COUNTY OF HUMBOLDT
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING DIVISION

3015 H Street Eureka CA 95501
Phone: (707)445-7541 Fax: (707) 268-3792
http://www.co.humboldt.ca.us/planning

Hearing Date: August 3, 2017 (continued from July 13, 2017)

To: Humboldt County Planning Commission

From: John H. Ford, Director

Subject: **Save the Redwoods League Special Permit for Design Review**
Application Number 13656
Case Numbers SP-17-044, DR-16-015;
Assessor Parcel Numbers (APN) 519-231-018, 520-012-013
122305 State Highway 101 and 545 Bald Hills Road, Orick Area

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Please contact Michael Wheeler, Senior Planner, at (707) 268-3730, or by email at mwheeler@co.humboldt.ca.us, if you have any questions about the scheduled public hearing item.

AGENDA ITEM TRANSMITTAL

Hearing Date August 3, 2017 (continued from July 13, 2017)	**Subject** Special Permit and Design Review	**Contact** Michael Wheeler

Project Description: Save-the-Redwoods League seeks planning entitlements for the deconstruction of the existing barn, approximately 5,560 square feet in size, and ancillary structure, approximately 1,525 square feet in size, both of which are centrally located on the former Orick Mill Site. Access to the site is located along Bald Hills Road, which runs along the southern boundary of the project site. Under the proposed project, the existing barn and ancillary structure located on the project site will be deconstructed with associated materials stockpiled on-site for potential re-use on-site at a later date. The proposed location of the stockpiled materials is on the existing paved area, approximately 225 feet northeast of the existing barn. An Orick Barn Ancillary Structures Historical Resources Assessment Report was prepared by Gerald T. Takano on November 25, 2015, to determine if the barn and ancillary structures (including the ancillary structure to be deconstruction and the existing tank to remain) are of historical, architectural, and cultural significance as a local, State, or federal resource. No cultural or historical resources have been identified within the project site. A Special Permit is required as the Orick Design Review Committee recommended denial. No reason was given for the recommendation.

Project Location: The project site, approximately 100 acres in size, is located at 122305 State Highway 101 and 545 Bald Hills Road in Orick, California, and comprises two parcels, Assessor's Parcel Numbers (APNs) 519-231-018 and 520-012-013. The project site is located approximately 1.2 miles north of the unincorporated community of Orick and is just outside the boundaries of Redwood National Park.

Present Plan Land Use Designations: Agricultural Lands (AL), Agricultural Rural (AR), Industrial Resource (IR)

Present Zoning: (AG-B-5(5),D,X); Agriculture General (AG), Minimum building site are 5 acres (B-5(5)), Design Control (D), Recreation (X); (FR-B-5(20),D) Forestry Recreation (FR), Minimum building site area 20 acres (B-5(20)), Design Control (D); (MH-D) Heavy Industrial (MH), Design Control (D)

Case Numbers: DR 16-015, SP 17-044 **Application Number:** 13656

Assessor Parcel Numbers: 519-231-018-000; 520-012-013-000

Applicant
Save the Redwoods League
Attn: Christine Aralia
111 Sutter Street, 11th Floor
San Francisco, CA 94104

Owner
Save-The-Redwoods League
111 Sutter St
San Francisco, CA 94104

Agent
LACO Associates
Attn: Deirdre Clem
21 West Fourth Street
Eureka, CA 95501

Environmental Review: Yes.

State Appeal Status: Project is NOT appealable to the California Coastal Commission

Major Issues: None.

Recommended Planning Commission Action:

1. Describe the application as a Public Hearing;
2. Request staff presents the project;
3. Open the public hearing; and,
4. After receiving testimony, close the hearing and take the following action:

Move to adopt the Mitigated Negative Declaration and make all of the required findings for approval of the Special Permit based on evidence in the staff report, and adopt the Resolution approving the Save-the-Redwoods League project subject to the recommended conditions.

EXECUTIVE SUMMARY

Save-the-Redwoods League seeks planning entitlements for the deconstruction of the existing barn, approximately 5,560 square feet in size, and ancillary structure, approximately 1,525 square feet in size, both of which are centrally located on the former Orick Mill Site. Demolition of Mill A consisting of 3 industrial buildings was completed under separate permitting in 2010. Under the proposed project, the existing barn and ancillary structure located on the project site will be deconstructed with associated materials stockpiled on-site for potential re-use on-site at a later date. The proposed location of the stockpiled materials is on the existing paved area, approximately 225 feet northeast of the existing barn.

The property is located in a Design Review (D) combining zone. The Design Review regulations require special treatment for historic buildings proposed for demolition. Where a building is officially designated as historical the regulations provide notification to public and non-profit agencies who may wish to acquire the building and site or relocate the structure. To determine potential historic status an Orick Barn Ancillary Structures Historical Resources Assessment Report was prepared by consultant Gerald T. Takano on November 25, 2105, to determine if the barn and ancillary structures (including the ancillary structure to be deconstruction and the existing tank to remain) are of historical, architectural, and cultural significance as a local, State, or federal resource. The conclusion of the report is that the barn and ancillary structure are **not eligible** for local and state landmark status and national register listing. The mitigated negative declaration includes mitigation measure (Cult-1) that requires the deconstruction and salvage of architectural elements of the barn and ancillary building to the extent determined by a qualified professional. Salvaged materials are to be removed in a manner that minimizes damage. Salvaged materials are to be safely stored on site and made available for reuse in subsequent site development (see Attachment 4).

Within the community of Orick the Reviewing Authority for design review is the Orick Design Review Committee who recommended denial of the project. No reason was given for the committee's recommendation. In such cases, the zoning regulations require the Planning Commission to assume the role of Reviewing Authority.

All other referrals agencies have recommended approval or conditionally approval the project. A Mitigated Negative Declaration was prepared and circulated to agencies and the public for a thirty day comment period. No comments were submitted. Staff knows of no findings that would warrant denial of the project.

Alternatives: The following alternatives to the staff recommendation may be considered: 1) The Planning Commission could elect to add or delete conditions of approval; 2) The Planning Commission could deny approval of the requested permit if you are unable to make all of the

required findings. Planning Division staff is confident that the required findings can be made based on the submitted evidence and subject to the recommended conditions of approval. Consequently, planning staff does not recommend further consideration of these alternatives.

RESOLUTION OF THE PLANNING COMMISSION
OF THE COUNTY OF HUMBOLDT
Resolution Number 17-___

Case Numbers SP-17-044/DR-16-015
Assessor Parcel Numbers 519-231-018, 520-012-013

Makes the required findings for certifying compliance with the California Environmental Quality Act and conditionally approves the Save-The-Redwoods League Special Permit for Design Review

WHEREAS, Save-The-Redwoods League submitted an application and evidence in support of approving a Special Permit for deconstruction of a barn on the subject property located within a Design Review (D) Combining Zone; and

WHEREAS, the County Planning Division reviewed the submitted application and evidence and referred the application and evidence to reviewing agencies for site inspections, comments and recommendations; and

WHEREAS, the project is subject to environmental review pursuant to the California Environmental Quality Act (CEQA); and

WHEREAS, a Mitigated Negative Declaration was prepared and circulated for 30 day comment and is included in Attachment 4 along with comments and responses to comments; and

WHEREAS, Attachment 2 in the Planning Division staff report includes evidence in support of making all of the required findings for approving the proposed Special Permit (Case Numbers SP-17-044/DR-16-015); and

WHEREAS, the applicant requested and received a continuance of the public hearing from July 13, 2017 to August 3, 2017 by the Planning Commission to permit the applicant to be present for the hearing item; and

WHEREAS, a public hearing was held on the matter before the Humboldt County Planning Commission on August 3, 2017.

NOW, THEREFORE, be it resolved, determined, and ordered by the Planning Commission that:

1. The Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program is adopted; and

2. The findings in Attachment 2 of the Planning Division staff report for Case Numbers SP-17-044/DR-16-015 support the approval of the project based on the submitted evidence; and

3. The Special Permit for Design Review is approved subject to the conditions of approval in Attachment 1 for Case Numbers SP-17-044/DR-16-015.

Adopted after review and consideration of all the evidence on August 3, 2017.

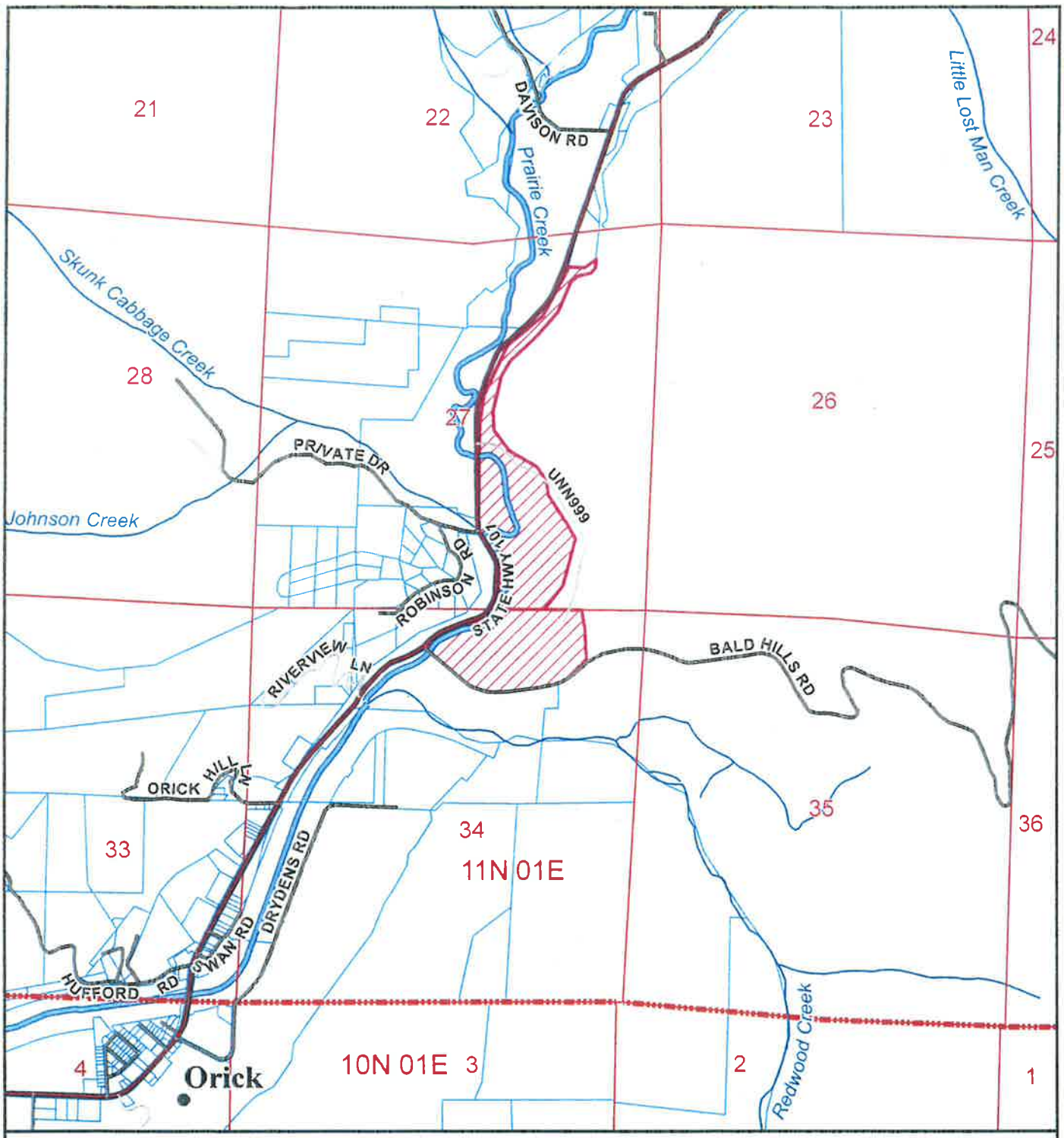
The motion was made by Commissioner _____ and seconded by Commissioner _____.

AYES: Commissioners:
NOES: Commissioners:
ABSTAIN: Commissioners:
ABSENT: Commissioners:
DECISION:

I, John H. Ford, Secretary to the Planning Commission of the County of Humboldt, do hereby certify the foregoing to be a true and correct record of the action taken on the above entitled matter by said Commission at a meeting held on the date noted above.

_____

John H. Ford
Director, Planning and Building Department



LOCATION MAP

PROPOSED SAVE THE REDWOODS LEAGUE DESIGN REVIEW
ORICK AREA
DR-16-015
APN: 519-231-018, 520-012-013
T011N R01E S027,034 HB&M (Orick)

Project Area =

This map is intended for display purposes and should not be used for precise measurement or navigation. Data has not been completely checked for accuracy

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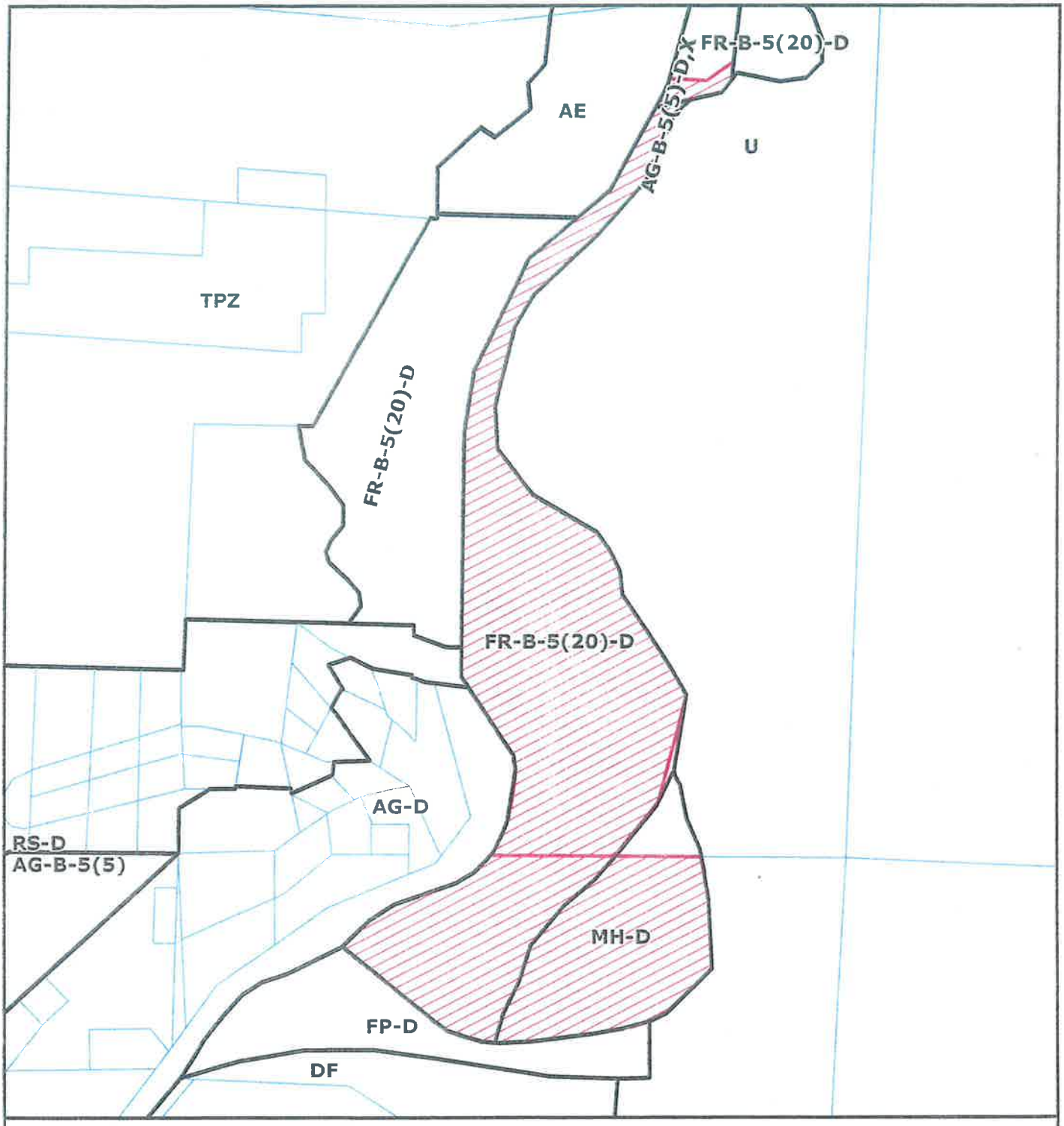

ZONING MAP

PROPOSED SAVE THE REDWOODS LEAGUE
DESIGN REVIEW
ORICK AREA
DR-16-015
APN: 519-231-018, 520-012-013
T011N R01E S027,034 HB&M (Orick)

Project Area =

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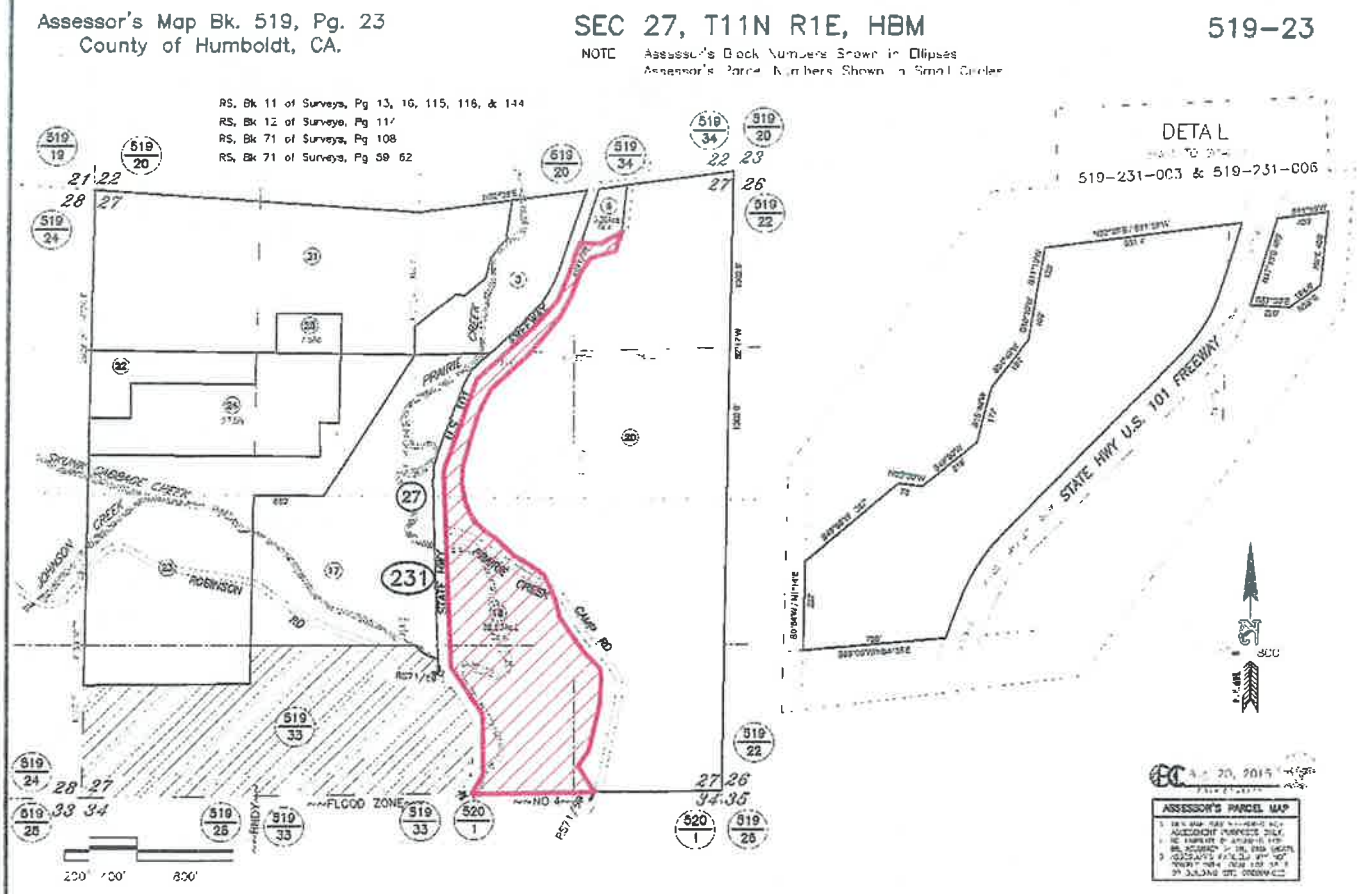

ASSESSOR PARCEL MAP

PROPOSED SAVE THE REDWOODS LEAGUE DESIGN REVIEW ORICK AREA DR-16-015 APN: 519-231-018, 520-012-013 T011N R01E S027,034 HB&M (Orick)

Project Area =

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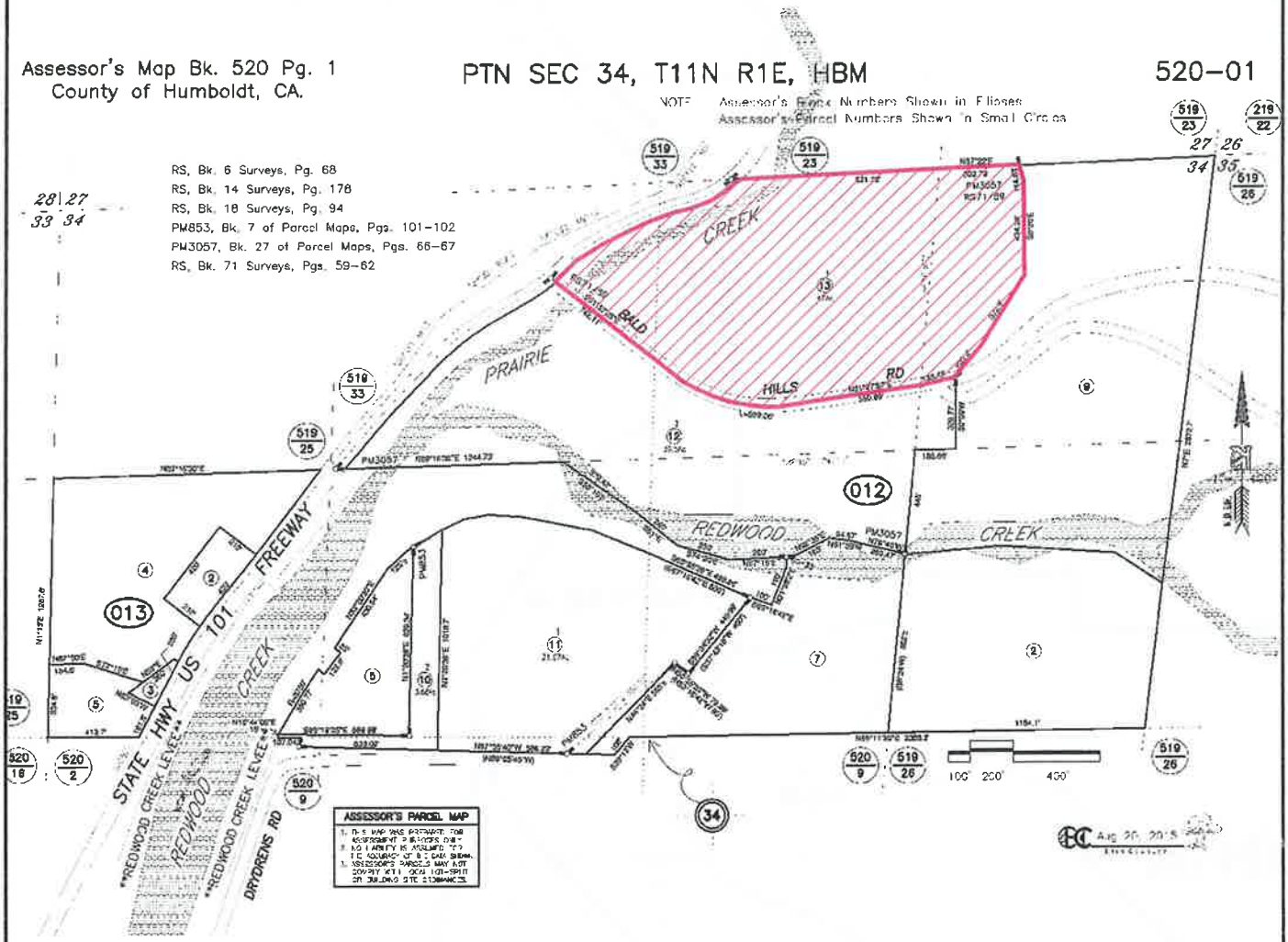
MAP NOT TO SCALE



ASSESSOR PARCEL MAP

PROPOSED SAVE THE REDWOODS LEAGUE DESIGN REVIEW ORICK AREA DR-16-015

APN: 519-231-018, 520-012-013

T011N R01E S027,034 HB&M (Orick)

Project Area =

N

This map is intended for display purposes and should not be used for precise measurement or navigation. Data has not been completely checked for accuracy.

MAP NOT TO SCALE

AERIAL MAP

PROPOSED SAVE THE REDWOODS LEAGUE DESIGN REVIEW ORICK AREA DR-16-015 APN: 519-231-018, 520-012-013 T011N R01E S027,034 HB&M (Orick)

Project Area =

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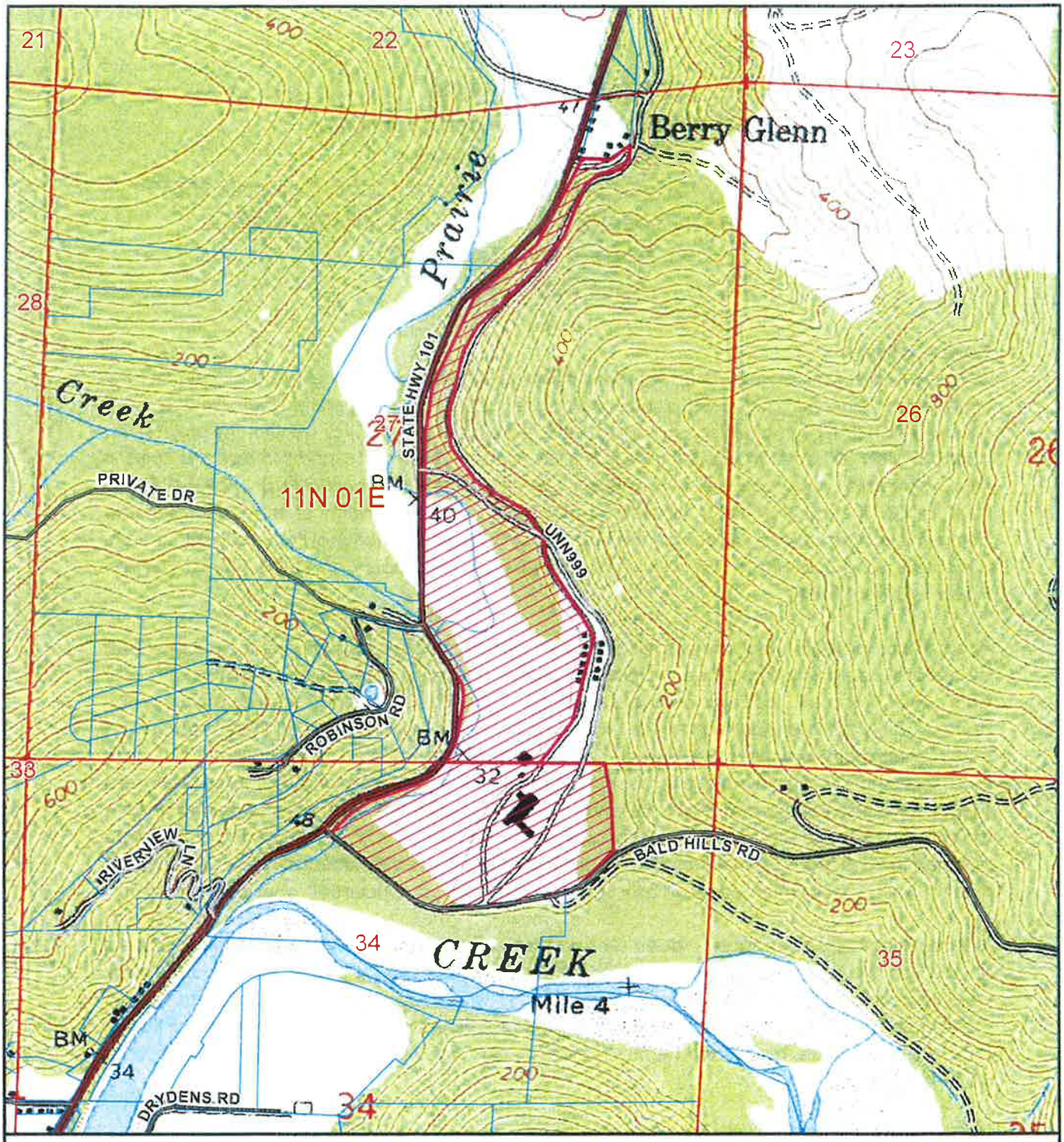
0 500 1,000 Feet



TOPO MAP

PROPOSED SAVE THE REDWOODS LEAGUE
DESIGN REVIEW
ORICK AREA
DR-16-015
APN: 519-231-018, 520-012-013
T011N R01E S027,034 HB&M (Orick)

Project Area =

This map is intended for display purposes and should not be used for precise measurement or navigation. Data has not been completely checked for accuracy.

N

0 0.25 Miles

ATTACHMENT 1

CONDITIONS OF APPROVAL

Issuance of the demolition permit shall be subject to the following terms and conditions:

1. The project shall be conducted in conformance with the approved plot plan and project description. Changes to the approved design may be approved if in conformance with Section 312-11, Minor Deviations.

2. The applicant is required to pay for permit processing on a time and material basis as set forth in the schedule of fees and charges as adopted by ordinance of the Humboldt County Board of Supervisors. The Department will provide a bill to the applicant upon file close out after the decision. Any and all outstanding Planning fees to cover the processing of the application to decision by the Hearing Officer shall be paid to the Humboldt County Planning Division, 3015 H Street, Eureka.

3. The applicant shall obtain a septic deconstruction permit from the Division of Environmental Health.

Informational Notes

1. Applicant is responsible for receiving all necessary permits and/or approvals from other state and local agencies.

2. This approval will expire in one (1) year from the issuance date. If development has not begun before the approval expires, a new application must be filed. The new application will require additional fees and may be subject to different requirements and standards. If development or necessary construction cannot begin within said one year period, you may apply to the Planning Division for an extension. Applications for such extensions must be submitted in writing before the scheduled expiration date, accompanied by the appropriate fees, and may be granted only when: (1) the development has not changed from that for which the Design Review was granted; and (2) the findings made when the Design Review was granted can still be made.

3. Within ten (10) working days of the approval date, any individual not satisfied by the Planning Commission's decision may appeal to the County Board of Supervisors. Such appeals must be filed with the Planning Division, Room 1, 3015 H Street (Clark Complex), Eureka, CA in writing and shall be accompanied by an appeal fee as provided in the adopted Schedule of Fees and Charges. If an appeal is filed, the Planning Commission's approval will be voided unless upheld by the Board.

4. If cultural resources are encountered during construction activities, the contractor on site shall cease all work in the immediate area and within a 50 foot buffer of the discovery location. A qualified archaeologist, as well as the appropriate Tribal Historic Preservation Officer(s, are to be contacted to evaluate the discovery and, in consultation with the applicant and lead agency, develop a treatment plan in any instance where significant impacts cannot be avoided.

   The Native American Heritage Commission (NAHC) can provide information regarding the appropriate Tribal point(s) of contact for a specific area; the NAHC can be reached at 916-653-4082. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials. If human

remains are found, California Health and Safety Code 7050.5 requires that the County Coroner be contacted immediately at 707-445-7242. If the Coroner determines the remains to be Native American, the NAHC will then be contacted by the Coroner to determine appropriate treatment of the remains pursuant to PRC 5097.98. Violators shall be prosecuted in accordance with PRC Section 5097.99

The applicant is ultimately responsible for ensuring compliance with this condition.

ATTACHMENT 2

STAFF ANALYSIS OF THE EVIDENCE SUPPORTING THE REQUIRED FINDINGS

Required Findings: The Inland Zoning Ordinance, Section 314-19.1 of the Humboldt County (Design Review) specifies the findings that are required to approve plans for projects requiring design review in the inland portion of Humboldt County:

- The proposed development conforms with all applicable standards and requirements of the D-Zone regulations;

Recommendation: The required findings can be made based on the following analysis.

Staff Analysis: Consistency with the Zoning Ordinance

A. Preservation of Unique Natural Beauty and Aesthetic Interest
Under the proposed project, the existing barn and ancillary structure located on the project site will be deconstructed with associated materials stockpiled on-site for potential re-use on-site at a later date. The proposed location of the stockpiled materials is on the existing paved area, approximately 225 feet northeast of the existing barn (see Figure 2). Appropriate best management practices (BMPs) such as covering stored materials, revegetation of disturbed areas, and the use of physical barriers such as silt fencing, straw matting, and fiber rolls, will be used to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the materials storage site to nearby wetlands, streams, and sensitive habitats. No areas or views of unique natural beauty will be impacted or blocked as a result of the proposed façade.

B. Architectural Treatment of Historical Buildings or Structures
The Report *Orick Barn Ancillary Structures Historical Resources Assessment Report* (Historical Resources Assessment Report) was prepared by Gerald T. Takano on November 25, 2015, to determine if the barn and ancillary structures (including the ancillary structure to be deconstructed and the existing tank to remain) are of historical, architectural, and cultural significance as a local, State, or federal resource. As noted in the Historic Resources Assessment Report, the interpretation and findings to determine significance of the existing barn and ancillary structures were based on existing records, written resources of the region, photographs, and documents provided by the League.

The existing barn was built in the late 1940s, and was constructed to replace the original barn, which was removed after the new barn was constructed; as such, the new barn is not located on the footprint of the original barn. The existing barn and ancillary structures are not included in the list of the National Register, State or County historical buildings, structures or cultural landscapes, and are not eligible for the local and state landmark status and National Register in lieu of the primary significance of the demolished original barn. It was noted in an interview with Ron Barlow that one small section of the original barn was retained to be used as a storage shed. No salvaged materials were used in the construction of the new barn and several modifications have since been made to the existing barn, including addition of a large door in 1961/62 to allow for storage of a forklift inside the barn, and enlarging the feeding stanchion and adding pen walls for housing a bull inside the barn during the cold/wet season. The ancillary structures are the only surviving structures from the original Orick Barn complex; all other buildings and structures were previously demolished.

As noted under Section G, Conclusion, on page 41 of the report:

*"The Orick Barn ancillary structures are **not eligible** for the local and state landmark status and national Register in lieu of the primary significance of the demolished overall Orick Barn."*

C. Maintenance of Architectural Aspects of Designated Areas
While the barn and ancillary structure are not eligible for listing on state, local or national registers of historic resources, the structures provide a context for the historic use of the land for agricultural use and dairying and later as the site of a lumber mill. Both uses have been traditionally important to the local economy and culture of the town of Orick. Mitigation Measure CULT-1 requires salvage and re-use of architectural features of the buildings to the extent feasible in order to preserve a portion of this historic context on site.

D. Relationship to Natural Setting
The project site is located in a narrow river valley and consists of a generally level paved area of approximately 20 acres in the southeastern portion of the site, wetland areas, the existing barn and ancillary structure, and a gravel berm just west of the paved area. The berm was constructed presumably for flood control and divides the property into two distinct areas. Two grazing fields are located further to the west, which flank Prairie Creek along the western boundary of the project site.

The project site has been significantly disturbed by past agricultural and industrial use, and has been grazed for over 50 years. The project site was formerly utilized as a lumber mill and the remaining mill foundations are located within the former mill footprint.

The topography of the project site is typical of Redwood Creek flood plains that are flat to very gently undulating with slopes being less than three percent. The site is situated in an elongated, north-south trending alluvial valley flanked by steep, forested hillslopes to the east and west. The valley bottom is very gently sloping to the south-southwest at a gradient of less than two percent. The valley bottom is mainly open pasture with riparian vegetation. Vegetation at the project site consists of native, non-native, mixed, and channel vegetation. The existing barn and ancillary structure are visible from Highway 101, which is located at a higher elevation than the project site, but is only minimally visible from Bald Hills Road, due to the thick vegetation located along Bald Hills Road. While Highway 101 is an eligible state scenic highway, it has not been officially designated (Caltrans, 2011). The proposed project is not located within a city- or county-mapped or designated scenic vista, within a scenic resources area, or along a state scenic highway. Furthermore, the existing barn and ancillary structure are not considered historical structures. The project will not in conflict with the natural setting. No vegetation removal is required for the project.

E. Proscriptive Standards

The following table compares the development standards of the Forest Recreation (FR-B5(20)), D Zone with the existing lot.

Requirement	Standard	Existing Lot
Minimum Lot Area	20 acres	100.8 acres
Minimum Lot Width	200 feet	>200 feet
Minimum Yard Setbacks per Zoning	Front: 20' Side: 10' Rear: 20'	No development is proposed that would be required to meet yard setbacks.
Maximum Ground Coverage	None specified	Not applicable. Project is for deconstruction.
Maximum Structure Height	35'	No new structures are proposed.
Parking Requirements	Dependent on use.	Because the proposal here does not increase the degree of non-conformity, nor increase the parking demand from historic levels, no new parking spaces are required.

Based on the above comparison staff believes that the project conforms to the development standards of the zone.

Environmental Impact: The following table identifies the evidence which supports finding that the proposed location of the use and conditions under which it may be operated or maintained will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity, and will not adversely impact the environment.

Code Section	Summary of Applicable Requirement	Evidence that Supports the Required Finding
CEQA §15063	CEQA review required	Please see the attached draft Mitigated Negative Declaration. As required by the California Environmental Quality Act, the initial study conducted by the Department of Planning and Building, Planning Division (Attached) evaluated the project for any adverse effects on the environment. Based on a site inspection, information in the application, and a review of relevant references in the Department, staff has determined that there is no evidence before the Department that the project will have any potential adverse effect, either individually or cumulatively, on the environment. The environmental document on file in the Department includes a detailed discussion of all relevant environmental issues.

Attachment 3

Applicant's Evidence in Support of the Required Findings

- Plot Plan
- Project Description
- Historic Assessment Report
- Biological Report
- Orick Mill Site Construction Noise Constraints Memorandum, LACO, July 15, 2016

PROJECT DESCRIPTION

Orick Mill Barn Demolition and Permitting

Save-the-Redwoods League

122305 State Highway 101 and 545 Bald Hills Road, Orick, California 95555

Assessor's Parcel Numbers (APNs) 519-231-018 and 520-012-013

LACO Project Number 7787.09

November 1, 2016

Project Overview

Save-the-Redwoods League (League) seeks planning entitlements for the deconstruction of the existing barn, approximately 5,560 square feet in size, and ancillary structure, approximately 1,525 square feet in size, both of which are centrally located on the former Orick Mill Site. The project site, approximately 100 acres in size, is located at 122305 State Highway 101 and 545 Bald Hills Road in Orick, California, and comprises two parcels, Assessor's Parcel Numbers (APNs) 519-231-018 and 520-012-013. The project site is located approximately 1.2 miles north of the unincorporated community of Orick and is just outside the boundaries of Redwood National Park. Access to the site is located along Bald Hills Road, which runs along the southern boundary of the project site (see Figure 1, Cover Sheet).

Under the proposed project, the existing barn and ancillary structure located on the project site will be deconstructed with associated materials stockpiled on-site for potential re-use on-site at a later date. The proposed location of the stockpiled materials is on the existing paved area, approximately 225 feet northeast of the existing barn (see Figure 2, Demolition Plan). Appropriate best management practices (BMPs) such as covering stored materials, revegetation of disturbed areas, and the use of physical barriers such as silt fencing, straw matting, and fiber rolls, will be used to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the materials storage site to nearby wetlands, streams, and sensitive habitats. Specific BMPs will be included in an Erosion Control Plan to be submitted and reviewed for adequacy by the Humboldt County Building Department and will be installed and inspected concurrently with deconstruction.

A formal application to request Pacific Gas and Electric Company (PG&E) disconnect electrical service from the barn and remove overhead conduits and four existing power poles located north, west, and southwest of the barn and ancillary structure will be submitted prior to deconstruction of the existing barn and ancillary structure. Other existing structures, including the existing well house, tank, electrical house, fence, and berm will remain. Additionally, existing vegetation and wetlands will be left undisturbed.

The current Orick Community Plan (OCP) land use and County of Humboldt (County) zoning designations for the two parcels comprising the project site are provided in Table 1 below.

Table 1. Current Land Use and Zoning Designations of the Project Site

Assessor's Parcel Number (APN)	Orick Community Plan Land Use Designation[1]	County of Humboldt Zoning Designation
519-231-018	Agricultural Lands (AL); Agricultural Residential (AR); Industrial, Resource Related (IR)	Agricultural General with Beach and Dune Areas and Design Review Combining Zones (AGB5[5]D); Forestry Recreation with Beach and Dune Areas and Design Review Combining Zones (FRB5[20]D)
520-012-013	Agricultural Lands (AL); Industrial, Resource Related (IR)	Forestry Recreation with Beach and Dune Areas and Design Review Combining Zones(FR-D-B-5[20]); Heavy Industrial with Design Review and No Further Subdivision Allowed Combining Zones(MHXD)

Notes:
[1] The Orick Community Plan is included as Volume II of the County of Humboldt General Plan.

No changes to the property's current General Plan land use or zoning designations are proposed under the project; however, under the County's General Plan Update (GPU), the General Plan land use designations for both parcels are proposed to be modified to Rural Residential, 40- to 160-acre minimum density (RA40-160) and Commercial Recreation (CR).

The project site was purchased from Green Diamond Resource Company in 2012, and is likely to transfer to National Park Service ownership in the future.

Environmental Setting

The project site is situated north of the confluence of Prairie Creek and Redwood Creek, and is bounded by Highway 101 to the west, Prairie Creek to the northwest, Redwood National and State Park (RNSP) lands to the north and east, and Bald Hills Road to the south. The subject properties are located on the Orick 7.5 minute USGS quadrangle (1975) on portions of Section 34 Township 11N, Range 1E and Section 27 Township 11N, Range 1E, Humboldt Meridian, California. The project site is not located within the Coastal Zone; however, both parcels comprising the project site are located within the 100 Year Flood Zone and State Fire Responsibility Area. Resources and hazards were reviewed using the County's WebGIS portal (http://www.humboldtgov.org/1357/Web-GIS).

The project site is located in a narrow river valley and consists of a generally level paved area of approximately 20 acres in the southeastern portion of the site, wetland areas, the existing barn and ancillary structure, and a gravel berm just west of the paved area. The berm was constructed presumably for flood control and divides the property into two distinct areas. Two grazing fields are located further to the west, which flank Prairie Creek along the western boundary of the project site.

The project site has been significantly disturbed by past agricultural and industrial use, and has been grazed for over 50 years. The project site was formerly utilized as a lumber mill and the remaining mill foundations are located within the former mill footprint.

The topography of the project site is typical of Redwood Creek flood plains that are flat to very gently undulating with slopes being less than three percent. The site is situated in an elongated, north-south trending alluvial valley flanked by steep, forested hillslopes to the east and west. The valley bottom is very gently sloping to the south-southwest at a gradient of less than about one to two percent. The valley bottom is mainly open pasture with riparian vegetation. Vegetation at the project site consists of native, non-native, mixed, and channel vegetation.

Biological and Botanical Resources

The potential for sensitive habitats and sensitive species have been identified on or immediately adjacent to the project site. The hillside immediately adjacent and to the west of the site contains old growth redwood stands which are potential habitat for marbled murrelet (*Brachyramphys marmoratus*) (MAMU) and northern spotted owl (*Strix occidentalis caurina*) (NSO), both of which are federally listed sensitive species. Additionally, the project site contains approximately 68.5 acres which meet at least one of the three parameters for identifying jurisdictional wetlands. Of the 68.5 acres, approximately 23.5 acres meet at least two of the three parameters, including approximately 18.8 acres which meet all three parameters and are assumed to be jurisdictional wetlands (waters of the United States). Prairie Creek is located on the western portion of the project site, generally adjacent to State Highway 101, and approximately 400 feet west of the existing barn and ancillary structure. Prairie Creek and its eight major tributary streams support populations of Chinook salmon, coho salmon, steelhead, and coastal cutthroat trout.

The project will include measures to avoid disturbance of sensitive species. Additionally, wetlands or other vegetation will not be impacted or removed due to the deconstruction of the barn and ancillary structure.

