the LNG Terminal site, soil liquefaction treatment will extend to 45 ft below existing surface, or -30 ft (NAVD88). Other soil improvements include removal of subsurface driftwood and peat removal and/or soil mixing. The maximum depth of these impacts is estimated to be around -15 ft below existing ground level, terminating at approximately -5 ft (NAVD88). In the remaining portions of the study area, for the purposes of filling the areas will be grubbed and any permeable services will be made impermeable; the depth of disturbance will be approximately 3 ft below existing ground level.

4.2.1.2 Indirect APE

The indirect APE includes all areas potentially subjected to the introduction of visual, atmospheric, or audible elements that diminish the integrity of a historic property's significant historic features. The extant built environment was evaluated within and outside of the direct APE, including a review of known historic properties and a survey of potential historic properties within about one mile of the Project. The LNG Terminal site plans were reviewed for potential visual effects relative to the scale of the new facilities and their potential to introduce new lighting or other visual intrusions. The increase in the frequency and duration of ship traffic, potential auditory effects related to that increase and the new LNG facilities overall, as well as the potential cumulative effects of dredging and dredge disposal, shoreline erosion, and non-Project related cumulative effects were also considered. The evaluation concluded that the indirect effects APE should be the same as the direct effects APE because the LNG Terminal site plans do not have the potential to introduce new visual, atmospheric, and audible impacts to known or potential historic properties in the vicinity. The detailed methodology and results of this analysis are in Appendix A.4.

4.2.2 Literature Surveys

Prior to survey, JCEP’s archaeologist reviewed SHPO records, aerial photos, historical maps, written records, and communicated with local Native American tribes to identify known or potential cultural, archaeological and historic sites within the JCEP Project Area APE.

Portions of the LNG Terminal site APE have been subjected to archaeological survey in the past, much of this work having been done for previous versions of the LNG Terminal (Byram 2006a, 2006b; Byram and Rose 2013; Byram and Shinkdruk 2012; Rose et al. 2014). Cultural resources surveys for the Oregon Gateway Marine Terminal Project and PCGP’s Pipeline substantially overlap with portions of the current LNG Terminal site and were completed by the same archaeological contractors (Bowden et al. 2009; Byram 2008; Byram and Purdy 2007; Byram and Walker 2010; Olander et al. 2009). Finally, there are several other surveys that have been conducted for other projects, portions of which overlap with the current LNG Terminal site and contain important cultural resources information for the current project (Barner 1978; Byram 2009; Simmons 1984; Stubbs 1975).

There are several historical overviews, Master’s theses, and PhD dissertations that contain cultural and historical information relevant to the JCEP Project Area APE. The most directly

applicable of these are two Bureau of Land Management (“BLM”) overviews (Beckham 2000; Beckham and Minor 1980) and a recent and thorough historical treatment of the Henderson Marsh and Jordan Cove areas (Beckham 2015). These documents help identify the activities that occurred in the area historically and the kinds of cultural, historical, and archaeological resources that may be present.

A review of various literature, maps, and site records identified the following resources and potential resources potentially located within the JCEP Project Area APEs:

- Site 35CS221/Henderson Ranch/Peterson Ranch- in the LNG Terminal site APE, recommended not eligible, awaiting SHPO concurrence (Appendix D.4);
- Site 35CS227- adjacent to the LNG Terminal site APE, recommended eligible, and likely avoided; a village and reservation-period Indian ranch (Jordan Ranch) is in this same vicinity, and a structure appears on early to mid-twentieth century U.S. Geological Survey (“USGS”) and U.S. Coastal Survey maps in about the same location;
- Site 35CS263- adjacent to the Kentuck Project APE, unevaluated but considered eligible, and likely avoided given current delineation of the site. It is possible that the Project could contribute to cumulative effects on this resource, through inadvertently eroding the tide flat on which it sits;
- Pacific Power’s Jordan Point substation, originally built for Menasha circa 1961 in the LNG Terminal site APE;
- Remnant historic Menasha Mill structures appearing on 1960s aerial photographs- in the LNG Terminal site APE, unevaluated, and affected by the LNG Terminal;
- The Coos Bay North Jetty Railroad/North Spit Railroad, Segment 1- in the LNG Terminal site APE but destroyed, determined not eligible, no effect;
- The Coos Bay Rail Line (“CBRL”), a.k.a. the Southern Pacific Rail Spur Line built to Roseburg Forest Products (“RFP”) circa 1955- in the LNG Terminal site APE, unevaluated, and affected by the LNG Terminal;
- Site 35CS26 adjacent to the LNG Terminal site APE, but it was not relocated during recent surveys; it may have been destroyed or is deeply buried;
- Isolated Find HRA 207i that has previously been determined not eligible for the NRHP;
- An area of reported burials (and beads) adjacent to the LNG Terminal site APE, but the specific location is not confirmed, possibly co-located with, or near, Site 35CS227, the Jordan Ranch, and a structure appearing on mid-twentieth century USGS maps;
- A historic-period (and possibly precontact) Indian cemetery adjacent to the LNG Terminal site APE, but the specific location is not confirmed;
- A reported precontact lithic scatter, midden, and/or a village site near, or within the boundaries of, 35CS221, but the specific location is not confirmed; and
- a reported camp site or village located at the paved area of the RFP wood chip export facility.