Existing Land Uses

The project site is currently developed with the existing barn and ancillary structure proposed for dismantling, an access road, two wooden fences (one around a livestock holding area and one around a vegetable garden), a well house, an electrical house, tank, and berm. Additionally, the project site includes the foundations of the former Orick Mill structures and approximately 20 acres of asphalt covers the southeast portion of the project site (see Figure 2). Only the existing 5,560 square foot barn and 1,525 square foot ancillary structure will be deconstructed under the proposed project; other existing improvements and infrastructure will remain under the project.

Part of the project site, including the existing barn, is currently under lease to a local resident as a dairy, ranching livestock shelter and feeding area, and livestock grazing. The adjacent ancillary structures are abandoned.

Surrounding Land Uses

Surrounding uses include State Highway (SH) 101 and a forested hillside with scattered single family residences to the west, Bald Hills Road immediately to the south, and Redwood National Park forest lands to the north and east. Prairie Creek is located on the western portion of the project site, next to Highway 101, and approximately 400 feet west of the existing barn and ancillary structure. Additionally, the existing barn and ancillary structure are located approximately 1,400 feet north of Redwood Creek.

Special Studies

Biological Resources

A *Orick Mill Site Construction Noise Constraints Sensitive Species Protection Technical Memorandum* (Noise Constraints Technical Memorandum), prepared by LACO Associates, dated July 15, 2016, includes recommended time of year, time of day, and location restrictions intended to avoid disturbance of sensitive species, based on guidance from the United States Fish and Wildlife Service (USFWS) and National Park Service (NPS). The proposed project will be in conformance with recommendations included in the Noise Constraints Technical Memorandum.

As noted in the Noise Constraints Technical Memorandum, restrictions for MAMU and NSO take three primary forms: avoidance of noise impacts, avoidance of visual impacts, and avoidance of increased predation from corvids (MAMU only). Visual and noise impact prevention measures apply only during the nesting season from February 1 (start of NSO) through September 15 (end of MAMU). Measures to discourage increased corvid activities must be followed year-round to be effective.

During the nesting season, MAMU are most active in the vicinity of their nests in the two hours after sunrise and the two hours before sunset. For that reason, and to account for the typically reduced nighttime ambient noise and activity, mid-day construction, and operational restrictions are modestly less strict in mid-day when MAMU nesting activity is lowest.

Project-generated auditory and visual impacts will be restricted with appropriate setback distances to avoid disturbance take of the northern spotted owl and marbled murrelet. To further reduce any potential impacts to the federally-listed species, the deconstruction of the barn and ancillary structure could occur outside of the combined breeding seasons of February 1 to September 15.

Figure N1.1 (Draft Construction Noise Setbacks and Buffers) in the Noise Constraints Technical Memorandum illustrates the location of noise buffer zones. The existing barn and ancillary structure are located with the 90 decibel (dB) maximum zone. As noted in the corresponding table, likely permitted mid-day activities within this buffer zone may include medium to large construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, and moderate to large diesel engines. Additionally, large gasoline powered tools, power saws, large chainsaws, pneumatic drills and impact wrenches, circular saws, and hammering may also be permitted during mid-day hours. Similar equipment and tools may be utilized under the project.

Cultural and Historical Resources

An *Orick Barn Ancillary Structures Historical Resources Assessment Report* (Historical Resources Assessment Report) was prepared by Gerald T. Takano on November 25, 2105, to determine if the barn and ancillary structures (including the ancillary structure to be deconstruction and the existing tank to remain) are of historical, architectural, and cultural significance as a local, State, or federal resource. No cultural or historical resources have been identified within the project site. However, the project will be referred to the local Tribal Historic Preservation Officers by the County to identify any potential cultural or historical resources within the project site.

Utilities
The subject site is currently served by an existing well and septic system. Electrical service at the project site is provided by Pacific Gas and Electric Company (PG&E). No other services serve the site.

LACO has been in communications with PG&E regarding electrical service modifications at the project site and a formal application to request PG&E disconnect electrical service from the barn and remove four existing poles and overhead conduit will be submitted prior to deconstruction of the existing barn and ancillary structure; however, electrical service will still be supplied to the site during deconstruction.

Project Entitlements and Approvals
Under the proposed project, the following applications and permits will be required:

- Design Review Permit from the County Planning Department
- Hazardous Materials Permit from the North Coast Unified Air Quality Management District (NCUAQMD)
- Demolition Permit from the County Building Department

Project Timing
Deconstruction of the barn and ancillary structure is expected to take several weeks. The materials will be stockpiled on-site for potential re-use on-site at a later date. The barn and ancillary structure may be deconstructed outside of the combined nesting and breeding season of February 1 to September 15 to reduce any potential impacts to the northern spotted owl and marbled murrelet, both federally-listed threatened species under the Endangered Species Act.

Orick Barn Ancillary Structures

Historical Resources Assessment Report

122305 Highway 101, Orick, California USA APN 519 231 018

Figure H.4.3 Orick Barn ancillary structures

Submitted to: **LACO Associates**
21 West 4th Street, Eureka, CA 95501
P.O. Box 1023, Eureka, CA USA 95502
707 443 5054 | 800 515 5054
http://www.lacoassociates.com

attention: Michael Nelson

Gerald T. Takano
Consultant
14250 Cherry Street, Guerneville, California USA 95446
707 869 9569, gertkno@aol.com

November 25, 2015

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Part 1
Introduction

1.A.1 Overview and purpose of project. As mandated by the California Environmental Quality Act (CEQA) an assessment of Orick Barn ancillary structures is required to determine if the building and structures are of historical, architectural and cultural significance as a local, State or Federal resource.. This assessment forms the basis for the owners, stakeholders and others to develop appropriate development action and option for the barn, including its repurposing, relocation, or demolition.

1.A.2 Name of the owner. *Save the Redwoods League,* 111 South Sutter Street, #11, San Francisco, California 94104.

Figure 1 Orick Barn Ancillary Structures SITE PLAN (within the proposed developable PROJECT Site Plan, LACO, Figure 2)

1.A.3 Description of the proposed project. *The Save the Redwoods League* has not determined, to date, a specific project action or use for the Orick Barn site. The property, purchased from the Green Diamond Resource Company in 2012, will eventually transfer to National Park Service ownership.

1.A.4 Location of property and other pertinent information (see **Figures 1 & 2**)). Orick Barn ancillary structures are located adjacent to the Prairie Creek Redwoods State Park), Orick, California. The barn and its ancillary structures are situated within the former Orick Lumber Mill property located at 122305 Highway 101, Orick, California. The project site (APN 519 231 018) zoning classification is currently AGB5(5)D (Agricultural General) with Design Control and FR B5(20), Forest Recreation with allowable special building permitted. Orick Barn ancillary structures are also within an area designated as a FEMA Flood Plain.

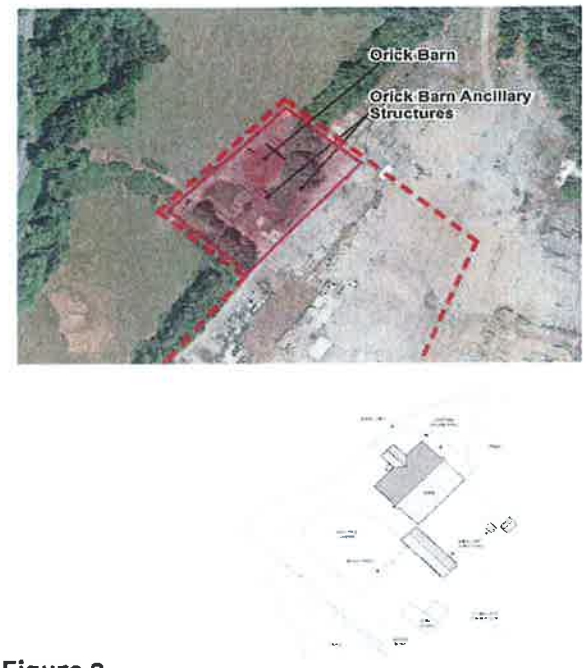


Figure 2
Orick Barn Ancillary Structures
Project Site Plan (proposed developable area)

1.A.5 Current use of the property. The Orick Barn ancillary structures' site is currently leased to a local resident as a dairy and ranching livestock shelter and feeding area (Grazing Lease between *Save the Redwoods League* and Ronald L. Barlow, October 12, 2014 – October 12, 2015 with extension provisions). The adjacent ancillary structures are abandoned. The original Barn was previously a part of property owned by Green Diamond Resource Company which maintained the barn and its farming and cattle uses. The industrial lumber mill to the east of Orick Barn ancillary structures was demolished in 2009-2010. Portions of the mill's concrete foundation, including approximately 20 acres of splintered asphalt pavement, have remained. Some of the site is also currently used for dairy livestock grazing.

1.A.6 Names of the consultant. Gerald Takano, 14250 Cherry Street, Guerneville, California 95446, 1 808 869 9569, cell 1 415 420 5508, gertkno@aol.com.

1.A.7 Beginning and completion dates for the report. August – November 2015.

1.A.8 Description of the research procedures used to prepare the report. In preparation for the Assessment, meetings with the staff of LACO Associates were held to discuss the background and basis of the project. No architectural or engineering plans and minimal detailed accounts of the barn were available from previous or current owners. Other farming and ranching operations were studied to understanding the historical and cultural uses of the barn within the context of Humboldt County. Site visit photographs of the exterior and interior of the Orick Barn ancillary structures were taken and numerous aerial maps were studied to determine visible physical changes occurring to the site.

The interpretation and findings to determine significance of Orick Barn ancillary structures were based on existing records, written resources of the region, photographs and documents provided by the Owners. . Buildings and structures, within the context of the adjacent farming

activities, were identified through aerial photographs. The assessment methodology utilized to determine potential landmark eligibility include:

- Identification of any existing inventory, documentation and resource information, including County and State designations, pertaining to the subject property and building.
- Meeting with representatives for the owners of property.
- Review of County and State CEQA requirements, specifically related to criteria for significance and integrity. Research of additional available data and information
- Identification of comparative prototypes and typologies to discuss significance and integrity. Definition of the types of resources, including contextual rural landscape, farm complex and subject building (rural farm use).

B. Historical Background

1.B.2 The historical and agricultural context of the study area: Agricultural properties provide a context and framework for understanding settlement patterns and the diffusion of culture and technology over time. According to the document, *A Historical Context and Archaeological Research Design for Agricultural Properties in California* prepared by The California Department of Transportation, Sacramento, California, 2007, in cooperation with the State Historic Preservation Office (SHPO) and the Federal Highway Administration, California had 118 distinct farming areas with agrarian households and associated farming or ranching ventures that provide information on the adaptability of farmers from different backgrounds to changing environmental, social, and economic conditions. The challenge for California's farmers and ranchers has always been to match available, and often limited, physical, human, financial, and managerial resources to produce and market alternative outputs chosen from a set of potential agricultural commodities and value added products. The ever-evolving complex of producers, laborers, ideology, tradition, and culture merged as agricultural communities were formed.

The document also explains how the discovery of gold at Sutter's Mill in Coloma in 1848 and the ensuing Gold Rush demand for food would set in motion a wave of settlement aimed at producing commercial food products. California's agricultural provinces did not always have a clear distinction among cultural groups participating in the same industry, but the physical and cultural characteristics of California's agricultural industry are paramount in addressing questions related to acculturation, assimilation, race, gender, and family. In addition the technological history of agriculture is as important as its cultural history. California used new machines and implements advertised in trade journals or exhibited at agricultural fairs. Understanding technological change as it relates to agricultural properties is essential for establishing historic context and ultimately significance.

The California State Parks Department Archives' *Guide to the California Dairy Industry*, April 2005, http://www.parks.ca.gov, speculates the first State export of dairy products most likely began in northern California. There is evidence the Russians at Fort Ross on the Sonoma coast engaged in

farming and dairy production and shipped butter, cheese, and locally grown produce to fur-trapping settlements in Alaska between the years of 1812 and 1841. After the departure of the Russians from California in 1841, and with the influx of fortune seekers in the 1850's following the discovery of gold in California, dairying in the state was still primarily a domestic activity.

California's increase in population supported the demand for milk. Larger dairy herds first emerged close to California's most populated areas to ensure that milk could be supplied to the rapidly growing urban populations. The Bay Area became the state's first major dairy center due in large part to environmental factors with a temperate climate and the production of high quality alfalfa. California's geographic isolation, with the Sierra Nevada and Rocky Mountain ranges as obstacles to the transport of raw milk either east or west, necessitated the rapid development of in-state production and processing capacities. The state's phenomenal population growth in the late nineteenth and early twentieth centuries created steady demand for dairy products, which stimulated the development of storage, packaging, and delivery systems.

In the last quarter of the nineteenth century several new technologies emerged to help jumpstart the state's dairy industry. Mechanical cream separation, pasteurization, a reliable method of butterfat measurement and even the glass milk bottle were all developed between 1877 and 1892. Dairying in California shifted from a domestic activity to a major industry about 1890. Shortly before that time the centrifugal cream separator, a mechanical device for separating cream from raw milk in large batches, made its appearance in California, and the first commercial creamery in the state opened in Ferndale, California in 1899. The emergence of creameries created a division between production and manufacturing/marketing operations. Before 1900, California dairying was primarily an integrated endeavor, and included growing feed for the cows, producing the milk, skimming the cream, churning the butter and making the cheese all in one location—the dairy farm.

After the end of the California Gold Rush in the early 1850s, thousands of Americans from the eastern United States who did not manage to find gold settled in the area. Most of the early settlers, prospectors from the Gold Rush, located their farms and ranches were primarily along areas such as the Redwood Creek The watershed was soon converted to agriculture and ranching purposes. Over time, the settlers established towns of their own such as in the Orick area especially near the mouth of the river where there was more arable land than the steep upper canyons. The river's then-abundant salmon runs attracted fishermen to the region and the generous supply of redwood trees allowed logging operations to prosper.

By the 1890s the Humboldt County region was known for its "firsts" including:

- the production of the first sweet cream butter,
- butter wrapping and cutting machines,
- dry-milk processing on the Pacific Coast,
- milk tank truck,
- cooperative creameries,
- cow testing program in California, and the

- development of the nationally-known Gray-Jensen dry milk process and the Peebles dehydration process.

The dairy and ranching farm complexes of Humboldt County typically embodied a distinctive character and aspects of architecture, land use, spatial organization, circulation, and vegetation. Vernacular buildings, common and specific to the geographical region, were built in traditional ways with traditional materials, and using traditional details and simple ornaments. Such buildings, according to Eric Mercer, author of *The Study of Vernacular Architecture*, 1975, are "those which belong to a type which is common in a given area at a given time". This term is in contrast with "polite" architecture or buildings designed by individuals with professional training, often termed as 'architects'.

In vernacular architecture the way of living, such as dairy and ranch farming, was constrained by external factors such as the availability of building materials, poverty or economic necessity or the demands of a higher political authority. Vernacular buildings were often reviewed in terms of everyday actions of building and living in a house at a very basic level and values of farm life. These actions in turn affect the external appearance of the house, the arrangement of rooms, spaces, and its decoration.

1.B.3 A concise description of the historical development of the study area including facts concerning ownership, subdivision, construction dates, occupants, and uses of the property: By the late 1800s, the potential wealth from redwood timber land was well known throughout the country. Speculators and investors from the eastern states and the Great Lakes areas purchased large tracts of forests in northern California as both individuals and incorporated businesses. They competed with California speculators, like those who created the first California Redwood Company of the 1880s, locating on land that was eventually headed for purchase by the Scottish syndicate. That all fell through when the Federal government investigated the fraud, but some of that land ended up in the hands of legitimate lumber companies. James D. Walker, who had traveled to Edinburgh to sign the contract with the syndicate, then began selling land on Prairie and Redwood creeks to American investors.

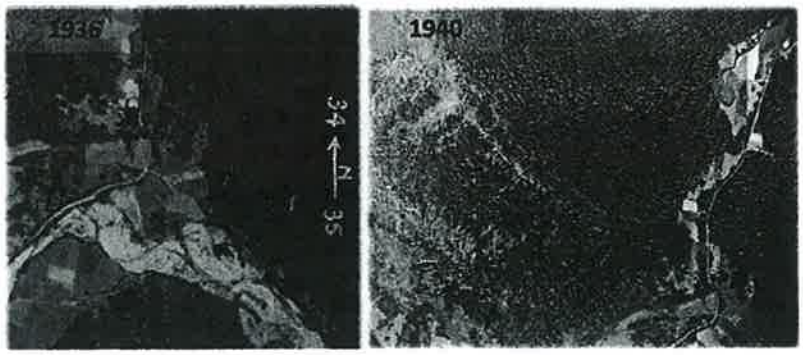
In 1889, William Henry Swift and Turlington Walker Harvey of Chicago and Robert S. Walker of New York City sold 55,173.30 acres to the American Lumber Co., incorporated in Illinois (Deeds 31:569). Swift was Secretary of the American Lumber Co. Those timber lands were conveyed to the grantors by James D. Walker in 1885 (Deeds 17:118, 473). Included in the 55,000 plus acres was land in the SE section 27 and the N half NE sec 34, 11N1E. In May 1902, the American Lumber Co entered into an agreement with Hammond Lumber Co., William H. Gratwick of Buffalo, New York, and Clark L. Ring of Saginaw, Michigan, whereby the American Lumber Company would sell at $24 per acre 35,241.60 acres on Prairie and Redwood Creeks (Deeds 77:346). Hammond acquired half the interest; Gratwick 40% and Ring, 10%. The deed for this transaction is recorded in Deeds 101:335 on 15 May 1902. The purchase price was $845,798.40.

According to the *Orick Mill A Site Restoration Project Archive Research Report* prepared for Save the Redwoods League by Monica Bueno, April 2015, there was very little activity on the Orick Mill A site during the timber speculation/lumber company ownership of the property from 1883 to 1907 apart from

the building of roads and trails. There is no documentation of the site being used for any other specific activity existing prior to 1907 when a portion of the property was leased for ranching. "The main use of the property prior to the construction of ARCO's Mill A was ranching. The Ranch at the site lies within the SW ¼ of the SE ¼ of section 27 and has been known, and referred to in the archive record, by various names: the Hammond Company Ranch, Thompson Ranch, Peugh Place and the Barlow **Ranch. Although the Peughs left the property during World War II when they purchased the** Giuntoli Ranch in Arcata, "The Peugh Place" seems to be the most commonly used name, even today." Savina Barlow, 1984.

The Report includes some documentation regarding the ranch found in local newspaper articles, many of which were written by Savina Barlow and Thelma Thompson, long-time residents of Orick. Both collected the history of the town from personal knowledge, books and diaries of and by early explorers and settlers, and through the stories and musings of Orick "old-timers". According to Savina Barlow in her book *Orick Then and Now*, the Hammond Lumber Company gave a lifetime lease on the ranch to Cornelius and Martha Thompson in 1907. The Thompsons evidently began ranching on the property in the early 1900s although there is no evidence that Hammond officially leased the lands to them. There are no deeds or leases in the Humboldt County Recorder's Office for that property. Van Kirk verifies this in her 2010 unpublished notes on the Peugh-Thompson Ranch. reference: *Orick Then and Now*, Peugh place, The Union, March 3, 1977.

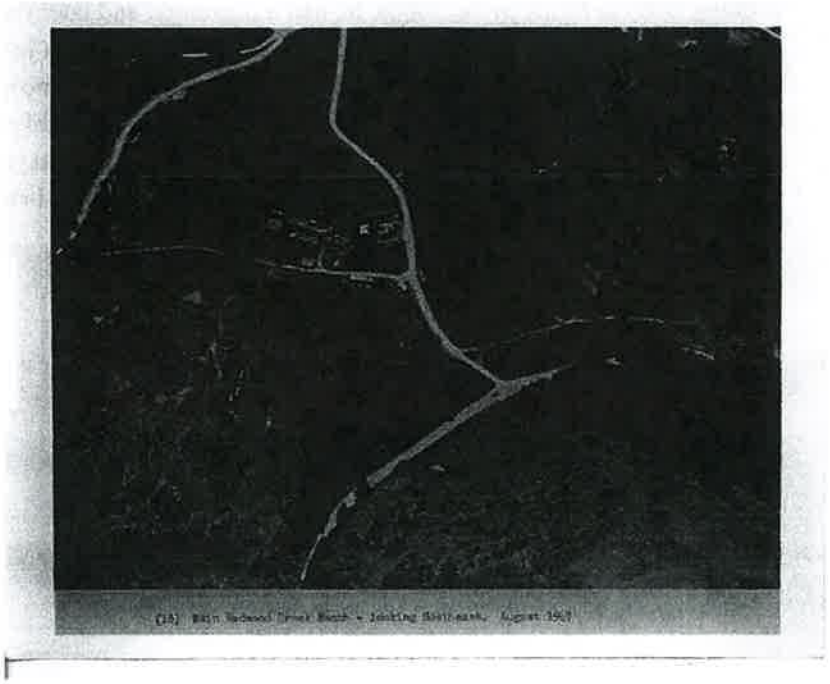
According to historian Susie Van Kirk, August 18, 2015: "Dairying and Orick are one and the same. The Orick area was one of three major dairying areas in Humboldt County. Robert Swan starting milking cows in Orick in the 1880s, he had a creamery, and later they built the cheese factory in Orick. Everybody and I mean everybody had milk cows. Lumber was a johnny come lately in the Orick area, and short-lived....There were ranches like Vance's at Essex (Vance Redwood Lumber Co.-Predecessor of the Hammond Lumber Co.) which supported the fruit, vegetables, beef, dairy, etc. to feed the workers. Then, where companies owned lots of timber lands that just happened to include bottom land, they simply leased it out, because local dairy men needed it and because, as you said, it was business."



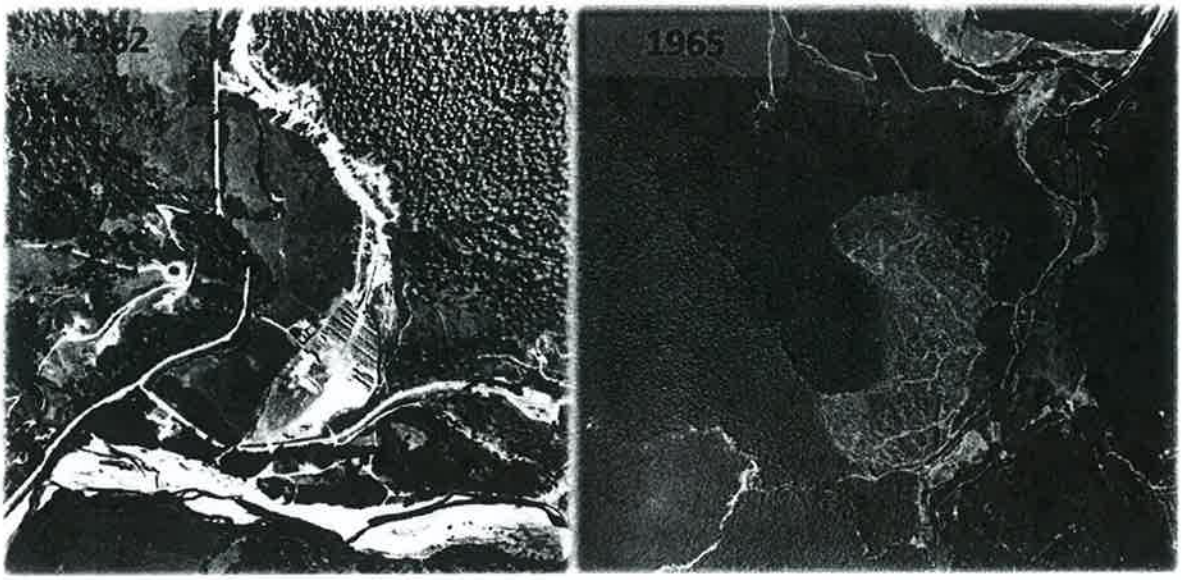
H.3.1 Aerial photo of Project Area, 1936 & 1940, source: LACO, Eureka, California.

"The new barn on the ARCO ranch was built after Willard and Pearl Peugh left the ranch (they were there from the early 1930s until 1946) and moved to the Giuntoli place on Giuntoli Lane in Arcata. [Arcata Bottom]. Pearl's parents, Cornelius and Martha Thompson leased the ranch before the Peughs, beginning about 1907, leasing from Hammond, but again I can find only a couple of leases. (These are in the Hammond company records)."

H.3.2 Aerial photo of Project Area, 1947 & 1954, source: LACO, Eureka, California.



H.3.3 Aerial photo of Orick Barn, 1947, source: LACO, Eureka, California.



H.3.4 Aerial photo of Project Area, 1962 & 1965, source: LACO, Eureka, California.

H.35 Aerial photo of Project Area, 1947 & 2013, source: LACO, Eureka, California.

Susie Van Kirk also provided the following information from her research:

Barn ancillary structures

- Original barn came down around 1947 when the new one was constructed.
- Lumber company contracted barn builder. He constructed four other local barns in Orick in the same style.
- The concrete wall was considered a sanitary improvement for a dairy so the walls and floor could be kept clean.
- Hay was stacked in upper loft to prevent spoilage due to flooding.
- Old barn demolished after new barn was in operation so the new one is not on the footprint of the old one.
- No salvaged materials used in new barn.
- Roof is original-no repairs or replacements. (note: some modifications noted subsequently)
- Large front door was added around 1961/62 by lumber company. They stored their forklift in the barn for a couple of years because the barn had no cab.
- The bull was confined in the barn during cold/wet season, so the feeding stanchion was enlarged and the pen walls were added.

House (demolished)

- Original house torn down in 1975, the company did not want to maintain housing and his family moved to S. Orick, at their other farm property.
- Original house had several additions, the fireplace and chimney were of local rock. Old timers remembered the house as site of many local gatherings.

"Development of agricultural farms", says Rosie Clayburn in her *Cultural Resource Study for the Former Orick Mill Site* prepared by MA Yurok Tribe Cultural Resources, September 30, 2013, "began on the North Coast with the arrivals of Euro-American settlers but remained rather limited due to the rough terrain and dense forests of the region. The few large scale operations were fertile valley floors such as Orick, and inland, high elevation prairies such as areas in the Bald Hills. Much of this desirable agricultural land was the result of annual burning practiced by the Native Americans of the region. Though these ranches where necessities to early settlers due to their production of food and other amenities, the development of food manufacturing, shifting towards a logging based economy, and the creation of roads and other transportation systems reduced the need for large scale locally grown agriculture".

"Logging activities in Humboldt and Del Norte counties began in the 1850s, though redwoods were not logged initially because current technologies and methods were incapable of handling the monstrous trees. Spruce and fir were primarily logged at first due to the lumbermen's experience with them, but as larger mills were constructed and the rot-resistant qualities of redwood made aware, the trees began to be logged as premium timber. During the early days of logging on the North Coast, camps for housing woodsmen were built close to the source of timber lands, with horses and oxen being the only way to move the felled trees to the mill. Skid roads made of

smoothed small logs placed horizontally reduced drag and allowed large teams of oxen to move the trees to their destination. In 1882 the "donkey engine" was invented that allowed logs to be transported to skids and loaded into their carts with greater ease, though animal teams remained the primary method of pulling the logs along the skids until the development of the "bull donkey" in 1892 replaced them. In 1925 Caterpillars began being used for logging and power saws entered the scene in the 1930s. By the time logging had begun, bulldozers were being used to build roads into logging areas and trucks were used to ship the logs to the mills and bring workers to and from the area."

"These advancements allowed processing and worker housing to be built a considerable distance from the logging site. Individuals were able patent 160-acre quarter sections for settlement, but because the rugged timberland was of no use for ranching or farming, most of them were consolidated into two large ownerships by a number of men once involved in a Scottish Syndicate through means of fraud, culminating in 1900. Sage Land and Lumber Co. became the owner of the eastern half of the basin created by the watershed, and Hill-Davis Company acquired the western half." *Cultural Resource Study for the Former Orick Mill Site* prepared by Rosie Clayburn, MA Yurok Tribe Cultural Resources, September 30, 2013.

1.B.3 Timetable -- Orick Barn Ancillary Structures and surrounding area

Prior to 1883	Much of the land in the Redwood Creek watershed, including the property which became known as the Thompson-Peugh Ranch, becomes part of a major land fraud scheme, which involved Eureka mill owner David Evans, John D and Harry A. Marks, James D. Walker, William H. Swift, Charles H. King, Joseph Russ, the Humboldt Redwood Company and the American Lumber Company. Thousands of acres of prime timber land were amassed for timber speculation through the use of entry men who filed claims under the Timber and Stone Act and then deeded the land to David Evans and other speculators. (Shepard 2015).
1889	William Henry Swift and Turlington Walker Harvey of Chicago, and Robert S. Walker of New York City, sell 55,173.30 acres to the American Lumber Co. (Deeds 31:569). Swift was Secretary of the American Lumber Co. Those timber lands were conveyed to the grantors by James D. Walker in 1885 (Deeds 17:118, 473). Included in the 55,000 plus acres was land in the SE ¼ Section 27, and the N 1/2 NE 1/4 Sec 34, T 11N R1E.
1900s	Sage Land and Lumber Co. became the owner of the eastern half of the basin created by the watershed, and Hill-Davis Company acquired the western half. DR. V.L. Hunt of Arcata sells the current Orick Mill property fifty five acres with a 40 acre concentration pond for the storage of logs.

1902	The American Lumber Co sells land that includes the Thompson Peugh Ranch to a group of lumber investors, the Hammond Lumber Co. (50%), Clark Ring (10%) and William Gratwick (40%). The sale is recorded in two transactions. (Deed 77:346; Deed 101:335). Clark Ring sells his shares to Merrill and Ring Lumber Company in a Memorandum of Agreement in 1903. (Memorandum of Agreement 83:301
1902	American Lumber Co. sells 35,241.60 acres on Prairie and Redwood Creeks to Hammond Lumber Co and other investors for logging.
1907	A lifetime lease on the land in Sections 26, 27, 34 and 35 T 11N R 1E is given to Cornelius and Martha Thompson by the Hammond Lumber Company, although the lease is only recorded in company records. The Thompsons had homesteaded in the Bald Hills since 1887, and moved to the new property after their house burned down in 1907. Although Cornelius Thompson passes away in 1922, the property is run as a dairy farm by the Thompson family and its descendants through 1946. (Ron Barlow Interview) The Weichpec Turn, originally an Indian trail, runs through the middle of the property in front of the ranch buildings and is now called Bald Hills Road. (LP/Hammond Collection).
1908	Gratwick and Merrill and Ring Lumber Company sell their combined 50% interest in the land to the Hill-Davis Company. (Deed 107:331).
Early 1900s	property is used as a ranch by the Thompson family.
1916	The remaining parcel of property, T 11N R1E NE ¼ SE ¼ Section 27, is purchased by the Hammond Lumber Company and Hill-Davis Co. Ltd, a partnership, from E.S. Collins and the estate of T.D. Collins. (Deed 135:98 and Deed 135:101.
1936	Case Chittenden purchases a mill and equipment in Del Norte County and installs it in a new mill in Orick on the north bank of Redwood Creek (Times Standard 20 March 1969).
1946	The Arcata Redwood Company is acquired by Hill-Davis through purchase of stock control. (Humboldt Standard 7 January 1946).
1947	The Hammond Lumber company contracts a local barn builder to build a new barn at the Ranch, he constructs four other local barns in Orick in the same style. The concrete wall was considered a sanitary improvement for a dairy so the walls and floor could be kept clean. Hay was stacked in the upper loft to prevent spoilage due to flooding. (Van Kirk 2010).

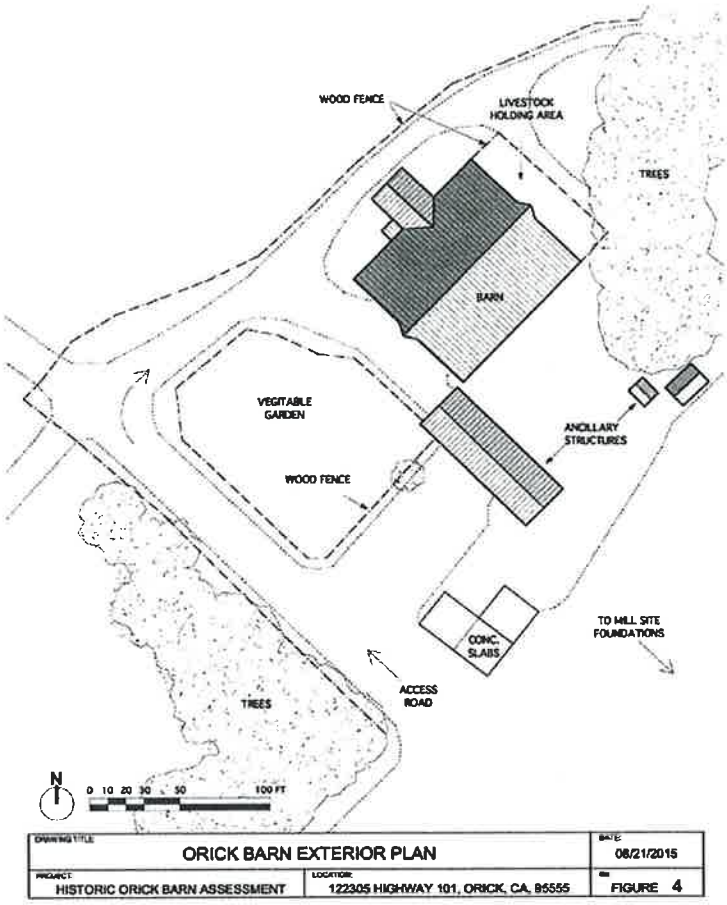
1948	The original Thompson-Peugh Dairy Barn is demolished when the new Orick Barn is completed. One small section of the original dairy barn is retained to be used as a storage shed. (Ron Barlow Interview) Note: The larger barn to the west of Orick Barn is demolished and subject the existing Orick Barn is built.
1952	The Arcata Redwood Company (ARCO) constructs its first mill in the Orick area in 1952 for salvage logging. Located off Davison Road (near the center of sec 22, 11N1E), it became known as Mill B. (Arcata Union 8 Aug. 1974).
. 1958	Hill-Davis sells all of its Humboldt County properties to ARCO, including the Thompson Peugh Ranch (Deed 516:369). Dairy operations cease at the Thompson Peugh Ranch, when construction begins on Mill A, located adjacent, and ranch operations now focus on beef cattle. The water supply for Mill A and the Ranch is now provided by the same source, before this time the spring to the north east of the property supplied water for the Ranch. A loading area is added for the transportation of beef cattle (Ron Barlow Interview).
1960	About a dozen mills were located in the Orick area, including the Harding Mill where the present Redwood Creek trailhead is located off Bald Hills Road; the Geneva Mill on the highway at Lost Man Creek; the Speier and Lumberman Supply mills on Bald Hills Roads; the Cal Pac mill at the present location of the Redwood National and State Parks Visitor Center; ARCO Mill B on Davison Road, and several mills right in Orick. None of these mills remains so there is no physical evidence of this unprecedented period in local history. (Roscoe 2010). Orick Mill A is completed adjacent to the Thompson Peugh Ranch by ARCO to replace the old mill off of Highway 101 near Arcata. Operations begin in this modern mill which is constructed for old growth Redwood. (Arcata Redwood Company. In the 1960s-1975, the pasture in front of house used for both garden and small enclosed pen.
1961	Several modifications are made to the subject Orick Barn main ancillary structure. A large door was installed and stanchions removed inside to accommodate the forklift stored by the Arcata Redwood Company (ARCO), through 1962. Wider stanchions in this section were designed to accommodate a bull which was sheltered in bad weather (Ron Barlow Interview). In addition to Orick Barn the site now includes the Original Farm House, with several additions; a shop building with attached worker bunk room, a remnant

	of the Original Barn which was converted to a small shed, and a chicken house. At this time, the pasture in front of house is used for both a garden and a small enclosed pen for a 4-H sheep project. (Ron Barlow: Interview).
1968	Redwood National Park is established. Increasing logging, in to meet the post-World War II demand for lumber for construction throughout this country and abroad, ultimately became the impetus for the creation of Redwood National Park in 1968 and its expansion ten years later (Bears 1969).
1974	ARCO Mill B is torn down in 1974 (Arcata Union 8 Aug. 1974).
1975	The Original Farm House to the east of Orick Barn, worker housing, and the chicken house are demolished by the lumber company. The Barlow family relocates to a ranch south of Orick. (Ron Barlow Interview).
1978	Redwood National Park is expanded.
1988	Orick Mill is purchased by Simpson Timber Company (California Redwood Co.)
2009	Orick Mill permanently shut down.

C. Description of Orick Barn

:

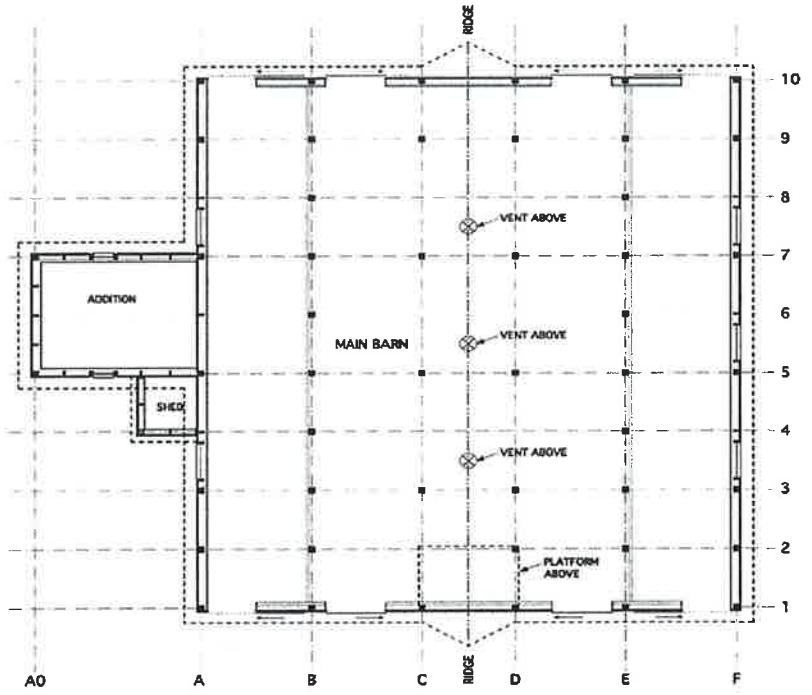
1.C.1 Physical appearance and condition. An earlier report, **Evaluation of the Historic Significance of Structures of Department of Fish and Game Wildlife Areas, Humboldt County, California,** Susie Van Kirk, Kathleen Stanton, February 1998 **describes, generically, the "California" barn:**



"The California barn has a steeply-pitched roof with hay hoods at either end of the ridge; a central hay mow, and stabling side aisles. The hay hoods are extensions at the ridge of the barn roof that provide weather protection for the loft doors located just under the gables, but there is only a small "loft", the hay mow being at the ground level. Extending the length of the ridge, a pole with a pull arrangement was used with either horse or tractor power to raise loose hay through the loft door and into the mow at ground level. On either side of the mow is a rood of wooden stanchions and mangers for feeding cows. These barns are roughly 50 cow barns with 25 stanchions on a side.....These barns are built of old-growth redwood with an exposed interior construction of posts, beams, and bracing, which is not only solid and utilitarian, but beautiful, reflecting the art and skill of turn-of-the-century, master craftsmen. Vertical board exterior side and wood roof shingles are weathered to subdue earth tones that blend easily with the surrounding vegetation. The barns are intact architecturally and historical and could again provide shelter for livestock and forage."

Orick Barn ancillary main structure is a front facing gable barn typically modeled after Dutch Barns from the East Coast USA. The construction is functional with bays for the cattle or cows on either side of a central area threshing floor and hay storage. The building is symmetrical with evenly spaced columns and wood framed and braced bents. The roof is also wood framed with corrugated metal sheets anchored to the framing. Three vents are located on the exterior ridge of the roof. Although the roof is

designed with a "widow's peak" over the south facing entry to the barn, there is no pulley device to help transport hay into the interior threshing area. Multi-paned windows are also placed along the length of the barn while each end of barn has openings for the livestock and for the storage of hay.



ORICK BARN INTERIOR LAYOUT PLAN		08/21/2015
HISTORIC ORICK BARN ASSESSMENT	122305 HIGHWAY 101, ORICK, CA, 95555	FIGURE 5

There are no known construction records, plans or elevations for the subject Orick Barn. According to the current Ron Barlow, current leasee of the Orick Barn (originally part of the Thompson-Peugh Ranch property) Orick Barn was built around 1947-1948 when the original barn on the site was demolished. The new barn, however, was not constructed on the footprint of the older barn. A local lumber company was contracted as the barn builder. The concrete exterior bearing wall was considered a sanitary improvement for a dairy so the walls and floor could be kept clean. Hay was stacked in upper loft to prevent spoilage due to flooding. About the same time, the larger barn to the west of the Orick Barn ancillary structures was demolished after Orick Barn was in operation. No salvaged materials were used in new barn.

Ron Barlow noted the existing roof is original. No repairs or replacements have been made since 1947. Because the Orick Barn ancillary structure did not have a cab, the large front door on the gable front was modified around 1961/62 by the lumber company to accommodate their forklift until the barn was returned to its current use as livestock shelter. The existing feeding stanchions (upright framework consisting of two or more vertical bars), used to secure cattle in a stall or at a feed trough, were enlarged and the pen walls were added when the tenant's bull was confined in the barn during cold/wet season.

In March 2010 the document, **Historical Building Analysis Report for the Proposed Orick Mill A Demolition Project located in Orick, Humboldt County, California,** was prepared by James Roscoe M.A., Roscoe and Associates Cultural Resources Consultants, Bayside, CA, with contributions from historic resource consultant Susie Van Kirk. This architectural assessment was prepared in consideration of the proposed demolition of the Arcata Redwood Company Orick Mill as part of the California Environmental Quality Act (CEQA) environmental review process. The document recommended that none of the standing buildings and structures present at the Mill A site qualified under any of the criteria to be considered a significant historic resource. The buildings were not currently listed in the California Register of historic places. According to the assessment, "no important historical events occurred in the buildings, no noteworthy historical figures were associated with the buildings, the buildings' architecture did not representative of an important or unique style, nor the work of a master, and the buildings have no potential to yield information important in prehistory or history. Most of the main buildings were built in 1960 and thus they barely meet the 50 year criteria to even be considered for an evaluation".

However the assessment's field investigation conducted on February 18 and March 18, 2010, did not include the subject Orick Barn site situated to the west of the sawmill because the barn and associated outbuilding were affected as a result of the proposed demolition.

Two years later in 2012 LACO Associates, Eureka, California, prepared a ***Technical Memorandum*** for the Orick Barn ancillary structures' current owners, Green Diamond Resource Company. LACO performed a preliminary structural evaluation of the existing barn to assess the feasibility of upgrading the structural system of the barn to comply with the current California building code for either commercial or public assembly occupancy: *Orick Barn ancillary structures, as described previously by LACO and later field visits in 2015, are wood-framed structures located adjacent to several pasture areas. The barn is on a concrete slab foundation, with plan dimensions of approximately 65ft by 80ft and a ridge height of approximately 30 feet. The wood-framed side walls of the barn (parallel to the ridge) are built on concrete stem walls approximately 4 feet high. The vertical roof loads are supported by the exterior walls and four interior wood frames running parallel to the ridge. The interior wood frames are composed of 6x6 wood posts, 2x6 knee braces, and double 2x6 plates (laid flat). The roof is framed with 2x6 rafters spaced at approximately 3 feet on center. The rafters span approximately 10 feet between frames and cantilever approximately 10 feet to the ridge board.*

1.C.2 Architectural style and defining features (exterior and interior). Like many barns throughout the West, the Orick Barn ancillary structures have features based on earlier Dutch type barn prototypes

built in the upstate New York and New Jersey areas. The barn has long, low roof lines, doors in the gable end and the internal arrangement of stalls in aisles on either side of the central space are all in the tradition of the Dutch barn. Like traditional Dutch barns the Orick Barn ancillary structures also feature center doors for wagons and a door to the stock aisles on one or both of the side ends. However the pent roof over the center doors found on Dutch Barns are missing from the Orick Barn ancillary structures. In addition a traditional Dutch Barn's typically horizontal and simply detailed wood siding does not exist on the Orick Barn ancillary structures. However the appearance of massiveness and simplicity, making the Dutch barns seem larger than they actually are, is also true with the Orick Barn ancillary structures as a moderately sized version.

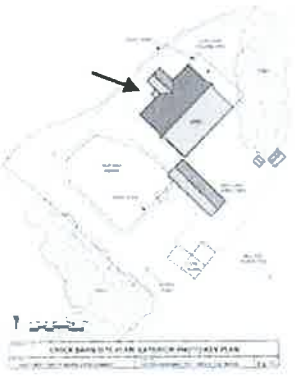
As a later adaptation of the traditional Dutch barn, mortised, tenoned and pegged beams have been replaced with nails and braces. Columned Dutch barn aisles alongside a central space are similar in the Orick Barn ancillary structures. This interior arrangement, more than any other characteristics of the Orick Barn ancillary structures, is another reference to the Dutch barn prototype.

1.C.3 Exterior and Interior Photographs of Orick Barn

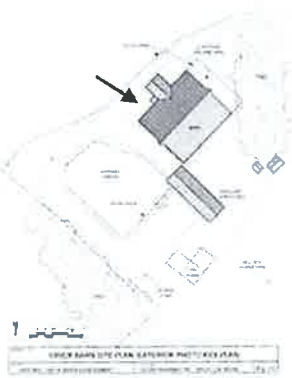
H.4.1 view towards the North from the paved and demolished Orick Mill site.

H.4.2 view towards the Northeast of the ancillary structure adjacent to the Orick Barn.

H.4.3 view towards the Northeast of the front-facing gable façade of Orick Barn and vegetable garden.



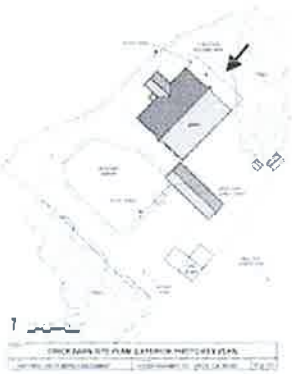
H.4.4 Interface of Northwest facing exterior wall and addition.



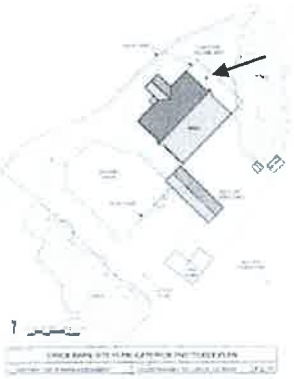
H.4.5 wood framed multi-glass window above concrete base on Northwest facing exterior wall. Vertical wood plank sheathing.

H.4.6 Northwest facing exterior wall with wood framed multi-glass window and concrete base, open eaves and corrugated metal roofing. Wood gate attached to end of exterior wall.

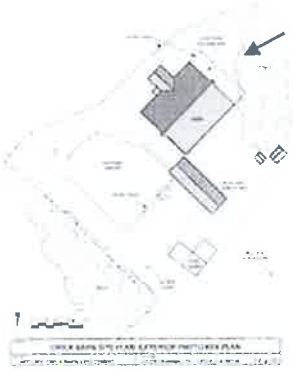
H.4.7 Northwest facing exterior addition and wood fence enclosure.



H.4.8 Northeast facing exterior wall with vertical wood plank sheathing, symmetrically located barn doors into interior trashing area and livestock entrances/exits on each end of wall.



H.4.9 Northeast facing exterior wall with vertical wood plank sheathing, symmetrically located sliding barn doors into interior trashing area and livestock entrances/exits on each end of wall. Open eaves, concrete base.

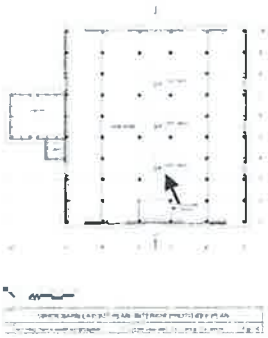


H.4.10 Northeast facing exterior wall with vertical wood plank sheathing. Wood fence enclosure.

H.4.11 Wood fence livestock enclosure located near the Northeast exterior barn wall.

H.4.12 Northeast facing exterior wall with vertical wood plank sheathing, symmetrically located barn doors into interior trashing area and livestock entrances/exits on each end of wall.

Orick Barn interior photos

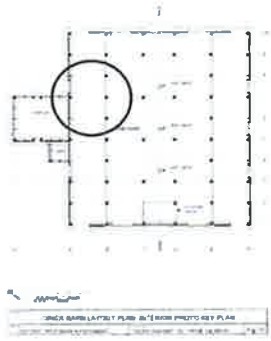


H.5.1 Interior post and beam wood framing bent system, central bay area used for hay storage.

H.5.2 Interior post and beam wood framing bent system, central bay area used for hay storage.

H.5.3 Interior post and beam wood framing bent system showing roof ridge support above central bay area used for hay storage.

H.5.4 Interior post and beam wood framing bent system, central bay area used for hay storage.

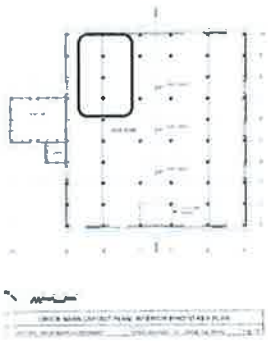


H.5.5 Interior post and beam wood framing bent system supporting the roof at roof ridge above central bay area used for hay storage.

H.5.6 Interior post and beam wood framing bent system supporting the roof system.

H.5.7 Interior post and beam wood framing bent system, central bay area used for hay storage.

H.5.8 Interior hay storage, wood framing system and Northeast interior wall.



H.5.9 Detail of wood posts and beams supporting roof system.

H.5.10 Interior East facing wall with wood framing support for the roof system and wall on concrete base.

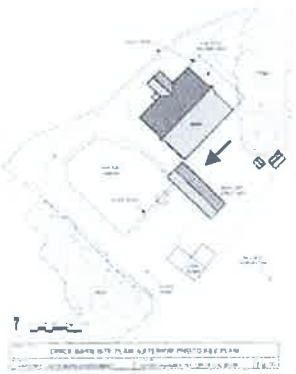
H.5.11 Post and beam wood support system in livestock bay with original wooden stanchions.

H.5.12 Post and beam wood frame support system in livestock bay with original wooden stanchions.

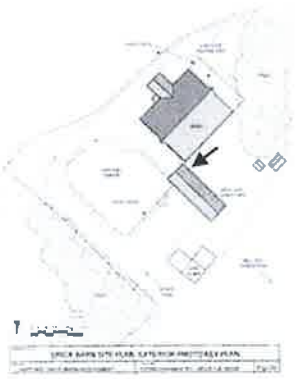
H.5.13 Interior North facing wall with wood framing support system for the roof system and wall on concrete base.

H.5.14 Post and beam wood frame system in livestock bay with original wooden stanchions.

Ancillary structures

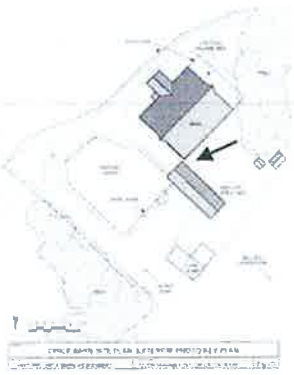


H.5.15 Ancillary building exterior wood frame system, vertical plank sheathing, metal corrugated roof system.



H.5.16 Ancillary building exterior wood frame system, vertical plank sheathing, metal corrugated roof system.

H.5.17 Ancillary building exterior wood frame system, vertical plank sheathing.



H.5.18 Ancillary building exterior wood frame system, vertical plank sheathing, metal corrugated roof system

H.5.19 Ancillary building interior wood frame system, vertical plank sheathing, cross-beamed wood door.

H.5.20 Ancillary building interior wood frame system, vertical plank sheathing, cross-beamed wood door.

H.5.21 Ancillary building interior wood frame system, vertical plank sheathing, cross-beamed wood door, twin wood framed glass windows.

H.5.22 Ancillary building interior wood frame system, open beamed ceiling, partition wall. .

H.5.23 Ancillary building interior wood frame system, vertical plank sheathing, interior roofing frame system with underside of metal corrugated panels.

H.5.24 Ancillary building interior wood frame system, vertical plank sheathing..

H5.25 Ancillary building interior wood frame roofing support system.

D. Evaluation for Significance

D.1 Overview: The Orick Barn ancillary structures and associated pasture are not included in the list of the National Register, State or County historical buildings, structures or cultural landscapes; no known official survey has been completed to assess the significance. The County of Humboldt, as the lead agency for any discretionary determination, can determine whether the resource may, or may not, be a historical resource as defined in Sections 5020(j) or 5024.1. The County as Lead Agency under CEQA has the discretion to address separately whether an object or building is a historical resource for CEQA for purposes of CEQA's discretionary historical resources category.

An evaluation for significance consists of completed historic evaluations for each resource based on criteria for the California and National Registers and other appropriate documents. A resource listed in, or determined to be eligible for listing in, the **California Register of Historical Resources** is essentially defined as significant (Guidelines, 15064.5(a)(1).). The California Register is the guide to determining significant architectural, archaeological, and historic a resources in the State of California. Criteria for evaluating the significance of historical resources are based on criteria developed for use by the National Park Service for the National Register. An historical resource must demonstrate significance at the local, state, or national level under one or more of the following criteria:

a) Is it associated with **events** that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California, or the United States;
b) Is it associated with the **lives of persons** important to local, California, or national history;
c) Does it embody the **distinctive characteristics** of a type, period, region, or method of construction, or represent the work of a master or possess high artistic values;
d) Has it yielded, or does it have the **potential to yield information** important to the prehistory or history of the local area, California, or the nation.

The criteria used by the State are modeled from the National Park Service's procedures for listing on the National Register. In order to be determined or demonstrated to be significant, the resource must qualify under one or more of the following:

- Criterion 1 (Events/ Patterns of History): Resources that are associated with events that have made a significant contribution to the broad patterns of local and regional history, or the cultural heritage of California and the United States.
- Criterion 2 (Person/People): Resources that are associated with the lives of persons important to local, California, or national history.
- Criterion 3 (Architecture): Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.
- Criterion 4 (Information Potential): Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California or the nation.

Orick Barn's ancillary structure (shown above) was not demolished in 1947.

FIGURE 8
Orick Barn before demolition in 1947

D.2 **Events**: The Orick Barn ancillary structures are associated with the development of farmsteads, ranches and the agricultural industries of both Humboldt County and the State of California as a whole. The property, as a cultural landscape of the original Orick Barn, consists of buildings, structures, features, and the natural environment within the common context of the area including the farmsteads and buildings, roads, fences, fields, livestock in those fields, ditches and levees. The farmsteads and area ranches associated with the dairy and other agricultural industries reflect a cultural overlay as integral to the creation of the Orick region. The property is part of the broad patterns of history including important local people. However, since 1948 the surviving Orick Barn ancillary structures have been modified and renovated in a manner compatible with the original historic buildings.

The Orick Barn ancillary structures remain in agricultural farming use, to date, close to other farms, forested areas, and recreational uses. The original Orick Barn complex and house and the nearby Orick Mill have been demolished.

Note: For information on previous and other studies in Humboldt County involving agricultural, ranch and dairy farming resources see reference *AG. Context and Cultural Landscape,* A Cultural Resources Investigation of the Salt River Ecosystem Restoration Project Located near Ferndale, Humboldt County, California, March 2008 excerpted 3/9/200.9

D.3 **Persons**: The Orick Barn property is associated with numerous prominent persons (see timetable) and other local residents such as John Vance and Andrew B. Hammond.

John Vance, primarily associated with Humboldt County's lumber industry, is credited with the founding of Eureka, California and the former lumber mill at Samoa, California. Vance had substantial land holdings in the region and his timber was shipped to San Francisco and other ports. In 1900, the Vance's sold his mill to the Andrew B. Hammond's Lumber Company. Andrew Hammond assembled one of the largest lumber companies on the West Coast and the world's largest redwood lumber company.

D.4 **Architecture:** The Orick Barn ancillary structures are the only surviving structures from the original Orick Barn complex. All other buildings and structures were demolished. Although the structure have been modified since 1948 they still contribute, to a lesser degree, to the historic character of the region's farming history. Although smaller than the Orick Barn's main barn prior to its demolition, the Orick Barn ancillary structures reflect an important part of the farming operations in relation to the surrounding fields and other structures in the farm and farmland. Other important elements of moderate sized Orick Barn setting, such fences, roads, paths, corrals, and ancillary structures contribute to larger agricultural context.

D.4.1 **Character.** The functional construction and appearance of Orick Barn ancillary structures are important prime character-defining features. The barn can be viewed from various directions, including the entry from the demolished Orick Mill site to the east. The front, rear and sides of a barn are do not dominate the overall appearance of the existing Orick Barn ancillary structures – all contribute to the barn's character. The roof, among the most important elements of building form, is modeled from the gable roof on Dutch and Prairie barns. The concrete bearing exterior walls, siding and framing of the exterior and interior were possibly part of the original construction. Other alterations and "remodeling" of Orick Barn were possible though no documents are available to confirm this assumption. There are no plans or elevations for Orick Barn; the primary information about Orick Barn's construction is from the current leasee.

In addition the existing Orick Barn ancillary structures are typical of the original design of regional buildings in terms of the structural system, massing, arrangement of spaces and other characteristics. Although altered and renovated with new features, such as modifications to the roof system, the design has been maintained. The use of building materials from the demolished complex indicate the functional and practical aspect of sustainability of the vernacular architecture.

Although no known records or plans to confirm when materials were purchased or installed, much of the intact material used on existing Orick Barn ancillary structures are original or reused from the original Orick Barn complex. Other new materials, such as the roof system, have been added.

Finally the workmanship of the Orick Barn ancillary structures is a prime example of utilitarian farming construction techniques. The method of construction is basic, simple and based on the availability of accessible items.

D.4.2 Structural system. Orick Barn's exposed structural framework is another major characteristic features. Barns were traditionally built for strictly utilitarian purposes; the wood frame structural system is exposed and visible. In Orick Barn the load-bearing members are designed with beams, wood beams, posts, bents, braces, rafters and supports.

D.4.3 Decorative features. There are few decorative features in Orick Barn. The exterior wood's finish, previously a green stain, was been weathered to a natural wood appearance. Other decorative elements, such as arched window hoods, patterned slate roofs, fanciful cupolas, weathervanes, lightning rods and ornamented metal ventilator hoods, are not found on the Orick Barn Ancillary structures. Although the roof shape at the front facing gable wall was designed in the typical Dutch Barn style, there are no indications that the window's peak was utilized for a pulley hauling system as done in other barns. Metal corrugated roofing was also installed rather than wood shingles.

With no records available to date historian Susie Van Kirk speculated the ancillary structures may have been used as milk house suggesting a "modern way of handling milk". She added "*In the old days, very old days, farmers had to deal with the milk on their own. No refrigeration no way to transport, so they made their own butter and raised hogs with the skimmed milk,,,*". Although the existing Orick Barn has its original wooden stanchions, historian Susie Van Kirk noted that by the 1960s the use of tanks became popular. Milking parlors were very different from the old dairy barns with metal stanchions, lots of concrete, and for milking only, no feed storage. Additionally Ron Barlow, confirmed the existing Orick Barn was used for feeding livestock and as feed storage through his tenure as lease. Mr. Barlow did not know about Orick Barn's possible use for dairy operations.

D.4.4 Impressions. The major "impressions" given by a historic barns are those of strength, solidity and permanence largely resulting from the durability and ruggedness of the materials. Weathered wood siding, irregularly shaped stones, or roughhewn logs on the exterior; dressed beams, posts scarred by years of use, and plank flooring on the interior all contribute to the special character of barns to some degree in Orick Barn ancillary structures.

Although barns generally have few openings for windows and doors, the openings are important both to their functioning and to their appearance. Like other similar barns the existing Orick Barn has large wagon doorways and openings to access the hay storage and allow for the livestock to enter and leave the barn. Ventilators, such as those on the existing Orick Barn's roof, are found on many barns since windows are few. The relative absence of openings for windows and doors adds to the overall impression of massiveness and solidity conveyed by many historic barns. The entire building interior appears as a single large space. Like other barns Orick Barn ancillary structures have a symmetrical and practical layout of spaces.

D.5 Potential Information. Historic barns throughout the USA are vanishing rapidly and many have been remodeled and altered with a loss of the original fabric. Orick Barn, especially as an

operating barn, can provide potential information about the dairy industry and the farming vernacular of California in particular. (*A Historical Context and Archaeological Research Design for Agricultural Properties in California* prepared by The California Department of Transportation, Sacramento California, 2007, in cooperation with the State Historic Preservation Office (SHPO) and the Federal Highway Administration, provides a framework for evaluating the diverse range of agricultural properties found in California.

D.6 Period of Significance: 1907– 1948.

The larger Orick Barn complex, from its beginning to the demolition of major buildings and structures in 1948, defines *period of significance.* The surviving Orick Barn ancillary structures have been evaluated within the contextual use of the property for dairy industry and agriculture for Humboldt County, and specifically the in this region. The main historical and cultural importance is within the larger context of the original Orick Barn complex. However although all other buildings and structure originally part of Orick Farm have been demolished the surviving Orick Barn ancillary structures still retain some integrity and important characteristics to consider (as shown on Figure 2 Project Site Plan).

The property was also owned by the lumber industry-generally acknowledged as the major landowner in the region. All of the major lumber companies gained land more suitable for agriculture among their holdings, this they leased or used for company farms and dairies. These all provided meat, vegetables and especially dairy products for their cookhouses, stores and company towns. Property owners John Vance and Andrew B. Hammond, associated with the Orick development of land, were also prominent lumber industry businessmen in Humboldt County. Often, the farming operations were leased while the lumber resources on the property were logged as necessary. So the adaptation to the barn as temporary shelter for a piece of equipment is not unusual and does not indicate that the property had ceased to be considered a farm. Lumber companies reused or sold off logged over lands no longer of interest in retaining for any other use.

Although reconstructed on the site of the original building in 1948, the extant Orick Barn's longevity as a barn and its use continuity within the context of the farming and ranching history of Humboldt County, California is evident. Unlike the adjacent demolished mill, Orick Barn has retained its operation as a shelter and feeding facility for livestock for several decades. The Barlow family, current leasee, has used Orick Barn for over 40 years. Unfortunately there is minimal documentation and verification on the barn's construction to understand fully how the building changed through the years. Available information, such as old photographs, family records, deeds, insurance papers, and other documents, is unavailable. General consideration of the condition of the barn and its components, building's historic character, sense of "time and place" and its physical presence of the past was determined through a review of what exists and remains today.

The surviving ancillary structures, while continuing dairy and agricultural functions, has been altered. However original characteristics of the vernacular architecture are consistent with the earlier structures. The existing ancillary structure were modified by a barn builder who was contracted by the lumber company to construct a couple of other barns in Orick of this same design. The local adaptations are consistently due to materials and geography. For example the location was subject to flooding so one of the very specific local adaptations for sustainability was to construct the lower walls of concrete.

Part 2

2.E Impacts of the Proposed Action

2.E.1 Project Description. The project site (APN 519 231 018) zoning classification is currently AGB5(5)D (Agricultural General) with Design Control and FR B5(20), Forest Recreation with allowable special building permitted. More detailed information on the zoning classifications is found in the Humboldt County Code, Zoning Regulations.

In compliance with CEQA (California Environmental Quality Act) *any structure which is determined to be an historic resource shall not be subjected to substantial adverse change, including demolition, destruction, relocation, or alteration of the structure or immediate surroundings such that the significance of an historical resource would be materially impaired.* However no proposed action for the demolition, retention, adaptive reuse, or relocation of the Orick Barn ancillary structures, has been determined to date by the owner *The Save the Redwoods League*. This assessment analyzes the impact of potential scenarios identified for the Barn. Although Mitigation is provided in this assessment, no one specific action has been recommended.

2.E.2 Analysis of the effects of proposed action on Orick Barn. According to the 2012 ***Technical Memorandum*** by LACO Eureka: 21 West 4th Street, Eureka, CA 95501 for current owners prior to the purchase by the *Save the Redwoods League, Green Diamond Resource Company*, the following determination was made regarding Orick Barn ancillary structures:

> *...Based on my initial observations of the site as noted above, it is my opinion that the structure is in serviceable condition and is likely suitable for continued use as an agricultural accessory building. However, it would be very difficult to bring the structure into compliance with the structural provisions of the current California building code. The effort to retrofit the building would be similar to building an entirely new wood-framed building within the shell of the existing building, and would likely be much more expensive than the construction of a new building of equivalent size and shape. Therefore, from a purely economic standpoint, it does not appear to be feasible to retrofit the building for commercial or public assembly occupancy.*
>
> *It may be practicable to use the barn for storage or other uses that do not require a significant change in occupancy from the current use. If this option is determined to be desirable, the building should undergo a thorough structural evaluation and pest inspection, and any identified structural deficiencies should be corrected.*
>
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2.E.3 Retention at existing Location including the preservation and on-site re-use of construction materials Adaptive Reuse involves the stabilization, rehabilitation and modification of the Orick Barn ancillary structures. An appropriate use may include continuing the existing farming activities or redesigning the barn for a different type of use. Reusing the Orick Barn ancillary structures prevents material waste from destroying the site and minimizes rebuilding with new materials. In some new uses the existing layouts and limitation of open spaces may be redesigned or altered while maintaining the character of Orick Barn ancillary structures. Impacts to the barn may include the type of stabilization, seismic retrofitting, repair of existing components and other considerations.

Stabilization addresses the ongoing deterioration of Orick Barn ancillary structures that can weaken structural members. Orick Barn ancillary structures must also be protected from moisture damage both by weatherizing the exterior envelope and by handling water run-off on the site. There also may be hidden structural damage to components requiring additional reinforcement. Any measures related to the retention, maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction of historical and cultural resources shall be consistent with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstruction.*

Basic life safety for the barn includes correcting deficiencies that could lead to serious human injury or total building collapse if an earthquake were to occur, the building would not collapse but would be seriously damaged requiring major repairs. Enhanced life safety involves upgrades using a flexible approach to the building codes for moderate earthquakes. Inherent deficiencies found in Orick Barn ancillary structures, such as floor to wall framing connections to the concrete exterior bearing walls, must be corrected. Improvements may include correcting lateral ties, trusses, bents, bracings, walls, columns, openings, doors, windows, foundation, roof, finishes, and other components of the buildings and structures. Upgraded electrical, mechanical and other systems may require replacement. Coordination with Orick Barn ancillary structures' owner, Humboldt County and other parties to determine the most appropriate approach for a particular historic building involving a variety of factors such as the building's use, whether it remains occupied during construction, applicable codes, budgetary constraints, and projected risk of damage must be considered.

2.E.4 Relocation. Moving the Orick Barn ancillary structures to another location, if feasible and compatible with retaining the original character and use of the resource, is another alternative to demolition. The relocation of the Orick Barn ancillary structures should be appropriate within the context of Humboldt County in terms of its architectural styles and palette and compatible in terms of style, height, scale, materials, and setback The cost of the move, including upgrades to code standards, stabilization, and infrastructure, is often a major factor. Relocation of a historic resource allows the use of the **California State Historical Building Code** (CHBC), defined in **Sections 18950 to 18961 of Division 13, Part 2.7 of Health and Safety Code (H&SC)** Health and Safety Code, is part of **California Law**. The CHBC is intended to "*save California's architectural heritage by recognizing the unique construction issues inherent in maintaining and adaptively reusing historic buildings. The CHBC provides alternative building regulations for permitting repairs, alterations and additions necessary for*

the preservation, rehabilitation, relocation, related construction, change of use, or continued use of a "qualified historical building or structure."

2.E.5 Demolition. Demolition is deemed a reasonable alternative only after a complete investigation of all options to retain or relocate the structures are made through informed decision making process by the owner and professional specialists. Consideration for the retention or relocation of the structures should also include ways to integrate the Orick Barn ancillary structures into the long range plans for the property. Realistic cost for adaptive reuse, stabilization and rehabilitation is an important especially when determining the appropriate measures for effective rehabilitation and of intervention of the Orick Barn ancillary structures' existing conditions and possible re-use. Essentially impacts also include site remediation (if any), set building code requirements (seismic retrofit, safety and health, etc.), historic preservation requirements, professional rehabilitation as well as the use of skilled construction workers and contractors to oversee all of the detailed work.

F. Mitigation

Possible mitigation in the case of demolition may include, but may not be limited to, use of the following:

- **A careful review and determination of Alternatives to demolition**. As a possible historic resource, the application of various requirements, guidelines and codes, such as the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Structures and State Historic Building Code (CHBC), will be important for designers and planners. For example, the CHBC's standards and regulations are intended to facilitate the rehabilitation or change of occupancy so as to preserve their original or restored elements and features, to encourage energy conservation and a cost effective approach to preservation, to provide for reasonable safety from fire, seismic forces or other hazards for occupants and users of such buildings, structures and properties and to provide reasonable availability and usability by the physically disabled.
  Ref: http://ohp.parks.ca.gov/pages/1074/files/2013%20CHBC

- **Recordation.** Document the existing structure and its place in Orick and Humboldt County's history as a permanent record of the properties' present appearance and context is recommended. If demolition of Orick Barn is proposed a record according to **Historic American Buildings Survey** (HABS) and Historic **American Engineering Record** (HAER) standards prior to any construction activities. The HABS/HAER documentation would be filed with the California State Office of Historic Preservation, Humboldt County, Humboldt State University, and other institutions or agencies. Recordation may include documenting the 1) farming process and any 2) extant machinery and equipment and 3) researching further the spatial arrangements, 4) additional detailed information on the structural framing systems, including roof trusses, bents and beam systems.

- **Archives.** An archives for the Orick Barn and its ancillary structures and information on farming, dairy operations and ranching in the area may include records, oral history, creation of an interpretive framework focused on historical and cultural research, development of history-based museum activities, programs, neighborhood history workshops, on-site tours of farming, exhibits, interpretive panels, historic markers, and public installations, and publication(s) of tour and history information for visitors and for educational purposes.

- **Salvage.** Salvage of architectural elements for re-use, curation and later sale. Items selected would be removed in a manner that minimizes damage.

- **Interpretation.** This may including on-site interpretive signage or other on site educational materials describing the historic use and context of the site, both as a dairy farm and as a timber mill.

G. Conclusion

The Orick Barn ancillary structures are **not eligible** for the local and state landmark status and national Register in lieu of the primary significance of the demolished overall Orick Barn

However these subject structures, even with evidence of alternations and changes, are surviving remnants of the Orick Barn and farm landscape with a level of integrity. The Orick Barn ancillary structures also remain in agricultural use and reflect the history of ranching and dairying in Humboldt County. As such, if demolition is the only viable option, mitigation is highly recommended in order to convey the history of the site. This may include, but not be limited to, interpretive signage at the site and publications (both digital and in print) on the original Barn context and farming in the Orick. The value of Orick Barn's cultural history as a coastal dairy and agriculture should also acknowledged in balance with the natural assets of the area.

G. Appendices

Appendix I.1 CEQA and Humboldt County Historic Resources regulations

The California Environmental Quality Act (CEQA) and the CEQA Guidelines define the "environment" to include objects of historic or aesthetic significance." "A project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." (§ 21084.1.) Such a project would require preparation of an environmental impact report (EIR) or a mitigated negative declaration. Further, a categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of an historical resource.

Section 21084.1 and its implementing Guidelines establish three analytical categories for use in determining whether an object is a historical resource for purposes of CEQA. The courts have labeled threes three categories as: (1) mandatory historical resources; (2) presumptive historical resources; and (3) discretionary historical resources.

Mandatory Historical Resources. The category of mandatory historical resources is based on the second sentence of section 21084.1, which states: "For the purposes of this section, an historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources." The Guidelines, Section 15064.5(a)(1), further defines the scope of the category by adding one limitation to the text of the section 21084.1, a "historical resource" shall include resources listed in, or determined to be eligible *by the State Historical Resources Commission*, for listing in the California Register of Historical Resources.

Presumptive Historical Resources. The category of presumptive historical resources is created by the third sentence of section 2184.1, which states: "Historical resources included in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant."

These provisions create three types of presumptive historical resources. The first two types involve a resource included in a local register of historic resources. A local register of historical resources is defined as a "list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution" (§ 5020.1, subd. (k)). The third type of presumptive historical resource is a resource identified as significant in surveys of historical resources. (§ 5024.1, subd. (g).) The historical resource survey must meet all four criteria set forth in section 5024.1, subd. (g).

Discretionary Historical Resources. The category of discretionary historical resources is derived from a combination of the second sentence and the last sentence of section 21084.1. The text of the second sentence of section 21084.1 states: "For the purposes of this section, an

historical resources is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources."

The last sentence of section 21084.1 states: "The fact that a resource is not listed in, or determined to be eligible for listing in, the California Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of this section."

The provisions in section 21084.1 and Guidelines section 15064.5 make clear that lead agencies have discretionary authority to determine that buildings that have been denied listing or simply have not been listed on a local register are nonetheless historical resources for purposes of CEQA. This discretion exists notwithstanding previous decisions not to list the object or building on the local register of historical resources. (See *Valley Advocates et al. v. City of Fresno,* 160 Cal.App.5th.)

Application. All three categories require that a resource be considered in the light of the definition of historic resource in Sections 5020(j) and 5024.1. Consistent with these provisions, this Historical Assessment Study seeks to determine if any actions by the Owner may have an impact on a historical resource.

In addition to criteria for **significance**, the **integrity** of the historical resource must also be considered. Integrity is the ability of a site or structure to convey its significance and relates to the historical resource having retained the attributes of location, design, setting, materials, workmanship, feeling, and association. A building must also be judged with reference to the particular criteria under which a resource is proposed for eligibility. Alterations over time to a resource or historic changes in its use may themselves have historical, cultural, or architectural significance. The status codes, established to indicate eligibility to the National Register of Historic Places, have the following meanings:

(A) Category 1--Listed in the National Register of Historic Places;
(B) Category 2--Formally determined eligible for listing in the National Register;
(C) Category 3--Appears eligible for listing in the National Register;
(D) Category 4--Could become eligible for listing in the National Register;
(E) Category 5--Locally significant.

As always under CEQA, the lead agency must determine whether there is "substantial evidence" in the administrative record to support a finding of significant effect. Substantial evidence is defined in Public Resources Code Section 21080(e) as including "facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts."

Local Register/Survey. Historical resources also include those resources on a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution, and those resources identified as significant in surveys of historical resources.

Within the Coastal Zone, a property or building may be listed on the local register of historical resources pursuant to Section 313-71.1 et seq. of the Humboldt County Zoning Regulations. Under this provision, the Board of Supervisors may designate any structure in the unincorporated areas of the County to be a County historical structure. Listing requires that the Board of Supervisors consider the significance of the structure in the context of Humboldt County history. Such listing would also define the structure as a "qualified historical building or structure" per section 18950 et seq. of the Health and Safety Code, known as the State Historical Building Code.

A historical resource may also be a resource identified as significant in certain surveys of historical resources. (§ 5024.1, subd. (g).) The historical resource survey must meet all four of the criteria set forth in section 5024.1, subdivision (g). [8] The statutory criteria are as follows: (1) The survey has been or will be included in the State Historic Resources Inventory; (2) The survey and the survey documentation were prepared in accordance with office procedures and requirements; (3) The resource is evaluated and determined by the office to have significance rating of Category 1 to 5 on DPR Form 523; (4) If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminishes the significance of the resource.

Appendix I.2 Cultural Resource Study for the Former Orick Mill Site, prepared by Rosie Clayburn, MA Yurok Tribe Cultural Resources, PO Box 1027, Klamath, California 95548, September 30, 2013.

Additional resources:

The purpose of this cultural resources inventory is to determine if any historic properties are located within the project area that may be listed on or eligible for listing in the National Register of Historic Places (NRHP) that may be adversely affected by the proposed project at the 100 acre Former Orick Mill Site, Humboldt County, California. The results of this study will be used by LACO Associates to support their effort to consult with the public, agencies, Tribes, in accordance with the National Environmental Policy Act and Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations 36 CFR 800. Along with the NHPA, this report also meets the California Environmental Quality Act Standards

The Orick mill was shut down on October, 15th 2009. The reason for this was that the US congress was to pay these timber companies for their land, as well as for the value of old growth timber on their land. And due to a lack of congressional oversight any forest that was already mapped out as old growth forest was to be paid for as old growth forest, regardless of any clear cutting that occurred after the mapping but prior to the signing of the bill into law. So not only did the timber companies get the land value and the old growth timber value, any trees they could cut down before the bill was signed into law belonged to them free of charge …As you may imagine the incentive to fall the forest as possible was unprecedented. They made a killing

The wreck of the Yellowstone Harding tells about the boiler that used to on the yellow stone. When the stem lumber schooner yellow stone sank in 1933 in Humboldt Bay, breeden salvaged it. A few years later Case and Chittenden built a mill in Orick on the north bank of Redwood creek a parking area for Redwood National park now stands on the site. Case and Chittenden bought the boiler from breeden and set it up in their mill. The mill burned two years later and was rebuilt by Harding in 1941 and the old boiler was used until 1951 when it was finally replaced.

Property was purchased from DR. V.L. Hunt of Arcata. It is located east of Orick Fifty five acres were involved of a 40 acre concentration pond for the storage of loges at Orick, the log pond was expected to hold about 10 to 12 million feet of logs prim purpose of the pond was to concentrate enough loges through the summer and fall months for use during the wet season .it also made it possible for the logging truckers to keep operating during the wet season when logging roads are usually closed. Ray Beaver was in charge of the pond.

Myrle Modrow worked at arrow mills plant marking battery separators, she talked about the arrow mills plant foot if K Street right off the present bay bridge. She said there were 80 women working, 80 coming and 80 going. The turnover of women was because wives of navy personal worked awhile and then left. She said they got 43 cents an hour and worked seven days a week .she worked there during World War II 1944-1947. One day in 1947 a notice was posted by the time clock that said the plant was closing and told the employees to go sign up at the unemployment office. Plastic separators had taken the place of cedar and fir separators. All this because Marvin Barlow was reminiscing about Gene cox working at Arrow Mills in 1947.

Logging activities in Humboldt and Del Norte counties began in the 1850s, though redwoods were not logged initially because current technologies and methods were incapable of handling the monstrous trees. Spruce and fir were primarily logged at first due to the lumbermen's experience with them, but as larger mills were constructed and the rot-resistant qualities of redwood made aware, the trees began to be logged as premium timber. During the early days of logging on the North Coast, camps for housing woodsmen were built close to the source of timber lands, with horses and oxen being the only way to move the felled trees to the mill. Skid roads made of smoothed small logs placed horizontally reduced drag and allowed large teams of oxen to move the trees to their destination. In 1882 the "donkey engine" was invented that allowed logs to be transported to skids and loaded into their carts with greater ease, though animal teams remained the primary method of pulling the logs along the skids until the development of the "bull donkey" in 1892 replaced them. In 1925 Caterpillars began being used for logging and power saws entered the scene in the 1930s. By the time logging had begun, bulldozers were being used to build roads into logging areas and trucks were used to ship the logs to the mills and bring workers to and from the area. These advancements allowed processing and worker housing to be built a considerable distance from the logging site. Individuals were able patent 160-acre quarter sections for settlement, but because the rugged timberland was of no use for ranching or farming, most of them were consolidated into two large ownerships by a number of men once involved in a Scottish Syndicate through means of fraud, culminating in 1900. Sage Land and Lumber Co. became the owner of the

eastern half of the basin created by the watershed, and Hill-Davis Company acquired the western half. The properties changed hands in the mid-late 1950s with the Sage land going to Simpson Redwood Company in 1956, and the land owned by Hill-Davis transferring to the Arcade Redwood Company in 1958.

Development of agricultural farms began on the North Coast with the arrivals of Euro-American settlers but remained rather limited due to the rough terrain and dense forests of the region. The few large scale operations were fertile valley floors such as Orick, and inland, high elevation prairies such as areas in the Bald Hills (Sloan 2007:13). Much of this desirable agricultural land was the result of annual burning practiced by the Native Americans of the region. Though these ranches where necessities to early settlers due to their production of food and other amenities, the development of food manufacturing, shifting towards a logging based economy, and the creation of roads and other transportation systems reduced the need for large scale locally grown agriculture (Vankirk 1999).

Appendix I.3 Historical Building Analysis Report for the Proposed Orick Mill A Demolition Project located in Orick, Humboldt County, California MARCH 2010, prepared by: James Roscoe M.A., Roscoe and Associates Cultural Resources Consultants 3781 Brookwood Dr. Bayside, CA 95524
With contributions from: Susie Van Kirk
Historic Resource Consultant P.O. Box 568
Bayside, CA 95524

INTRODUCTION. This architectural assessment of the proposed demolition of the Arcata Redwood Company Orick Mill A was conducted by Roscoe and Associates, Cultural Resource Consultants, at the request of SHN. The California Environmental Quality Act (CEQA), as part of the environmental review process, requires that project proponents implement procedures to inventory cultural resources and to assess potential impacts on these resources located within projects conducted, funded, or permitted by State Agencies, in this case Humboldt County.

In February 18 and March 18, 2010 cultural resource specialists from Roscoe and Associates visited the Mill property to investigate the planned demolition projects potential for adversely affecting significant historic resources. The project area is located on Bald Hills Road, 0.3 miles east of its intersection with US Highway 101 in the City of Orick, Humboldt County, California.

This architectural assessment was designed to satisfy environmental regulations specified in CEQA and its guidelines (Title 14 CCR 15064.5) by: (1) identifying and recording significant historic resources within the project area, (2) offering a preliminary significance evaluation of the identified historic resources (3) assessing the potential impacts to significant historic resources resulting from the implementation of proposed project activities, and (4) offering recommendations designed to protect resource integrity, if needed.

This evaluation recommends that none of the standing buildings and structures present at the Mill A site qualify under any of the criteria to be considered a significant historic resource. The buildings are not currently listed in the California Register of historic places, no important historical events occurred in the buildings, no noteworthy historical figures were associated with the buildings, the buildings' architecture is not representative of an important or unique style, nor the work of a master, and the buildings have no potential to yield information important in prehistory or history. Most of the main

buildings were built in 1960 and thus they barely meet the 50 year criteria to even be considered for an evaluation.

PROJECT SUMMARY

The proposed project is to remove all buildings and structures associated with Orick Mill A and prepare the property for resale. All standing structures associated with the mill will be removed with the exception of the office and the historic barn on the property located to the north of the mill buildings. No excavations below the existing ground surface are planned at the current time.

The project area is located on Bald Hills Road, 0.3 miles east of its intersection with US Highway 101 in the City of Orick, Humboldt County, California (APN 520-012-013). The project area is located in Township 11N, Range 1E Section 34, Humboldt Base and Meridian and is shown on the 7.5' USGS Topographic Quadrangle Map, Orick, California 1966 (Figure 1).

All personnel who participated in this survey meet the professional standards described in Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. James Roscoe, M.A., served as Principal Investigator and oversaw technical aspects of this project. James Roscoe, Donald Verwayen M.A. R.P.A., William Rich M.A. R.P.A. Melinda Salisbury, B.A., and Matthew Steele B.A. conducted the fieldwork and prepared the report. Historic information for Mill A also was provided by Susie Van Kirk.

HISTORIC PROPERTY OWNERSHIP RELATED TO MILL A

By the late 1800s, the potential wealth from redwood timber land was well known throughout the country. Speculators and investors from the eastern states and the Great Lakes areas purchased large tracts of forests in northern California as both individuals and incorporated businesses. They competed with California speculators, like those who created the first California Redwood Company of the 1880s, locating on land that was eventually headed for purchase by the Scottish syndicate. That all fell through when the Federal government investigated the fraud, but some of that land ended up in the hands of legitimate lumber companies and James D. Walker, who had traveled to Edinburgh to sign the contract with the syndicate, then began selling land on Prairie and Redwood creeks to American investors.

In 1889, William Henry Swift and Turlington Walker Harvey of Chicago and Robert S. Walker of New York City sold 55,173.30 acres to the American Lumber Co., incorporated in Illinois (Deeds 31:569). Swift was Secretary of the American Lumber Co. Those timber lands were conveyed to the grantors by James D. Walker in 1885 (Deeds 17:118, 473). Included in the 55,000 plus acres was land in the SE section 27 and the N half NE t sec 34, 11N1E. In May 1902, the American Lumber Co entered into an agreement with Hammond Lumber Co., William H. Gratwick of Buffalo, New York, and Clark L. Ring of Saginaw, Michigan, whereby the American Lumber Company would sell at $24 per acre 35,241.60 acres on Prairie and Redwood Creeks (Deeds 77:346). Hammond acquired half the interest; Gratwick 40% and Ring, 10%. The deed for this transaction is recorded in Deeds 101:335 on 15 May 1902. The purchase price was $845,798.40.

Next paragraphs excluded

FIELD INVENTORY

The field investigation conducted on February 18 and March 18, 2010, involved documentation of the existing buildings on the Orick Mill A property with the exception of the historic barn situated to the west of the sawmill (See Figure 2). This barn and associated outbuilding will not be affected as a result

of this project. An historic resources Primary Record form was completed, documenting the Mill A buildings (see Appendix A). The project area was not surveyed for any resources other than the existing buildings associated with Mill A.

RECOMMENDATIONS
None of the buildings or structures at Mill A are currently listed on the National or California Register of historic places/properties. To comply with CEQA, the lodge building was evaluated against the four eligibility criteria.

Appendix I.4 **TECHNICAL MEMORANDUM,** prepared for Green Diamond Resource Company by Nathan K Toews, P.E., LACO Associates, 2012.

Orick Mill Entitlements, April 6, 2012
LACO visited the Orick Mill site on Thursday, April 5, 2012 for the purpose of performing a preliminary structural evaluation of the existing barn. The purpose of this evaluation is to assess the feasibility of upgrading the structural system of the barn to comply with the current California building code for either commercial or public assembly occupancy.

The barn is a wood-framed structure located adjacent to several pasture areas. The pasture and barn yard soils were saturated at the time of LACO's site visit; it appears that this is the usual condition for the site. The barn is on a concrete slab foundation, with plan dimensions of approximately 65ft by 80ft and a ridge height of approximately 30 feet. The wood-framed side walls of the barn (parallel to the ridge) are built on concrete stem walls approximately 4 feet high. The vertical roof loads are supported by the exterior walls and four interior wood frames running parallel to the ridge. The interior wood frames are composed of 6x6 wood posts, 2x6 knee braces, and double 2x6 plates (laid flat). The roof is framed with 2x6 rafters spaced at approximately 3 feet on center. The rafters span approximately 10 feet between frames and cantilever approximately 10 feet to the ridge board.

Based on my initial observations of the site as noted above, it is my opinion that the structure is in serviceable condition and is likely suitable for continued use as an agricultural accessory building. However, it would be very difficult to bring the structure into compliance with the structural provisions of the current California building code. The effort to retrofit the building would be similar to building an entirely new wood-framed building within the shell of the existing building, and would likely be much more expensive than the construction of a new building of equivalent size and shape. Therefore, from a purely economic standpoint, it does not appear to be feasible to retrofit the building for commercial or public assembly occupancy.

It may be practicable to use the barn for storage or other uses that do not require a significant change in occupancy from the current use. If this option is determined to be desirable, the building should undergo a thorough structural evaluation and pest inspection, and any identified structural deficiencies should be corrected.

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Appendix I.4 Criteria for Evaluation

http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_4.htm**BUILDING**

A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.

Buildings eligible for the National Register must include all of their basic structural elements. Parts of buildings, such as interiors, facades, or wings, are not eligible independent of the rest of the existing building. The whole building must be considered, and its significant features must be identified.

If a building has lost any of its basic structural elements, it is usually considered a "ruin" and is categorized as a site.

Examples of buildings include:

administration building	garage	school
carriage house	hotel	shed
church	house	social hall
city or town hall	library	stable
courthouse	mill building	store
detached kitchen, barn, and privy	office building	theater
dormitory	post office	train station
fort		

STRUCTURE

The term "structure" is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.

Structures nominated to the National Register must include all of the extant basic structural elements. Parts of structures cannot be considered eligible if the whole structure remains. For example, a truss bridge is composed of the metal or wooden truss, the abutments, and supporting piers, all of which, if extant, must be included when considering the property for eligibility.

If a structure has lost its historic configuration or pattern of organization through deterioration or demolition, it is usually considered a "ruin" and is categorized as a site.

Examples of structures include:

aircraft	corncrib	irrigation system
apiary	dam	kiln

automobile	earthwork	lighthouse
bandstand	fence	railroad grade
boats and ships bridge	gazebo	silo
cairn	grain elevator	trolley car
canal	highway	tunnel windmill
carousel		

OBJECT

The term "object" is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.

Small objects not designed for a specific location are normally not eligible. Such works include transportable sculpture, furniture, and other decorative arts that, unlike a fixed outdoor sculpture, do not possess association with a specific place.

Objects should be in a setting appropriate to their significant historic use, roles, or character. Objects relocated to a museum are inappropriate for listing in the National Register.

Examples of objects include:

boundary marker	fountain
monument	sculpture
milepost	statuary

SITE

A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure.