4.2.3 Ethnographic Analysis

Oral history accounts recorded by anthropologists of interviews with Native elders indicate that Coos Bay along with the surrounding coast, mountains, and valleys is the ancestral home of the speakers of two similar languages, Hanis and Miluk. Miluk villages were located along the southwestern shores of Coos Bay, and Hanis villages were located around the rest of the bay, extending from the town of Empire north and east. The Hanis and Miluk dialects were very similar, and there were strong ties between these two groups. The historic Hanis and Miluk of Coos Bay include ancestors of people who are among the memberships of three Tribes or

Tribal confederations: the CTCLUSI, based in Coos Bay (Coos County); the Coquille Indian Tribe, headquartered in North Bend (Coos County); and the Confederated Tribes of Siletz Indians, with main offices in Siletz (Lincoln County).

The Bureau of Indian Affairs established the Coast Reservation in 1855, and Native people from Coos Bay and many other parts of Oregon were forced to move to the reservation. Many of the Coos Bay Indians lived in camps at Yachats, where supplies were few and many died of illness and starvation. Several Native people escaped the Reservation and returned to their homes during the next 20 years, but soldiers and bounty hunters regularly scoured the countryside for these people. The upper North Spit of Coos Bay appears to have been one of the places where Indian families sought refuge from the stark conditions at the Coast Reservation (Beckham 2015).

Native Americans living at Coos Bay fish recreationally and commercially, but Byram (2013) previously reported that traditional fishing sites were not identified in the former LNG Terminal site APE during Tribal consultations. There are no lands that are currently owned by Tribes in or adjacent to the LNG Terminal site APE. Tribes in the area of the LNG Terminal do not currently have policies that regulate fishing separately from state and federal fisheries management.

The Coos Bay Indian village of Quonatatich (quonatic, kuunatic) was located at Jordan Cove (Harrington 1942), though the specific location of the village is not known. Beckham (2015:8) asserts that archaeological site 35CS26 is the archaeological manifestation of this village, but this site, identified in 1951, has not been relocated by recent surveys. James T. Jordan and his wife Jane Jordan, a Coos Indian, as well as Jane's daughter and Susan Davis, first moved to Jordan Cove about 1861 and owned property in Section 4, which includes the entire northern and western shores of Jordan Cove. James and Jane Jordan had several children who were born and raised there. A map prepared in 1889 by the U.S. Coast and Geodetic Survey shows structures along the shore of Jordan Cove, presumably associated with the family (Byram 2006a). In the 1880 census, James Jordan identified his occupation as hunter and trapper, but he also served as Coos County treasurer (1864–1866), bought and sold numerous land tracts around the Coos Bay area, and supplied foodstuffs to a local mercantile (Beckham 2015). Jordan was enumerated in the Lake Precinct in 1880, and Beckham (2015) asserts that he was likely living at Jordan Cove at that time. By 1890, he was enumerated in the Tenmile (Lake) Precinct and living with, and adjacent to, several family members around Tenmile Lake. Jane passed away in 1890. It is uncertain how long the Jordans or other Indian families may have lived at Jordan Cove. A 1942 USGS map shows a structure along the shore of Jordan Cove; however, the ownership, residency, and condition of these structures is uncertain. According to a 1940 Metsker atlas, the Jordan Cove area was owned by Henry Sengstacken Co. et al. about this time. Henry Sengstacken, the one-time mayor of Marshfield (the historic town of Coos Bay), owned several tracts around the Coos Bay area, but passed away in 1922; thus, this tract was likely owned by a company set up in his name. Given the extended Luse family ownership of the area (as discussed in more detail below), it is possible that other Indian families occupied Jordan Cove even if the Jordans had moved away by this time. Beckham (2015) identified several references in early twentieth-century newspapers to excursions to Jordan Cove for picnics and camping, and Byram (2006a) reported that Jordan Cove was the site of many Coos Bay Indian gatherings for feasts and related activities prior to the early twentieth century, according to at least one Coquille Tribe elder. Simmons (1984) reported that the west half of Section 4 was a huckleberry and blueberry gathering area in the 1980s. Finally, Finell (1978) described an Indian burial ground “where their settling pond is west of the plant, just west of there” in reference to the Menasha Mill. He said that “they bulldozed off that point when they uncovered these graves and there was some chief that all his beads were pulled out right in the