A site can possess associative significance or information potential or both, and can be significant under any or all of the four criteria. A site need not be marked by physical remains if it is the location of a prehistoric or historic event or pattern of events and if no buildings, structures, or objects marked it at the time of the events. However, when the location of a prehistoric or historic event cannot be conclusively determined because no other cultural materials were present or survive, documentation must be carefully evaluated to determine whether the traditionally recognized or identified site is accurate.

A site may be a natural landmark strongly associated with significant prehistoric or historic events or patterns of events, if the significance of the natural feature is well documented through scholarly research. Generally, though, the National Register excludes from the definition of "site" natural waterways or bodies of water that served as determinants in the location of communities or were

significant in the locality's subsequent economic development. While they may have been "avenues of exploration," the features most appropriate to document this significance are the properties built in association with the waterways.

Examples of sites include:

battlefield	designed landscape	rock carving
campsite	habitation site	rock shelter
cemeteries significant for information potential or historic association	natural feature (such as a rock formation) having cultural significance	ruins of a building or structure
ceremonial site	petroglyph	shipwreck
		trail
		village site

DISTRICT

A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Concentration, Linkage, & Continuity of Features
A district derives its importance from being a unified entity, even though it is often composed of a wide variety of resources. The identity of a district results from the interrelationship of its resources, which can convey a visual sense of the overall historic environment or be an arrangement of historically or functionally related properties. For example, a district can reflect one principal activity, such as a mill or a ranch, or it can encompass several interrelated activities, such as an area that includes industrial, residential, or commercial buildings, sites, structures, or objects. A district can also be a grouping of archeological sites related primarily by their common components; these types of districts often will not visually represent a specific historic environment.

Significance
A district must be significant, as well as being an identifiable entity. It must be important for historical, architectural, archeological, engineering, or cultural values. Therefore, districts that are significant will usually meet the last portion of Criterion C plus Criterion A, Criterion B, other portions of Criterion C, or Criterion D.

Types of Features
A district can comprise both features that lack individual distinction and individually distinctive features that serve as focal points. It may even be considered eligible if all of the components lack individual distinction, provided that the grouping achieves significance as a whole within its historic context. In either case, the majority of the components that add to the district's historic character, even if they are individually undistinguished, must possess integrity, as must the district as a whole.

A district can contain buildings, structures, sites, objects, or open spaces that do not contribute to the significance of the district. The number of noncontributing properties a district can contain yet still convey its sense of time and place and historical development depends on how these properties affect the

district's integrity. In archeological districts, the primary factor to be considered is the effect of any disturbances on the information potential of the district as a whole.

Geographical Boundaries
A district must be a definable geographic area that can be distinguished from surrounding properties by changes such as density, scale, type, age, style of sites, buildings, structures, and objects, or by documented differences in patterns of historic development or associations. It is seldom defined, however, by the limits of current parcels of ownership, management, or planning boundaries. The boundaries must be based upon a shared relationship among the properties constituting the district.

Discontiguous Districts
A district is usually a single geographic area of contiguous historic properties; however, a district can also be composed of two or more definable significant areas separated by nonsignificant areas. A discontiguous district is most appropriate where:

- Elements are spatially discrete;
- Space between the elements is not related to the significance of the district; and
- Visual continuity is not a factor in the significance.

In addition, a canal can be treated as a discontiguous district when the system consists of man- made sections of canal interspersed with sections of river navigation. For scattered archeological properties, a discontiguous district is appropriate when the deposits are related to each other through cultural affiliation, period of use, or site type.

It is not appropriate to use the discontiguous district format to include an isolated resource or small group of resources which were once connected to the district, but have since been separated either through demolition or new construction. For example, do not use the discontiguous district format to nominate individual buildings of a downtown commercial district that have become isolated through demolition.

Examples of districts include:

business districts	estates and farms with large acreage/numerous properties	residential areas
canal systems	industrial complexes	rural villages
groups of habitation sites	irrigation systems	transportation networks
college campuses		rural historic districts

Appendix I.6 National Park Service definition of Integrity

INTEGRITY

National Register Bulletin, Guidelines for Evaluating and Documenting Historic Aids to Navigation to the National Register of Historic Places, **U.S. Department of the Interior, National Park Service**
http://www.nps.gov/nr/publications/bulletins/nrb34/nrb34_8.htm

INTEGRITY

The National Register traditionally recognizes a property's integrity through seven aspects or qualities: location, design, setting, materials, workmanship, feeling, and association. These qualities should also be discussed under the Statement of Significance, Section 8 of the registration form.

Location

Location is the place where the historic property was constructed or the place where the historic event took place. Integrity of location refers to whether the property has been moved or relocated since its construction. A property is considered to have integrity of location if it was moved before or during its period of significance. Relocation of an aid during its active career if the move enhanced or continued its function is not a significant loss of integrity. For example, in 1877, the 1855-built Point Bonita Light was relocated from a high bluff to a rocky promontory to improve its visibility to mariners. Aids to navigation relocated to serve new purposes after being decommissioned suffer a serious loss of integrity of location, but are not automatically precluded from listing.

Design

Design is the composition of elements that constitute the form, plan, space, structure, and style of a property. But properties change through time. Lighthouses may be raised or shortened; buildings may be added or removed from a light station; sound signal equipment and optics may change to reflect advancing technology. Changes made to continue the function of the aid during its career may acquire significance in their own right. These changes do not necessarily constitute a loss of integrity of design. However, the removal of equipment that served as the actual aid to navigation--a fog signal, lens and lamp, or the distinctive day markings on a tower--has a considerable impact on the property. Removal of an optic from a lighthouse, a fog horn or bell from its building, or painting over a historic lighthouse's pattern has a serious adverse effect on its design integrity. The design integrity of light stations is reflected by the survival of ancillary buildings and structures. The decision to nominate a station should include an assessment of the design integrity of the property as a complex. The loss or substantial alteration of ancillary resources, such as keeper's quarters, oil houses, cisterns, and tramways, for example, may constitute a significant loss of design integrity.

Setting

Setting is the physical environment of a historic property that illustrates the character of the place. Integrity of setting remains when the surroundings of an aid to navigation have not been subjected to radical change. Integrity of setting of an isolated lighthouse would be compromised, for example, if

it were now completely surrounded by modern development.

Materials

Materials are the physical elements combined in a particular pattern or configuration to form the aid during a period in the past. Integrity of materials determines whether or not an authentic historic resource still exists.

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period of history. Workmanship is important because it can furnish evidence of the technology of the craft, illustrate the aesthetic principles of a historic period, and reveal individual, local, regional, or national applications of both technological practices and aesthetic principles.

Feeling

Feeling is the quality that a historic property has in evoking the aesthetic or historic sense of a past period of time. Although it is itself intangible, feeling is dependent upon the aid's significant physical characteristics that convey its historic qualities. Integrity of feeling is enhanced by the continued use of an historic optic or sound signal at a light station. The characteristic flashing signal of a light adds to its integrity. While sounds themselves, such as the "Bee-oooohhhh" of a diaphone, cannot be nominated to the National Register, they enhance the integrity of feeling. The mournful call of fog horns on San Francisco Bay is an integral part of experiencing life there.

Association

Association is the direct link between a property and the event or person for which the property is significant. A period appearance or setting for a historic aid to navigation is desirable; integrity of setting, location, design, workmanship, materials, and feeling combine to convey integrity of association.

Appendix I.7 List of References

1. A Historical Context and Archaeological Research Design for Agricultural Properties in California prepared by The California Department of Transportation, Sacramento California, 2007
2. *Guide to the California Dairy Industry*, California State Parks Department archives, April 2005, http://www.parks.ca.gov
3. Orick Mill A Site Restoration Project Archive Research Report prepared for *Save the Redwoods League* by Monica Bueno, April 2015
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5. Rosie Clayburn in her Cultural Resource Study for the Former Orick Mill *Site* prepared by MA Yurok Tribe Cultural Resources, September 30, 2013
6. Historical Building Analysis Report for the Proposed Orick Mill A Demolition Project located in Orick, Humboldt County, California, prepared by James Roscoe M.A., Roscoe and Associates Cultural Resources Consultants, Bayside, CA, March 2010
7. *Technical Memorandum* for the Orick Barn's current owners, Green Diamond Resource Company, prepared by LACO Associates, Eureka, California, 2012
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9. National Register Criteria for Evaluation, National Park Service, US Department of Interior, USA.
10. Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes, Brief 36, National Park Service, US Department of Interior, USA.
11. Property Owners Guide to Historic Resources, County of Humboldt, California USA.
12. A new park saved the tall trees, but at a high cost to the community, article, Edwin Kiester Jr., Smithsonian. Vol. 24 Issue 7 October 1993,
13. Evaluation of the Historic Significance of Structures of Department of Fish and Game Wildlife Areas, Humboldt County, California, Susie Van Kirk, Kathleen Stanton, February 1998.

LACO

TECHNICAL MEMORANDUM

Orick Mill Site Construction Noise Constraints Memo
Sensitive Species Protection

Date: July 15, 2016
Project No.: 7787.16

Prepared For: Christine Aralia, Land Project Manager
Save the Redwoods League

Prepared By: Randy Rouda, AICP, Sr. Planner

Reviewed By: Michael D. Nelson, Principal

Cc:

Attachments:
Appendix 1: Figures
Appendix 2: USFWS Memorandum: July 31, 2006
Appendix 3: RNSP Guidelines: May, 2007

1.0 INTRODUCTION AND BACKGROUND

This Technical Memorandum is presented pursuant to Task No. 2415 of Service Agreement No. 7787.16 dated January 26, 2016. Save the Redwoods League (SRL) intends to carry out a variety of activities including demolition, asphalt removal, construction, and adaptive reuse of a former mill site located at 122305 U.S. Highway 101, Orick, California, 95555 (Assessor's Parcel Numbers (APNs) 519-231-018 and 520-012-013) (Appendix 1, Figure 1, Location Map). The site includes wetland and riparian habitat which may provide nesting opportunities for birds protected by the Migratory Bird Treaty Act (MBTA) (Appendix 1, Figure 6 as included in *Mill A Planning Project, Delineation of Wetlands* by Humboldt State University, July 6, 2016). The hillside immediately adjacent and to the west of the site contains old growth redwood stands which are potential habitat for marbled murrelet (Brachyramphys marmoratus) (MAMU) and northern spotted owl (Strix occidentalis caurina) (NSO), both of which are federally listed sensitive species. This Technical Memorandum summarizes seasonal restrictions, setbacks, noise limitations and other construction related limitations intended to avoid the disturbance of nesting birds and fledglings in potential violation of the MBTA and to avoid the incidental take of avian species identified as sensitive

21 W. 4th Street, Eureka, California 95501 707 443-5054 Fax 707 443-0553
311 S. Main Street, Ukiah, California 95482 707 462-0222 Fax 707 462-0223
3450 Regional Parkway, Suite B2, Santa Rosa, California 95403 707 525-1222

pursuant to the federal or state Endangered Species Acts by interfering with typical nesting, foraging, and other behaviors.

LACO Associates has prepared this Technical Memorandum in consultation with representatives of the United States Fish and Wildlife Service, the National Parks Service and the California Department of Fish and Wildlife. This Technical Memorandum relies on guidance that was provided by the United States Fish and Wildlife Service (Arcata Fish and Wildlife Office) Memorandum dated July 31, 2006, Titled Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (Appendix 2) and Redwood National and State Parks Auditory Disturbance Guidelines for Projects in Suitable Spotted Owl and Marbled Murrelet Nesting Habitat During the Breeding Season, May, 2007 (Appendix 3).

2.0 CRITICAL SEASONS

On-site demolition work, construction, and eventual site operations are not likely to cause direct harm (such as injury or mortality) to adult birds. However, tree removal during nesting season or construction activities that cause changes in nesting behavior through noise or visual disturbance, do have the potential to interfere with breeding and fledging, which could have an unintended (incidental) effect to the ongoing health of the affected species. Those effects are limited to the breeding and nesting season of each species. Note that riparian, wetland and old growth habitat areas, are protected by a variety of local, state, and federal regulations. This Technical Memorandum focuses on those which apply primarily to raptors, migratory birds, and state and federally listed avian species. Additional restrictions on activities which would affect on-site streambeds, riparian habitat, and wetlands will also apply.

Specific nesting and breeding seasons are as follows:

Table 1: Nesting and Breeding Seasons

Protected Species	Breeding Season Starts	Breeding Season Ends	Typical Constraints
Northern Spotted Owl	February 1	July 9	Construction and operational noise restrictions.
Raptor/Migratory Birds	March 1	August 15	Pre-construction nest surveys prior to tree or major brush removal. Construction setbacks from active nests.
Marbled Murrelet	March 24	September 15	Construction and operational noise restrictions.

Grading activity affecting one acre or more will require a Stormwater Pollution Prevention Plan (SWPPP), which will identify Best Management Practices (BMP's). Rainy season BMP's are more robust and will be required if work is carried out between October 15 and April 15. General permit requirements will also require on-site testing after every significant rain event while work is underway. These requirements can increase the cost and complexity of construction in the rainy season. Ultimately, it will likely be necessary to balance the cost of compliance with rainy season construction standards with the cost of modification of construction methods to meet on-site nesting season noise standards.

3.0 SETBACKS AND NOISE RESTRICTIONS

3.1 Raptors and Migratory Birds

Anticipated restrictions to protect raptors and birds covered by the MBTA are limited to a breeding season from March 1 through August 15. Likely restrictions within the breeding season consist of the following:

1) Retain a qualified biologist to conduct a nest survey no more than 15 days prior to any proposed tree or major vegetation removal, and
2) If nests are found, maintain a 500 foot construction activity buffer around affected trees until either the end of the nesting season or a qualified biologist has verified that the nest is no longer in use.

Depending on the type of permits required, modifications to the setbacks, or the establishment of activities within those setbacks which are not likely to affect nesting and fledging behaviors may be negotiated with the approving agencies.

3.2 Marbled Murrelets and Northern Spotted Owls

SRL and a prior property owner have convened periodic meetings of local experts and regulators to discuss design, educational, and operational protections for protected avian species. In the course of those meetings, biologists working for USFWS and NPS have indicated the site is unlikely to provide habitat to NSO due to the known presence of barred owls, which typically outcompete NSO within a given territory. However, as the adjacent old growth habitat areas have not been comprehensively surveyed, for the purpose of this memorandum, we will assume the potential presence of NSO and will include appropriate protective measures to avoid incidental take of this species.

Restrictions for MAMU and NSO take three primary forms. Avoidance of noise impacts, avoidance of visual impacts, and avoidance of increased predation from corvids (MAMU only). Visual and noise impact prevention measures apply only during the nesting season from February 1 (start of NSO) through September 15 (end of MAMU). Measures to discourage increased corvid activities must be followed year-round to be effective.

During the nesting season, MAMU are most active in the vicinity of their nests in the two hours after sunrise and the two hours before sunset. For that reason, and to account for the typically reduced nighttime ambient noise and activity, mid-day construction, and operational restrictions are modestly less strict in mid-day when MAMU nesting activity is lowest.

3.2.1 *Visual Impact Avoidance*

The USFWS has established a guideline that any human activity within a visual line of site of 40 meters (130 feet) of an active nest has the potential to create an incidental take by interfering with typical nesting behavior. No active nests have been identified in the old growth habitat adjacent to the site. As a precaution, we recommend that activity within the old growth habitat areas be avoided entirely unless a specific project and approach is approved by USFWS and NPS. Construction and operational activity within 130 feet of old growth habitat (shown on Appendix 1, Figure N1.1) should be restricted to mid-day.

3.2.2 *Noise Impact Avoidance*

The USFWS and NPS guidance documents described in Section 1.0 above (Appendix 2 and Appendix 3) identify a number of variables which affect the potential for construction or operational noise to interfere with nesting behavior including time of day, distance from noise source to habitat, background (ambient) noise intensity, and project noise intensity. The most important variable is the pre-project ambient noise environment. The guidance documents provided by USFWS and NPS indicate MAMU and NSO can inhabit and acclimate to areas with considerable noise intensity, such as tree stands adjacent to busy highways. Birds acclimated to ambient noise are less likely to react to additional noise sources in a similar range (Appendix 2).

There are two old growth redwood habitat areas (North and South) (Appendix 1, Figure N1.1) located on the hillside to the east of the subject site. Both habitat areas have the potential to be affected by on-site noise emissions. The southerly area is near Bald Hills Road, which carries considerable commuter, tourist, and logging (truck) traffic. In 2012, LACO Associates prepared a Noise Study for a proposed project on the subject site. That study indicates Bald Hills Road regularly generates a noise intensity of approximately 70dB. The southerly habitat area is close enough to Bald Hills Road that resident birds may be expected to be acclimated to noise in the 51 dB to 70 dB (Very Low to Low) range. The USFWS and NPS guidance documents indicate that MAMU and NSO in the southerly habitat area are less likely to be affected by project related noise sources than those in the northerly habitat area which are exposed to much more attenuated noise from Bald Hills Road and State Highway 101 in the range of 40 to 50 dB (Natural Ambient).

The USFWS and NPS guidance documents recommend setbacks from habitat areas based on the intensity of the noise to be generated and the intensity existing noise (Appendix 3, Table 1). Maximum noise intensity in each location is reduced by 10dB at night and within two hours of sunrise and sunset to account for lower typical ambient noise intensity and the greater nesting activity in those times. LACO Associates has applied that guidance to the subject site and recommends noise generation for demolition, construction, and operations follow these guidelines during the NSO and MAMU nesting seasons:

[See Table 2 Below]

TABLE 2:
MAMU NESTING SEASON CONSTRUCTION, DEMOLITION AND OPERATIONAL NOISE CONSTRAINTS

Area	Description	Maximum Noise Generation (dB)		Likely Permitted Activities (Mid-Day)
		Night and Within 2 Hours of Sunset and Sunrise (Avoid all mechanical noise if feasible)	Mid-Day	
A	Northern Old Growth Habitat. Acclimated to Natural Ambient (<50 dB) to Very Low (51-60 dB). Natural sources and adjacent road noise.	50	60	60 dB) No amplified or motorized sounds. Hand tools only. Limited impact noise (hammering).
B	Southern Old Growth Habitat. Acclimated to Very Low (51-60 dB) to Low (61-70 dB). Adjacent road noise (Bald Hills Road).	60	70	70 dB) Hand tools. Small power tools (generally battery operated and hand-held). Light vehicular traffic at slow speeds on paved surfaces.
C	Northern Low Noise Buffer (0-165 feet from Northern Old Growth Habitat).	60	70	70 dB) Hand tools. Small power tools (generally battery operated and hand-held). Light vehicular traffic at slow speeds on paved surfaces.
D	Northern Moderate Noise Buffer (165 to 500 feet from Northern Old Growth Habitat) and Southern Moderate Noise Buffer (0-165 feet from Southern Old Growth Habitat.	70	80	80 dB) Small gas powered engines (lawn mowers and small chain saws), electric hand tools (except circular saws and impact wrenches), passenger vehicles, street legal motorcycles and small trail motorcycles.
E	Northern High Noise Buffer (500-1,320 feet from Northern Old Growth Habitat) and Southern High Noise Buffer (165-825 feet from Southern Old Growth Habitat).	80	90	90 dB) Medium to large construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, and moderate to large diesel engines. Large gasoline powered tools, power saws, large chainsaws, pneumatic drills and impact wrenches, circular saws and hammering.
F	Southern Very High Noise Buffer (825 -1,320 feet from Southern Old Growth Habitat).	90	100	100 dB) Jackhammers, smaller pile drivers, wood chippers.
G	Northern Very High/Extreme Noise Buffer (1,320 feet from Northern Old Growth Habitat to Property Line).	90	110	110 dB) Larger pile drivers. Ground level explosives. Asphalt grinders. Note: In the unlikely event that any project related noise source may exceed 110 dB, specific analysis of noise type, intensity and location will be required.
H	Southern Extreme Noise Buffer (1,320 feet from Southern Old Growth Habitat to Property Line).	100	110	

The setback areas are shown on the Noise Constraints Map (Appendix 1, Figure N1.1). See Appendix 2 for a more complete list of typical intensity of noise generation for a variety of equipment and activities. Note that most construction activities generate noise up to 90 dB. During the nesting season (mid-day), such activities should be set back at least 165 feet from the southerly habitat area and at least 500 feet from the northerly habitat area. Where demolition or construction activity must take place within those setbacks, such actions should be scheduled to take place outside of the NSO and MAMU nesting seasons. Special consultation with USFWS, NPS, CDFW and others is required if project related noise is expected to exceed the identified limits.

3.2.3 *Increased Corvid Predation Avoidance*

Corvids such as jays, ravens, and crows are attracted to food scraps often associated with human activity. Once a corvid population is established, individuals may also predate MAMU and NSO eggs and fledglings. Careful control of food and food waste is essential to avoid increased corvid predation. LACO Associates has collected five years of baseline data regarding corvid presence on the subject site which will be used to establish operational controls and an adaptive management plan. That plan is outside the scope of this technical memorandum.

Food and food waste control are also important during demolition and construction. All contracts related to such work should include the following language (or the equivalent) with sufficient monitoring and incentives to ensure compliance:

> The contractor shall keep food contained or attended at all times. Unattended food may attract ravens, crows, jays, bears, mountain lions, and other wildlife. The contractor will not leave the kitchen/food booth/food preparation area unattended when food of any type is outside of animal-proof containers. Note that coolers are not animal-proof when left unattended. "Food" includes spices and condiments as well as raw uncooked food. The contractor shall clean up after meals are served and at the end of each day, or if the kitchen will not be attended after each meal, the contractor shall store all food including spices and condiments in animal-proof containers. The contractor will deposit food scraps and trash in animal-proof trash cans or remove them from the site and park.

3.2.4 *Calendar of Restrictions*

Table 3: Calendar of Restrictions

Start Date	End Date	Typical Constraints
January 1	January 31	Maintain corvid restrictions.
February 1	February 28/29	Maintain corvid restrictions. Conform to Noise and Visual Impact restrictions.
March 1	August 15	Maintain corvid restrictions. Conform to Noise and Visual Impact restrictions. Pre-construction nesting surveys for tree and major brush removal.
August 16	September 15	Maintain corvid restrictions. Conform to Noise and Visual Impact restrictions.
September 16	December 31	Maintain corvid restrictions

4.0 CONCLUSION

The proposed Visitor Center is in an area that has a history of intensive human activity, but is in close proximity to a variety of sensitive habitats. Throughout the design, construction and operational phases of the project, the Save the Redwoods League should continue to coordinate closely with regulatory agencies and other experts to limit the effects of the visitor center on the environment, and, where possible, to enhance existing habitats.

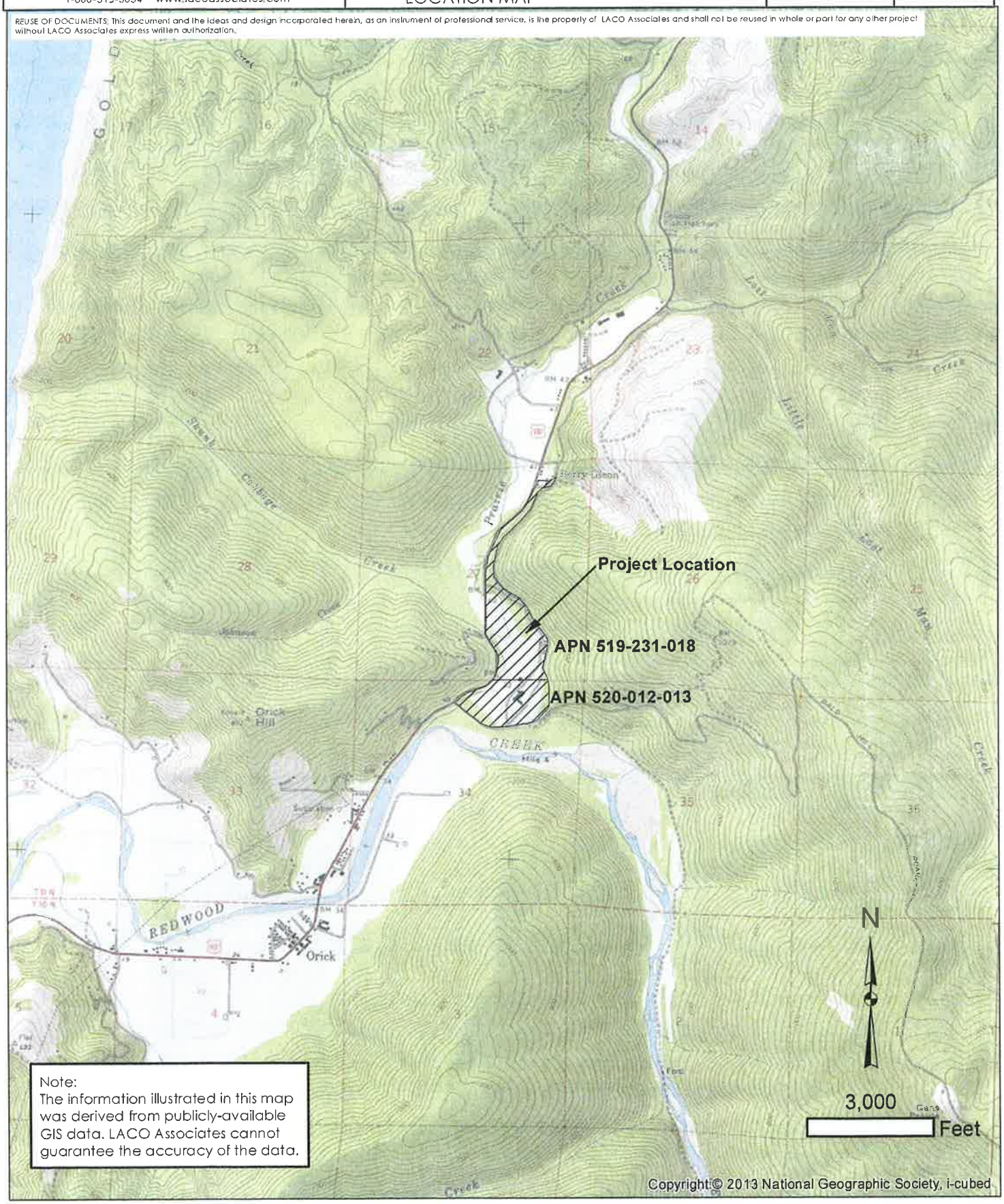
As described above, construction in close proximity to the old growth redwood habitat areas to the east of the subject site has the potential to disturb nesting sensitive avian species. Based on the guidance from the USFWS and NPS, LACO Associates has recommended time of year, time of day, and location restrictions intended to avoid such disturbance. Prior to final adoption, these recommendations should be reviewed by USFWS, NPS and others to verify their adequacy and accuracy.

P:\7700\7787 Save-the-Redwoods League\7787.16 Noise Constraints Analysis\06 Planning\Construction Noise Constraints Memo 20160715 Final.docx

APPENDIX 1

Figures

LACO	PROJECT	NOISE CONSTRAINTS ANALYSIS	BY	JB	FIGURE
EUREKA • UKIAH • SANTA ROSA	CLIENT	SAVE-THE-REDWOODS LEAGUE	CHECK	MMM	1
1-800-515-5054 www.lacoassociates.com	LOCATION	ORICK, CA.	DATE	7/15/2016	JOB NO. 7787.16
		LOCATION MAP			



Date: 7/15/2016 Time: 1:24:28 PM
Path: P:\7700\7787 Save-the-Redwoods League\7787.16 Noise Constraints Analysis\12 Figures_Maps\GIS\7787.16 PLAN NOISE FIGURE 1.mxd

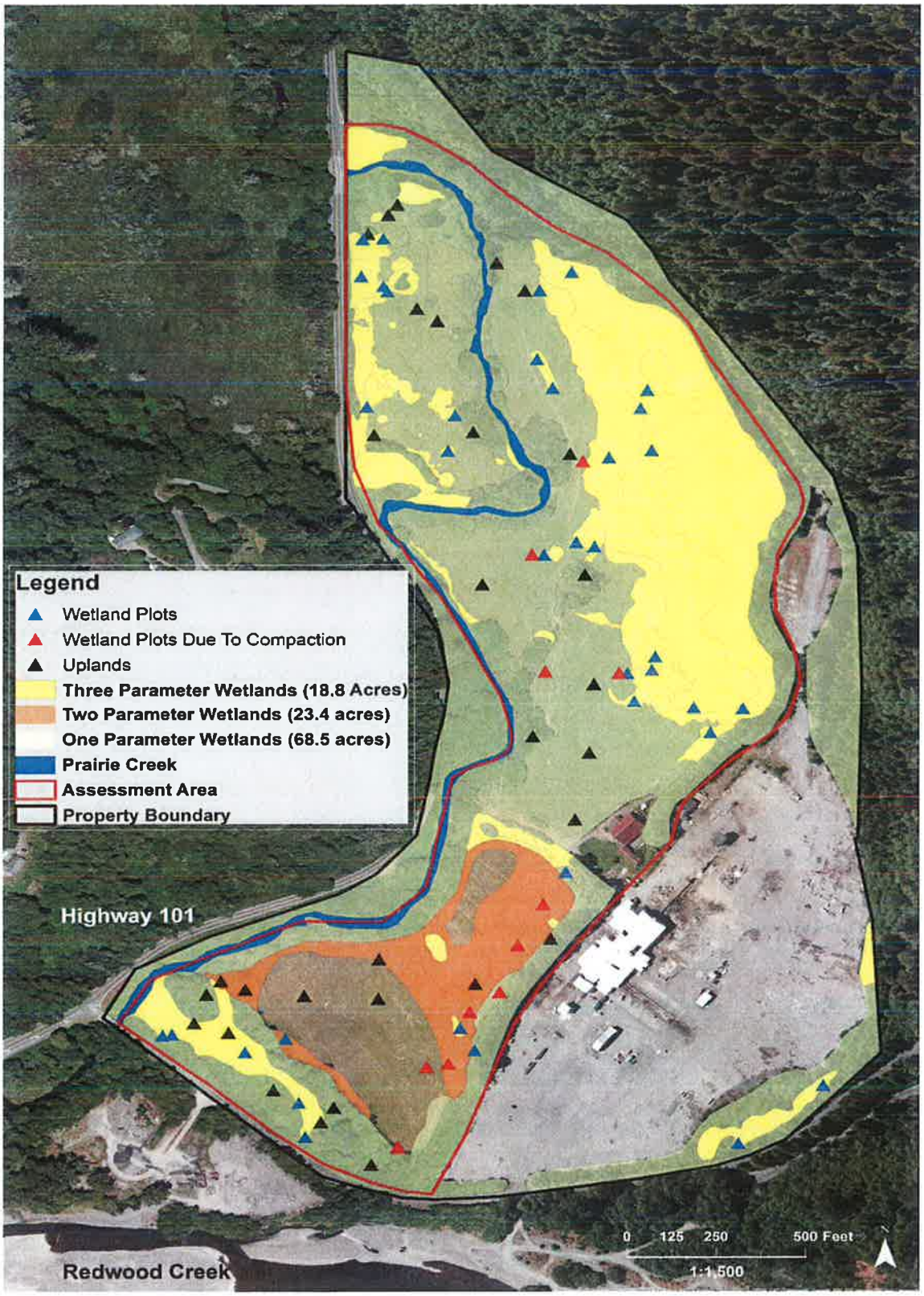


Figure 6. Map of one, two and three parameter wetlands, and plot locations.

CONSTRUCTION, DEMOLITION AND OPERATIONAL NOISE CONSTRAINTS DURING MAMU NESTING SEASON - 2/1 THROUGH 9/15

Area	Description	Maximum Noise Generation (dB)		Likely Permitted Activities (Mid-Day)
		Night and Within 2 Hours of Sunset and Sunrise (Avoid all mechanical noise if feasible)	Mid-Day	
A	Northern Old Growth Habitat. Acclimated to Natural Ambient (<50 dB) to Very Low (51-60 dB). Natural sources and adjacent road noise.	50 dB	60 dB	60 dB) No amplified or motorized sounds. Hand tools only. Limited impact noise (hammering).
B	Southern Old Growth Habitat. Acclimated to Very Low (51-60 dB) to Low (61-70 dB). Adjacent road noise (Bald Hills Road)	60 dB	70 dB	70 dB) Hand tools. Small power tools (generally battery operated and hand-held). Light vehicular traffic at slow speeds on paved surfaces.
C	Northern Low Noise Buffer (0-165 feet from Northern Old Growth Habitat)	60 dB	70 dB	70 dB) Hand tools. Small power tools (generally battery operated and hand-held). Light vehicular traffic at slow speeds on paved surfaces.
D	Northern Moderate Noise Buffer (165 to 500 feet from Northern Old Growth Habitat) and Southern Moderate Noise Buffer (0-165 feet from Southern Old Growth Habitat	70 dB	80 dB	80 dB) Small gas powered engines (lawn mowers and small chain saws), electric hand tools (except circular saws and impact wrenches), passenger vehicles, street legal motorcycles and small trail motorcycles.
E	Northern High Noise Buffer (500-1,320 feet from Northern Old Growth Habitat) and Southern High Noise Buffer (165-825 feet from Southern Old Growth Habitat)	80 dB	90 dB	90 dB) Medium to large construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, and moderate to large diesel engines. Large gasoline powered tools, power saws, large chainsaws, pneumatic drills and impact wrenches, circular saws and hammering.
F	Southern Very High Noise Buffer (825 -1,320 feet from Southern Old Growth Habitat)	90 dB	100 dB	100 dB) Jackhammers, smaller pile drivers, wood chippers.

NOTE: MARKED AREAS ARE APPROXIMATE. HABITAT LOCATIONS ARE ESTIMATED FROM AERIAL PHOTOGRAPHY AND HAVE NOT BEEN FIELD VERIFIED BY A QUALIFIED BIOLOGIST. HABITAT AREAS AND SETBACKS HAVE NOT BEEN SURVEYED.

DRAFT CONSTRUCTION NOISE SETBACKS AND BUFFERS - FOR DISCUSSION PURPOSES ONLY

SCALE: 1"=400' 01

PRELIMINARY DRAFT - FOR DISCUSSION PURPOSES ONLY - PRELIMINARY DRAFT - FOR DISCUSSION PURPOSES ONLY

DRAWN	SMS
CHECK	RSR
APPROVED	MDN
DATE	7-1-16
JOB NUMBER	7787.16
FIGURE	N1.1

ORICK MILL SITE - OLD GROWTH NOISE BUFFER
ORICK, CA
CONSTRUCTION NOISE SETBACKS AND BUFFERS

SAVE THE REDWOODS LEAGUE
111 SUTTER ST., 11th FLOOR, SAN FRANCISCO, CA 94104

NO.	HISTORY / REVISION	BY	CHK.	DATE

LACO
EUREKA • UKIAH • SANTA ROSA
1-800-515-5054 www.lacoassociates.com

APPENDIX 2

USFWS Memorandum: July 31, 2006

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arcata Fish and Wildlife Office
1655 Heindon Road
Arcata, CA 95521-5582
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To:
8-14-2006-2887

JUL 31 2006

Memorandum

To: All Interested Parties

From: Field Supervisor, Arcata Fish and Wildlife Office
Arcata, California

Subject: Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California

This memorandum transmits guidance prepared by the Arcata Fish and Wildlife Office (AFWO) that addresses the potential effects of disturbance on the federally listed northern spotted owl (*Strix occidentalis caurina*) (owl) and marbled murrelet (*Brachyramphus marmoratus*) (murrelet). This guidance promotes consistent and reasonable determinations of effects for activities that occur in or near owl or murrelet suitable habitat and result in elevated human-generated sounds or human activities in close proximity to nest trees. This guidance applies to activities occurring within the jurisdictional area of AFWO; generally, that area including Humboldt, Del Norte, and Trinity Counties, western Siskiyou County, and Mendocino County exclusive of the Russian River watershed.

This guidance applies to activities which have the potential to harass the owl or the murrelet as a result of substantially elevated sound levels or human presence near nests during the breeding season. This guidance was developed as a local adaptation of more general recommendations provided in 2005 by Region 1 of the Fish and Wildlife Service; those general recommendations are included as appendices to our guidance. This local adaptation resulted from extensive discussions among AFWO staff, consideration of local data, and comments provided by biologists from other Service offices and other agencies in California.

Through this memorandum, I am making this new guidance available for use by AFWO staff and the agencies and partners with whom we interact in project design, analysis, and consultation. This guidance will become fully effective as of the 2007 breeding seasons for the affected species. We are releasing it now to facilitate your project planning processes. However, as special case-by-case circumstances may warrant, and as our staff resources permit, we may

consider implementation of this guidance this year for certain projects. If you have such projects, we will work with you to apply it on a site-specific basis. While this guidance is the result of lengthy and detailed discussion and development, and should be implemented substantially as written, it is to be viewed as a living document subject to continued, ongoing revision and improvement as additional data and experience are acquired.

Questions regarding implementation and interpretation of this guidance should be directed to Amedee Brickey, Endangered Species Program Lead, at (707) 822-7201.

Attachments

Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California, July 26, 2006
Marbled Murrelet Sound and Visual Harassment Decision Support Tool Draft User Guide, October 2003
Northern Spotted Owl Sound and Visual Harassment Decision Support Tool Draft User Guide, March 2004

Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California

July 26, 2006

Executive Summary

The issue of project-induced noise disturbance to northern spotted owls and marbled murrelets has drawn increasing attention in recent years, yet remains a complex, controversial, and poorly understood subject. The data available to assess impacts to terrestrial wildlife from these effects are limited, and fewer data yet are specific to these listed species. This guidance document builds upon and consolidates prior efforts (see Appendices) to interpret the limited available data to draw objective conclusions about the potential for these effects to rise to the level of take.

Through this guidance, the US Fish and Wildlife Service (Service) describes behaviors of these two forest species that reasonably characterize when disturbance effects rise to the level of take (i.e., harass), as defined in the implementing regulations of the Endangered Species Act of 1973, as amended (the Act). These behaviors include:

- Flushing an adult or juvenile from an active nest during the reproductive period.
- Precluding adult feeding of the young for a daily feeding cycle.
- Precluding feeding attempts of the young during part of multiple feeding cycles.

We have attempted to provide objective metrics based on a substantial review of the existing literature, as it pertains to these species and appropriate surrogate species. Our recommended methodology relies on a comparison of sound levels generated by the proposed action to pre-project ambient conditions. Disturbance may reach the level of take when at least one of the following conditions is met:

- Project-generated sound exceeds ambient nesting conditions by 20-25 decibels (dB).
- Project-generated sound, when added to existing ambient conditions, exceeds 90 dB.
- Human activities occur within a visual line-of-sight distance of 40 m or less from a nest.

To simplify the analysis of these potential effects, and to promote consistency in interpretation of the analytical results, we established sound level categories of 10-dB increments. The analysis relies on a simple comparison of project-generated sound levels against ambient conditions. Our recommended analysis includes a simple comparison of project and pre-project sound levels within a matrix of estimated distances for which available data support a conclusion of harassment. We provide a real-world example to assist the reader in understanding the correct application of the methodology.

Finally, we provide additional information the analyst should consider in conducting the analysis, as well as guidance on interpretation the final numbers derived from the analysis. We describe site-specific information that is important to include in project analyses, caution against inappropriate inclusion of information and circumstances not relevant to the results, and provide context to the final interpretation.

Introduction

The issue of elevated sound and visual disturbance of forest wildlife species, especially as it affects the northern spotted owl (owl) and the marbled murrelet (murrelet), has received increased attention in recent years, yet remains a complex, controversial, and poorly understood subject. In an effort to provide objective criteria for determining when disturbance of these species might rise to the level of "take", and to promote consistency in the interpretation of analytical results, the Arcata Fish and Wildlife Office (AFWO) developed the following guidance. The purposes of this guidance are (a) to describe the scientific basis for considering the effects of auditory and visual disturbance to owls and murrelets, and (b) to provide a methodology to simplify the analysis of these effects for the large majority of project circumstances typically encountered in or near owl and/or murrelet habitat.

This guidance attempts to quantify the effects of elevated sound levels and visual proximity of human activities to owls and murrelets, and primarily applies to these species within their suitable forest habitats in northwestern California. It may have some applicability to other forest nesting avian species, but was not developed with other species specifically in mind. Future updates of this guidance may address other forest birds.

This guidance has been developed through an extensive consideration of the available literature, incorporating species-specific information as available, but relying substantially on data from a variety of other surrogate avian species and local applications, as appropriate. This guidance is adapted from information compiled and distributed by the Service's Pacific Region, Office of Technical Support, while allowing for local conditions. Appendices A and B of this document include that information. The reader is referred to those documents for important and extensive background information regarding this issue, methods used to estimate the physical attenuation of sound in the forested landscape, and a complete list of cited material supporting our analysis. However, this guidance is intended to stand alone; the user need not read and digest the extensive appended material to fully implement this guidance.

Behaviors Indicating Harassment

The definition of "take" prescribed by the Act includes "harass". The Act's implementing regulations further define harass as "... an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering" [50 CFR §17.3]. Activities that create elevated sound levels or result in close visual proximity of human activities at sensitive locations (e.g., nest trees), have the potential to significantly disrupt normal behavior patterns.

While owls and murrelets may be disturbed by many human activities, we anticipate that such disturbance rises to the level of harassment under a limited range of conditions. For purposes of this guidance, we assume harassment may occur when owls or murrelets demonstrate behavior suggesting that the safety or survival of the individual is at significant risk, or that a reproductive effort is potentially lost or compromised. Examples of this behavior include, but are not limited to:

- An adult or juvenile is flushed from a nest during the incubation, brooding, or fledging period, that potentially results in egg failure or reduced juvenile survival.
- An adult abandons a feeding attempt of a dependent juvenile for an entire daily feeding period, that potentially results in malnutrition or starvation of the young.
- An adult delays feeding attempts of dependent birds on multiple occasions during the breeding season, potentially reducing the growth or likelihood of survival of young.

Other essential behaviors, if disrupted, may also indicate harassment.

We conclude, based on our interpretation of the available literature, that these behaviors may occur when owls or murrelets are subject to elevated sound levels or visual detection of human activities near their active nests or dependent offspring. We interpret the available published data on owls, murrelets and appropriate surrogate species as indicating that the above behaviors may manifest when: (a) the action-generated sound level substantially exceeds (i.e., by 20-25 dB or more as experienced by the animal) ambient conditions existing prior to the project; (b) when the total sound level, including the combined existing ambient and action-generated sound, is very high (i.e., exceeds 90 dB, as experienced by the animal); or (c) when visual proximity of human activities occurs close to (i.e., within 40 m of) an active nest site. Sound levels of lesser amplitude or human presence at farther distances from active nests have the potential to disturb these species, but have not been clearly shown to cause behaviors that meet the definition of harassment. We estimate distances at which conditions (a) and (b) occur by calculating attenuation rates of sound across habitat conditions representative of the forest habitats occupied by owls and murrelets. We describe this calculation in detail in a later section.

These behaviors are difficult to witness or quantify under field conditions. The difficulty associated with documentation of these behaviors, especially in species such as the marbled murrelet that rely on cryptic coloration and behavior to avoid detection, warrants a conservative interpretation of the limited data available on this subject. However, at this time, we have identified only those behaviors associated with active nest sites during the nesting season as potentially indicating harassment.

Sound Level Categories

The analysis of auditory and visual disturbance provided herein relies substantially on a simple comparison of the sound level generated by sources (e.g., chainsaws, dozers, trucks, power tools, etc.) anticipated for use in a proposed action against ambient sound conditions prevalent in the action area prior to implementing the project. The analysis compares the sound level that a nesting owl or murrelet is likely to be subject to as a result of implementing a proposed action against the sound levels to which the species may be exposed under existing, pre-project conditions.

Note that in this guidance we define the "ambient" sound level as that sound environment in existence prior to the implementation of the proposed action, and may include any and all human-generated sound sources when they constitute a long-term presence in the habitat being analyzed. Temporary, short-term sources, even if in effect during or immediately prior to the

proposed action, would generally not be considered as part of the ambient but would instead be considered as a separate effect, or considered in combination with the sources from the proposed action. A special case of ambient is the "natural ambient", which includes sound sources native to the forested habitat being considered, such as wind in trees, bird calls, and distant water flow. Human-generated, "white noise" sources, such as a distant highway, may also be part of the natural ambient if (a) distant to the area being considered, (b) relatively low in volume (i.e., <50 dB), and (c) relatively uniform in sound level over the area of consideration. Ambient sound should be estimated based on typical sources experienced on a daily or more frequent basis. For other than "natural ambient", sources are generally located within or near the footprint of the proposed action.