middle of the road.” Beckham (2015:54) asserts that an Indian named “Ten Mile Tom” was buried here in 1907.

Also identified through interview with Coos elders by Harrington (1942) was the village of q’ alya, which was also associated with Jordan Cove, but believed to have been along the eastern margin of the landform bordering North Slough. The site has been associated with the historic place known as “Dynamite” or Cordes, just northeast of the South Dunes site (Beckham 2015:7). Henry H. Luse, who owned nearly all of the area, including Ingram Yard and South Dunes by 1880, had a son named Bill (W. A.) who married an Indian woman and was reported to have lived at Dynamite for a time (Byram 2006a). Their son Jasper also lived in the Jordan Cove area. According to Lansing (2005), Luse would have owned the Jordan Cove area by the 1880s, eventually selling to the Southern Oregon Improvement Company, who later sold to Menasha Woodenware Company. Henry Luse and his son Bill are reported to have run a cattle operation in the area, while living on the south side of the bay. It is possible, however, that extended family and other Indian families continued to live on these lands well into the twentieth century. There are also reports of a historic Indian cemetery in the area.. According to Finell (1978), “old lady Sprague” was buried there about 1906 or 1908. Harrington (1942, as cited in Simmons 1984:7) further reported that members of the Sprague, Collins, and Sandrell families were living in the Jordan Cove area seemingly into the historic period, which further indicates Indian settlement into the twentieth century in this area. Fuller Sprague married Annie Jordan, daughter of James T. Jordan.

Alexy Simmons (1984) survey of a project overlapping the LNG Terminal site APE includes reference to a map prepared by the CTCLUSI that notes that the western half of Section 4, which is where the Access and Utility Corridor is located, was a huckleberry and blueberry gathering area in 1983.

The CTCLUSI have stated in a variety of ways that the Jordan Cove area is an area of great cultural importance to them for a variety of reasons. In July 2006, the CTCLUSI’s Tribal Council passed Resolution 06-097, which asserted that the original LNG import terminal was in the “Tribes’ Ancestral Territory which may be considered a Traditional Tribal Cultural Property with special cultural significance.” The resolution went on to say that three Tribal villages, campsites, or technology processing areas have been identified on the North Spit, and previous construction activities have disturbed grave sites at two locations. In July 2015, the Council passed Resolution 15-049, which designated the LNG Terminal area as a “Site of Tribal Cultural and Religious Significance.” The resolution states that “cultural, historic, and anthropological sites of significance to the Tribes abound within the Jordan Cove area,” and “Coos people have continually utilized the Jordan Cove area for time immemorial as exemplified by the recorded village sites of Quonatch and q’ alya, traditional hunting and gathering areas, prehistoric and historic cemeteries, and Tribal family homesteads.” The resolution goes on to say that the area may qualify as a cultural or historical district under Criterion D of the eligibility determinations of the NRHP. These resolutions are included in Appendix C.4. Alexy Simmons (1984) survey of a project overlapping the LNG Terminal site APE includes reference to a map prepared by the CTCLUSI that notes that the western half of Section 4, which is where the Access and Utility Corridor is located, was a huckleberry and blueberry gathering area in 1983. Another Simmons (1983) report for a project adjacent to the LNG Terminal site noted that members of the Coos Tribe visit the Henderson Marsh area to observe a variety of bird species. Finally, Byram (2006) noted that his initial discussions with Tribal representatives for LNG import terminal noted that berry gathering may still be occurring seasonally in the vicinity. A more detailed ethnographic background is presented in the survey/overview report (Appendix A.4).

4.2.4 Surveys

As discussed above, cultural resources surveys have been conducted in the past for former versions of the current JCEP Project Area and projects with overlapping APEs (Table 4.2-1). Additional surveys for the last version of the LNG Terminal were completed between 2013 and 2016 and the results of these are included in the survey/overview report attached (Appendix A.4). As a result, virtually the entire APE has been subjected to some degree of cultural resources survey.

Subsurface investigations have been limited, but have included shovel testing, test units, and backhoe excavations in both the slip area of Ingram Yard and along the southern margins of the South Dunes Site and the Access and Utility Corridor (Bowden et al. 2009; Byram 2008; Byram and Purdy 2007; Byram and Walker 2010; Olander et al. 2009; Rose et al. 2014) (Figure 4-1). Records indicate that fill soils are present throughout much of the APE, however, that could have buried archaeological resources (DEQ 2006; Stubbs 1975).

Given the APE includes subsurface area where soil improvements are required on the South Dunes site that were not planned as part of the previous iterations of the Project, subsurface archaeological surveys may not have been conducted deep enough to identify archaeological resources in these areas. Consequently, additional surveys are being conducted to better evaluate the potential for buried archaeological deposits and to test for them. These surveys are being initiated in spring 2017. Additionally, several above-ground structures are present in the APE that were not yet 50 years old during initial surveys for the JCEP or PCGP; however, now they are either more than 50 years old or will be soon. As a result, the entire APE needs to be re-surveyed for historic structures.

Table 4.2-1. List of Cultural Resources Survey Reports

Title	SHPO Report #	Addresses	Reference	Type	Subsurface Detail	# of probes/units	Acres	Acres Surveyed
Reports Completed for the former Jordan Cove Energy Project								
Cultural Resources Survey for the Jordan Cove Energy Project at Coos Bay, Oregon	20776	Ingram Yard, Access and Utility Corridor, Roseburg Site	Byram 2006a	Pedestrian			520	280
Addendum to Report, Cultural Resources Survey for the Jordan Cove Energy Project at Coos Bay, Oregon	-	Ingram Yard, Access and Utility Corridor, Roseburg Site	Byram 2006b	-	-	-	-	-
Archaeological Survey for the Jordan Cove Energy Project Utility Corridor, Coos Bay, Oregon	25345	Access and Utility Corridor	Byram and Shindruk 2012	Pedestrian and subsurface		58	55	19.7
Archaeological Survey of the South Dunes Power Plant Northern Strip	26872	Potable Water Lines	Byram and Rose 2013	Pedestrian	-	-	138	14.5
Archaeological Shovel Probe Survey for the Jordan Cove Energy Project Test Piling and Settling Basin, Coos County, Oregon	no SHPO report # issued	Ingram Yard	Byram and Shindruk 2014	Pedestrian and subsurface	shovel probe	21	3.3	6
Industrial Wastewater Pipeline Subsurface Survey	26868	IWP	Rose and Johnson 2014	Pedestrian and subsurface	shovel probe	7	15.5	15.5
Henderson Ranch Site 35CS221 Phase II Evaluation Testing, Coos County, OR	26867	Ingram Yard Slip and Turning Basin	Rose et al. 2014	Pedestrian and subsurface	test unit, auger probe, mechanical trench	26,4,1,28	192	192