The analytical comparison is provided graphically in Table 1. However, before discussing the methodology incorporated into this table, and the interpretation of numeric values derived from its use, we define and describe the sound level categories used in this analysis. We created sound level categories of 10-dB increments as a means to simplify the analysis. Each sound level category is described in terms of the conditions, equipment, tools, and other sound sources common to the particular level.

The following subsections provide concise descriptions of sound levels typically encountered under pre-project ambient conditions or during project implementation (including post-project use, if future use of the project area results in a long-term alteration of the sound/visual environment). Each description includes the decibel range, a general description, and examples of equipment or tools that typify that sound environment. Measurements and estimates from a broad range of tools and equipment are provided for reference purposes in Table 2.

It should be noted that many tools and equipment demonstrate a range of sound production substantially wider than the 10-dB sound level categories provided here. That range of sound production represents the inherent variability among similar sources, and the variation that typically occurs among measurements of even identical sources. This can easily be seen in a cursory examination of Table 2. When the range of sound measures for a source exceed the 10-dB range of a single sound level category, the analyst should consider the sound source in the context of other sources typical to the proposed activity. For example, chain saws used in timber harvest operations would include those in the higher sound measures, and would not include lower sound levels more representative of homeowner applications. In a related issue, the sound of small trees being felled is not anticipated to be substantially higher than the sound of the saws and other activities. However, the felling of larger trees may exceed the sound of the equipment used to fall and yard them; we have addressed this situation in the sound level descriptions.

We have attempted to create categories here that include similar sound sources, and have generally applied more median values (that is, we have discounted outliers) where multiple values for similar sound sources are encountered. While there may be exceptions within and among these categories, we have attempted to address this variability through an otherwise conservative approach to estimating distances at which harassment behaviors may manifest.

Natural Ambient: Refers to ambient sound levels (generally < 50 dB) typically experienced in owl or murrelet habitat not substantially influenced by human activities, and includes sources native to forest habitats. Human-generated "white noise", such as from a *distant* highway, may apply when < 50 dB and relatively uniform across the action area.

Very Low: Typically 50-60 dB, and generally limited to circumstances where human-generated sound would never include amplified or motorized sources. Includes forest habitats close to less-frequently encountered natural sources, such as rapids along large streams, or wind-exposure, and may include quiet human activities such as nature trails and walk-in picnic areas.

Low: Typically 61-70 dB, and generally limited to sound from small power tools, light vehicular traffic at slow speeds on paved surfaces, non-gas-powered recreational activities, and residential activities, such as those associated with small parks, visitor centers, bike paths, and residences. Includes most hand tools and battery operated, hand-held tools.

Moderate: Typically 71-80 dB, generally characterized by the presence of passenger vehicles and street-legal motorcycles, small trail cycles (not racing), small gas-powered engines (e.g., lawn mowers, *small* chain saws, portable generators), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar).

High: Typically 81-90 dB, and would include medium- and large-sized construction equipment, such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Would include high speed highway traffic including RVs, large trucks and buses, large street legal and trail (not racing) motorcycles. Also includes power saws, large chainsaws, pneumatic drills and impact wrenches, and large gasoline-powered tools.

Very High: Typically 91-100 dB, and is generally characterized by impacting devices, jackhammers, racing or Enduro-type motorcycles, compression ("jake") brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include largest diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (defined as dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included.

Extreme: Typically 101-110 dB. Generally includes use of ground-level, unmuffled explosives, pile driving of large steel piles, low-level over flights or hovering of helicopters, and heavily amplified music.

Sound Levels Exceeding 110 dB: These sound levels, typified by sources such as jet engines and military over flights, large sirens, open air (e.g., treetop) explosives, and double rotor logging helicopters, are special situations requiring site- and situation-specific analysis, and are not covered by the analytical methods provided herein.

Derivation of Harassment Distances

As indicated earlier, available data suggest that harassment occurs when sound levels resulting from project-based sound sources exceed ambient conditions by relatively substantial levels, or when those sound sources exceed a high absolute threshold. Since sound attenuates as a function of the distance from the source (within typical forest habitat, at a rate of approximately 6 dB per doubling of distance from a point source), the analyst can estimate the distance at which various sound sources exceed ambient conditions by anticipated threshold values. We estimated these distances using a spreadsheet model that simulates sound attenuation in typical forest habitats, reasonably accounting for ambient environmental conditions and sound source characteristics. As a means of simplifying the analysis process, we used reasonable median sound values within the above-described categories for both source and ambient sound conditions. Table 1 reports the distances within which elevated, project-generated sound is reasonably expected to exceed ambient conditions to such a degree as to result in harassment of murrelets or owls. The reader is referred to Appendices 1 and 2 and their references for additional, detailed discussion of sound metrics and the model used to derive these distances.

Time of Day Adjustment for the Marbled Murrelet

The disturbance take threshold distances provided in Table 1 are based on a comparison of project generated sound levels with existing (ambient) sound levels, which themselves represent average daytime sound conditions. We recognize, however, that ambient sound level often has a substantial time-of-day component, with nighttime, dawn and dusk ambient sound levels generally 5-10 dB lower than typical midday levels (see Appendix A *in* EPA 1974). It is also known that murrelet flights into nests to feed nestlings and for nest-tending exchanges are concentrated around dawn and dusk (Nelson and Hamer 1995), during the period when ambient noise levels tend to be lower than average daytime levels (EPA 1974).

Therefore, for marbled murrelets, the harassment threshold distances provided in Table 1 apply to noise-generating activities occurring during the midday period, when the risk of harassment is lower. Specifically, for murrelets, the harassment distances in Table 1 apply to noise-generating activities that are not within 2 hours of sunrise or sunset. If proposed activities will occur within 2 hours of sunrise or sunset, and if the ambient sound environment during the dawn and dusk period can reasonably be expected to be 5 dB or more quieter than the midday sound environment, then the estimated harassment distance threshold should be calculated based on an ambient level 10 dB lower (i.e., one row up in the table) compared to the normal ambient rating in Table 1. In some cases, this will result in a larger harassment threshold distance. This time-of-day measure provides a more consistent application of the threshold criteria to the known biology of the murrelet and the anticipated sound environment during dawn and dusk periods.

Similar time-of-day considerations and adjustments are not required for the northern spotted owl.

Application of Harassment Distances to Project Conditions

The following methodology may be used to estimate the approximate distance at which project-generated sound exceeds ambient conditions to such an extent that northern spotted owls or marbled murrelets may be subject to harassment due to sound or visual disturbance.

Step 1: The analyst reviews the environment in the action area to determine the existing ambient sound level. The analyst should include any sound sources occurring in the action area, prior to and not part of the proposed action, that create ambient sound levels higher than the "natural" background. For example, if the proposed action would add a passing lane to a high-use major highway, the ambient condition should include the existing traffic and maintenance on the highway itself, in addition to other sounds native to the adjacent forest environment. As a second example, a proposed action to maintain a remote hiking trail would not include sound sources other than the "natural background" and infrequent human use as part of the existing ambient. Based on this review, the analyst assigns a sound level category to the ambient condition (equivalent to a row of Table 1).

Step 2: The analyst reviews the proposed action to determine the types of equipment, tools, etc., anticipated to be used during the project. Based on the descriptions of sound level categories, above, the analyst assigns a sound level category to the action-generated sound sources (corresponding to the columns in Table 1). Action-generated sound sources should include all major sources necessary to complete the proposed action. When project-specific sound measures are not available, the reader should refer to Table 2 for typical values for equipment, tools, and other sound sources. For projects where distinctly different sound environments (for either ambient or action-generated) may occur within the overall action area, the analyst may complete separate analyses for each distinct sound environment.

Step 3: From Table 1, the analyst finds the cell corresponding to the appropriate row and column for existing ambient sound and action-generated sound, respectively. This cell provides an estimate of the distance within which increased sound level may harass an owl or murrelet. The cell values are generally reported as a distance from the outer edge of the project footprint into occupied or presumed occupied suitable habitat, unless site-specific information indicates sound sources may be more localized within the project footprint (see also "Other Considerations", below).

Step 4: When significant topographic features occur within the sound environment, appropriate consideration may be given to their sound attenuating capabilities. However, the analyst should have a full understanding of the effects of topography on sound attenuation, especially when the species involved typically nests at a substantial distance above the ground. That is, topography may substantially attenuate sound between the source and the receiver (i.e., owl or murrelet nest site) when that topographic barrier is sufficiently high to block line-of-sight transmission between the source and receiver. For species such as owls and murrelets that normally nest high in tall trees, topography or other barriers provide little attenuation unless very close to the sound source, or very high.

Step 5: Consider the potential for human activities within 40 m of nest branches of owls or murrelets. If no known or likely nest tree, or flight path to the nest itself, occurs this close to the visual disturbance sources, there would be no visual disturbance of owls or murrelets anticipated. Otherwise, assume visual harassment for up to 40 m from human activities.

Table 1. Estimated harassment distance due to elevated action-generated sound levels for proposed actions affecting the northern spotted owl and marbled murrelet, by sound level.

Existing (Ambient) Pre-Project Sound Level (dB) [1,2]	Anticipated Action-Generated Sound Level (dB) [2,3]			
	Moderate (71-80)	High (81-90)	Very High (91-100)	Extreme (101-110)
"Natural Ambient" [4] (<=50)	50 (165) [5,6]	150 (500)	400 (1,320)	400 (1,320)
Very Low (51-60)	0 (0)	100 (330)	250 (825)	400 (1,320)
Low (61-70)	0 (0)	50 (165)	250 (825)	400 (1,320)
Moderate (71-80)	0 (0)	50 (165)	100 (330)	400 (1,320)
High (81-90)	0 (0)	50 (165)	50 (165)	150 (500)

[1] Existing (ambient) sound level includes all natural and human-induced sounds occurring at the project site prior to the proposed action, and are not causally related to the proposed action.
[2] See text for full description of sound levels.
[3] Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured or estimated at 15.2 m (50 ft) from the sound source.
[4] "Natural Ambient" refers to sound levels generally experienced in habitats not substantially influenced by human activities.
[5] All distances are given in meters, with rounded equivalent feet in parentheses.
[6] For murrelets, activities conducted during the dawn and dusk periods have special considerations for ambient sound level. Refer to text for details.

Example Analysis

The following example is provided to assist the reader in understanding the application of this recommended methodology to a hypothetical yet typical project circumstance.

Proposed Project: An agency proposes to construct an informational kiosk, restroom, and six graveled parking slots at an existing, undeveloped, trailhead parking area along a low-speed (<45 mph), paved road closed to large trucks and buses. The footprint of the proposed project is a roughly circular area of approximately 75-foot diameter (about 1/10 acre). The surrounding

forest is suitable nesting habitat for marbled murrelets, and the agency proposes to do construction during the nest season. Topography in the action area is low rolling ridges less than 50 feet high. No other sound sources of significance are located nearby. The construction project will not remove any large trees, but requires the use of several pieces of equipment (e.g., backhoe, dump truck), as well as smaller power equipment (e.g., saws, cement mixer, portable generator, small chain saw) and hand tools. No jackhammering, pile driving, or larger diesel equipment is needed. The agency agrees to conduct all on-site activities during the midday time period between 2 hours after sunrise to 2 hours before sunset.

Analysis: The ambient sound level at the proposed kiosk includes the existing passenger vehicle/light truck traffic on a paved surface immediately adjacent to the work area, and existing human presence of hikers. Using the above-described sound level categories, this ambient sound level classifies as "low" (61-70 dB). The large construction equipment (i.e., the backhoe and truck) are the greatest sources of increased sound to be considered here, as they exceed the level of the other tools. From the above-described sound levels, we anticipate that action-generated sound levels will fit into the "high" category (81-90 dB). Choosing the appropriate row (Ambient = Low) and column (Action-generated = High) in Table 1, we estimate that disturbance may rise to the level of harassment over an area within 50 m (165 ft) from the footprint of the project. Since all activities will be conducted during the mid-day period, no further adjustment of the tabled value to account for murrelet activity periods is necessary. This 50-m distance, when used as a buffer around the project footprint, results in an estimate of 2.9 acres (1.2 ha) subject to harassment from auditory disturbance. Large potential nest trees exist immediately adjacent to the work area, so visual harassment may also be a consideration. However, human presence already occurs at the trailhead on a daily basis, and the proposed project will not substantially alter that effect. The topographic features in the action area are unlikely to further attenuate any sound experienced by murrelets, which commonly nest more than 50 feet above ground level. Since construction of the kiosk and restroom would not appreciably change the effects of the existing roadway or parking area, the duration of effects would be for a single breeding season, and would not alter effects already at the site in future years.

Interpretation and Application of the Results

The estimated harassment distance resulting from the analysis of any particular project conditions requires careful interpretation. Although seemingly precise, the reported distance represents a reasonable *approximation* of the distance wherein "the likelihood of injury" occurs, as supported by currently available data. That is, the resultant number estimates the distance within which available disturbance data on owls or murrelets (or surrogate species, as appropriate) show that at least some individuals would demonstrate one or more behaviors indicating harassment as a result of anticipated sound levels or visual detection of human activities near nest sites. Given the many sources of variability in such an analysis, such as differences in individual bird response, variation in actual sound level produced by similar sources, variability in sound transmission during daily weather patterns, and non-standardization in sound metrics reported in the published literature, exact estimates of harassment distances are currently infeasible, and likely will remain so.

It is reasonable to assume that owls or murrelets closer to sources of disturbance have a higher likelihood of suffering significant disruption of normal behavior patterns than those at the outer limits of the estimated harassment distance, due to louder sound levels or a visually closer perceived threat to the nest. Further, not all owls or murrelets, except those in the very closest proximity to the disturbance source, may respond to a degree indicating harassment. Thus, the likelihood of injury for any particular individual would range from some low proportion to a higher value depending on its actual proximity to a particular sound/visual source. It is neither reasonable nor necessary for purposes of analysis and estimation of take to predict that all (or even a high proportion of) owls or murrelets within this distance show harassment behaviors. Conversely, it is also unreasonable to conclude that owls or murrelets beyond this distance would never be harassed. A more supportable interpretation is that currently available information does not support a conclusion that owls or murrelets more distant to the anticipated sound/visual disturbances are likely to suffer a significant disruption of normal behavior patterns.

The reporting of take associated with auditory and visual disturbances is necessary, even if somewhat imprecise. It is appropriate to consider all reasonable means to minimize take including, but not limited to, seasonal restrictions and substitution of equipment type to reduce the likelihood of injury, so long as those means are consistent with the "minor change rule" [50 CFR §402.14 (i)(2)]. When considering measures to reduce the effects of harassment, the analyst should bear in mind not only the spatial extent of the disturbance, but also the timing and duration of the disturbance.

Finally, activities which result in estimated distances of zero meters would be expected to have no effect on either owls or murrelets. Activities resulting in estimates of 50 m or less may, under some circumstances, be considered not likely to adversely affect, due in part to the species preference of nesting high up in large trees. However, the analyst should be prepared to describe and justify reasons for these findings.

Other Considerations

This guidance does not consider the direct effects of predation by corvids (ravens, crows and jays) and other predators as a result of human activities in murrelet and owl habitat. That is, while corvids may increase in number in murrelet and owl habitat in response to human activities, the resulting increased take due to predation (injury) is not addressed here. Distance estimates reported in this guidance reflect only the effects of sound attenuation and visual detection on behaviors appropriately interpreted as harassment. We have considered predation only in the sense that detection of the nest as a result of owl or murrelet harassment behavior (e.g., flushing from the nest) may increase the risk of predation, regardless of density of predators, and thus represents a "likelihood of injury."

This analytical method addresses most forest habitat conditions that affect the attenuation rate of sound (and thus the level of sound detected by the owl or murrelet at its location). These conditions include dampening effects of forest vegetation, variability in natural ambient sound typically encountered under forest conditions, use of multiple pieces of identical equipment, and the effect of elevated nest sites on sound attenuation. Departure from the tabled values in this guidance to account for special forest conditions is generally inappropriate except under highly

unusual circumstances. A factor *not* considered in this methodology is the effect of topography on sound attenuation. Therefore, a site-specific assessment of topography should be considered. Steep slopes, ridges, and designed sound barriers may increase sound attenuation when they form complete barriers to the direct line of sound transmission between source and the location of the receiver (here, the actual location of the potentially harassed animal). In general, small ridges or walls not clearly blocking the sources from a highly elevated nest would provide little or no attenuation. When clearly supported by site-specific information regarding topography, action-generated sound may be reduced by one or two levels in the analysis, when compared to existing ambient sound levels.

For some projects, elevated sound levels may cease following completion of the project. For example, sound level following the completion of timber harvest is likely to return to pre-harvest levels, and so would not result in long-term or permanent sound and visual disturbance to owls and murrelets. On the other hand, actions such as the creation of a new road may result in elevated sound levels both during construction and during future use and maintenance of the road. The analyst should carefully consider both spatial and temporal aspects of noise and visual disturbance for each project.

Activities producing sound levels of 70 dB or less (estimated at 15.2 m from the sources), such as use of hand tools, small hand-held electric tools, or non-motorized recreation, would not generally rise to the level of harassment, except in certain circumstances, such as when used in very close proximity (i.e., <25 m) to an active nest. However, under these circumstances, visual detection of human activities by the species near its nest is assumed to be of more consequence than auditory disturbance, and take should be described in such terms.

Activities producing sound levels greater than 110 dB (estimated at 15.2 m from the sources), such as open-air blasting, aircraft, or impact pile-driving, are not addressed in this analysis, and should be evaluated through a more detailed site-specific analysis.

Table 2. Some Common Sound Levels for Equipment/Activities

Measured Sound Source	Range of Reported dB Values @ Distance Measure (*Distance measured @ 50 ft (15.2 m) unless otherwise indicated*) Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Quiet Whisper	30 @ 3 ft	6	Ambient
Ambient Sound Level - Forest Habitats (low end[3])	25	25	Ambient
Library (ambient sound level)	30 @ ambient	30	Ambient
Conversation (low end)	55 @ 1 m	31	Ambient
Conversation (high end[4])	62 @ 2 ft	34	Ambient
Conversataion	60 @ 3 ft	36	Ambient
Speech (normal)	65 @ 1 m	41	Ambient
Ambient Sound Level - Forest Habitats (high end)	43.8	44	Ambient
Home Vacuum Cleaner	70 @ 1 m	46	Very Low
Loud Singing	75 @ 3 ft	51	Very Low
Generator (light home/recreational, 900-2,800 W)	59 @ 7 m	52	Very Low
Air Conditioner Window Unit	60 @ 25 ft	54	Very Low
Generator (light commercial, 4,000-5,000 W) (low end)	61 @ 7 m	54	Very Low
Pickup Truck (idle) (low end)	55	55	Very Low
Garbage Disposal (low end)	80 @ 1 m	56	Very Low
Garbage Disposal (high end)	80 @ 3 ft	57	Very Low
Generator (light commercial, 4,000-5,000 W) (high end)	65 @ 7 m	58	Very Low
Conversation (indoor)	60	60	Very Low
Chain Saw Running (rain) (low end)	61	61	Low
Food Blender (low end)	85 @ 1 m	61	Low
Generator (heavy home, 3,300-5,500 W) (low end)	68 @ 7 m	61	Low
Generator (light industrial, 2,600-9,500 W) (low end)	68 @ 7 m	61	Low
Milling Machine	83 @ 4 ft	61	Low
Pickup Truck (idle) (high end)	77 @ 8 ft	61	Low
Motorcycle on Trail (620 cc street legal, meter at ground level)	61.9	62	Low
Powerline	50 @ 200 ft	62	Low
Chainsaw (Stihl 025)	46 @ 105 m	63	Low
Generator (economic home, 2,300-4,500 W) (low end)	70 @ 7 m	63	Low
Street Motorcycles < 100 cc (low end)	65	65	Low
Motorcycle on Trail (100 cc, 2-stroke, meter at ground level)	65.7	66	Low
Chainsaw (McCulloch Promac 260, low end)	46.1 @ 150 m	66	Low
Chainsaw (Stihl 025, low end)	53.8 @ 60 m	66	Low
Food Blender (high end)	90 @ 3 ft	66	Low
Motorcycle on Trail (620 cc street legal, meter elevated 15 m)	66.6	67	Low
Generator (welding, 4,000 W)	74 @ 7 m	67	Low
Passenger Car (50 mph)	67	67	Low
Passenger Car (60 kph)	65 @ 20 m	67	Low
Generator (heavy home, 3,300-5,500 W) (high end)	75 @ 7 m	68	Low
Generator (medium commercial, 6,000 W)	75 @ 7 m	68	Low
Power Lawn Mower	92 @ 1 m	68	Low
Motorcycle on Trail (100 cc, 2-stroke, meter elevated 15 m)	68.1	68	Low
Generator (economic home, 2,300-4,500 W) (high end)	76 @ 7 m	69	Low
Chainsaw (McCulloch Promac 260)	59.9 @ 50 m	70	Low
Generator (25 KVA or less)	70	70	Low
Yelling	92 @ 4 ft	70	Low
Pickup Truck (driving)	87 @ 8 ft	71	Moderate
Motorcycle on Trail (300 cc, 2-stroke, meter at ground level)	71.3	71	Moderate
Chainsaw (McCulloch Promac 260)	61.3 @ 50 m	72	Moderate
Gas Lawn Mower	96 @ 1 m	72	Moderate
Mowers, leaf blowers (low end)	72	72	Moderate
Chainsaw (Stihl 025, high end)	60.5 @ 60 m	73	Moderate

Measured Sound Source	Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Generator (light industrial, 2,600-9,500 W) (high end)	80 @ 7 m	73	Moderate
Street Motorcycles 350-749 cc (low end)	73	73	Moderate
Welder	73	73	Moderate
Automobile	80 @ 25 ft	74	Moderate
Jackhammer (muffled)	74	74	Moderate
Pile Driving (1999 ODOT Study, low end)	74	74	Moderate
Roller (low end)	74	74	Moderate
Street Motorcycles >= 750 cc (low end)	74	74	Moderate
Chain saws (low end)	75	75	Moderate
Off-Road Motorcycles < 100 cc (low end)	75	75	Moderate
RVs (small) (low end)	75	75	Moderate
Concrete Vibrator	76	76	Moderate
Passenger Cars/Light Trucks (65 mph) (low end)	76	76	Moderate
Flatbed Pickup Truck	93 @ 8 ft	77	Moderate
Log Truck	67 @ 46 m	77	Moderate
Pump (low end)	77	77	Moderate
Street Motorcycles 170-349 cc (low end)	77	77	Moderate
BPA Powerline	66 @ 200 ft	78	Moderate
Generator (low end)	78	78	Moderate
Off-Road Motorcycles 100-169 cc (low end)	78	78	Moderate
Street Motorcycles 100-169 cc (low end)	78	78	Moderate
Backhoe	69 @ 46 m	79	Moderate
Off-Road Motorcycles 170-349 cc (low end)	79	79	Moderate
Motorcycle on Trail (300 cc, 2-stroke, meter elevated 15 m)	79.6	80	Moderate
Backhoe (low end)	80	80	Moderate
Boat motors (low end)	80	80	Moderate
Cat Skidder	70 @ 46 m	80	Moderate
Chainsaw (McCulloch Promac 260, high end)	59.5 @ 150 m	80	Moderate
Compressor (low end)	80	80	Moderate
Concrete Mixer (low end)	80	80	Moderate
Front-end Loader (low end)	80	80	Moderate
Ground Compactor (low end)	80	80	Moderate
Horizontal Boring Hydraulic Jack	80	80	Moderate
Medium Construction (low end)	80	80	Moderate
Medium Trucks & Sport Vehicles (65 mph) (low end)	80	80	Moderate
Paver (low end)	80	80	Moderate
Rock Drill and Diesel Generator (low end)	58 @ 200 m	80	Moderate
Roller (high end)	80	80	Moderate
Vacuum Street Sweeper	80	80	Moderate
Cat Skidder	59 @ 200 m	81	High
Concrete Truck (low end)	81	81	High
Off-Road Motorcycles < 100 cc (high end)	81	81	High
Pumps, generators, compressors (low end)	81	81	High
Concrete Pump	82	82	High
Dump Truck Dumping Rock	72 @ 46 m	82	High
Ground Compactor (high end)	82	82	High
Rock Drills and Jackhammers (low end)	82	82	High
Slurry Machine (low end)	82	82	High
Street Motorcycles < 100 cc (high end)	82	82	High
Train	90 @ 20 ft	82	High
Chainsaw, large	73 @ 46 m	83	High
Chainsaw, large	61 @ 200 m	83	High
Concrete Batch Plant	83	83	High
Dump Truck Dumping Rock	54 @ 400 m	83	High
General construction (low end)	83	83	High

Measured Sound Source	Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Highway Traffic (uphill, discontinuous traffic, wet)	61 @ 200 m	83	High
Log Loader	73 @ 46 m	83	High
Power Mower	107 @ 3 ft	83	High
Road Grader (low end)	83	83	High
Backhoe (high end)	84	84	High
Dozer (low end)	84	84	High
Dump Truck	84	84	High
Flat Bed Truck	84	84	High
Generator (high end)	84	84	High
Heavy Construction (low end)	84	84	High
Large Truck (low end)	84	84	High
Motorcycle	88 @ 30 ft	84	High
Motorcycle Enduro Event	62.3 @ 180 m	84	High
Pile Driving (1987 WDOT Study, low end)	84	84	High
Rock Drill and Diesel Generator (low end)	55 @ 400 m	84	High
Motorcycle on Trail (200 cc, 2-stroke, meter at ground level)	84.5	85	High
5 Motorcycles	67 @ 120 m	85	High
Auger Drill Rig	85	85	High
Concrete Mixer (high end)	85	85	High
Concrete Truck (high end)	85	85	High
Crane (low end)	85	85	High
Diesel Truck (40 mph)	85	85	High
Drill Rig (low end)	85	85	High
Dump Truck	63 @ 200 m	85	High
Equipment > 5 horsepower	85	85	High
Gradall (low end)	85	85	High
Highway Traffic (uphill, discontinuous traffic, wet)	75 @ 46 m	85	High
Impact Wrench	85	85	High
Large Tree Falling	63 @ 200 m	85	High
Log Loader	63 @ 200 m	85	High
Mounted Impact Hammer Hoe-Ram (low end)	85	85	High
Mowers, leaf blowers (high end)	85	85	High
Passenger Cars/Light Trucks (65 mph) (high end)	85	85	High
Pump (high end)	85	85	High
Road Grader (high end)	85	85	High
Rock Drill (low end)	85	85	High
RVs (large) (low end)	85	85	High
RVs (small) (high end)	85	85	High
Scraper (low end)	85	85	High
23 ft Detonation Cord, on surface (low end)	80 @ 100 ft	86	High
Chain saws (high end)	86	86	High
Chainsaw (Cantor, one chainsaw running)	86	86	High
Dump Truck Dumping Rock	64 @ 200 m	86	High
Gradall (high end)	86	86	High
Large Diesel Engine	100 @ 10 ft	86	High
Motorcycle Enduro Event	68.4 @ 120 m	86	High
Pneumatic wrenches, rock drills (low end)	86	86	High
Rock Drill and Diesel Generator (high end)	64 @ 200 m	86	High
12 ft Detonation Cord, buried (low end)	66 @ 580 ft	87	High
Diesel Truck (50 kph)	85 @ 20 m	87	High
Front-end Loader (high end)	87	87	High
Hydromulcher (low end)	71 @ 300 ft	87	High
Pumps, generators, compressors (high end)	87	87	High
Crane (high end)	88	88	High
Dozer (high end)	88	88	High

Measured Sound Source	Reported Decibel Value	"Standardized" Value @ 50 ft[1]	Relative Sound Level[2]
Drill Rig (high end)	88	88	High
Off-Road Motorcycles 350-750 cc (low end)	88	88	High
Street Motorcycles 100-169 cc (high end)	88	88	High
Motorcycle on Trail (200 cc, 2-stroke, meter elevated 15 m)	88.2	88	High
5 Motorcycles	55 @ 760 m	89	High
Chainsaw (Cantor, two chainsaws running)	89	89	High
General construction (high end)	89	89	High
Jackhammer	89	89	High
Large Truck (high end)	89	89	High
Medium Construction (high end)	89	89	High
Medium Trucks & Sport Vehicles (65 mph) (high end)	89	89	High
Motorcycle Enduro Event	73.3 @ 90 m	89	High
Paver (high end)	89	89	High
Scraper (high end)	89	89	High
Street Motorcycles 350-749 cc (high end)	89	89	High
Chain Saw Running (rain) (high end)	80 @ 150 ft	90	High
Compressor (high end)	90	90	High
Concrete Saw	90	90	High
Heavy Trucks and Buses (low end)	90	90	High
Hydra Break Ram	90	90	High
Mounted Impact Hammer Hoe-Ram (high end)	90	90	High
Circular Saw (hand held)	115 @ 1 meter	91	Very High
Highway Traffic (downhill, discontinuous traffic, wet)	81 @ 46 m	91	Very High
Motorcycle Enduro Event	78.8 @ 60 m	91	Very High
Pneumatic Chipper (low end)	115 @ 1 m	91	Very High
Pneumatic Riveter	115 @ 3 ft	91	Very High
Slurry Machine (high end)	91	91	Very High
Track Hoe (low end)	75 @ 300 ft	91	Very High
Highway Traffic (downhill, discontinuous traffic, wet)	70 @ 200 m	92	Very High
Large Tree Falling	82 @ 46 m	92	Very High
Motorcycle Enduro Event	85.8 @ 30 m	92	Very High
Chainsaw	117 @ 3 ft	93	Very High
Clam Shovel	93	93	Very High
Railroad (low end)	93	93	Very High
Street Motorcycles >= 750 cc (high end)	93	93	Very High
Explosives (low end)	94	94	Very High
Hydromulcher (high end)	88 @ 100 ft	94	Very High
Jake Brake on Truck	110 @ 8 ft	94	Very High
Boat motors (high end)	95	95	Very High
Guardrail Installation and Pile Driving (low end)	95	95	Very High
Heavy Trucks and Buses (high end)	95	95	Very High
Impact Pile Driver (low end)	95	95	Very High
Off-Road Motorcycles 350-750 cc (high end)	95	95	Very High
Pneumatic Chipper (high end)	115 @ 5 ft	95	Very High
RVs (large) (high end)	95	95	Very High
Vibratory (Sonic) Pile Driver (low end)	95	95	Very High
Diesel Truck	100 @ 30 ft	96	Very High
Heavy Construction (high end)	96	96	Very High
Jet Overflight (low end)	80 @ 300 ft	96	Very High
Vibratory (Sonic) Pile Driver (high end)	96	96	Very High
Logging Truck	97	97	Very High
Pneumatic wrenches, rock drills (high end)	97	97	Very High
Rock Drills and Jackhammers (high end)	97	97	Very High
Street Motorcycles 170-349 cc (high end)	97	97	Very High
Door Slamming	98	98	Very High

Measured Sound Source	Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Dump Truck	88 @ 46 m	98	Very High
Pile Driving (1999 ODOT Study, low end)	98	98	Very High
Railroad (high end)	98	98	Very High
Rock Drill (high end)	98	98	Very High
Helicopter S-61 (large, single rotor, loaded) (low end)	79 @ 500 ft	99	Very High
Rock Drill and Diesel Generator (high end)	70 @ 400 m	99	Very High
Off-Road Motorcycles 100-169 cc (high end)	100	100	Very High
Off-Road Motorcycles 170-349 cc (high end)	100	100	Very High
Rock Drill and Diesel Generator	90 @ 46 m	100	Very High
Exterior Cone Blast w/ sand bags (low end)	72 @ 0.25 mi	101	Extreme
Helicopter S-61 (low end)	77 @ 800 ft	101	Extreme
Impact Pile Driver (high end)	101	101	Extreme
Pneumatic tools, jackhammers & pile driver (low end)	101	101	Extreme
Amplified Rock and Roll	120 @ 6 ft	102	Extreme
Helicopter S-61 (large, single rotor, loaded) (high end)	82 @ 500 ft	102	Extreme
Pile Driving (1987 WDOT Study, high end)	103	103	Extreme
Truck Horn	120 @ 8 ft	104	Extreme
Guardrail Installation and Pile Driving (high end)	105	105	Extreme
23 ft Detonation Cord, on surface (high end)	85 @ 580 ft	106	Extreme
Impact Pile Driving	106	106	Extreme
Track Hoe (high end)	96 @ 150 ft	106	Extreme
Columbia double rotor logging helicopter (reading from road)	79 @ 400 m	108	Extreme
Pave Hawk Military Helicopter	92 @ 105 m	109	Extreme
Columbia double rotor logging helicopter (read in forest)	100 @ 46 m	110	Extreme
Pneumatic tools, jackhammers & pile driver (high end)	110	110	Extreme
12 ft Detonation Cord, buried (high end)	92 @ 500 ft	112	Extreme
Helicopter S-61 (high end)	106 @ 100 ft	112	Extreme
Rock Blast	91 @ 575 ft	112	Extreme
Columbia double rotor logging helicopter (reading from road)	84 @ 400 m	113	Extreme
Engine Exhaust (no muffler)	140 @ 3 ft	116	Extreme
Military Flight (low end)	98 @ 500 ft	118	Extreme
Exterior Cone Blast w/ sand bags (high end)	100 @ 500 ft	120	Extreme
Treetop Blast (low end)	110 @ 200 ft	122	Extreme
Columbia double rotor logging helicopter (read at clearing)	101 @ 200 m	123	Extreme
Jet Overflight (high end)	86 @ 4,000 ft	124	Extreme
Exterior Cone Blast (obstructed)	107 @ 500 ft	127	Extreme
Jet takeoff	120 @ 200 ft	132	Extreme
50 HP Siren	130 @ 100 ft	136	Extreme
Jet Plane	130 @ 100 ft	136	Extreme
Treetop Blast (high end)	116 @ 0.1 mi	137	Extreme
Military Flight (high end)	120 @ 600 ft	142	Extreme
Explosives (high end)	145 @ 330 ft	162	Extreme

[1] "Standardized" values are sound levels converted to 50-foot equivalents (i.e., as though measured at 50 feet distance from source). For comparison purposes.

[2] Relative Sound Level: a general, subjective ranking of relative noise levels created by the sources considered here,when used for analysis of relative noise effects on species.

[3] "Low end" indicates the lower value when a range of values is reported for a sound source.

[4] "High end" indicates the higher value when a range of values is reported for a sound source.

Literature Cited

EPA. 1974. Information on levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety. Prepared by the U.S. Environmental Protection Agency Office of Noise Abatement and Control. EPA/ONAC 550/9-74-004.

Nelson, S.K. and T.E. Hamer. 1995. Nesting biology and behavior of the marbled murrelet. *In*: Ralph, C.J., G.L. Hunt, M.G. Raphael, J.F. Priatt, eds. Ecology and conservation of the marbled murrelet. Gen. Tech. Rep. PSW-512. U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. pp. 57-67.

APPENDIX A FOR APPENDIX 2

USFWS Memorandum: July 31, 2006

Marbled Murrelet Sound and Visual Harrasssment Decision Support Tool

Available Upon Request from LACO

APPENDIX B FOR APPENDIX 2

USFWS Memorandum: July 31, 2006

Northern Spotted Owl Sound and visual Harassment Decision Support Tools

Available Upon Request from LACO

APPENDIX 3

RNSP Guidelines: May, 2007

Redwood National and State Parks Auditory Disturbance Guidelines for Projects in Suitable Spotted Owl and Marbled Murrelet Nesting Habitat During the Breeding Season

(Adapted from "Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California". U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office, July 26, 2006)

May 2007

Harassment

"Harassment" (a form of "take" under the Endangered Species Act [ESA]) is defined as "... an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering" [50 CFR §17.3]. Activities that create elevated sound levels or result in close visual proximity of human activities at sensitive locations (e.g., nest trees), have the potential to significantly disrupt normal behavior patterns. These behaviors may occur when spotted owls or marbled murrelets are subjected to elevated sound levels or visual disturbance associated with human activities near their active nests or dependent offspring.

Behaviors indicating harassment may manifest when: (a) the action-generated sound level substantially exceeds (i.e., by 20-25 dB or more as experienced by the animal) ambient conditions existing prior to the project; (b) when the total sound level, including the combined existing ambient and action-generated sound, is very high (i.e., exceeds 90 dB, as experienced by the animal); or (c) when visual proximity of human activities occurs close to (i.e., within 150 ft [45 m] of) an active nest site. Sound levels of lesser amplitude or human presence at farther distances from active nests have the potential to disturb owls and murrelets, but have not been clearly shown to cause behaviors that meet the definition of harassment.

Sound Level Categories

The criteria for auditory and visual disturbance rely on a simple comparison of the sound level(s) generated by project sources (e.g., chainsaws, dozers, trucks, power tools, etc.) against ambient sound conditions prevalent in the project area prior to implementing the project. The sound level that a nesting owl or murrelet is likely to be subject to as a result of implementing a proposed action is compared to the sound levels that the species may be exposed to under existing, pre-project conditions.

Note that in this guidance "ambient" sound level is defined as sounds in existence prior to implementation of the project, and may include any and all human-generated sound sources when they constitute a long-term presence in the habitat being analyzed. Temporary, short-term sources, even if in effect during or immediately prior to the proposed action would generally not be considered ambient but would instead be considered as a separate effect, or considered in combination with the sources from the proposed action. "Natural ambient" includes sound sources native to the forested habitat being considered, such as wind in trees, bird calls, and distant water flow. Human-generated "white noise", such as from a distant highway, may also be considered natural

ambient if (a) distant to the area being considered, (b) relatively low in volume (i.e., <50 dB), and (c) relatively uniform in sound level over the area of consideration. Ambient sound should be estimated based on typical sources experienced on a daily or more frequent basis.

Natural Ambient: Refers to ambient sound levels (generally < 50 dB) typically experienced in owl or murrelet habitat not substantially influenced by human activities, and includes sounds native to forest habitats that would be encountered on a mild weather day. Human-generated "white noise", such as from a *distant* highway, may apply when < 50 dB and the sound is relatively uniform across the action area.

Very Low: Typically 50-60 dB, and generally limited to circumstances where human-generated sound would never include amplified or motorized sources. Includes sounds in forest habitats close to natural sources such as rapids along large streams, windy areas or wind tunnels, or quiet human activities associated with nature trails, walk-in picnic areas, and low-use trails.

Essentially the above two categories can be considered as occurring away from everything "developed".

Low: Typically 61-70 dB, and generally limited to sound from small power tools, light vehicular traffic at slow speeds on paved surfaces, non-gas-powered recreational activities, such as those associated with smaller park facilities. Includes most hand tools, small battery operated hand-held tools, administrative roads, and smaller facilities.

Moderate: Typically 71-80 dB, generally characterized by the presence of passenger vehicles and street-legal motorcycles, small trail cycles (not racing), small gas-powered engines (e.g., lawn mowers, *small* chain saws, portable generators, weed eaters), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar devices). Large campgrounds outside the visitor season would fall into this category.

High: Typically 81-90 dB, and would include medium- and large-sized construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Would include high speed highway traffic including RVs, large trucks and buses, large street legal and trail (not racing) motorcycles, power saws, large chainsaws, pneumatic drills and impact wrenches, large gasoline-powered tools, circular saws, and hammering. Watershed restoration activities would fall in this category, as long as back-up beepers in use by heavy equipment operators are muffled to 90 dB or less.

Also included are the large campgrounds between Memorial and Labor Day, and public roads (Newton B. Drury Parkway, Hwy 101, Hwy 199, and Lower Bald Hills Road (west of Gans Prairie).

Very High: Typically 91-100 dB, generally characterized by impacting devices,

jackhammers, racing or Enduro-type motorcycles, compression ("jake") brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include the largest diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included. This would include activities associated with logging (e.g., second-growth management), and could include heavy equipment normally associated with lower dB levels if back-up beepers are in this range.

Extreme: Typically 101-110 dB. Generally includes use of ground-level, unmuffled explosives, pile driving of large steel piles, low-level over flights or hovering of helicopters, and heavily amplified music. This may include some back-up beepers on heavy equipment that would otherwise be at a lower dB level.

Sound Levels Exceeding 110 dB: These sound levels are typified by sources such as jet engines and military over-flights, large sirens, open air (e.g., treetop) explosives, and double rotor logging helicopters. They are special situations requiring site- and situation-specific analysis, and are not covered by the guidelines in this document.

Derivation of Harassment Distances

As indicated earlier, available data suggest that harassment occurs when sound levels resulting from project-based sound sources exceed ambient conditions by relatively substantial levels, or when the sound sources combined exceed a high absolute threshold. Since sound attenuates as a function of the distance from the source, distances at which various sound sources exceed ambient conditions may be calculated. Table 1 reports the distances within which elevated, project-generated sound is reasonably expected to exceed ambient conditions to such a degree as to result in harassment of murrelets or owls.

Time of Day Adjustment for the Marbled Murrelet

The disturbance take threshold distances provided in Table 1 are based on a comparison of project generated sound levels with existing (ambient) sound levels, which themselves represent average daytime sound conditions. It's recognized, however, that ambient sound level often has a substantial time-of-day component, with nighttime, dawn and dusk ambient sound levels generally 5-10 dB lower than typical midday levels. It is also known that murrelet flights into nests to feed nestlings and for nest-tending exchanges are concentrated around dawn and dusk, during the period when ambient noise levels tend to be lower than average daytime levels.

For marbled murrelets, the harassment threshold distances provided in Table 1 apply to noise-generating activities occurring during the midday period. If proposed activities will occur within 2 hours of sunrise or sunset, and if the ambient sound environment during the dawn and dusk period can reasonably be expected to be quieter than the midday sound environment, then the estimated harassment distance threshold should be calculated based on an ambient level 10 dB lower (i.e., one row up in the table) compared

to the normal ambient rating in Table 1. Similar time-of-day considerations and adjustments are not required for the northern spotted owl.

Application of Harassment Distances to Project Conditions

The following methods may be used to estimate the approximate distance at which project generated sound exceeds ambient conditions to such an extent that northern spotted owls or marbled murrelets may be subject to harassment due to sound or visual disturbance.

Step 1: Assess the environment in the action area to determine the existing ambient sound level. Include any sound sources occurring in the action area, prior to and not part of the proposed action, that create ambient sound levels higher than the "natural" background. Based on this review, assign a sound level category to the ambient condition (equivalent to a row of Table 1).

Step 2: Review the proposed action to determine the types of equipment, tools, etc., anticipated to be used during the project. Based on the descriptions of sound level categories above, assign a sound level category to the action-generated sound sources (corresponding to the columns in Table 1). Action-generated sounds should include all sources necessary to complete the proposed action.

Step 3: The cell corresponding to the appropriate row and column for existing ambient sound and action-generated sound, respectively, provides the distance within which increased sound level may harass an owl or murrelet. The cell values are generally reported as a distance from the outer edge of the project footprint into occupied or presumed occupied suitable habitat.

Step 4: When significant topographic features occur within the sound environment, appropriate consideration may be given to their sound attenuating capabilities. However, understanding the effects of topography on sound attenuation, especially when the species involved typically nests at a substantial distance above the ground, may be problematic. That is, topography may substantially attenuate sound between the source and the receiver (i.e., owl or murrelet nest site) when that topographic barrier is sufficiently high to block line-of-sight transmission between the source and receiver. Topography or other barriers may provide little attenuation unless very close to the sound source or very high in elevation.

Step 5: Consider the potential for human activities to occur within 150 ft (45 m) of potential nest sites of owls or murrelets. In the park, to date visual disturbance guidelines have been applied only to roads and trails. This distance may be adjusted based on visual screening of a potential nest site by surrounding vegetation.

Table 1. Estimated harassment distance, in feet (m), due to elevated action-generated sound levels for proposed actions affecting the northern spotted owl and marbled murrelet, by sound level.

Existing (Ambient) Pre-Project Sound Level (dB)[1]	Anticipated Action-Generated Sound Level (dB)[1 2]			
	Moderate (71-80)	**High (81-90)**	**Very High (91-100)**	**Extreme (101-110)**
Natural Ambient (<=50) and Very Low (51-60)	165 (50)	500 (150)	1,320 (400)	1,320 (400)
Low (61- 70)	0 (0)	165 (50)	825 (250)	1,320 (400)
Moderate (71-80)	0 (0)	165 (50)	100 (330)	1,320 (400)
High (81-90)	0 (0)	165 (50)*	165 (50)	500 (150)

1 See text for full description of sound levels.
2 Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured or estimated at 50 ft (15.2 m) from the sound source.
* For standard noise-generating work-related activities in the three large campgrounds between Memorial and Labor Day, and along public roads (Newton B. Drury Parkway, Hwy 101, Hwy 199, and Lower Bald Hills Road) no additional harassment or noise disturbance buffer would apply.