Title	SHPO Report #	Addresses	Reference	Type	Subsurface Detail	# of probes/units	Acres	Acres Surveyed
Reports Substantially Overlapping the JCEP Project Area by JCEP and PCGP Contractors								
Pacific Connector Gas Pipeline Project Cultural Resource Survey, Coos, Douglas, Jackson, and Klamath Counties, Oregon. for the 2009 Addendum Report	25809	South Dunes, Access and Utility Corridor	Bowden et al. 2009	Pedestrian and subsurface	shovel probe	130	*	*
Cultural Resource Survey for the Oregon Gateway Marine Terminal Stockpile Area and Coos Bay, Oregon	21551	South Dunes, Access and Utility Corridor	Byram and Purdy 2007	Pedestrian and subsurface	shovel probe	60	92	92
Cultural Resources Survey for the Port of Coos Bay Haul Road and Hydraulic Slurry East and West, Oregon Gateway Marine Terminal, Coos Bay	21751	Access and Utility Corridor, Roseburg Site	Byram 2008	Pedestrian	-	-	30	15
Cultural Resource Survey for the Pacific Connector Gas Pipeline Project, 2009 Addendum Report	22457	South Dunes, Access and Utility Corridor	Olander et al. 2009	Pedestrian and subsurface	shovel probe	24	3	3
Archaeological Survey of the Oregon Gateway Marine Terminal Slip and Access Channel Mitigation Site at Kentuck Slough	24159	Kentuck Project	Byram and Walker 2010	Pedestrian and subsurface	shovel probe and auger probe	90, 48	55	55
Reports Partially Overlapping the JCEP Project Area								
Report of An Archaeological Field Survey in the Proposed Dredge Spoil Areas NS-2, NS-3, NS-4, and NS-5 Upper North Spit Area of Coos Bay	57	Ingram Yard	Stubbs 1975	Pedestrian	-	-	-	-

Title	SHPO Report #	Addresses	Reference	Type	Subsurface Detail	# of probes/units	Acres	Acres Surveyed
Cultural Resource Survey for Army Corps of Engineers Permit #071-0YA-4-002780	490	Access and Utility Corridor	Barner 1978	Pedestrian	-	-	-	-
Cultural Resources Survey for the Transpacific Parkway Realignment Project	22832	South Dunes	Byram 2009	Pedestrian	-	-	12	12
Report on Cultural Resources in the Proposed Port of Coos Bay Access Road Corridor	5743	IWP	Simmons 1984	Pedestrian	-	-	-	-

In summary, 241.4 acres have been surveyed for archaeological resources and require no additional surveys, 4.6 acres have not been surveyed and require survey (Boxcar Hill), and 279.0 acres have been partially surveyed, but require additional survey in the form of geoarchaeological deep testing (Figure 4-1). Table 4.2-1 provides a summary of all pertinent cultural resources surveys completed to date, which JCEP Project Area element they address, and details of those surveys. Table 4.2-2 (to be provided in a subsequent draft) summarizes the status of cultural resources survey completion by JCEP Project Area element and provides details on the acreage of each element. Elements identified as “Requires Additional Survey” are either located in portions of the JCEP Project Area where construction will exceed the depth of previous surveys tested and where further geoarchaeological deep testing is needed, or require survey for above-ground resources. This work is planned for 2017. Figure 4-1 illustrates the status of archaeological survey completion summarized in Table 4.2-2 (to be provided in a subsequent draft).

4.2.5 Resource Descriptions

Two known archaeological sites have the potential to be impacted during construction of the LNG Terminal site. The first site, 35CS221, may contain up to seven historic-period ranch building features and a Native American lithic site. This site was identified during a survey of the original LNG Terminal area and is currently located under dredge spoils. Southern Oregon University’s Laboratories of Anthropology (“SOULA”) conducted evaluation studies at Site 35CS221 in 2014. SOULA georeferenced historic maps and aerial photographs showing the locations of structures, and used these to target several specific locations for excavation. They also sought to record the previously identified lithic scatter and/or other potential precontact components of the site. It further noted a ground-penetrating radar survey conducted by Byram in 2013 as a means of helping to identify where to place excavation units. It excavated 13 mechanical trenches and a series of excavation units. It identified a number of artifacts and features associated with twentieth-century occupation of the area, most of which were in a disturbed context. SOULA recommended that the portion of the site investigated was not eligible for the NRHP; however, it noted that additional materials could be identified during construction and recommended monitoring (Rose et al. 2014). JCEP has provided this report as an appendix to this resource report and will be seeking concurrence by the SHPO, which has not yet officially commented on the site’s NRHP eligibility or potential Project effects. The site will be directly affected by construction of the LNG Terminal.

The second site, 35CS227, is located adjacent to the LNG Terminal site APE. Site 35CS227 is a historic-period Native American ranch and precontact shell midden on the northwest shore of Jordan Cove. This site was identified in a 2006 survey for the PCGP Pipeline (Bowden et al. 2009). The site has not been evaluated for eligibility, but it is considered potentially eligible for the NRHP. Evaluation to determine its eligibility is not necessary because it can be avoided. Extensive shovel testing confirmed that the boundaries do not extend into the LNG Terminal site footprint; however, it is possible that this site has subsurface components buried below the depth at which shovel testing was feasible. The Access and Utility Corridor is slated for construction, and portions of it will not be constructed deeper than the depth to which shovel probes were excavated for the site boundary (approximately 50 centimeters below surface). As a result, it does not appear that this site will be affected; however, an avoidance plan will be drafted as part of the pre-construction process to ensure avoidance of this site. The site boundary will be staked, and archaeological and tribal monitoring will be conducted during pre-construction and construction activities in the vicinity of the site.

Site 35CS263 is a precontact fishing weir site located in Coos Bay near the Kentuck Project, and was recorded by Byram and Walker (2010). The site was recommended potentially eligible for the NRHP and remains unevaluated. While it can be avoided by construction, it is possible that waterflow through the spillway could affect the weir over time. A known weir site in Newport Bay has eroded over the course of time after the insertion of a large culvert running under a road that drains an adjacent slough arm. Thus, Site 35CS263 is potentially indirectly (or cumulatively) affected by the Project. It is possible that through design, appropriate measures can be taken to avoid or minimize impacts to this resource.

Site 2484-001 is a concrete foundation and associated historic-period artifact scatter located in the Kentuck Project. Historic research and artifact analysis suggests that the site dates between the 1930s and the 1960s. The site has not been evaluated for the NRHP, and it appears that it will not be directly affected by the proposed wetland enhancements. No additional work appears to be warranted at this time.

The CBRL spur to RFP crossed the Access/Utility Corridor, Gas Pipeline, and Access Road site along Jordan Cove Road circa 1955. It appears as though this resource will not be directly affected, but it is uncertain as to whether it will be altered in any way. This resource needs to be evaluated for the NRHP and potential effects need to be assessed.

Remnant historic mill structures associated with the Menasha Mill are present in the LNG Terminal site footprint, and will be demolished. The Lagoon is also part of the Project and was constructed around the same time as the Menasha structures and will be used by the Project. They need to be evaluated for the NRHP and effects need to be assessed.

The Coos Bay North Jetty Railroad/North Spit Railroad, Segment 1, is a former historic railroad alignment that has been removed. A portion of the road running along the northern edge of Jordan Cove follows this alignment. This resource has previously been recommended not eligible for the NRHP, though that recommendation is over 10 years old and must therefore be revisited. The site needs to be evaluated for the NRHP and effects need to be assessed.

Jordan Cove Road is a historic road alignment constructed around the time of the Menasha Mill. It appears on a 1969 aerial photograph of the area, but not on a 1962 USGS map; however, the Menasha Mill is also not shown on the 1962 USGS map, so it may have been drawn earlier than its published date. The road is slated for improvements. This resource needs to be evaluated for the NRHP and potential effects need to be assessed.

RFP was opened in 1968, and will therefore be considered of a historic-period over the life of the Project. The facility includes several buildings and structures, some of which are slated for demolition. This resource needs to be evaluated for the NRHP and potential effects need to be assessed.

Isolated Find HRA 207i is located in the South Dune Site and consists of a single precontact piece of lithic debitage and a historic-period nail. It has previously been determined not eligible for the NRHP, so impact to this resource will not represent an effect to a historic property.

Site 35CS26 is also located adjacent to the LNG Terminal site; however, based on its reported location and the results of surveys conducted in the vicinity of its reported location, it appears to be outside the LNG Terminal APE.

In addition to known designated sites and historic resources, there are some areas where information suggests the potential for buried archaeological sites and/or human remains (see Sections 4.2.2 and 4.2.3 and Appendix A.4). Though their precise historic locations are uncertain at the present time, should archaeological deep testing described in Section 4.2.4

encounter archaeological or human remains, these will be managed according to the process identified in the research design for the SHPO archaeological permit under which the surveys will be conducted and the Project UDP. Table 4.2-3 summarizes the resources identified to date and recommendations.