Other Considerations

This guidance does not consider the direct effects of predation by corvids (ravens, crows and jays) and other predators as a result of human activities in murrelet and owl habitat. That is, while corvids may increase in number in murrelet and owl habitat in response to human activities, the resulting increased take due to predation (injury) is not addressed here. Distance estimates reported in this guidance reflect only sound attenuation and visual disturbance that may result in harassment. Predation is considered only in the sense that owl or murrelet harassment may increase the risk of predation due to flushing from the nest, and thus represents a "likelihood of injury."

Forest habitat conditions that affect the attenuation rate of sound (thus the level of sound detected by the owl or murrelet at its location) include dampening effects of forest vegetation, variability in natural ambient sound typically encountered under forest conditions, and the effect of elevated nest sites on sound attenuation. Departure from the tabled values in this guidance due to special forest conditions is generally inappropriate except under highly unusual circumstances. A factor *not* considered in the guidance is the effect of topography on sound attenuation. Steep slopes, ridges, and designed sound barriers may increase sound attenuation when they form complete barriers to the direct line of sound transmission between source and the location of the receiver (here, the actual location of the potentially harassed animal). In general, small ridges or walls not clearly blocking the sources from a highly elevated nest would provide little or no attenuation. When clearly supported by site-specific information regarding topography, action-generated sound may be reduced by one or two levels, when compared to existing ambient sound levels.

Activities producing sound levels greater than 110 dB (estimated at 15.2 m from the sources), such as open-air blasting, aircraft, or impact pile-driving, are not addressed in this guidance, and should be evaluated through a more detailed site-specific analysis.

Attachment 4

Mitigated Negative Declaration

DRAFT MITIGATED NEGATIVE DECLARATION

FOR

ORICK MILL BARN DEMOLITION AND PERMITTING

February 2017

Lead Agency:
County of Humboldt

Lead Agency Contact:
Michael E. Wheeler, Senior Planner
County of Humboldt, Planning and Building Department
3015 H Street, Eureka, California 95501
(707) 445-7245

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I. PROJECT SUMMARY

Date: February 2017

Project Title: Orick Mill Barn Demolition and Permitting

Lead Agency: County of Humboldt

Contact: Michael E. Wheeler, Senior Planner
County of Humboldt
3015 H Street
Eureka, California 95501
(707) 445-7245

Location: The project site, approximately 100.8 acres in size, is located at 122305 State Highway 101 and 545 Bald Hills Road in Orick, California, and comprises two parcels, Assessor's Parcel Numbers (APNs) 519-231-018 and 520-012-013. The project site is located approximately 1.2 miles north of the unincorporated community of Orick and is just outside the boundaries of Redwood National Park. Access to the site is located along Bald Hills Road, which runs along the southern boundary of the project site (see Figure 1).

Coastal Zone: No

Affected Parcel(s): Assessor's Parcel Number(s) 519-231-018 and 520-012-013

County of Humboldt General Plan Land Use Designation (Orick Community Plan):

APN 519-231-018: Agricultural Lands (AL); Agricultural Residential (AR); and Industrial, Resource Related (IR)

APN 520-012-013: Agricultural Lands (AL) and Industrial, Resource Related (IR)

County of Humboldt Zoning Designation:

APN 519-231-018: Agricultural General with Beach and Dune Areas and Design Review Combining Zones (AGB5[5]D); and Forestry Recreation with Beach and Dune Areas and Design Review Combining Zones (FRB5[20]D)

APN 520-012-013: Forestry Recreation with Beach and Dune Areas and Design Review Combining Zones (FR-D-B-5[20]); and Heavy Industrial with Design Review and No Further Subdivision Allowed Combining Zones (MHXD)

Anticipated Permits and Approvals:

1) Design Review Permit from the County of Humboldt Planning Department
2) Hazardous Materials Permit from the North Coast Unified Air Quality Management District (NCUAQMD)
3) Demolition Permit from the County of Humboldt Building Department

CEQA Requirement:
The proposed project is subject to the requirements of the California Environmental Quality Act (CEQA). The Lead Agency is the County of Humboldt. The purpose of this Initial Study (IS) is to provide a basis for determining whether to prepare an Environmental Impact Report (EIR) or a Negative Declaration. This IS is intended to satisfy the requirements of the CEQA (Public Resources Code, Div 13, Sec 21000-21177) and the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387).

CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts (CEQA Section 20180(c) (2) and State CEQA Guidelines Section 15070(b) (2)).

Section 15063(d) of the State CEQA Guidelines states that an IS shall contain the following information in brief form:

1) A description of the project including the project location
2) Identification of the environmental setting
3) Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to provide evidence to support the entries
4) Discussion of means to mitigate significant effects identified, if any
5) Examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls
6) The name of the person or persons who prepared and/or participated in the Initial Study

II. PROJECT DESCRIPTION

Save-the-Redwoods League (League) proposes to deconstruct the existing barn, approximately 5,560 square feet in size, and ancillary structure, approximately 1,525 square feet in size, both of which are centrally located on the former Orick Mill site (proposed project). The project site, approximately 100.8 acres in size, is located at 122305 State Highway 101 and 545 Bald Hills Road in Orick, California, and comprises two parcels, Assessor's Parcel Numbers (APNs) 519-231-018 and 520-012-013. The project site is located approximately 1.2 miles north of the unincorporated community of Orick and is just outside the boundaries of Redwood National Park. Access to the site is located along Bald Hills Road, which runs along the southern boundary of the project site (see Figure 1).

Under the proposed project, the existing barn and ancillary structure located on the project site will be deconstructed with associated materials stockpiled on-site for potential re-use on-site at a later date. The proposed location of the stockpiled materials is on the existing paved area, approximately 225 feet northeast of the existing barn (see Figure 2). Appropriate best management practices (BMPs) such as covering stored materials, revegetation of disturbed areas, and the use of physical barriers such as silt fencing, straw matting, and fiber rolls, will be used to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the materials storage site to nearby wetlands, streams, and sensitive habitats. Specific BMPs will be included in an Erosion Control Plan to be submitted and reviewed for adequacy by the Humboldt County Building Department and will be installed and inspected concurrently with deconstruction (see Mitigation Measure BIO-2).

A formal application to request Pacific Gas and Electric Company (PG&E) disconnect electrical service from the barn and remove overhead conduits and four existing power poles located north, west, and southwest of the barn and ancillary structure will be submitted prior to deconstruction of the existing barn and ancillary structure. Other existing structures, including the existing well house, tank, electrical house, fence, and berm will remain. Additionally, existing vegetation and wetlands will be left undisturbed.

No changes to the property's current General Plan land use or zoning designations are proposed under the project; however, under the County's General Plan Update (GPU), the General Plan land use designations for both parcels are proposed to be modified to Rural Residential, 40- to 160-acre minimum density (RA40-160) and Commercial Recreation (CR).

The project site was purchased from Green Diamond Resource Company in 2012, and is likely to transfer to National Park Service ownership in the future.

III. PROJECT SETTING AND LOCATION

The project site is situated north of the confluence of Prairie Creek and Redwood Creek, and is bounded by Highway 101 to the west, Prairie Creek to the northwest, Redwood National and State Park (RNSP) lands to the north and east, and Bald Hills Road to the south. The subject properties are located on the Orick 7.5 minute USGS quadrangle (1975) on portions of Section 34 Township 11N, Range 1E and Section 27 Township 11N, Range 1E, Humboldt Meridian, California. The project site is not located within the Coastal Zone; however, both parcels comprising the project site are located within the 100 Year Flood Zone and State Fire Responsibility Area. Resources and hazards were reviewed using the County's WebGIS portal (http://www.humboldtgov.org/1357/Web-GIS).

The project site is located in a narrow river valley and consists of a generally level paved area of approximately 20 acres in the southeastern portion of the site, wetland areas, the existing barn and ancillary structure, and a gravel berm just west of the paved area. The berm was constructed presumably for flood control and divides the property into two distinct areas. Two grazing fields are located further to the west, which flank Prairie Creek along the western boundary of the project site.

The project site has been significantly disturbed by past agricultural and industrial use, and has been grazed for over 50 years. The project site was formerly utilized as a lumber mill and the remaining mill foundations are located within the former mill footprint.

The topography of the project site is typical of Redwood Creek flood plains that are flat to very gently undulating with slopes being less than three percent. The site is situated in an elongated, north-south trending alluvial valley flanked by steep, forested hillslopes to the east and west. The valley bottom is very gently sloping to the south-southwest at a gradient of less than two percent. The valley bottom is mainly open pasture with riparian vegetation. Vegetation at the project site consists of native, non-native, mixed, and channel vegetation.

The potential for sensitive habitats and sensitive species have been identified on or immediately adjacent to the project site. The hillside immediately adjacent and to the west of the site contains old growth redwood stands which are potential habitat for marbled murrelet (*Brachyramphys marmoratus*) and northern spotted owl (*Strix occidentalis caurina*), both of which are federally listed sensitive species. Additionally, the project site contains approximately 68.5 acres which meet at least one of the three parameters for identifying jurisdictional wetlands. Of the 68.5 acres, approximately 23.5 acres meet at least two of the three parameters, including approximately 18.8 acres which meet all three parameters and are assumed to be jurisdictional wetlands (waters of the United States). Prairie Creek is located on the western portion of the project site, generally adjacent to State Highway 101, and approximately 400 feet west of the existing barn and ancillary structure. Prairie Creek and its eight major tributary streams support populations of Chinook salmon, coho salmon, steelhead, and coastal cutthroat trout.

Existing Land Uses

The project site is currently developed with the existing barn and ancillary structure proposed for dismantling, an access road, two wooden fences (one around a livestock holding area and one around a vegetable garden), a well house, an electrical house, tank, and berm. Additionally, the project site includes the foundations of the former Orick Mill structures and approximately 20 acres of asphalt over the southeast portion of the project site (see Figure 2). Only the existing 5,560 square foot barn and 1,525 square foot ancillary structure will be deconstructed under the proposed project; other existing improvements and infrastructure will remain under the project.

Part of the project site, including the existing barn, is currently under lease to a local resident as a dairy, ranching livestock shelter and feeding area, and livestock grazing. The adjacent ancillary structures are abandoned.

Surrounding Land Uses

Surrounding uses include State Highway (SH) 101 and a forested hillside with scattered single family residences to the west, Bald Hills Road immediately to the south, and Redwood National Park forest lands to the north and east. Prairie Creek is located on the western portion of the project site, next to Highway 101, and approximately 400 feet west of the existing barn and ancillary structure. Additionally, the existing barn and ancillary structure are located approximately 1,400 feet north of Redwood Creek.

IV. ENVIRONMENTAL EFFECTS

An environmental checklist follows this section, and addresses all potential adverse effects resulting from the proposed project. No significant adverse effects are expected from any of the proposed activities.

V. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a **"Potentially Significant Impact"** or "**Potentially Significant Unless Mitigation Incorporated**" as indicated by the checklists on the following pages.

	Aesthetics		Agriculture Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources	X	Geology and Soils
	Green House Gases		Hazards and Hazardous Materials	X	Hydrology and Water Quality
	Land Use and Planning		Mineral Resources	X	Noise
	Population and Housing		Public Services		Recreation
	Transportation		Utilities and Service Systems	X	Mandatory Findings of Significance

An explanation for all checklist responses is included, and all answers take into account the whole action involved and the following types of impacts: off-site and on-site; cumulative and project-level; indirect and direct; and construction and operational. The explanation of each issue identifies (a) the threshold of significance, if any, used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significance. All mitigation measures are provided in the Mitigation Monitoring and Reporting Program (see Appendix A).

In the checklist the following definitions are used:

"**Potentially Significant Impact**" means there is substantial evidence that an effect may be significant.

"**Potentially Significant Unless Mitigation Incorporated**" means the incorporation of one or more mitigation measures can reduce the effect from potentially significant to a less than significant level.

"**Less Than Significant Impact**" means that the effect is less than significant and no mitigation is necessary to reduce the impact to a lesser level.

"**No Impact**" means that the effect does not apply to the proposed project, or clearly will not impact nor be impacted by the proposed project.

DETERMINATION: (To be completed by the Lead Agency on the basis of this initial evaluation)

☐	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Michael E. Wheeler
Signature

7-21-17
Date

Senior Planner
Title

I. **AESTHETICS.** Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Thresholds of Significance: The project would have a significant effect on aesthetic resources if it will have a substantial adverse effect on a scenic vista; substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway; substantially degrade the existing visual character or quality of the site and its surroundings; create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

DISCUSSION

The project involves the deconstruction of the existing barn, approximately 5,560 square feet in size, and ancillary structure, approximately 1,525 square feet in size, both of which are centrally located on the former Orick Mill site. The project site is located approximately 1.2 miles north of the unincorporated community of Orick and is located in a narrow river valley. The project site is situated north of the confluence of Prairie Creek and Redwood Creek, and is bounded by Highway 101 to the west, Prairie Creek to the northwest, Redwood National and State Park (RNSP) lands to the north and east, and Bald Hills Road to the south. The existing barn and ancillary structure are located approximately 510 feet east of Highway 101 and approximately 1,015 feet north of Bald Hills Road. The existing barn and ancillary structure are visible from Highway 101, which is located at a higher elevation than the project site, but is only minimally visible from Bald Hills Road, due to the thick vegetation located along Bald Hills Road.

I.a-b) While Highway 101 is an eligible state scenic highway, it has not been officially designated (Caltrans, 2011). The proposed project is not located within a city- or county-mapped or designated scenic vista, within a scenic resources area, or along a state scenic highway. Furthermore, the existing barn and ancillary structure are not considered historical structures. As noted in A *Orick Barn Ancillary Structures Historical Resources Assessment Report* (Historical Resources Assessment Report) (see Appendix B), prepared by Gerald T. Takano on November 25, 2105, the existing barn and ancillary structures are not included in the list of the National Register, State or County historical buildings, structures or cultural landscapes, and are not eligible for the local and state landmark status and National Register in lieu of the primary significance of the demolished original barn. As such, no impact would occur.

I.c) The proposed project would deconstruct the existing barn and ancillary structure, which are visible from Highway 101, though only minimally visible from Bald Hills Road, due to the thick vegetation located along Bald Hills Road. The overall character of the view from State Highway 101 will continue to be of a primarily agricultural and pastoral foreground with a background consisting of a densely forested hillside; as such, there would be a less than significant impact.

I.d) The deconstruction of the existing barn and ancillary structure will be limited to daytime hours. No development is proposed under the project; as such, no new lighting will be introduced under the project,

nor will any aspect of the project involve materials that would produce glare. Therefore, the project would have no impact on day or nighttime views due to light and glare.

MITIGATION MEASURES
No mitigation required.

FINDINGS
The proposed project would have a **Less Than Significant Impact** on Aesthetic Resources.

II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☒

Thresholds of Significance: Agriculture and Forestry Resources would be significantly affected by the proposed project if the project were to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (hereafter "farmland"), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses. Significant impacts to Agricultural and Forestry Resources would also occur if the project conflicted with existing zoning for agricultural use or a Williamson Act contract; conflicts with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by PRC section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)); Result in the loss of forest land or conversion of forest land to non-forest use; or involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use.

DISCUSSION

As shown in Figures 1 and 2, a portion of the project site has a land use designation of Agricultural Lands (AL) and Agricultural Residential (AR) under the Orick Community Plan (Volume II of the Humboldt County General Plan). Additionally, a portion of the project site is currently zoned as Agricultural General with Beach and Dune Areas and Design Review Combining Zones (AGB5[5]D) under the Humboldt County Zoning Code. While no changes to the property's current General Plan land use or zoning designations are proposed under the project, the General Plan land use designations for both parcels are proposed to be modified to Rural Residential, 40- to 160-acre minimum density (RA40-160) and Commercial Recreation (CR) under the County's General Plan Update (GPU).

The project site contains two grazing fields, which flank Prairie Creek along the western boundary of the site. The project site has been significantly disturbed from past agricultural use, and has been grazed for over 50 years. Part of the project site, including the existing barn, is currently under lease to a local resident as a dairy, ranching livestock shelter and feeding area, and livestock grazing. The adjacent ancillary structures are abandoned.

The project site was formerly utilized as a lumber mill and the remaining mill foundations are located within the former mill footprint.

II.a) Since no Important Farmland data is currently available for Humboldt County through the State of California Department of Conservation's Farmland Mapping and Monitoring Program, the County of Humboldt's WebGIS (County WebGIS) online portal was utilized to determine if the project site contains Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). County WebGIS indicates that a portion of the project site is classified as "Prime Farmland if Irrigated", and indicates that the western portion of the northern parcel (APN 519-231-018) contains "Prime AG Soil – Fe2" (Ferndale silt loam), with the southernmost portion of the northern parcel, in addition to a portion of the western half of the southern parcel (APN 520-012-013) containing soil classified as "Kr5 (Kerr Silt Loam)."

The proposed project would deconstruct the existing barn, which is utilized as a ranching livestock shelter and feeding area, in addition to the ancillary structure, which is currently abandoned. However, other existing structures located on the project site will remain and vegetation and wetland areas will be undisturbed.

While the project does not propose any changes to the property's current land use or zoning designations, under the County's General Plan Update (GPU), the General Plan land use designations for both parcels are proposed to be modified to Rural Residential, 40- to 160-acre minimum density (RA40-160) and Commercial Recreation (CR).

The proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use. No impact would occur.

II.b) The project would not conflict with existing zoning for agricultural use or a Williamson Act contract. While portions of the project site are zoned for agricultural use, no changes to the project site's current zoning designations are proposed under the project. Additionally, there are no Williamson Act contracts on either of the two parcels comprising the project site or any surrounding parcels. As such, no impact would occur.

II.c) The project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. While a portion of the project site is zoned as Forestry Recreation with Beach and Dune Areas and Design Review Combining Zones (FRB5[20]D) under the Humboldt County Zoning Code, the project does not propose any changes to the project site's current zoning designations. As such, no impact would occur.

II.d) The proposed project would not result in the loss of forest land or the conversion of forest land to non-forest use. As noted above, while a portion of the project site is zoned as Forestry Recreation with Beach and Dune Areas and Design Review Combining Zones (FRB5[20]D) under the Humboldt County Zoning Code, the project does not propose any changes to the project site's current zoning designations. Furthermore, under the project, only the existing barn, ancillary structure, overhead conduits, and four power poles will be deconstructed or removed. Other existing structures located on the project site will remain and vegetation and wetland areas will be undisturbed. As such, no impact would occur.

II.e) The project does not involve changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use. No impact would occur.

MITIGATION MEASURES: No mitigation required.

FINDINGS: The proposed project would have **No Impact** on Agricultural and Forestry Resources.

III. **AIR QUALITY.** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Thresholds of Significance: The project would have a significant effect on Air Quality if it conflicts with or obstructs implementation of applicable air quality plans; violates any air quality standard or contribute substantially to an existing or projected air quality violation; results in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors); exposes sensitive receptors to substantial pollutant concentrations; or creates objectionable odors affecting a substantial number of people.

DISCUSSION

The project site is located within the North Coast Air Basin (NCAB) and is subject to North Coast Unified Air Quality Management District (NCUAQMD) requirements. The NCUAQMD is responsible for monitoring and enforcing local, state, and federal air quality standards in the County of Humboldt. Air quality standards are set for emissions that may include, but are not limited to, visible emission, particulate matter, and fugitive dust. The entire NCAB is currently designated as "non-attainment," or in excess of the State 24-hour allowable limits for breathable particulate matter of 10 microns or less (PM_{10}), and as "attainment," or within allowable limits, with respect to the balance of the criteria pollutants (North Coast Unified Air Quality Management District, 2013). NCUAQMD is listed as "attainment" or "unclassified" for all the federal and state ambient air quality standards, except for the 24-hour particulate (PM_{10}) standard.

Because the NCAB is in "non-attainment" for PM_{10}, NCUAQMD adopted a draft PM_{10} Attainment Plan (the Plan) in 1995, which identified cost effective control measures that can be implemented to reduce ambient PM_{10} levels to within California standards. More information on California standards and the draft PM_{10} Attainment Plan can be found on NCUAQMD's website (http://www.ncuaqmd.org/index.php).

During deconstruction of the existing barn and ancillary structure, the contractor is expected to use heavy construction machinery and large trucks to demolish the buildings and to gather and transport the materials to the proposed stockpile location on the existing paved area, approximately 225 feet northeast of the existing barn (see Figure 2). Machinery will be maintained in good condition through the duration of the project.

III.a-c) As noted above, the County is in "non-attainment" for PM_{10}. Therefore, any use or activity that generates unnecessary airborne particulate matter may be of concern to NCUAQMD and has the potential to create significant project-specific and cumulative effects to air quality. While the proposed project would generate temporary emissions, the project will not include any source of visible emissions, including intentional fire/burning or manufacturing. The project will not obstruct implementation of California standards or the draft PM_{10} Attainment Plan.

NCUAQMD has advised that generally an activity that individually complies with the state and local standards for air quality emissions will not result in a cumulatively considerable net increase in the countywide PM_{10} air quality violation. With the incorporation of the mitigation measure listed below, which requires compliance with NCUAQMD standards and regulations, the project will not result in adverse air quality impacts or result in a cumulatively considerable net increase in the PM_{10} non-attainment levels in Humboldt County.

Mitigation Measure AIR-1 will require the contractor to keep construction equipment in good working order such that exhaust emissions are minimized and fugitive dust is controlled. With mitigation incorporated, the project will not create objectionable odors affecting a substantial number of people over a long term. A less than significant impact would occur.

III.d) The proposed project involves the deconstruction of the existing barn and ancillary structure, which are centrally located on the former Orick Mill site. The project is not anticipated to generate substantial pollutant concentrations.

Sensitive receptors, as defined by NCUAQMD (2014), include but are not limited to:

- Preschools and daycare centers
- K-12 Schools
- Senior retirement housing
- Hospitals
- Class I Areas (any area having air quality of air quality values requiring special protection, and which has been designated Class I by a federal, State, or local authority) – includes all wilderness areas and national parks

No daycare centers or preschools, schools, senior retirement housing, or hospitals are located in the vicinity of the proposed project; however, the project site is located just outside of the boundaries of Redwood National Park and scattered residences are located in the vicinity of the project site. The existing barn and ancillary structure are located approximately 580 feet west and 1,780 feet south of Redwood National Park lands, and approximately 1,130 feet east of the nearest residence.

Temporary exhaust from construction equipment will be minimal and, for short periods of time, may slightly impact visitors to Redwood National Park and residents living near the project site. Mitigation Measure AIR-1 will require the contractor to keep construction equipment in good working order such that exhaust emissions are minimized and potential fugitive dust is controlled. Suppression of fugitive dust will be conducted pursuant to North Coast Unified Air Quality Management District Air Quality Regulation 1 – Air Quality Control Rules, Rule 104, Section 4.0 – Fugitive Dust Emissions. With mitigation incorporated, a less than significant impact would occur.

III.e) The project would not create objectionable odors affecting a substantial number of people. Temporary objectionable odors, typical of construction sites and equipment use, may be generated during

the construction phase. However, given the distances to the nearest sensitive receptors, it is unlikely that they will cause any substantial impact. A less than significant impact would occur.

MITIGATION MEASURES

AIR-1: At all times, the project shall be constructed in compliance with Air Quality Regulation 1– Air Quality Control Rules, Rule 104, Section 4.0 – Fugitive Dust Emissions. The project contractor will be required to do the following:

- Cover open-bodied trucks when used for transporting materials likely to give rise to airborne dust.
- Apply water or suitable chemicals on exposed earth surfaces, materials stockpiles, and other surfaces which can give rise to airborne dust.
- Promptly remove earth or other track-out material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment. Maintain construction equipment in good condition to minimize excessive exhaust emissions.

FINDINGS

The proposed project will have a **Less Than Significant Impact with Mitigation Incoroporation** on Air Quality.

IV. BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Thresholds of Significance: The project would have a significant impact to Biological Resources if it were to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

DISCUSSION

Biological resources in the project area are detailed in the project description. The project site is located in a narrow river valley and consists of a generally level paved area of approximately 20 acres in the southeastern portion of the site. The project site is not located within the Coastal Zone. The topography of the project site is typical of Redwood Creek flood plains that are flat to very gently undulating with slopes

being less than three percent. The site is situated in an elongated, north-south trending alluvial valley flanked by steep, forested hillslopes to the east and west. The valley bottom is very gently sloping to the south-southwest at a gradient of less than about one to two percent. The valley bottom is mainly open pasture with riparian vegetation. Vegetation at the project site consists of native, non-native, mixed, and channel vegetation.

Prairie Creek is located on the western portion of the project site, next to Highway 101, and approximately 400 feet west of the existing barn and ancillary structure. Additionally, the existing barn and ancillary structure are located approximately 1,400 feet north of Redwood Creek. No trees or other major vegetation likely to provide nesting habitat for raptors, migratory birds or other sensitive avian species are expected to be removed as a result of the proposed project, however, substantial trees and shrubs are located immediately to the east of the barn. Heavy machinery used during breeding season has the potential to interfere with nesting or fledging if avian nests are present; however, pre-construction nesting surveys will be conducted to prevent such interference with active nests (see Mitigation Measure BIO-1).

The potential for sensitive habitats and sensitive species have been identified on or immediately adjacent to the project site. The hillside immediately adjacent and to the west of the site contains old growth redwood stands which are potential habitat for marbled murrelet (*Brachyramphys marmoratus*) (MAMU) and northern spotted owl (*Strix occidentalis caurina*) (NSO), both of which are federally listed sensitive species. The northeast old growth redwood grove is located approximately 500 feet from the eastern boundary of the project site and approximately 1,500 feet northeast of the existing barn; the southeast old growth redwood grove is located immediately adjacent to the southeastern boundary of the project site and approximately 900 feet southeast of the barn.

Additionally, the project site contains approximately 68.5 acres which meet at least one of the three parameters for identifying jurisdictional wetlands. Of the 68.5 acres, approximately 23.5 acres meet at least two of the three parameters, including approximately 18.8 acres which meet all three parameters and are assumed to be jurisdictional wetlands (waters of the United States). Prairie Creek is located on the western portion of the project site, generally adjacent to State Highway 101, and approximately 400 feet west of the existing barn and ancillary structure. Prairie Creek and its eight major tributary streams support populations of Chinook salmon, coho salmon, steelhead, and coastal cutthroat trout.

On February 19, 2016, Jennifer Olson and Leila Harris, biologists with the California Department of Fish and Wildlife (CDFW), and Aida Parkinson, a biologist with the National Park Service, examined the barn and ancillary structure to determine whether they provide habitat for bats (particularly the Townsend's big-eared bat [*Corynorhinus townsendii*], which is listed as a Species of Special Concern in California) or sensitive avian species which may be impacted by the demolition. In e-mail correspondence received from Ms. Olson on August 19, 2016, Ms. Olson reported that no evidence of bat use (including guano or bats) was detected. Additionally, based on the construction of the barn and the lack of evidence of bat use, there does not appear to be much potential habitat for bats onsite.

Some bird nests were observed on and in the structure, likely barn swallows, black phoebes, and American robins. Per Ms. Olson's correspondence, nesting season dates are generally March 15 to August 15. In accordance with the recommendations provided in Ms. Olson's correspondence, if deconstruction of the existing barn and ancillary structure is to be carried out within the nesting season of bird species protected under the Migratory Bird Treaty Act (MBTA) or other regulations, a pre-construction nesting survey shall be conducted prior to deconstruction to ensure no active nests are impacted. If active nests are identified,

deconstruction shall be halted until the end of the nesting season or until a qualified professional determines that the nest is no longer in use (see Mitigation Measure BIO-1).

USFWS and NPS Guidance Documents

The July 31, 2006 Memorandum (*Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California*) transmits guidance prepared by the Arcata Fish and Wildlife Office (AFWO) of the United States Fish and Wildlife Service (USFWS) on July 26, 2006, which applies to activities which have the potential to harass the NSO or MAMU as a result of substantially elevated sound levels or human presence near nests during the breeding season.

USFWS describes behaviors of these two forest species that reasonably characterize when disturbance effects rise to the level of take (i.e., harass), as defined in the implementing regulations of the Endangered Species Act of 1973, as amended. These behaviors include:

- Flushing an adult or juvenile from an active nest during the reproductive period.
- Precluding adult feeding of the young for a daily feeding cycle.
- Precluding feeding attempts of the young during part of multiple feeding cycles.

Disturbance may reach the level of take when at least one of the following conditions is met:

- Project-generated sound exceeds ambient nesting conditions by 20-25 decibels (dB).
- Project-generated sound, when added to existing ambient conditions, exceeds 90 dB.
- Human activities occur within a visual line-of-sight distance of 40 m or less from a nest.

The following table is from the *Redwood National and State Parks Auditory Disturbance Guidelines for Projects in Suitable Spotted Owl and Marbled Murrelet Nesting Habitat During the Breeding Season* dated May 2007, adapted from the AFWO Guidance, which summarizes the estimated harassment distance (in feet and meters) due to elevated action-generated sound levels for proposed actions affecting the northern spotted owl and marbled murrelet, by sound level. Table 2 from the AFWO Guidance (below) provides common sound levels for equipment and activities.

Estimated harassment distance, in feet (m), due to elevated action-generated sound levels for proposed actions affecting the northern spotted owl and marbled murrelet, by sound level

Existing (Ambient) Pre-Project Sound Level (dB)	**Anticipated Action-Generated Sound Level (dB)[1] [2]**			
	Moderate (71-80)	**High (81-90)**	**Very High (91-100)**	**Extreme (101-110)**
Natural Ambient (<=50)[1]	165 (50)	500 (150)	1,320 (400)	1,320 (400)
Very Low (51-60)	0 (0)	330 (100)	825 (250)	1,320 (400)
Low (61- 70)	0 (0)	165 (50)	825 (250)	1,320 (400)
Moderate (71-80)	0 (0)	165 (50)	100 (330)	1,320 (400)
High (81-90)	0 (0)	165 (50)*	165 (50)	500 (150)

[1] See text for full description of sound levels.

[2] Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured or estimated at 50 ft (15.2 m) from the sound source.

* For standard noise-generating work-related activities in the three large campgrounds between Memorial and Labor Day, and along public roads (Newton B. Drury Parkway, Hwy 101, Hwy 199, and Lower Bald Hills Road) no additional harassment or noise disturbance buffer would apply.

Orick Mill Site Construction Noise Constraints Sensitive Species Protection Technical Memorandum

A *Orick Mill Site Construction Noise Constraints Sensitive Species Protection Technical Memorandum* (Noise Constraints Technical Memorandum) (see Appendix C), prepared by LACO Associates on July 15, 2016, includes recommended time of year, time of day, and location restrictions intended to avoid disturbance of sensitive species, based on guidance from the United States Fish and Wildlife Service (USFWS) and National Park Service (NPS). As noted in the Noise Constraints Technical Memorandum, restrictions for MAMU and NSO take three primary forms: avoidance of noise impacts, avoidance of visual impacts, and avoidance of increased predation from corvids (MAMU only). Visual and noise impact prevention measures apply only during the nesting season from February 1 (start of NSO) through September 15 (end of MAMU). Measures to discourage increased corvid activities must be followed year-round to be effective. The proposed project will be in conformance with all recommendations included in the Noise Constraints Technical Memorandum, in accordance with Mitigation Measure BIO-1.

Table 1, below, provides the specific nesting and breeding seasons for the NSO, raptor/migratory birds, barn nesting birds, and the MAMU.

Table 1: Nesting and Breeding Seasons

Protected Species	Breeding Season Starts	Breeding Season Ends	Typical Constraints
Northern Spotted Owl	February 1	July 9	Construction and operational noise restrictions.
Raptor/Migratory Birds	March 1	August 15	Pre-construction nest surveys prior to tree or major brush removal. Construction setbacks from active nests.
Barn Nesting Birds (per CDFW)	March 15	August 15	Pre-construction nest surveys prior to barn and ancillary structure deconstruction.
Marbled Murrelet	March 24	September 15	Construction and operational noise restrictions.

As noted in the Noise Constraints Technical Memorandum, restrictions for MAMU and NSO take three primary forms: avoidance of noise impacts, avoidance of visual impacts, and avoidance of increased predation from corvids (MAMU only). Visual and noise impact prevention measures apply only during the nesting season from February 1 (start of NSO) through September 15 (end of MAMU). Measures to discourage increased corvid activities must be followed year-round to be effective.

During the nesting season, MAMU are most active in the vicinity of their nests in the two hours after sunrise and the two hours before sunset. For that reason, and to account for the typically reduced nighttime ambient noise and activity, mid-day construction, and operational restrictions are modestly less strict in mid-day when MAMU nesting activity is lowest.

Noise Impact Avoidance

The USFWS and NPS guidance documents identify a number of variables which affect the potential for construction or operational noise to interfere with nesting behavior including time of day, distance from noise source to habitat, background (ambient) noise intensity, and project noise intensity. The most

important variable is the pre-project ambient noise environment. The guidance documents provided by USFWS and NPS indicate MAMU and NSO can inhabit and acclimate to areas with considerable noise intensity, such as tree stands adjacent to busy highways. Birds acclimated to ambient noise are less likely to react to additional noise sources in a similar range.

The two old growth redwood habitat areas (North and South) located on the hillside to the east of the subject site have the potential to be affected by on-site noise emissions. The southerly area is near Bald Hills Road, which carries considerable commuter, tourist, and logging (truck) traffic. In 2012, LACO Associates prepared a Noise Study for a proposed project on the subject site. That study indicates Bald Hills Road regularly generates a noise intensity of approximately 70dB. The southerly habitat area is close enough to Bald Hills Road that resident birds may be expected to be acclimated to noise in the 51 dB to 70 dB (Very Low to Low) range. The USFWS and NPS guidance documents indicate that MAMU and NSO in the southerly habitat area are less likely to be affected by project related noise sources than those in the northerly habitat area which are exposed to much more attenuated noise from Bald Hills Road and State Highway 101 in the range of 40 to 50 dB (Natural Ambient).

The USFWS and NPS guidance documents recommend setbacks from habitat areas based on the intensity of the noise to be generated and the intensity existing noise (Appendix 3, Table 1). Maximum noise intensity in each location is reduced by 10dB at night and within two hours of sunrise and sunset to account for lower typical ambient noise intensity and the greater nesting activity in those times. LACO Associates has applied that guidance to the subject site and recommends noise generation for demolition, construction, and operations follow the guidelines provided in Table 2 of the Noise Constraints Technical Memorandum during the NSO and MAMU nesting seasons (see Appendix C).

Figure N1.1 (Draft Construction Noise Setbacks and Buffers) in the Noise Constraints Technical Memorandum illustrates the location of the proposed noise buffer zones. The existing barn and ancillary structure are located with the 90 decibel (dB) maximum zone. As noted in the corresponding table, likely permitted mid-day activities within this buffer zone may include medium to large construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, and moderate to large diesel engines. Additionally, large gasoline powered tools, power saws, large chainsaws, pneumatic drills and impact wrenches, circular saws, and hammering may also be permitted during mid-day hours. Similar equipment and tools may be utilized under the project.

Most construction activities generate noise up to 90 dB. During the nesting season (mid-day), such activities should be set back at least 165 feet from the southerly habitat area and at least 500 feet from the northerly habitat area. Where demolition or construction activity must take place within those setbacks, such actions should be scheduled to take place outside of the NSO and MAMU nesting seasons. Special consultation with USFWS, NPS, CDFW and others is required if project related noise is expected to exceed the identified limits.

IV.a-c) As noted above, the potential for sensitive habitats and sensitive species have been identified on or immediately adjacent to the project site; however, the proposed project would not result in a substantial adverse effect, either directly or through habitat modifications, on any candidate, sensitive, or special status species, on any riparian habitat or other sensitive natural communities, or on any federally protected wetlands.

The Noise Constraints Technical Memorandum, prepared by LACO Associates on July 15, 2016, includes recommended time of year, time of day, and location restrictions intended to avoid disturbance of

sensitive species, based on guidance from the United States Fish and Wildlife Service (USFWS) and National Park Service (NPS), discussed above. Since the barn and ancillary structure will be deconstructed, instead of simply demolished, lower noise impacts are anticipated. Per Mitigation Measure BIO-1 below, project-generated auditory and visual impacts will be restricted with appropriate setback distances to avoid disturbance take of the northern spotted owl and marbled murrelet. To further reduce any potential impacts to the federally-listed species, the deconstruction of the barn and ancillary structure could occur outside of the combined breeding seasons of February 1 to September 15. The proposed project will be in conformance with all recommendations included in the Noise Constraints Technical Memorandum, in accordance with Mitigation Measure BIO-1.

Due to the location of the barn on a slightly raised portion of the site primarily surrounded by gravel driveways and bare earth compacted by cattle and related activity, no identified wetlands or sensitive vegetation located on the project site will be impacted or removed during the project. Additionally, no impacts to Prairie Creek, located on the western portion of the project site, approximately 400 feet west of the existing barn and ancillary structure, and Redwood Creek, located approximately 1,400 feet south of the existing barn and ancillary structure, are anticipated under the project.

The anticipated contractor access and path of travel is provided in Figure 2. The existing entrance to the site off Bald Hills Road will be utilized, and the path of travel will be limited to the existing paved area and internal gravel driveway leading to the existing barn and ancillary structure. The materials from the deconstructed barn and ancillary structure will be stockpiled approximately 225 feet northeast of the existing barn on the existing paved area. Appropriate BMPs will be installed and maintained in accordance with Mitigation Measure BIO-2 to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the material storage site to nearby wetlands, streams, and sensitive habitats, and construction equipment will be properly maintained to further reduce any potential impacts. As such, with the incorporation of Mitigation Measures BIO-1 and BIO-2, the project would have a less than significant impact.

IV.d) Since no new development is proposed under the project, there are no elements of the project that would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. As discussed, the project will be in conformance with all recommendations included in the Noise Constraints Technical Memorandum and no wetlands or vegetation located on the project site will be impacted or removed under the project. Furthermore, appropriate BMPs will be installed and maintained in accordance with Mitigation Measure BIO-2 to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the material storage site to nearby wetlands, streams, and sensitive habitats, and construction equipment will be properly maintained to further reduce any potential impacts. As such, with the incorporation of Mitigation Measure BIO-2, the project would have a less than significant impact.

IV.e) The proposed project would not conflict with any local policies or ordinances protecting biological resources. Since the project site is located within an unincorporated area of Humboldt County, the project site is under the jurisdiction of the County of Humboldt General Plan (County General Plan). The current County General Plan establishes Natural Resources Protection Policies and Standards that must be following during the planning of a new development or operation. Specifically, Section 3.30(B)(6) establishes a 250-foot wetland buffer within which no land use or development shall be permitted if it degrades the wetland or detracts from the natural resource value.

As previously discussed, no new development is proposed under the project and no wetlands or vegetation located on the project site will be impacted or removed under the project. Furthermore, appropriate BMPs will be installed and maintained in accordance with Mitigation Measure BIO-2 to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the material storage site to nearby wetlands, streams, and sensitive habitats, and construction equipment will be properly maintained to reduce any potential impacts. As such, with the incorporation of Mitigation Measure BIO-2, the project would have a less than significant impact.

IV.f) There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other local, regional, or state habitat conservation plans that cover the project site. Therefore, no impact will occur as a result of the proposed project.

MITIGATION MEASURES

BIO-1: The County of Humboldt will adopt conditions of approval for the proposed demolition to require compliance with the recommendations of the *Orick Mill Site Construction Noise Constraints Sensitive Species Protection Technical Memorandum* (Noise Constraints Technical Memorandum), prepared by LACO Associates on July 15, 2016, including the following:

- Prior to removal of trees or major vegetation during the raptor and migratory bird nesting season of March 1 to August 15, a pre-construction nesting survey shall be conducted by a qualified professional. If active nests are identified, affected trees and brush shall be retained until the end of nesting season or until a qualified professional determines that the nest is no longer in use. No heavy construction machinery shall be operated within fifty feet (50') of an active nest.
- If demolition work is to be carried out within the nesting season of March 15 to August 15, as identified by the California Department of Fish and Wildlife (CDFW), a pre-construction nesting survey shall be conducted by a qualified professional to determine if any active nests are present in or on the existing barn and ancillary structure. If active nests are identified, demolition work shall be halted until the end of the nesting season or until a qualified professional determines that the nest is no longer in use.
- During the combined nesting seasons of NSO and MAMU, construction noise shall be restricted as shown on Figure N1.1 of the Noise Constraints Technical Memorandum. In the immediate vicinity of the barn, no construction or demolition noise may exceed 90 dB during the mid-day period within the nesting season. In the event that the presence of Northern Spotted Owls are excluded from the adjacent old-growth redwood stands to the satisfaction of the USFWS, CDFW and NPS, such noise restrictions shall only apply within the MAMU nesting season.
- All contracts related to the proposed project shall include the following language (or the equivalent) with sufficient monitoring and incentives to ensure compliance:

> *"The contractor shall keep food contained or attended at all times. Unattended food may attract ravens, crows, jays, bears, mountain lions, and other wildlife. The contractor will not leave the kitchen/food booth/food preparation area unattended when food of any type is outside of animal-proof containers. Note that coolers are not animal-proof when left unattended. "Food" includes spices and condiments as well as raw uncooked food. The contractor shall clean up after meals are served and at the end of each day, or if the kitchen will not be attended after each meal, the contractor shall store all food including spices and condiments in animal-proof containers. The contractor will deposit food scraps and trash in animal-proof trash cans or remove them from the site and park."*

BIO-2: The applicant will submit an Erosion and Drainage Control Plan with the application for a demolition permit. The Erosion and Drainage Control Plan will identify the type and location of Best Management

Practices (BMPs) to be used to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the materials storage site to nearby wetlands, streams and sensitive habitats. Typical BMPs may include covering stored materials, revegetation of disturbed areas and the use of physical barriers such as silt fencing, straw matting and fiber rolls. BMPs will be reviewed for adequacy by the Humboldt County Building Department and will be installed and inspected concurrently with demolition.

FINDINGS

The proposed project will have a **Less Than Significant Impact with Mitigation Incorporation** on Biological Resources.

V. **CULTURAL RESOURCES.** Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
e) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code §21074?	☐	☒	☐	☐

Thresholds of Significance: The project would have a significant effect on Cultural Resources if it would cause a substantial adverse change in the significance of a historical resource as defined in '15064.5; cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5; directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or disturb any human remains, including those interred outside of formal cemeteries.

DISCUSSION:

On August 18, 2016, the Lead Agency's consultant delivered a Summary Search Request to the Northwest Information Center (NWIC) to evaluate the potential to encounter archaeological or historic resources during the operation of the proposed project. A Summary Search Results letter from NWIC was received by the Lead Agency's consultant on August 29, 2016 (see Appendix D). As noted in NWIC's letter, two prior studies, Study #5039 and Study #44717, conducted in 1982 and 2010, respectively, covered approximately 25 percent of the proposed project area and did not identify any cultural resources. NWIC's letter also noted that the proposed project area has the possibility of containing unrecorded archaeological sites and recommends a study be performed prior to commencement of project activities. Additionally, NWIC's letter recommends the lead agency contact the local Native American tribes regarding traditional, cultural, and religious heritage values. Furthermore, two USGS quadrangle maps for the Orick area depict 10 to 12 buildings or structures in the proposed project area, which may be associated with the Orleans Mill Site. Since the Office of Historic Preservation has determined that any building or structure 45 years or older may be of historical value, if these, or similarly aged buildings, are present, NWIC recommends that prior to commencement of project activities, a qualified professional familiar with the architecture and history of Humboldt County conduct a formal CEQA evaluation.

Additionally, the Lead Agency's consultant delivered a CEQA Tribal Consultant List (AB 52) request to the Native American Heritage Commission (NAHC), dated August 18, 2016, pursuant to Assembly Bill 52, to request a list of Native American tribes that should be consulted with during the preliminary planning stage of the project. A response from the NAHC was received on September 1, 2016. On November 3, 2016, the Lead Agency submitted tribal consultation requests to the Tribal Historic Preservation Officers (THPOs) and contacts for the five tribes included on the NAHC list to identify any Tribal cultural resources. The NAHC's response letter with Native American Contact List and response letters received from the THPOs are provided in Appendix D.

A *Orick Barn Ancillary Structures Historical Resources Assessment Report* (Historical Resources Assessment Report) (see Appendix C) was prepared by Gerald T. Takano on November 25, 2015, to determine if the barn and ancillary structures (including the ancillary structure to be deconstructed and the existing tank to remain) are of historical, architectural, and cultural significance as a local, State, or federal resource. As noted in the Historic Resources Assessment Report, the interpretation and findings to determine significance of the existing barn and ancillary structures were based on existing records, written resources of the region, photographs, and documents provided by the League.