Table 4.2-3. Cultural Resources Identified in and adjacent to the APE

Resource Number/Name	Resource Type	Applicant NRHP Assessment	Applicant Recommendations	SHPO Comments (if available)
35CS221	Lithic scatter/historic ranch/possible precontact village	Not eligible	Supplemental geoarchaeological deep testing	-
35CS227	Shell midden	Unevaluated	Avoid and monitor construction	-
35CS263	Precontact fish weir	Unevaluated	Avoid and monitor construction, periodic monitoring for erosion	-
284-001	Historic structure and scatter	Unevaluated	Avoid and monitor construction	-
CBRL	Historic railroad	Unevaluated	Evaluate, assess effects	-
Menasha extant structures	Historic lumber mill-related	Unevaluated	Evaluate, assess effects	-
Coos Bay North Jetty RR, Segment 1	Historic railroad (not extant)	Not eligible ¹	No additional work	-
Jordan Cove Road	Historic road	Unevaluated	Evaluate, assess effects	-
IF HRA 207i	Lithic debitage and historic nail	Not eligible	No additional work	Concur, no additional work ²
Roseburg Forest Products	Historic-period lumber related	Unevaluated	Evaluate, assess effects	-
Site 35CS26	Precontact midden or quarry	Unevaluated	Avoid and monitor construction	-

4.3 UNANTICIPATED DISCOVERY PLAN

A UDP has been prepared to address unanticipated historic resource discoveries during construction of the LNG Terminal. The plan describes the procedures that will be employed if previously unidentified archaeological resources, including human remains, are encountered on

¹ RR was recommended eligible, but Segment 1 was recommended not eligible. Concurrence was never obtained by SHPO, so the resource needs to be reassessed.

² SHPO concurrence on Bowden et al. 2009 detailed sites, but did not detail isolated finds. The report recommended that isolated finds were not eligible, and SHPO did not specifically address them (Appendix B.4).

the LNG Terminal site during construction. A draft of this plan is included in Appendix B.4. This plan will be updated in consultation with SHPO and in communication with appropriate Tribes once additional cultural resource surveys are completed and prior to construction of any portion of the Project.

4.4 OUTSTANDING CULTURAL RESOURCES STUDIES AND SCHEDULING

Because this is a new project, SHPO will need to concur on the JCEP Project Area APE. A proposed APE will be submitted to SHPO in the spring of 2017.

As discussed in Section 4.2.4, additional surveys are being undertaken in 2017 to test for deeply buried archaeological resources potentially affected by construction. Results of these surveys will act to supplement the analysis within this resource report. Should these studies result in the identification of archaeological resources, they will need to be evaluated for the NRHP, and project effects will need to be assessed. Such evaluation studies and effects assessments will likely occur in 2017 or in 2018 depending on when they are identified.

As stated in Section 4.2.5, several cultural resources will be affected by the LNG Terminal that have not been evaluated for the NRHP or for which concurrence from SHPO on their eligibility has not yet been received. Evaluation studies and SHPO concurrence on NRHP eligibility and Project effects will need to be obtained. Most of these evaluation studies and effects assessments will occur in 2017. JCEP will also continue to communicate with the interested Tribes regarding concerns over the potential effects on potentially eligible TCPs and historic properties.

Should evaluation studies and consultations determine resources to be eligible for the NRHP, and should it be determined that they be adversely affected by the Project, those effects will need to be resolved. Adverse effects to archaeological resources will likely involve mitigation in the form of archaeological data recovery. Such studies would likely initiate in 2018 or early 2019. The determination that historic properties are present within the LNG Terminal site would trigger the need for a project Historic Properties Management Plan that would identify appropriate mitigation and management needs for construction and for the term of the license. Table 4.4-15 presents the schedule for additional cultural resources studies needed.