The existing barn was built in the late 1940s, and was constructed to replace the original barn, which was removed after the new barn was constructed; as such, the new barn is not located on the footprint of the original barn. The existing barn and ancillary structures are not included in the list of the National Register, State or County historical buildings, structures or cultural landscapes, and are not eligible for the local and state landmark status and National Register in lieu of the primary significance of the demolished original barn. It was noted in an interview with Ron Barlow that one small section of the original barn was retained to be used as a storage shed. No salvaged materials were used in the construction of the new barn and several modifications have since been made to the existing barn, including addition of a large door in 1961/62 to allow for storage of a forklift inside the barn, and enlarging the feeding stancion and adding pen walls for housing a bull inside the barn during the cold/wet season. The ancillary structures are the only surviving structures from the original Orick Barn complex; all other buildings and structures were previously demolished.

As noted under Section G, Conclusion, on page 41 of the report:

> *"The Orick Barn ancillary structures are* ***not eligible*** *for the local and state landmark status and national Register in lieu of the primary significance of the demolished overall Orick Barn."*

While the barn and ancillary structure are not eligible for listing on state, local or national registers of historic resources, the structures provide a context for the historic use of the land for agricultural use and dairying and later as the site of a lumber mill. Both uses have been traditionally important to the local economy and culture of the town of Orick. Mitigation Measure CULT-1 requires salvage and re-use of architectural features of the buildings to the extent feasible in order to preserve a portion of this historic context on site.

The proposed project would not involve any ground-disturbing activities outside of the previously disturbed footprint of the barn and ancillary structure that have the potential to disturb cultural artifacts, paleontological resources, or human remains. Mitigation Measure CULT-2 addresses the unlikely potential for such resources to be discovered within the previously disturbed area.

V.a) No existing structures located on the project site are classified as a historical resource. Based on the findings in the Historical Resources Assessment Report prepared by Gerald T. Takano on November 25, 2105, the ancillary structures located on the project site (including the ancillary structure to be deconstructed and the existing tank to remain) are the only surviving structures from the original Orick Barn complex; all other buildings and structures were previously demolished. Additionally, the existing barn was built in the late 1940s to replace the original barn and is not located on the footprint of the original barn. Furthermore, the existing barn and ancillary structures are not included in the list of the National Register, State or County historical buildings, structures or cultural landscapes, and are not eligible for the local and state landmark status and National Register in lieu of the primary significance of the demolished original barn.

However, as discussed above, while the barn and ancillary structure are not eligible for listing on state, local or national registers of historic resources, the structures provide a context for the historic use of the land for agricultural use and dairying and later as the site of a lumber mill. Both uses have been traditionally important to the local economy and culture of the town of Orick. However, with the incorporation of Mitigation Measure CULT-1, which requires salvage and re-use of architectural features of the buildings to the extent feasible in order to preserve a portion of this historic context on site, there will be a less than significant impact to historical resources.

V.b-e) The proposed project would not involve any ground-disturbing activities outside of the previously disturbed footprint of the barn and ancillary structure that have the potential to disturb cultural artifacts, paleontological resources, or human remains; however, there is the possibility that cultural artifacts, paleontological resources, or human remains may exist on the project site. Additionally, there were multiple areas of Native American occupancy in the Orick area, and as a result, tribal cultural resources may exist within the project site. Mitigation Measure CULT-1 is recommended as a precautionary measure to promote cultural resource protection. Furthermore, with the incorporation of Mitigation Measures CULT-2 and CULT-3, there will be a less than significant impact to cultural resources.

MITIGATION MEASURES

Possible mitigation in the case of demolition may include, but may not be limited to, use of the following:

CULT-1: Humboldt County shall adopt a Condition of Approval to require deconstruction and salvage of architectural elements of the barn and ancillary building, to the extent determined to be feasible by a qualified professional. Salvaged materials shall be safely stored on site and shall be made available for re-use in subsequent site development. Salvaged items shall be removed in a manner that minimizes damage. Humboldt County will recommend, but not require, that any future interpretive exhibits on the site include signage, references to re-used materials, or other on site educational materials describing the historic use and context of the site in support of both the dairy and timber industries.

CULT-2: If cultural materials (e.g., chipped or ground stone, historic debris, building foundations, or bone) are discovered during ground-disturbance activities, work within 20 meters (66 feet) of the discovery shall be stopped, per the requirements of CEQA (Title 14 CCR 15064.5 [f]). Work near the archaeological find(s) shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action. Any identified cultural resources will be recorded on DPR 523 historic resource recordation forms, from the Office of Historic Preservation. If Native American archaeological remains are inadvertently encountered, the Tribal Historic Preservation Officers (THPOs) of the three recognized Wiyot-area tribes (Blue Lake Rancheria, Bear River Band of Rohnverville Rancheria, and Wiyot Tribe) will be immediately notified, permitted to observe the findings in the field, and afforded the opportunity to make recommendations for avoiding, minimizing, or mitigating impacts from the proposed development.

CULT-3: If human remains are discovered during project construction, work within 20 meters (66 feet) of the discovery location, and within any nearby area reasonably suspected to overlie human remains, will cease (Public Resources Code, Section 7050.5). The Humboldt County Coroner will be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws regarding the disposition of Native American burials, which fall within the jurisdiction of the California Native American Heritage Commission (NAHC) (Public Resources Code, Section 5097). In this case, the coroner will contact NAHC. The descendants or most likely descendants of the deceased will be contacted, and work will not resume until they have

made a recommendation to the landowner or person responsible for excavation work with direction regarding appropriate means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98.

FINDINGS

The proposed project will have a **Less Than Significant Impact with Mitigation Incorporation** on Cultural Resources.

VI. GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Thresholds of Significance: The project would have a significant effect on geology and soils if it would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides; result in substantial soil erosion or the loss of topsoil; be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

DISCUSSION

The proposed project involves the deconstruction of the existing barn, approximately 5,560 square feet in size, and ancillary structure, approximately 1,525 square feet in size, both of which are centrally located on the former Orick Mill site. Additionally, PG&E will remove overhead conduit and four existing power poles located north, west, and southwest of the barn and ancillary structure; however, electrical service will still be supplied to the site during deconstruction of the existing barn and ancillary structure. No new development is proposed under the project. An Alquist-Priolo map has not been issued for the area containing the project site; however, County WebGIS does not show any Alquist-Priolo earthquake faults in

the immediate vicinity of the project site, and does not include the project site within an Alquist-Priolo Zone. Furthermore, the seismic safety of the project site is predominately classified as "Low Instability" and "Moderate Instability"; however, the northernmost portion of the project site is classified as "High Instability."

Although the project site is located in a seismically active area, there are no elements of the proposed project that would increase risk to existing structures, facilities, or residents.

VI.a.i) There are no fault lines or zones located at the project site. The proposed project would not expose people or structures to increased potential substantial adverse effects, including the risk of loss, injury, or death. Therefore, there would be no impact as a result of the proposed project.

VI.a.ii) The project area is situated within a seismically-active area and multiple seismic sources capable of producing moderate to strong ground motions exist in the vicinity of the project area. Given the proximity of active faults within northern California, the project area will experience ground shaking of some magnitude during the economic life span of any site development. The risk of ground shaking at the project area is high. However, since the proposed project does not involve any new structures, there would be no impact as a result of the proposed project.

VI.a.iii-iv) As shown on the County's WebGIS, the area encompassing and surrounding the project site is predominately classified as area of "Low Instability" and "Moderate Instability"; however, the northernmost portion of the project site is classified as "High Instability." Additionally, the topography of the project site is typical of Redwood Creek flood plains that are flat to very gently undulating with slopes being less than three percent. The site is situated in an elongated, north-south trending alluvial valley flanked by steep, forested hillslopes to the east and west. The valley bottom is very gently sloping to the south-southwest at a gradient of less than about one to two percent, and is mainly open pasture with riparian vegetation.

No new structures are proposed under the project and the proposed project will not result in an increased risk of seismic failure or landslides at the project site. As such, no impact would occur.

VI.b) The proposed project will not result in substantial soil erosion or the loss of topsoil. Since no development is proposed under the project, no excavation or groundbreaking will occur. Furthermore, during deconstruction of the existing barn and ancillary structure, and removal of the existing overhead conduits and four power poles, appropriate BMPs will be installed and maintained in accordance with Mitigation Measure BIO-2 to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the material storage site to nearby wetlands, streams, and sensitive habitats. Therefore, with the incorporation of Mitigation Measure BIO-2, a less than significant impact would occur.

VI.c) The project site is predominately classified as area of "Low Instability" and "Moderate Instability" on the County's WebGIS; however, the northernmost portion of the project site is classified as "High Instability." Additionally, the topography of the project site is relatively flat in nature. Since the proposed project would not include any new construction, the project would not increase the project site's instability or result in landslides, lateral spreading, subsidence, liquefaction, or collapse, and no impact would occur.

VI.d) County WebGIS indicates that a portion of the project site is classified as "Prime Farmland if Irrigated", and indicates that the western portion of the northern parcel (APN 519-231-018) contains "Prime AG Soil – Fe2" (Ferndale silt loam), with the southernmost portion of the northern parcel, in addition to a portion of the western half of the southern parcel (APN 520-012-013) containing soil classified as "Kr5 (Kerr Silt Loam)."

Neither of those soils are described as expansive in *Soils of Western Humboldt County California* (1965), which are typically associates with clay soils. As such, no impact would occur.

VI.e) The project would not require installation and use of a septic tank or alternative wastewater disposal system, since no new development is proposed under the project. As such, no impact would occur.

MITIGATION MEASURES

See Mitigation Measure BIO-2 in Section IV, Biological Resources.

FINDINGS

The proposed project will have a **Less Than Significant Impact with Mitigation Incorporation** on Geology and Soils.

VII. GREENHOUSE GAS EMMISSIONS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions (GHG), either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Thresholds of Significance: The project would have a significant impact on Greenhouse Gas Emissions if it would generate greenhouse gas emissions (GHG), either directly or indirectly, that may have a significant impact on the environment; or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

DISCUSSION

The project is located within the North Coast Air Basin (NCAB) and is subject to North Coast Unified Air Quality Management District (NCUAQMD) requirements. The NCUAQMD is responsible for monitoring and enforcing federal, state, and local air quality standards in the County of Humboldt.

VII.a) The project would have a less than significant impact on greenhouse gas (GHG) emissions because the project will not generate significant amounts of GHGs. A limited amount of GHG emissions would occur during deconstruction of the existing barn and ancillary structure, and removal of the existing overhead conduits and four power poles by PG&E. These GHG emissions would be associated with construction equipment and vehicle trips associated with workers driving to and from the site; however, these GHG emissions would only be temporary and would cease after deconstruction and removal of the structures is completed. Additionally, construction equipment will be maintained in good working condition by the contractor throughout the construction process. As such, the increase in GHG emissions associated with the proposed project would be negligible, and a less than significant impact would occur.

VII.b) The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As noted under Section III, Air Quality, above, the County is in "non-attainment" for PM_{10}. Therefore, any use or activity that generates unnecessary airborne particulate matter may be of concern to NCUAQMD and has the potential to create significant project-specific and cumulative effects to air quality. While the proposed project would generate temporary emissions, the project will not include any source of visible emissions, including intentional fire/burning or manufacturing. The project will not obstruct implementation of California standards or the draft PM_{10} Attainment Plan. Furthermore, with the incorporation of Mitigation Measure AIR-1, which requires compliance with NCUAQMD standards and regulations and requires the contractor to keep construction equipment in good working order, the project will not result in adverse air quality impacts or result in a cumulatively considerable net increase in the PM_{10} non-attainment levels in Humboldt County, and will minimize exhaust emissions and control fugitive dust. As such, no impact would occur.

MITIGATION MEASURES

No mitigation required.

FINDINGS

The proposed project will have a **Less Than Significant Impact** on Greenhouse Gas Emissions.

VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands?	☐	☐	☒	☐

Thresholds of Significance: The project would have a significant impact on hazards and hazardous materials if it were to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; or be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment. In addition, for projects located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area; if the project is within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area. Finally, the project would have a significant impact to hazards and hazardous materials if it would impair the implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan; or expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands.

DISCUSSION

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or has characteristics defined as hazardous by a federal, state, or local agency. Chemical and physical properties such as toxicity, ignitability, corrosiveness, and reactivity cause a substance to be considered hazardous. These properties are defined in the California Code of Regulations (CCR), Title 22, §66261.20-66261.24. A "hazardous waste" includes any hazardous material that is discarded, abandoned, or will be recycled. Therefore, the criteria that render a material hazardous also cause a waste to be classified as hazardous (California Health and Safety Code, §25117). According to this definition, fuels, motor oil, and lubricants typically used during construction or demolition/deconstruction could be considered hazardous.

According to the State Water Resources Control Board's (SWRCB) GeoTracker, there is one closed Cleanup Program Site (Case #: 1NHU975A) on the southern parcel (APN 520-012-013) of the project site. Per GeoTracker, the substances released and/or contaminants of concern included diesel and gasoline. However, as of April 7, 2011, the cleanup status is completed and the case is closed.

VIII.a) Deconstruction of the existing barn and ancillary structure located on the project site may require the transport, use, storage, and disposal of small quantities of hazardous materials common to the construction process such as gasoline, diesel fuel, hydraulic fluids, oils, and lubricants. However, the types and quantities of materials to be used are not expected to pose a significant risk to the public and/or environment and will be managed in accordance with federal, state and local regulations. As such, there would be a less than significant impact.

VII.b) Although construction activities may require the use of small quantities of hazardous materials, due to the short duration and limited extent of construction activity and since construction of the proposed project will be conducted in accordance with federal, state and local regulations, the potential for accidental release of hazardous materials associated with construction activities is low. As such, there would be a less than significant impact.

VIII.c) The project site is not located within one-quarter mile of an existing or proposed school. The nearest school, Orick Elementary School, is located approximately 1.1 miles southwest of the project site. Though deconstruction of the existing barn and ancillary structure located on the project site may require the transport, use, storage, and disposal of hazardous materials common to the construction process such as gasoline, diesel fuel, hydraulic fluids, oils, and lubricants, the project will not occur within one-quarter mile of a school. Since Orick Elementary School is located adjacent to Highway 101, the transport of such hazardous materials may occur near the school. However, since the transport, use and storage of such materials will be conducted in accordance with federal, state, and local regulations, a less than significant impact would occur.

VIII.d) The proposed project is not located on a site that is known to be included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and therefore would not create a significant hazard to the public or environment. A records search was conducted using the State of California Department of Toxic Substance Control's Envirostor Database and there are no identified hazardous waste sites or materials on the project site or in the immediate vicinity. As such, no impact would occur.

VIII.e,f) The proposed project is not included in an airport land use plan, is not within two miles of a public airport or public use airport, and is not located within the vicinity of a private airstrip. Therefore, no impact would occur.

VIII.g) The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, as no elements of the proposed project would block emergency vehicle access to roadways during an emergency. Therefore, no impact would occur.

VIII.h) The proposed project would occur in a rural setting where there is an increased risk of wildland fire. The project site abuts forested land on all sides of the site, which is located directly south and west of Redwood National Park. The California Department of Forestry and Fire Protection Fire Severity mapping system indicated that the project site is in an area of moderate to high risk for wildfires, and this risk is exacerbated in the dry season. However, there is no aspect of the project that would increase the exposure of people or structures to a significant risk of loss, injury, or death associated with wildland fire and, as a result, the project would have a less than significant impact.

MITIGATION MEASURES
No mitigation required.

FINDINGS
The proposed project will have a **Less Than Significant Impact** on Hazards or Hazardous Materials.

IX. HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Thresholds of Significance: The project would have a significant effect on hydrology and water quality if it would violate any water quality standards or waste discharge requirements; substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site; substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality. Significant impacts would also occur if the project would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map; place housing within a 100-year flood hazard area as mapped on a federal Flood

Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map; place within a 100-year flood hazard area structures, which would impede or redirect flood flows; expose people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or result in inundation by seiche, tsunami, or mudflow.

DISCUSSION

The project site is located in a narrow river valley and is situated north of the confluence of Prairie Creek and Redwood Creek. The project site consists of a generally level paved area of approximately 20 acres in the southeastern portion of the site, with the existing barn and ancillary structure, in addition to two wetland areas and a gravel berm, located west of the paved area. The berm was constructed presumably for flood control and divides the property into two distinct areas. Two grazing fields are located further to the west, which flank Prairie Creek along the western boundary of the project site.

The topography of the project site is typical of Redwood Creek flood plains that are flat to very gently undulating with slopes being less than three percent. The site is situated in an elongated, north-south trending alluvial valley flanked by steep, forested hillslopes to the east and west. The valley bottom is very gently sloping to the south-southwest at a gradient of less than about one to two percent. The valley bottom is mainly open pasture with riparian vegetation. Vegetation at the project site consists of native, non-native, mixed, and channel vegetation. Additionally, the project site contains approximately 68.5 acres which meet at least one of the three parameters for identifying jurisdictional wetlands. Of the 68.5 acres, approximately 23.5 acres meet at least two of the three parameters, including approximately 18.8 acres which meet all three parameters and are assumed to be jurisdictional wetlands (waters of the United States).

Prairie Creek is located on the western portion of the project site, next to Highway 101, and approximately 400 feet west of the existing barn and ancillary structure. Additionally, the existing barn and ancillary structure are located approximately 1,400 feet north of Redwood Creek. Prairie Creek and its eight major tributary streams support populations of Chinook salmon, coho salmon, steelhead, and coastal cutthroat trout.

The project site is not within the service boundary of any community service district. An existing tank and well house are located approximately 60 and 76 feet east, respectively, of the existing barn, and will remain under the proposed project (see Figure 4). No functioning septic system is currently located at the project site.

IX.a) The proposed project would not violate any water quality standards or waste discharge requirements. Since the project site is not within the service boundary of any community service district and does not have an existing septic system on-site, portable restroom facilities will be brought in and utilized during deconstruction of the existing barn and ancillary structure and removal of the overhead conduits and four power poles. The portable restrooms will be maintained and serviced by a qualified company, who will ensure compliance with all wastewater treatment requirements of NCRWQCB.

Because no new development is proposed under the project, improvements to the existing water tank and well house and installation of an on-site waterwater treatment system are not proposed under the project.

Since the project would not violate any water quality standards or waste discharge requirements, no impact would occur.

IX.b) Since the project does not involve any new development or the construction of new impermeable surfaces, the project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. As such, no impact would occur.

IX.c,d) The proposed project would not substantially change the existing drainage patterns of the site or area. As noted above, the project involves the deconstruction of the existing barn and ancillary structure, and removal of overhead conduits and four power poles. Since the project does not involve any new development or the construction of new impermeable surfaces, existing drainage patterns of the site and area are anticipated to remain unchanged. As such, no impact would occur.

IX.e,f) The proposed project does not involve any new development or construction of any new impervious surfaces within the project site. Existing vegetation will continue to minimize surface erosion and runoff into the on-site wetlands, Prairie Creek, and Redwood Creek. Furthermore, the project would not substantially degrade water quality in that appropriate BMPs will be installed and maintained in accordance with Mitigation Measure BIO-2 to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the material storage site to nearby wetlands, streams, and sensitive habitats, and all construction equipment will be properly maintained to further prevent any potential for polluted runoff. As such, with mitigation incorporated, a less than significant impact would occur.

IX.g,h) As provided on the Flood Insurance Rate Map (FIRM) of Humboldt County, California (Panel 150 of 1900, Community-Panel Number 060060 0150 B, effective July 19, 1982), the western portion of the project site is located within the 100-year flood zone (Zone A), while the eastern portion of the project site is classified as area of minimal flooding (Zone C). Since the proposed project does not involve any new development, the project would not place housing or any other permanent structures within a 100-year flood hazard area. As such, no impact would occur.

IX.i) The project does not involve any elements that would place people or structures at risk due to flooding. There are no upstream dams or other impoundments, nor would the project create a risk of flooding in and of itself. Therefore, no impact would occur.

IX.j) The project site is not located within the coastal zone. Additionally, per the Department of Conservation's Humboldt County Tsunami Inundation map of the Orick Quadrangle, the project site is located outside of the tsunami inundation zone. Furthermore, since the proposed project does not involve any new development or alterations that would increase the potential for inundation by seiche, tsunami, or mudflow within the project area, no impact would occur.

MITIGATION MEASURES

See Mitigation Measure BIO-2 in Section IV, Biological Resources.

FINDINGS

The proposed project will have a **Less Than Significant Impact with Mitigation Incorporation** on Hydrology and Water Quality.

X. LAND USE AND PLANNING. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would (a) physically divide an established community; (b) conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or (c) conflict with any applicable habitat conservation plan or natural community conservation plan.

DISCUSSION

The current General Plan land use and zoning designations of the two parcels comprising the project site are provided in Table 2 below (see Figures 2 and 3):

Table 2. Current Land Use and Zoning Designations of the Project Site

Assessor's Parcel Number (APN)	Orick Community Plan Land Use Designation[1]	County of Humboldt Zoning Designation
519-231-018	Agricultural Lands (AL); Agricultural Residential (AR); Industrial, Resource Related (IR)	Agricultural General with Beach and Dune Areas and Design Review Combining Zones (AGB5[5]D); Forestry Recreation with Beach and Dune Areas and Design Review Combining Zones (FRB5[20]D)
520-012-013	Agricultural Lands (AL); Industrial, Resource Related (IR)	Forestry Recreation with Beach and Dune Areas and Design Review Combining Zones(FR-D-B-5[20]); Heavy Industrial with Design Review and No Further Subdivision Allowed Combining Zones(MHXD)

Notes:

[1] The Orick Community Plan is included as Volume II of the County of Humboldt General Plan.

No changes to the property's current General Plan land use or zoning designations are proposed under the project; however, under the County's General Plan Update (GPU), the General Plan land use designations for both parcels are proposed to be modified to Rural Residential, 40- to 160-acre minimum density (RA40-160) and Commercial Recreation (CR).

X.a) The proposed project would not physically divide an established community, since no new development or change to the property's current General Plan land use or zoning designations are proposed under the project. As such, no impact would occur.

X.b) The proposed project involves the deconstruction of the existing barn and ancillary structure and removal of the overhead conduits and four power poles located on the project site. Since no new development or change in General Plan land use or zoning designations is proposed under the project, the proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. As such, no impact would occur.

X.c) There are no habitat conservation plans or natural community conservation plans in effect in the proposed project area. No impact would occur.

MITIGATION MEASURES
No mitigation required.

FINDINGS
The proposed project will have **No Impact** on Land Use and Planning.

XI. MINERAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would (a) result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or (b) result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

DISCUSSION

As noted in Section 2530 (Mineral and Energy Resources) of the County of Humboldt General Plan, County mineral resource production is primarily limited to sand, gravel, and rock extraction, with operation usually located close to rural and urban development areas and used located. The proposed project is not located in an area of known rock, aggregate, sand, or other mineral resource deposits of local, regional, or state residents.

XI.a-b) The project area does not contain mineral resources that are of value locally, to the region, or to residents. The project area is not identified as a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, the proposed project would not interfere with materials extraction or otherwise cause a short-term or long-term decrease in the availability of mineral resources, and no impact would occur.

MITIGATION MEASURES

No mitigation required.

FINDINGS

The proposed project will have **No Impact** on Mineral Resources.

XII. NOISE. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Expose persons to or generate excessive ground borne vibration or ground borne noise levels?	☐	☐	☐	☒
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would (a) expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; (b) expose persons to, or generate, excessive ground borne vibration or ground borne noise levels; (c) result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project; (d) result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project; (e) expose people residing or working in the project area to excessive noise levels (only applicable if the proposed project is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport); or (f) expose people residing or working in the project area to excessive noise levels (only applicable if the proposed project is located within the vicinity of a private airstrip.)

DISCUSSION

The proposed project will create temporary noise increases at the project site; however, the project will be in conformance with the maximum permitted noise intensity levels for each applicable buffer zone during the NSO and MAMU nesting seasons, as provided in the *Orick Mill Site Construction Noise Constraints Sensitive Species Protection Technical Memorandum* (Noise Constraints Technical Memorandum), prepared by LACO Associates on July 15, 2016 (see Appendix C). During deconstruction of the existing barn and ancillary structure, the contractor is expected to use machinery such as large trucks to transport the materials to the proposed stockpile location on the existing paved area, approximately 225 feet northeast of the existing barn (see Figure 4). Furthermore, it is anticipated that large trucks will be utilized during removal of the overhead conduits and four power poles by PG&E. All machinery utilized on the project site will be maintained in good condition through the duration of the project.

As previously discussed, the potential for sensitive habitats and sensitive species have been identified on or immediately adjacent to the project site. The hillside immediately adjacent and to the west of the site contains old growth redwood stands which are potential habitat for MAMU and NSO, both of which are

federally listed sensitive species. The northeast old growth redwood grove is located approximately 500 feet from the eastern boundary of the project site and approximately 1,500 feet northeast of the existing barn; the southeast old growth redwood grove is located immediately adjacent to the southeastern boundary of the project site and approximately 900 feet southeast of the barn.

Potential noise impacts on the two federally listed sensitive species (MAMU and NSO) have been discussed under Section IV.B, Biological Resources. As noted under Section IV.B, the Noise Constraints Technical Memorandum, prepared by LACO Associates on July 15, 2016, includes recommended time of year, time of day, and location restrictions intended to avoid disturbance of sensitive species, based on guidance from the United States Fish and Wildlife Service (USFWS) and National Park Service (NPS). The proposed project will be in conformance with all recommendations included in the Noise Constraints Technical Memorandum (per Mitigation Measure BIO-1).

As previously discussed under Section IV.B, Figure N1.1 (Draft Construction Noise Setbacks and Buffers) in the Noise Constraints Technical Memorandum illustrates the location of the proposed noise buffer zones. The existing barn and ancillary structure are located with the 90 decibel (dB) maximum zone. As noted in the corresponding table, likely permitted mid-day activities within this buffer zone may include medium to large construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, and moderate to large diesel engines. Additionally, large gasoline powered tools, power saws, large chainsaws, pneumatic drills and impact wrenches, circular saws, and hammering may also be permitted during mid-day hours. As noted above, similar equipment and tools may be utilized under the project.

Most construction activities generate noise up to 90 dB. During the nesting season (mid-day), such activities should be set back at least 165 feet from the southerly habitat area and at least 500 feet from the northerly habitat area. Where demolition or construction activity must take place within those setbacks, such actions should be scheduled to take place outside of the NSO and MAMU nesting seasons. Special consultation with USFWS, NPS, CDFW and others is required if project related noise is expected to exceed the identified limits.

XII.a) The proposed project will create temporary noise increases; however, the project will be in conformance with all recommendations and restrictions provided in the Noise Constraints Technical Memorandum. The equipment used during deconstruction of the existing barn and ancillary structure, and removal of the overhead conduits and four power poles by PG&E, will not be of such a scale that it creates a significant amount of noise. The project site is located approximately 1,130 feet east of the nearest residence. Furthermore, as discussed under Section IV.B, Biological Resources, project-generated auditory impacts will be restricted with appropriate setback distances to avoid disturbance take of the northern spotted owl and marbled murrelet, in accordance with Mitigation Measure BIO-1. As such, with the incorporation of Mitigation Measure BIO-1, a less than significant impact would occur.

XII.b) There will be no elements of the proposed project that would create either temporary or permanent ground borne vibrations. As such, no impact would occur.

XII.c-d) The proposed project would not result in a substantial temporary or permanent increase in ambient noise levels in the project vicinity above levels existing without the project. As discussed above, machinery is expected to be used during deconstruction of the existing barn and ancillary structure and to transport the materials to the proposed stockpile location on the existing paved area, approximately 225 feet northeast of the existing barn, and during removal of the overhead conduits and four power poles by

PG&E; however, machinery will be maintained in good condition and work will be in conformance with recommendations and restrictions provided in the Noise Constraints Technical Memorandum.

Since the barn and ancillary structure will be deconstructed, instead of simply demolished, lower noise impacts are anticipated. As discussed in Section IV.B, Biological Resources, project-generated auditory and will be restricted with appropriate setback distances to avoid disturbance take of the northern spotted owl and marbled murrelet. To further reduce any potential impacts to the federally-listed species, the deconstruction of the barn and ancillary structure could occur outside of the combined breeding seasons. The proposed project will be in conformance with all recommendations included in the Noise Constraints Technical Memorandum per Mitigation Measure BIO-1.

Noise impacts as a result of the project will only be temporary. The project would not result in a substantial permanent increase in noise over current conditions, as no new development is proposed under the project. As such, with the incorporation of Mitigation Measure BIO-1, impacts would be less than significant.

XII.e,f) The proposed project is not located in an airport land use plan area or within two miles of a public airport. Furthermore, the project site is not within the vicinity of a private airstrip. As such, no impact would occur.

MITIGATION MEASURES

See Mitigation Measure BIO-1 in Section IV, Biological Resources.

FINDINGS

The proposed project will have a **Less Than Significant Impact with Mitigation Incorporation** on Noise.

XIII. POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and/or businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would (a) induce substantial population growth in an area, either directly (e.g., by proposing new homes and/or businesses) or indirectly (e.g., through extension of roads or other infrastructure); (b) displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, or (c) displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

DISCUSSION

The proposed project involves the deconstruction of the existing barn and ancillary structure located on the project site, with associated materials will be stockpiled on-site for potential re-use on-site at a later date, in addition to the removal of existing overhead conduit and four power poles by PG&E. No development is proposed under the project.

XIII.a) The proposed project would not induce substantial population growth, since no new development or infrastructure is proposed under the project. While the project would require workers to deconstruct the existing barn and ancillary structure, and remove the existing overhead conduit and four power poles, the work will only be temporary. It is assumed that workers will be local. Due to the limited scope of the project and since no new development is proposed, the project would not induce substantial population growth. As such, no impact would occur.

XIII.b-c) The proposed project would not displace substantial numbers of existing housing or people, as the project would not remove any existing housing units. As such, no impact would occur.

MITIGATION MEASURES

No mitigation required.

FINDINGS

The proposed project will have **No Impact** on Population and Housing.

XIV. **PUBLIC SERVICES.** Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or result in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for (a) fire protection, (b) police protection, (c) schools, (d) parks, or (e) other public facilities.

DISCUSSION

The proposed project does not involve any new development or project components that would increase the need for services or impact the ability of the County to provide services to the residents of Orick.

XIV.a-e) There are no elements of the proposed project that would impact public services. The project does not include any new development that would require increased fire or police protection above current levels. Additionally, since no residential units will be constructed under the project and since the work associated with the project will only be temporary, the population is not expected to increase as a result of the project. As such, the project would not create a need for a new or physically-altered school or park facility and the project would not result in adverse physical impacts associated with the construction of such facilities. No impact would occur.

MITIGATION MEASURES

No mitigation required.

FINDINGS

The proposed project will have **No Impact** on Public Services.

XV. RECREATION. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would (a) increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, or (b) include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

DISCUSSION

The project site is located just outside the boundaries of Redwood National and State Park (RNSP), which is located directly to the north and east of the project site. Additional parks and recreational facilities in the vicinity of the project site include the following:

- Lady Bird Johnson Grove Picnic Area, located approximately 1.1 miles east of the project site
- Lost Man Trail, located approximately 1.5 miles northeast of the project site
- Thomas H. Kuchel Visitor Center, located approximately 2.5 miles southeast of the project site
- Redwood Creek Beach County Park, located approximately 2.6 miles southeast of the project site
- Freshwater Lagoon, located approximately 2.9 miles southeast of the project site
- Stone Lagoon, located approximately 4 miles southeast of the project site
- Dry Lagoon State Park, located approximately 5.3 miles southeast of the project site
- Humboldt Lagoons State Park, located approximately 5.9 miles southeast of the project site

XV.a-b) No residential units would be constructed, nor is the population expected to increase, as a result of the proposed project. The project would not increase the usage of or demand for neighborhood and regional parks or other recreational facilities. Therefore, the project would not result in the physical deterioration of parks or facilities, nor would it require the construction of new park or recreational facilities, and no impact would occur.

MITIGATION MEASURES

No mitigation required.

FINDINGS

The proposed project will have **No Impact** on Recreation.

XVI. TRANSPORTATION / TRAFFIC. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestions management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would (a) conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit; (b) conflict with an applicable congestion management program including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways; (c) result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; (d) substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); (e) result in inadequate emergency access; or (f) conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

DISCUSSION:

Under the proposed project, the existing barn and ancillary structure will be deconstructed, with associated materials stockpiled on-site for potential re-use on-site at a later date. Existing overhead conduits and four power poles will also be removed under the project. The project site is located off of Bald Hills Road, which is accessed via Highway 101 to the west. Bald Hills Road carries considerable commuter, tourist, and logging truck traffic

XVI.a) The project would not impact an applicable plan establishing measures of effectiveness for circulation in the project area. No changes to roads or traffic levels are expected as a result of the proposed project.

It is expected that deconstruction of the existing barn and ancillary structure and removal of the overhead conduits and four power poles will result in minimal interruption of traffic on Bald Hills Road. The project would have a less than significant impact on the capacity of the street system, level of service standards stablished by the County, or the overall effectiveness of the circulation system. The project would not have an impact on an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

During deconstruction of the existing barn and ancillary structure, the contractor is expected to use machinery such as large trucks to transport the materials to the proposed stockpile location on the existing paved area, approximately 225 feet northeast of the existing barn. Removal of the existing overhead conduit and four power poles will be removed by PG&E, and will require PG&E-owned trucks.

The project is expected to result in a minimal temporary increase in traffic along Highway 101 and Bald Hills Road during deconstruction of the barn and ancillary structure and removal of the overhead conduit and four power poles. Once the project is complete, traffic is expected to return to the same level as existing traffic. Therefore, the project would have a less than significant impact.

XVI.b) Due to the low population and relatively low traffic levels, there are no congestion management programs in the area that would be impacted by the proposed project. Therefore, no impact would occur.

XVI.c) The project site is not located in the vicinity of an airport, and the project is not expected to result in a change in air traffic patterns. As such, no impact would occur.

XVI.d-e) The project would not substantially increase hazards due to design features and would not result in inadequate emergency access, since the project does not consist of changes to existing roads. As such, no impact would occur.

XVI.f) There are no adopted bicycle plans or pedestrian management plans in place for Orick. The proposed project would not create any facilities or activities that would impact alternative transportation in Orick. As such, no impact would occur.

MITIGATION MEASURES
No mitigation required.

FINDINGS
The proposed project will have a **Less Than Significant Impact** on Transportation/Traffic.

XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would (a) exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board; (b) require or result in the construction of new water or wastewater facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; (c) require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; (d) have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements; (e) result in a determination by the wastewater treatment provider that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; (f) be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or (g) comply with federal, state, and local statutes and regulations related to solid waste.

DISCUSSION

The project site is under jurisdiction of the North Coast Regional Water Quality Control Board (NCRWQCB), which exercises rulemaking and regulatory activities in Del Norte, Glenn, Humboldt, Lake, Marin, Mendocino, Modoc, Siskiyou, Sonoma, and Trinity counties. The project site is not within the service boundary of any community service district. An existing tank and well house are located approximately 60 and 76 feet east, respectively, of the existing barn, and will remain under the proposed project (see Figure 4). An existing septic system is not currently located at the project site.

No surface water is expected to be used with the proposed demolition; however, if water is needed for dust control or other purposes, the onsite well may be utilized or the contractor will import water from off site.

XVII.a) The proposed project would not exceed wastewater treatment requirements of the NCRWQCB. Since the project site is not within the service boundary of any community service district and does not have an existing septic system on-site, portable restroom facilities will be brought in and utilized during deconstruction of the existing barn and ancillary structure and removal of the overhead conduits and four power poles. The portable restrooms will be maintained and serviced by a qualified company, who will ensure compliance with all wastewater treatment requirements of NCRWQCB. As such, no impact would occur.

XVII.b) The proposed project would not require or result in the construction of new water or wastewater facilities or the expansion of existing facilities, since no development is proposed under the project. As such, no impact would occur.

XVII.c) The proposed project would not require or result in the construction of storm water drainage facilities or the expansion of existing facilities, since no development is proposed under the project. As such, no impact would occur.

XVII.d) As noted above, an existing well house and tank are to remain on-site under the proposed project. However, as discussed above, no surface water is expected to be used with the proposed demolition. If water is needed for dust control or other purposes, the onsite well may be utilized or the contractor will import water from off site.

Since no development is proposed under the project, no new or expanded entitlements would be needed, as the demand on fresh water supplies will be the same under the project as prior to the project. Therefore, no impact would occur.

XVII.e) The project site is not located within the service boundaries of any community services district. Additionally, since no development is proposed under the project, the capacity of the local wastewater treatment plant would not be affected by the proposed project, since no new wastewater service connections would be required under the project. As such, no impact would occur.

XVII.f) Minimal solid waste will be generated during deconstruction of the existing barn and ancillary structure and removal of the overhead conduits and four power poles. Additionally, once the project is complete, no solid waste will be generated, as no new development will occur under the project. As such, the project will not affect the capacity of the landfill that serves the Orick area and no impact would occur.

XVII.g) Minimal solid waste will be generated under the proposed project; however, all solid waste generated under the project will be disposed of in accordance to all federal, state, and local statutes and regulations related to solid waste. As such, no impact would occur.

MITIGATION MEASURES
No mitigation required.

FINDINGS
The proposed project will have **No Impact** on Utilities and Service Systems.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	☐	☐	☐	☒
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would (a) have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory; (b) have impacts that are individually limited, but cumulatively considerable ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.); or (c) have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

DISCUSSION

Under the proposed project, the existing barn and ancillary structure located on the project site will be deconstructed with associated materials stockpiled on-site for potential re-use on-site at a later date. The proposed location of the stockpiled materials is on the existing paved area, approximately 225 feet northeast of the existing barn (see Figure 2).

Existing overhead conduits and four power poles located north, west, and southwest of the barn and ancillary structure will also be removed by PG&E under the project. Other existing structures, including the existing well house, tank, electrical house, fence, and berm will remain under the project.

The potential for sensitive habitats and sensitive species have been identified on or immediately adjacent to the project site. The hillside immediately adjacent and to the west of the site contains old growth redwood stands which are potential habitat for marbled murrelet (*Brachyramphys marmoratus*) and northern spotted owl (*Strix occidentalis caurina*), both of which are federally listed sensitive species. Additionally, the project site contains approximately 68.5 acres which meet at least one of the three parameters for identifying jurisdictional wetlands. Of the 68.5 acres, approximately 23.5 acres meet at least two of the three parameters, including approximately 18.8 acres which meet all three parameters and are

assumed to be jurisdictional wetlands (waters of the United States). Prairie Creek is located on the western portion of the project site, generally adjacent to State Highway 101, and approximately 400 feet west of the existing barn and ancillary structure. Prairie Creek and its eight major tributary streams support populations of Chinook salmon, coho salmon, steelhead, and coastal cutthroat trout.

The Noise Constraints Technical Memorandum, prepared by LACO Associates on July 15, 2016, includes recommended time of year, time of day, and location restrictions intended to avoid disturbance of sensitive species, based on guidance from the United States Fish and Wildlife Service (USFWS) and National Park Service (NPS). The proposed project will be in conformance with all recommendations included in the Noise Constraints Technical Memorandum per Mitigation Measure BIO-1.

Appropriate best management practices (BMPs) will be installed and maintained in accordance with Mitigation Measure BIO-2 to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the material storage site to nearby wetlands, streams, and sensitive habitats. Furthermore, wetlands or other vegetation will not be impacted or removed due to the deconstruction of the barn and ancillary structure.

While the barn and ancillary structure are not eligible for listing on state, local or national registers of historic resources, the structures provide a context for the historic use of the land for agricultural use and dairying and later as the site of a lumber mill. Both uses have been traditionally important to the local economy and culture of the town of Orick. However, Mitigation Measure CULT-1 from Section V, Cultural Resources, requires salvage and re-use of architectural features of the buildings to the extent feasible in order to preserve a portion of this historic context on site. Furthermore, while the proposed project would not involve any ground-disturbing activities outside of the previously disturbed footprint of the barn and ancillary structure that have the potential to disturb cultural artifacts, paleontological resources, human remains, or tribal cultural resources; however, there is the possibility that these resources may exist on the project site. Incorporation of Mitigation Measures CULT-2 and CULT-3 would reduce any potential impacts to these resources to a less-than-significant level.

XVIII.a) As discussed above, the potential for sensitive habitats and sensitive species have been identified on or immediately adjacent to the project site and approximately 68.5 acres of wetlands which meet at least one of the three parameters for identifying jurisdictional wetlands are located on the project site. However, the proposed project will be in conformance with all recommendations included in the Noise Constraints Technical Memorandum in accordance with Mitigation Measure BIO-1, appropriate BMPs will be installed and maintained in accordance with Mitigation Measure BIO-2 to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the material storage site to nearby wetlands, streams, and sensitive habitats, and all wetlands and vegetation will not be impacted or removed due to the project.

Furthermore, the existing barn and ancillary structure are not considered historical structures. As noted in A *Orick Barn Ancillary Structures Historical Resources Assessment Report* (Historical Resources Assessment Report), prepared by Gerald T. Takano on November 25, 2105, the existing barn and ancillary structures are not included in the list of the National Register, State or County historical buildings, structures or cultural landscapes, and are not eligible for the local and state landmark status and National Register in lieu of the primary significance of the demolished original barn. However, as discussed above, while the barn and ancillary structure are not eligible for listing on state, local or national registers of historic resources, the structures provide a context for the historic use of the land for agricultural use and dairying and later as the site of a lumber mill. Both uses have been traditionally important to the local economy and culture of the

FIGURES

Figure 1 Location Map

Figure 2 Demolition Plan

town of Orick; however, with incorporation of Mitigation Measure CULT-1, which requires salvage and re-use of architectural features of the buildings to the extent feasible in order to preserve a portion of this historic context on site, impacts would be reduced to a less-than-significant level. Furthermore, while the proposed project would not involve any ground-disturbing activities outside of the previously disturbed footprint of the barn and ancillary structure that have the potential to disturb cultural artifacts, paleontological resources, human remains, or tribal cultural resources; however, there is the possibility that these resources may exist on the project site. Incorporation of Mitigation Measures CULT-2 and CULT-3 would reduce any potential impacts to these resources to a less-than-significant level.

As such, with mitigation incorporated, impacts to the known resources would be less than significant.

XVIII.b) There are no elements of the proposed project that would have cumulatively considerable impacts because there are no growth inducing impacts; there are no unmitigated impacts to sensitive habitats or species; and no construction that would impact traffic, existing residences, or limit the ability of the county or state to provide utilities to the Orick community. As such, no impact would occur.

XVIII.c) Since no new development is proposed under the project and since potential impacts associated with the proposed project would be mitigated to a less-than-significant level, the proposed project would not have environmental effects that would cause substantial adverse effects on humans, either directly or indirectly, and a less than significant impact would occur.

MITIGATION MEASURES

See Mitigation Measures BIO-1 and BIO-2 in Section IV, Biological Resources, and Mitigation Measures CULT-1 through CULT-3 in Section V, Cultural Resources.

FINDINGS

The proposed project will have a **Less Than Significant Impact with Mitigation Incorporation** on Mandatory Findings of Significance.