Table 4.4-1. Outstanding Cultural Resources Studies and Scheduling

Geoarchaeological deep testing	2017
Evaluation of identified cultural resources	2017
Evaluation of any archaeological sites identified during deep testing	Late 2017–2018
Mitigation of adverse effects to historic properties	2018–2019

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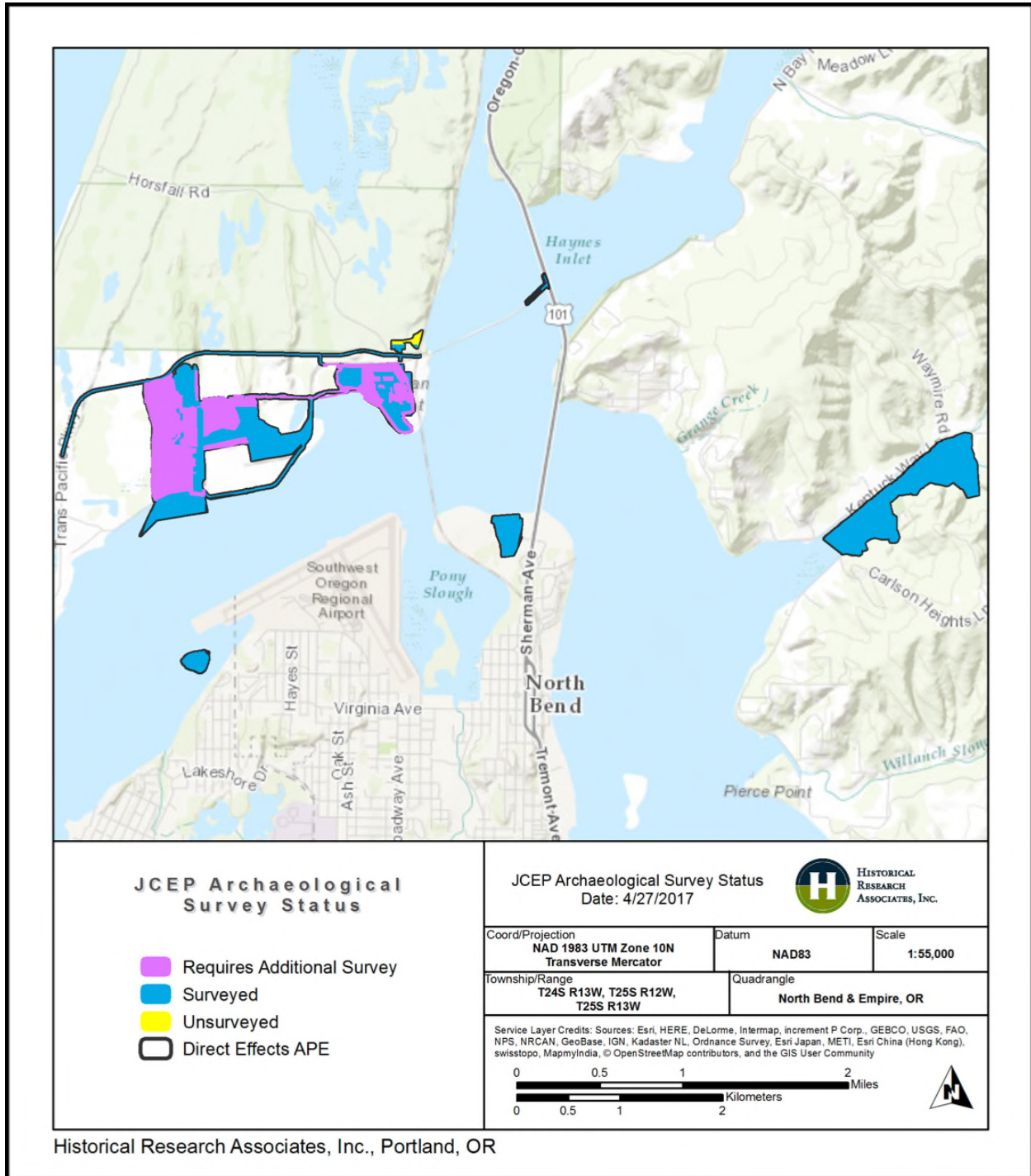
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FIGURES

Figure 4-1. Archaeological Survey Coverage of JCEP Project Area APE



APPENDIX A.4
Phase I Cultural Resource Survey Reports

(Privileged and Confidential)
(to be included in a subsequent version)

**APPENDIX B.4
Unanticipated Discovery Plan**

APPENDIX C.4
Correspondence

APPENDIX D.4

Henderson Ranch Site 35CS221 Phase II Evaluation Testing, Coos Bay, OR

Contains Privileged Information – Do Not Release (CUI//PRIV)