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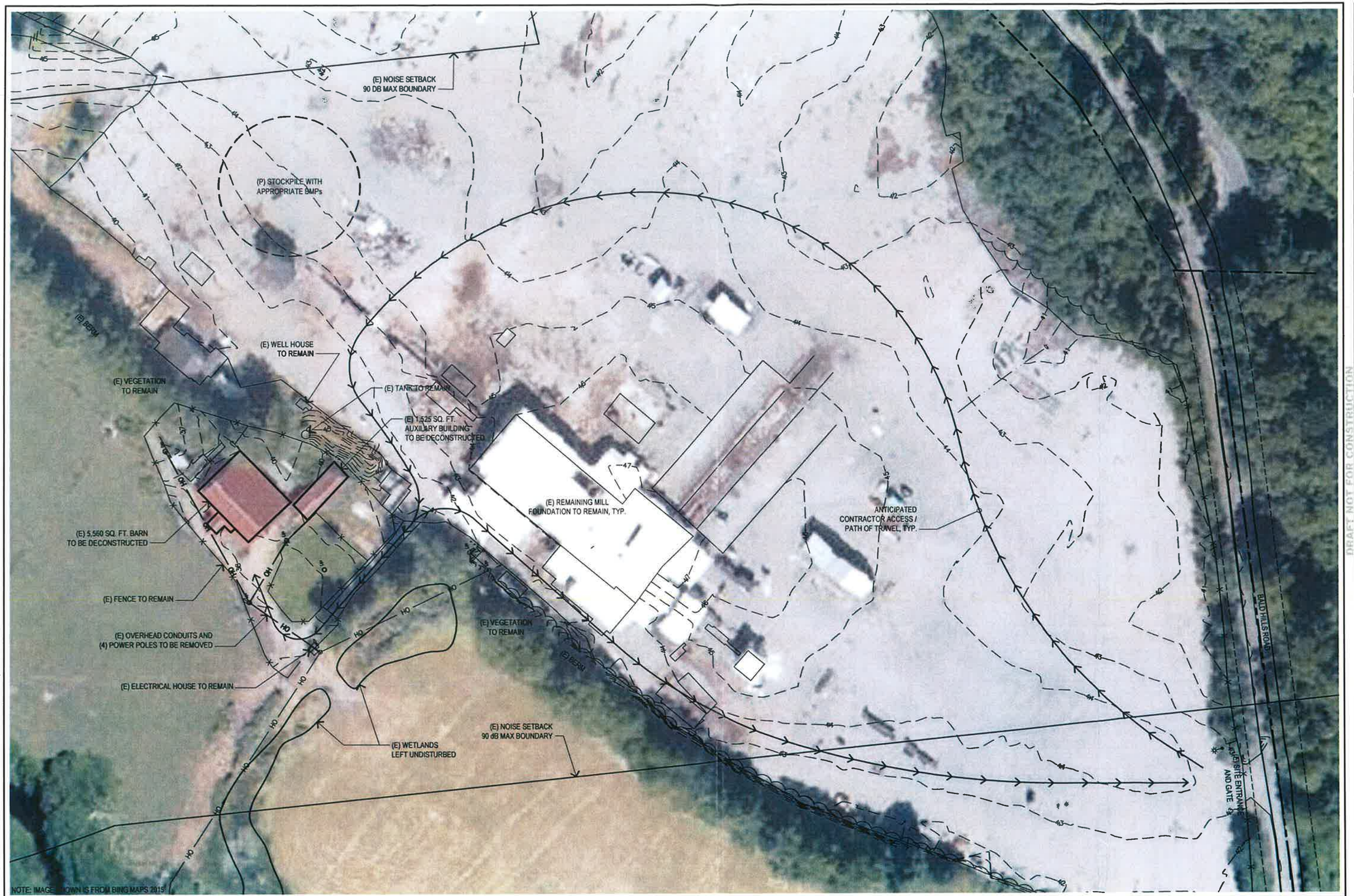

DRAFT NOT FOR CONSTRUCTION

NO.	HISTORY / REVISION	BY	CHK.	DATE
0	DESIGN REVIEW SUBMITTAL	JB	DNC	10/27/16

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ORICK MILL SITE - BARN DEMOLITION
ORICK, CA
DEMOLITION PLAN

SAVE THE REDWOODS LEAGUE
111 SUTTER ST., 11TH FLOOR, SAN FRANCISCO, CA 94104

DRAWN	SMS/JB
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APPROVED	---
DATE	09/14/2016
JOB NUMBER	7787.09
FIGURE	2

DEMOLITION PLAN SCALE: 1"=50' 01

Oct 27 2016 12:26p n:\cadfiles\7700\7787.09 SAVE THE REDWOODS ORICK MILL BARN DEMOLITION\DWGS\ 7787.09 PLAN Figure 2 Site Plan.dwg

SAVE THE REDWOODS LEAGUE
ORICK MILL SITE

BARN DEMOLITION

ORICK, CALIFORNIA
ASSESSOR'S PARCEL NUMBERS:
519-231-018 & 520-012-013

PROJECT NOTES

1. UNDER THE PROPOSED PROJECT, THE EXISTING BARN (APPROXIMATELY 5,560 SQUARE FEET IN SIZE) AND ANCILLARY STRUCTURE (APPROXIMATELY 1,525 SQUARE FEET IN SIZE) WILL BE DECONSTRUCTED, WITH ASSOCIATED MATERIALS STOCKPILED ON-SITE FOR POTENTIAL RE-USE ON-SITE AT A LATER DATE.
2. THE STOCKPILE WILL BE LOCATED ON THE EXISTING PAVED AREA, APPROXIMATELY 225 FEET NORTHEAST OF THE EXISTING BARN. APPROPRIATE BMPS WILL BE INSTALLED AND MAINTAINED.
3. SITE INGRESS AND EGRESS IS FROM BALD HILLS ROAD.
4. WETLANDS AND OTHER VEGETATION WILL NOT BE REMOVED OR IMPACTED BY BARN DECONSTRUCTION.
5. PG&E WILL DISCONNECT ELECTRICAL SERVICE TO THE BARN, REMOVE FOUR EXISTING POLES, AND OVERHEAD CONDUIT PRIOR TO BARN AND ANCILLARY STRUCTURE DECONSTRUCTION.
6. THE EXISTING BARN AND ANCILLARY STRUCTURES TO BE REMOVED ARE NOT INCLUDED IN THE LIST OF THE NATIONAL REGISTER, STATE OR COUNTY HISTORICAL BUILDINGS, STRUCTURES OR CULTURAL LANDSCAPES, AND ARE NOT ELIGIBLE FOR THE LOCAL AND STATE LANDMARK STATUS AND NATIONAL REGISTER IN LIEU OF THE PRIMARY SIGNIFICANCE OF THE DEMOLISHED ORIGINAL BARN. THE EXISTING BARN WAS CONSTRUCTED IN THE LATE 1940S TO REPLACE THE ORIGINAL BARN, WHICH WAS REMOVED AFTER THE NEW BARN WAS CONSTRUCTED. NO SALVAGED MATERIALS WERE USED IN THE CONSTRUCTION OF THE NEW BARN AND SEVERAL MODIFICATIONS HAVE SINCE BEEN MADE TO THE EXISTING BARN. THE ANCILLARY STRUCTURES ARE THE ONLY SURVIVING STRUCTURES FROM THE ORIGINAL ORICK BARN COMPLEX; ALL OTHER BUILDINGS AND STRUCTURES WERE PREVIOUSLY DEMOLISHED.
7. PROJECT SITE IS LOCATED WITHIN THE 100-YEAR FLOOD ZONE AND STATE FIRE RESPONSIBILITY AREA.
8. PRAIRIE CREEK IS LOCATED ON THE WESTERN PORTION OF THE PROJECT SITE, NEXT TO HIGHWAY 101, AND APPROXIMATELY 400 FEET WEST OF THE EXISTING BARN. ADDITIONALLY, THE EXISTING BARN IS LOCATED APPROXIMATELY 1,400 FEET NORTH OF REDWOOD CREEK.
9. SURFACE WATER RUNOFF PERCOLATES ON-SITE.
10. NO HAZARDOUS AREAS ARE KNOWN TO EXIST ON THE PROJECT SITE.
11. TOPOGRAPHY SHOWN IS FROM LACO TOPO SURVEY, 2012.
12. THE TOWNSEND'S BIG-EARED BAT (CORYNORHINUS TOWNSENDII) WERE NOT IDENTIFIED TO BE LOCATED WITHIN THE BARN AND ASSOCIATED STRUCTURES DURING A SURVEY CONDUCTED ON FEBRUARY 19, 2016.
13. SPECIAL STUDIES INCLUDE

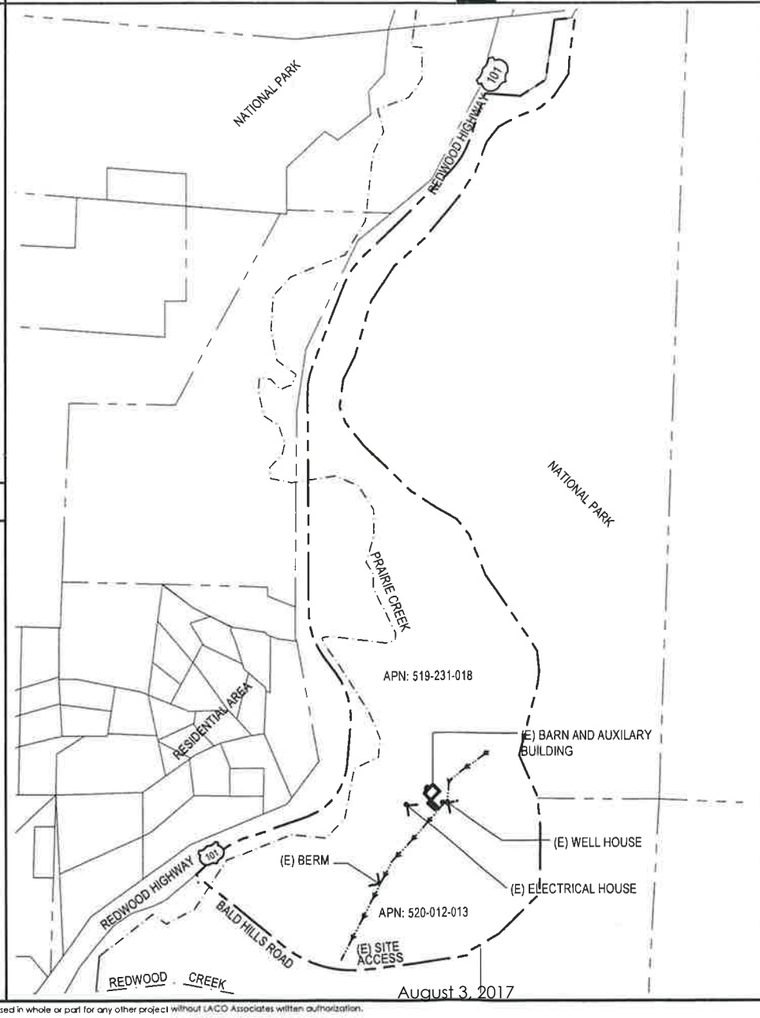
    13.1. ORICK BARN ANCILLARY STRUCTURES HISTORICAL RESOURCES ASSESSMENT REPORT PREPARED BY GERALD T. TAKANO, DATED NOVEMBER 25, 2015

PROJECT DIRECTORY

OWNER AND SUBDIVIDER: SAVE THE REDWOODS LEAGUE
111 SUTTER ST., 11th FLOOR
SAN FRANCISCO, CA 94104

AGENT: LACO ASSOCIATES
21 WEST FOURTH STREET
EUREKA, CA 95501
T: 707 443 5054
F: 707 599 9740

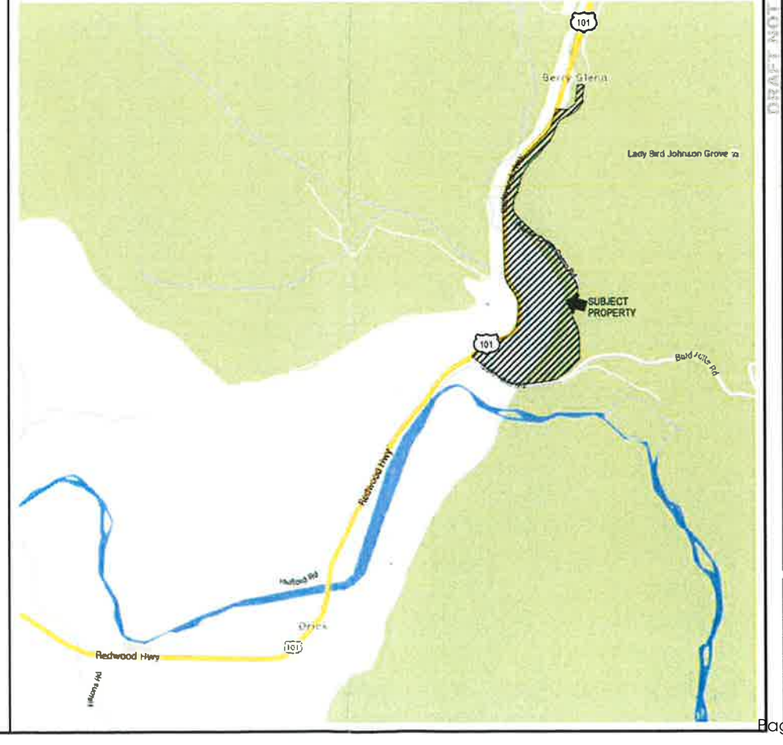
PROPERTY MAP



SHEET INDEX

PLANNING
FIGURE 1 COVER SHEET
FIGURE 2 DEMOLITION PLAN

VICINITY MAP



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NO.	HISTORY / REVISION	BY	CHK.	DATE
0	DESIGN REVIEW SUBMITTAL	JB	DNC	10/27/16

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ORICK MILL SITE - BARN DEMOLITION
ORICK, CA
COVER SHEET

SAVE THE REDWOODS LEAGUE
111 SUTTER ST., 11TH FLOOR, SAN FRANCISCO, CA 94104

DRAWN	SMS/JB
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APPROVED	---
DATE	09/14/2016
JOB NUMBER	7787.09
FIGURE	1

Oct 27, 2016 - 12:20pm
I:\Cadfiles\7700\7787.09 SAVE THE REDWOODS ORICK MILL BARN DEMOLITION\DWGS\7787.09-PLAN-Figure 1 Cover Sheet.dwg

APPENDIX A

Mitigation and Monitoring Reporting Program

Mitigation Monitoring and Reporting Program
County of Humboldt
Orick Mill Barn Demolition and Permitting Project

Impact	Mitigation Measure	Implementation Responsibility	Monitoring/ Reporting Responsibility	Timing
Air Quality	AIR-1: At all times, the project shall be constructed in compliance with Air Quality Regulation 1– Air Quality Control Rules, Rule 104, Section 4.0 – Fugitive Dust Emissions. The project contractor will be required to do the following: • Cover open-bodied trucks when used for transporting materials likely to give rise to airborne dust. • Apply water or suitable chemicals on exposed earth surfaces, materials stockpiles, and other surfaces which can give rise to airborne dust. • Promptly remove earth or other track-out material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment. Maintain construction equipment in good condition to minimize excessive exhaust emissions.	County of Humboldt	County of Humboldt and NCUAQMD	During demolition
Biological Resources	BIO-1: The County of Humboldt will adopt conditions of approval for the proposed demolition to require compliance with the recommendations of the Orick Mill Site Construction Noise Constraints Sensitive Species Protection Technical Memorandum (Noise Constraints Technical Memorandum), prepared by LACO Associates on July 15, 2016, including the following: • Prior to removal of trees or major vegetation during the raptor and migratory bird nesting season of March 1 to August 15, a pre-construction nesting survey shall be conducted by a qualified professional. If active nests are identified, affected trees and brush shall be retained until the end of nesting season or until a qualified professional determines that the nest is no longer in use. No heavy construction machinery shall be operated within fifty feet (50') of an active nest. • If demolition work is to be carried out within the nesting season of March 15 to August 15, as identified by the	County of Humboldt	County of Humboldt	Prior to and during demolition

	California Department of Fish and Wildlife (CDFW), a pre-construction nesting survey shall be conducted by a qualified professional to determine if any active nests are present in or on the existing barn and ancillary structure. If active nests are identified, demolition work shall be halted until the end of the nesting season or until a qualified professional determines that the nest is no longer in use. • During the combined nesting seasons of NSO and MAMU, construction noise shall be restricted as shown on Figure N1.1 of the Noise Constraints Technical Memorandum. In the immediate vicinity of the barn, no construction or demolition noise may exceed 90 dB during the mid-day period within the nesting season. In the event that the presence of Northern Spotted Owls are excluded from the adjacent old-growth redwood stands to the satisfaction of the USFWS, CDFW and NPS, such noise restrictions shall only apply within the MAMU nesting season. • All contracts related to the proposed project shall include the following language (or the equivalent) with sufficient monitoring and incentives to ensure compliance: *"The contractor shall keep food contained or attended at all times. Unattended food may attract ravens, crows, jays, bears, mountain lions, and other wildlife. The contractor will not leave the kitchen/food booth/food preparation area unattended when food of any type is outside of animal-proof containers. Note that coolers are not animal-proof when left unattended. "Food" includes spices and condiments as well as raw uncooked food. The contractor shall clean up after meals are served and at the end of each day, or if the kitchen will not be attended after each meal, the contractor shall store all food including spices and condiments in animal-proof containers. The contractor will deposit food scraps and trash in animal-proof trash cans or remove them from the site and park."*			

	BIO-2: The applicant will submit an Erosion and Drainage Control Plan with the application for a demolition permit. The Erosion and Drainage Control Plan will identify the type and location of Best Management Practices (BMPs) to be used to prevent erosion of the demolition site and to prevent storm runoff from carrying pollutants from the materials storage site to nearby wetlands, streams and sensitive habitats. Typical BMPs may include covering stored materials, revegetation of disturbed areas and the use of physical barriers such as silt fencing, straw matting and fiber rolls. BMPs will be reviewed for adequacy by the Humboldt County Building Department and will be installed and inspected concurrently with demolition.	County of Humboldt	County of Humboldt	Prior to and during demolition
Cultural Resources	Possible mitigation in the case of demolition may include, but may not be limited to, use of the following:			
	CULT-1: Humboldt County shall adopt a Condition of Approval to require deconstruction and salvage of architectural elements of the barn and ancillary building, to the extent determined to be feasible by a qualified professional. Salvaged materials shall be safely stored on site and shall be made available for re-use in subsequent site development. Salvaged items shall be removed in a manner that minimizes damage. Humboldt County will recommend, but not require, that any future interpretive exhibits on the site include signage, references to re-used materials, or other on site educational materials describing the historic use and context of the site in support of both the dairy and timber industries.	County of Humboldt	County of Humboldt	Prior to, during, and after demolition
	CULT-2: If cultural materials (e.g., chipped or ground stone, historic debris, building foundations, or bone) are discovered during ground-disturbance activities, work within 20 meters (66 feet) of the discovery shall be stopped, per the requirements of CEQA (Title 14 CCR 15064.5 [f]). Work near the archaeological find(s) shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action. Any identified cultural resources will be recorded on DPR 523 historic resource recordation forms, from the Office of Historic Preservation. If Native American archaeological remains are inadvertently encountered, the Tribal Historic Preservation Officers (THPOs) of the	County of Humboldt	County of Humboldt and THPOs	During demolition

	three recognized Wiyot-area tribes (Blue Lake Rancheria, Bear River Band of Rohnverville Rancheria, and Wiyot Tribe) will be immediately notified, permitted to observe the findings in the field, and afforded the opportunity to make recommendations for avoiding, minimizing, or mitigating impacts from the proposed development.			
	CULT-3: If human remains are discovered during project construction, work within 20 meters (66 feet) of the discovery location, and within any nearby area reasonably suspected to overlie human remains, will cease (Public Resources Code, Section 7050.5). The Humboldt County Coroner will be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws regarding the disposition of Native American burials, which fall within the jurisdiction of the California Native American Heritage Commission (NAHC) (Public Resources Code, Section 5097). In this case, the coroner will contact NAHC. The descendants or most likely descendants of the deceased will be contacted, and work will not resume until they have made a recommendation to the landowner or person responsible for excavation work with direction regarding appropriate means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98.	County of Humboldt	County of Humboldt and NAHC	During demolition
Geology and Soils	See Mitigation Measure BIO-2.	County of Humboldt	County of Humboldt	Prior to and during demolition
Hydrology and Water Quality	See Mitigation Measure BIO-2.	County of Humboldt	County of Humboldt	Prior to and during demolition
Noise	See Mitigation Measure BIO-1.	County of Humboldt	County of Humboldt	Prior to and during demolition
Mandatory Findings of Significance	See Mitigation Measures BIO-1, BIO-2, and CULT-1 through CULT-3.	County of Humboldt	County of Humboldt, NAHC, and THPOs	Prior to, during, and after demolition

APPENDIX B

Orick Barn Ancillary Structures Historical Resources Assessment Report (on file at the Planning and Building Department)

APPENDIX C

Orick Mill Site Construction Noise Constraints Technical Memorandum

LACO

TECHNICAL MEMORANDUM

Orick Mill Site Construction Noise Constraints Memo
Sensitive Species Protection

Date: July 15, 2016
Project No.: 7787.16

Prepared For: Christine Aralla, Land Project Manager
Save the Redwoods League

Prepared By: Randy Rouda, AICP, Sr. Planner

Reviewed By: Michael D. Nelson, Principal

Cc:

Attachments: Appendix 1: Figures
Appendix 2: USFWS Memorandum: July 31, 2006
Appendix 3: RNSP Guidelines: May, 2007

1.0 INTRODUCTION AND BACKGROUND

This Technical Memorandum is presented pursuant to Task No. 2415 of Service Agreement No. 7787.16 dated January 26, 2016. Save the Redwoods League (SRL) intends to carry out a variety of activities including demolition, asphalt removal, construction, and adaptive reuse of a former mill site located at 122305 U.S. Highway 101, Orick, California, 95555 (Assessor's Parcel Numbers (APNs) 519-231-018 and 520-012-013) (Appendix 1, Figure 1, Location Map). The site includes wetland and riparian habitat which may provide nesting opportunities for birds protected by the Migratory Bird Treaty Act (MBTA) (Appendix 1, Figure 6 as included in *Mill A Planning Project, Delineation of Wetlands* by Humboldt State University, July 6, 2016). The hillside immediately adjacent and to the west of the site contains old growth redwood stands which are potential habitat for marbled murrelet (Brachyramphys marmoratus) (MAMU) and northern spotted owl (Strix occidentalis caurina) (NSO), both of which are federally listed sensitive species. This Technical Memorandum summarizes seasonal restrictions, setbacks, noise limitations and other construction related limitations intended to avoid the disturbance of nesting birds and fledglings in potential violation of the MBTA and to avoid the incidental take of avian species identified as sensitive

21 W. 4th Street, Eureka, California 95501 707 443-5054 Fax 707 443-0553
311 S. Main Street, Ukiah, California 95482 707 462-0222 Fax 707 462-0223
3450 Regional Parkway, Suite B2, Santa Rosa, California 95403 707 525-1222

pursuant to the federal or state Endangered Species Acts by interfering with typical nesting, foraging, and other behaviors.

LACO Associates has prepared this Technical Memorandum in consultation with representatives of the United States Fish and Wildlife Service, the National Parks Service and the California Department of Fish and Wildlife. This Technical Memorandum relies on guidance that was provided by the United States Fish and Wildlife Service (Arcata Fish and Wildlife Office) Memorandum dated July 31, 2006, Titled Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (Appendix 2) and Redwood National and State Parks Auditory Disturbance Guidelines for Projects in Suitable Spotted Owl and Marbled Murrelet Nesting Habitat During the Breeding Season, May, 2007 (Appendix 3).

2.0 CRITICAL SEASONS

On-site demolition work, construction, and eventual site operations are not likely to cause direct harm (such as injury or mortality) to adult birds. However, tree removal during nesting season or construction activities that cause changes in nesting behavior through noise or visual disturbance, do have the potential to interfere with breeding and fledging, which could have an unintended (incidental) effect to the ongoing health of the affected species. Those effects are limited to the breeding and nesting season of each species. Note that riparian, wetland and old growth habitat areas, are protected by a variety of local, state, and federal regulations. This Technical Memorandum focuses on those which apply primarily to raptors, migratory birds, and state and federally listed avian species. Additional restrictions on activities which would affect on-site streambeds, riparian habitat, and wetlands will also apply.

Specific nesting and breeding seasons are as follows:

Table 1: Nesting and Breeding Seasons

Protected Species	Breeding Season Starts	Breeding Season Ends	Typical Constraints
Northern Spotted Owl	February 1	July 9	Construction and operational noise restrictions.
Raptor/Migratory Birds	March 1	August 15	Pre-construction nest surveys prior to tree or major brush removal. Construction setbacks from active nests.
Marbled Murrelet	March 24	September 15	Construction and operational noise restrictions.

Grading activity affecting one acre or more will require a Stormwater Pollution Prevention Plan (SWPPP), which will identify Best Management Practices (BMP's). Rainy season BMP's are more robust and will be required if work is carried out between October 15 and April 15. General permit requirements will also require on-site testing after every significant rain event while work is underway. These requirements can increase the cost and complexity of construction in the rainy season. Ultimately, it will likely be necessary to balance the cost of compliance with rainy season construction standards with the cost of modification of construction methods to meet on-site nesting season noise standards.

3.0 SETBACKS AND NOISE RESTRICTIONS

3.1 Raptors and Migratory Birds

Anticipated restrictions to protect raptors and birds covered by the MBTA are limited to a breeding season from March 1 through August 15. Likely restrictions within the breeding season consist of the following:

1) Retain a qualified biologist to conduct a nest survey no more than 15 days prior to any proposed tree or major vegetation removal, and
2) If nests are found, maintain a 500 foot construction activity buffer around affected trees until either the end of the nesting season or a qualified biologist has verified that the nest is no longer in use.

Depending on the type of permits required, modifications to the setbacks, or the establishment of activities within those setbacks which are not likely to affect nesting and fledging behaviors may be negotiated with the approving agencies.

3.2 Marbled Murrelets and Northern Spotted Owls

SRL and a prior property owner have convened periodic meetings of local experts and regulators to discuss design, educational, and operational protections for protected avian species. In the course of those meetings, biologists working for USFWS and NPS have indicated the site is unlikely to provide habitat to NSO due to the known presence of barred owls, which typically outcompete NSO within a given territory. However, as the adjacent old growth habitat areas have not been comprehensively surveyed, for the purpose of this memorandum, we will assume the potential presence of NSO and will include appropriate protective measures to avoid incidental take of this species.

Restrictions for MAMU and NSO take three primary forms. Avoidance of noise impacts, avoidance of visual impacts, and avoidance of increased predation from corvids (MAMU only). Visual and noise impact prevention measures apply only during the nesting season from February 1 (start of NSO) through September 15 (end of MAMU). Measures to discourage increased corvid activities must be followed year-round to be effective.

During the nesting season, MAMU are most active in the vicinity of their nests in the two hours after sunrise and the two hours before sunset. For that reason, and to account for the typically reduced nighttime ambient noise and activity, mid-day construction, and operational restrictions are modestly less strict in mid-day when MAMU nesting activity is lowest.

3.2.1 *Visual Impact Avoidance*

The USFWS has established a guideline that any human activity within a visual line of site of 40 meters (130 feet) of an active nest has the potential to create an incidental take by interfering with typical nesting behavior. No active nests have been identified in the old growth habitat adjacent to the site. As a precaution, we recommend that activity within the old growth habitat areas be avoided entirely unless a specific project and approach is approved by USFWS and NPS. Construction and operational activity within 130 feet of old growth habitat (shown on Appendix 1, Figure N1.1) should be restricted to mid-day.

3.2.2 Noise Impact Avoidance

The USFWS and NPS guidance documents described in Section 1.0 above (Appendix 2 and Appendix 3) identify a number of variables which affect the potential for construction or operational noise to interfere with nesting behavior including time of day, distance from noise source to habitat, background (ambient) noise intensity, and project noise intensity. The most important variable is the pre-project ambient noise environment. The guidance documents provided by USFWS and NPS indicate MAMU and NSO can inhabit and acclimate to areas with considerable noise intensity, such as tree stands adjacent to busy highways. Birds acclimated to ambient noise are less likely to react to additional noise sources in a similar range (Appendix 2).

There are two old growth redwood habitat areas (North and South) (Appendix 1, Figure N1.1) located on the hillside to the east of the subject site. Both habitat areas have the potential to be affected by on-site noise emissions. The southerly area is near Bald Hills Road, which carries considerable commuter, tourist, and logging (truck) traffic. In 2012, LACO Associates prepared a Noise Study for a proposed project on the subject site. That study indicates Bald Hills Road regularly generates a noise intensity of approximately 70dB. The southerly habitat area is close enough to Bald Hills Road that resident birds may be expected to be acclimated to noise in the 51 dB to 70 dB (Very Low to Low) range. The USFWS and NPS guidance documents indicate that MAMU and NSO in the southerly habitat area are less likely to be affected by project related noise sources than those in the northerly habitat area which are exposed to much more attenuated noise from Bald Hills Road and State Highway 101 in the range of 40 to 50 dB (Natural Ambient).

The USFWS and NPS guidance documents recommend setbacks from habitat areas based on the intensity of the noise to be generated and the intensity existing noise (Appendix 3, Table 1). Maximum noise intensity in each location is reduced by 10dB at night and within two hours of sunrise and sunset to account for lower typical ambient noise intensity and the greater nesting activity in those times. LACO Associates has applied that guidance to the subject site and recommends noise generation for demolition, construction, and operations follow these guidelines during the NSO and MAMU nesting seasons:

[See Table 2 Below]

TABLE 2:
MAMU NESTING SEASON CONSTRUCTION, DEMOLITION AND OPERATIONAL NOISE CONSTRAINTS

Area	Description	Maximum Noise Generation (dB)		Likely Permitted Activities (Mid-Day)
		Night and Within 2 Hours of Sunset and Sunrise (Avoid all mechanical noise if feasible)	Mid-Day	
A	Northern Old Growth Habitat. Acclimated to Natural Ambient (<50 dB) to Very Low (51-60 dB). Natural sources and adjacent road noise.	50	60	60 dB) No amplified or motorized sounds. Hand tools only. Limited impact noise (hammering).
B	Southern Old Growth Habitat. Acclimated to Very Low (51-60 dB) to Low (61-70 dB). Adjacent road noise (Bald Hills Road).	60	70	70 dB) Hand tools. Small power tools (generally battery operated and hand-held). Light vehicular traffic at slow speeds on paved surfaces.
C	Northern Low Noise Buffer (0-165 feet from Northern Old Growth Habitat).	60	70	70 dB) Hand tools. Small power tools (generally battery operated and hand-held). Light vehicular traffic at slow speeds on paved surfaces.
D	Northern Moderate Noise Buffer (165 to 500 feet from Northern Old Growth Habitat) and Southern Moderate Noise Buffer (0-165 feet from Southern Old Growth Habitat.	70	80	80 dB) Small gas powered engines (lawn mowers and small chain saws), electric hand tools (except circular saws and impact wrenches), passenger vehicles, street legal motorcycles and small trail motorcycles.
E	Northern High Noise Buffer (500-1,320 feet from Northern Old Growth Habitat) and Southern High Noise Buffer (165-825 feet from Southern Old Growth Habitat).	80	90	90 dB) Medium to large construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, and moderate to large diesel engines. Large gasoline powered tools, power saws, large chainsaws, pneumatic drills and impact wrenches, circular saws and hammering.
F	Southern Very High Noise Buffer (825 -1,320 feet from Southern Old Growth Habitat).	90	100	100 dB) Jackhammers, smaller pile drivers, wood chippers.
G	Northern Very High/Extreme Noise Buffer (1,320 feet from Northern Old Growth Habitat to Property Line).	90	110	110 dB) Larger pile drivers. Ground level explosives. Asphalt grinders. Note: In the unlikely event that any project related noise source may exceed 110 dB, specific analysis of noise type, intensity and location will be required.
H	Southern Extreme Noise Buffer (1,320 feet from Southern Old Growth Habitat to Property Line).	100	110	

The setback areas are shown on the Noise Constraints Map (Appendix 1, Figure N1.1). See Appendix 2 for a more complete list of typical intensity of noise generation for a variety of equipment and activities. Note that most construction activities generate noise up to 90 dB. During the nesting season (mid-day), such activities should be set back at least 165 feet from the southerly habitat area and at least 500 feet from the northerly habitat area. Where demolition or construction activity must take place within those setbacks, such actions should be scheduled to take place outside of the NSO and MAMU nesting seasons. Special consultation with USFWS, NPS, CDFW and others is required if project related noise is expected to exceed the identified limits.

3.2.3 *Increased Corvid Predation Avoidance*

Corvids such as jays, ravens, and crows are attracted to food scraps often associated with human activity. Once a corvid population is established, individuals may also predate MAMU and NSO eggs and fledglings. Careful control of food and food waste is essential to avoid increased corvid predation. LACO Associates has collected five years of baseline data regarding corvid presence on the subject site which will be used to establish operational controls and an adaptive management plan. That plan is outside the scope of this technical memorandum.

Food and food waste control are also important during demolition and construction. All contracts related to such work should include the following language (or the equivalent) with sufficient monitoring and incentives to ensure compliance:

> The contractor shall keep food contained or attended at all times. Unattended food may attract ravens, crows, jays, bears, mountain lions, and other wildlife. The contractor will not leave the kitchen/food booth/food preparation area unattended when food of any type is outside of animal-proof containers. Note that coolers are not animal-proof when left unattended. "Food" includes spices and condiments as well as raw uncooked food. The contractor shall clean up after meals are served and at the end of each day, or if the kitchen will not be attended after each meal, the contractor shall store all food including spices and condiments in animal-proof containers. The contractor will deposit food scraps and trash in animal-proof trash cans or remove them from the site and park.

3.2.4 *Calendar of Restrictions*

Table 3: Calendar of Restrictions

Start Date	End Date	Typical Constraints
January 1	January 31	Maintain corvid restrictions.
February 1	February 28/29	Maintain corvid restrictions. Conform to Noise and Visual Impact restrictions.
March 1	August 15	Maintain corvid restrictions. Conform to Noise and Visual Impact restrictions. Pre-construction nesting surveys for tree and major brush removal.
August 16	September 15	Maintain corvid restrictions. Conform to Noise and Visual Impact restrictions.
September 16	December 31	Maintain corvid restrictions

4.0 CONCLUSION

The proposed Visitor Center is in an area that has a history of intensive human activity, but is in close proximity to a variety of sensitive habitats. Throughout the design, construction and operational phases of the project, the Save the Redwoods League should continue to coordinate closely with regulatory agencies and other experts to limit the effects of the visitor center on the environment, and, where possible, to enhance existing habitats.

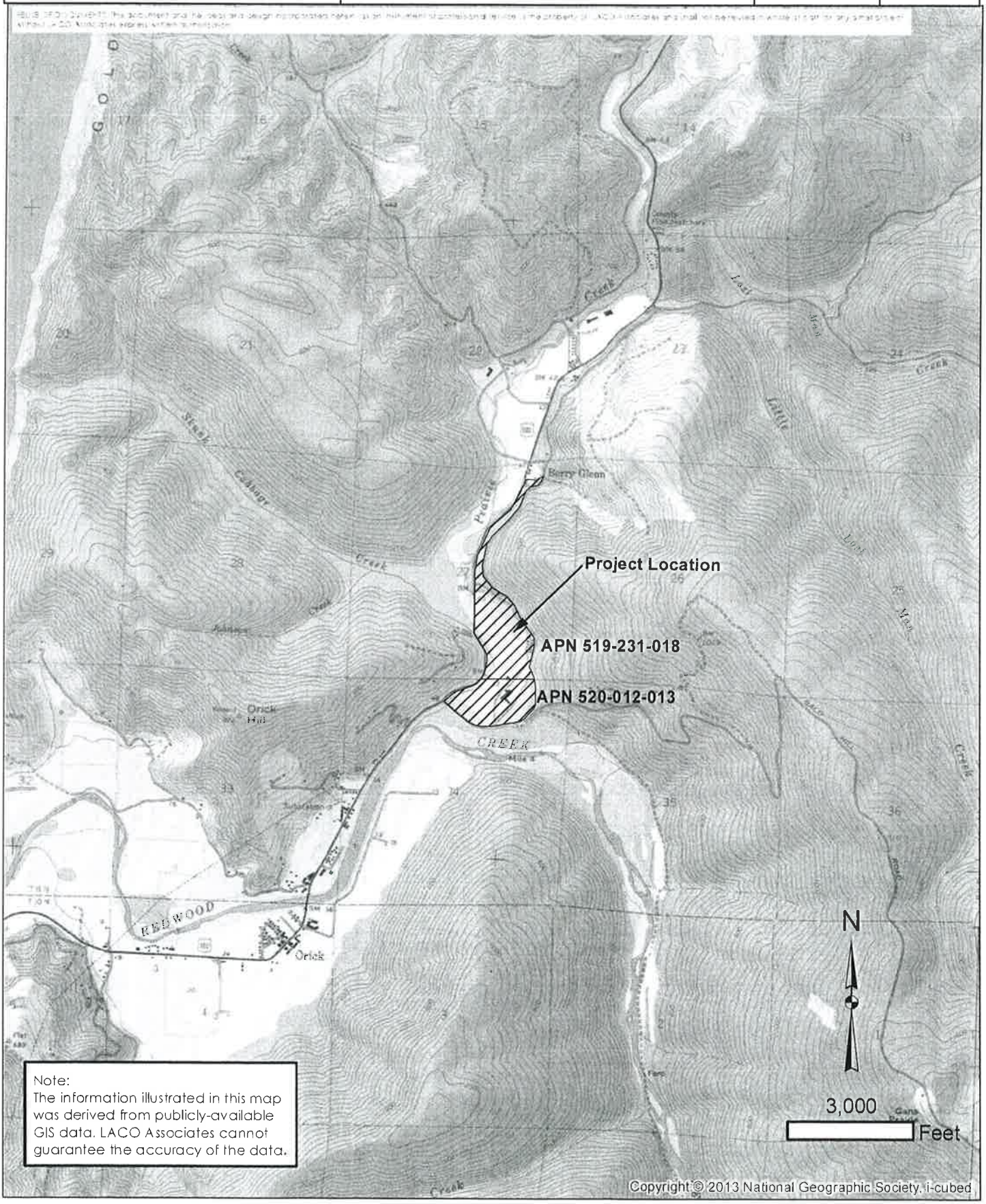
As described above, construction in close proximity to the old growth redwood habitat areas to the east of the subject site has the potential to disturb nesting sensitive avian species. Based on the guidance from the USFWS and NPS, LACO Associates has recommended time of year, time of day, and location restrictions intended to avoid such disturbance. Prior to final adoption, these recommendations should be reviewed by USFWS, NPS and others to verify their adequacy and accuracy.

P:\7700\7787 Save-the-Redwoods League\7787.16 Noise Constraints Analysis\06 Planning\Construction Noise Constraints Memo 20160715 Final.docx

APPENDIX 1

Figures

LACO EUREKA • UKIAH • SANTA ROSA 1-800-515-5054 www.lacoassociates.com	PROJECT	NOISE CONSTRAINTS ANALYSIS	BY	JB	FIGURE	1
	CLIENT	SAVE-THE-REDWOODS LEAGUE	CHECK	MMM		
	LOCATION	ORICK, CA.	DATE	7/15/2016	JOB NO.	7787.16
		LOCATION MAP				



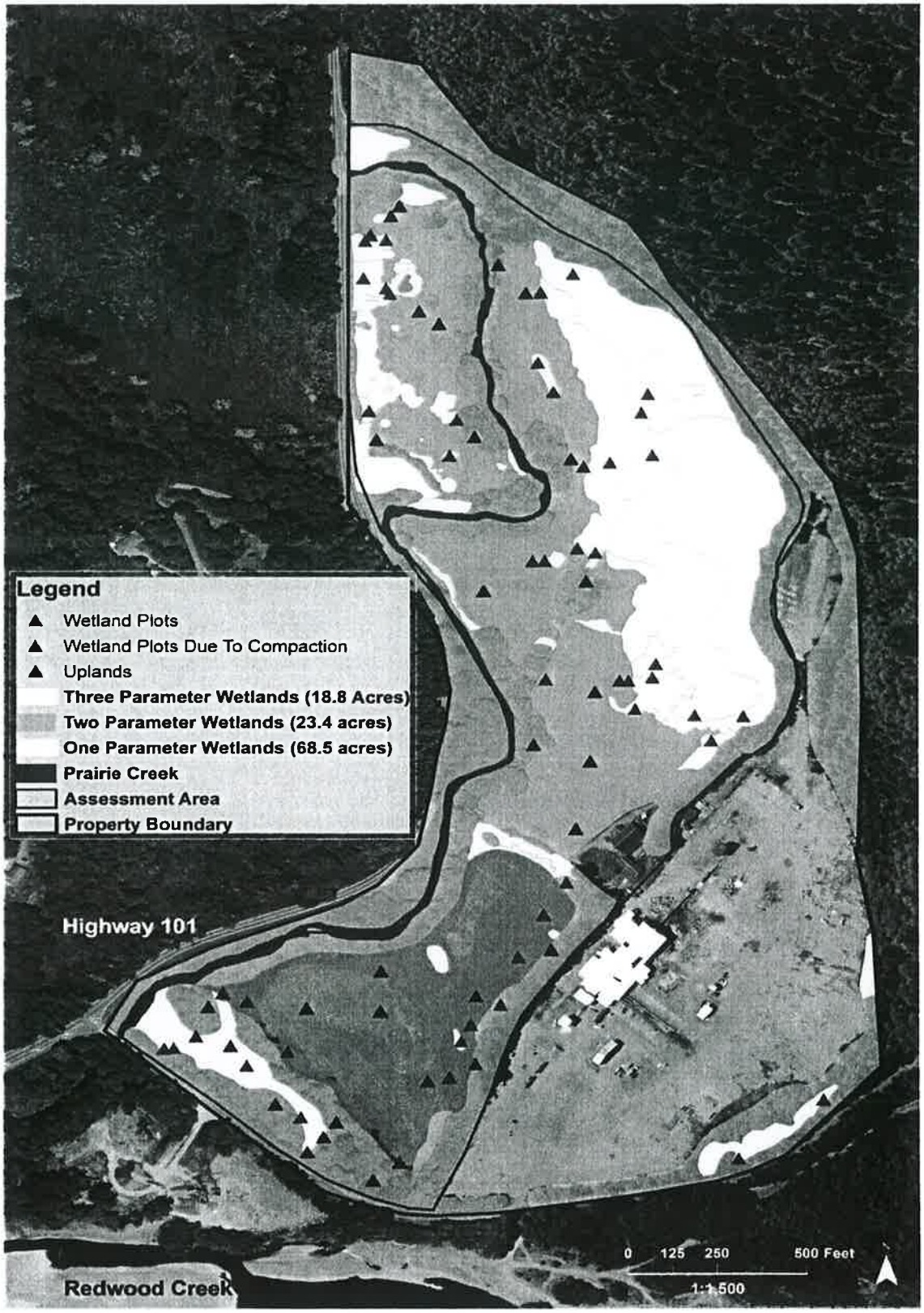


Figure 6. Map of one, two and three parameter wetlands, and plot locations.

CONSTRUCTION, DEMOLITION AND OPERATIONAL NOISE CONSTRAINTS DURING MAMU NESTING SEASON - 2/1 THROUGH 9/15

Area	Description	Maximum Noise Generation (dB)		Likely Permitted Activities (Mid-Day)
		Night and Within 2 Hours of Sunset and Sunrise (Avoid all mechanical noise if feasible)	Mid-Day	
A	Northern Old Growth Habitat. Acclimated to Natural Ambient (<50 dB) to Very Low (51-60 dB). Natural sources and adjacent road noise.	50 dB	60 dB	60 dB) No amplified or motorized sounds. Hand tools only. Limited impact noise (hammering).
B	Southern Old Growth Habitat. Acclimated to Very Low (51-60 dB) to Low (61-70 dB). Adjacent road noise (Bald Hills Road)	60 dB	70 dB	70 dB) Hand tools. Small power tools (generally battery operated and hand-held). Light vehicular traffic at slow speeds on paved surfaces.
C	Northern Low Noise Buffer (0-165 feet from Northern Old Growth Habitat)	60 dB	70 dB	70 dB) Hand tools. Small power tools (generally battery operated and hand-held). Light vehicular traffic at slow speeds on paved surfaces.
D	Northern Moderate Noise Buffer (165 to 500 feet from Northern Old Growth Habitat) and Southern Moderate Noise Buffer (0-165 feet from Southern Old Growth Habitat	70 dB	80 dB	80 dB) Small gas powered engines (lawn mowers and small chain saws), electric hand tools (except circular saws and impact wrenches), passenger vehicles, street legal motorcycles and small trail motorcycles.
E	Northern High Noise Buffer (500-1,320 feet from Northern Old Growth Habitat) and Southern High Noise Buffer (165-825 feet from Southern Old Growth Habitat)	80 dB	90 dB	90 dB) Medium to large construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, and moderate to large diesel engines. Large gasoline powered tools, power saws, large chainsaws, pneumatic drills and impact wrenches, circular saws and hammering.
F	Southern Very High Noise Buffer (825 -1,320 feet from Southern Old Growth Habitat)	90 dB	100 dB	100 dB) Jackhammers, smaller pile drivers, wood chippers.

NOTE: MARKED AREAS ARE APPROXIMATE. HABITAT LOCATIONS ARE ESTIMATED FROM AERIAL PHOTOGRAPHY AND HAVE NOT BEEN FIELD VERIFIED BY A QUALIFIED BIOLOGIST. HABITAT AREAS AND SETBACKS HAVE NOT BEEN SURVEYED

DRAFT CONSTRUCTION NOISE SETBACKS AND BUFFERS - FOR DISCUSSION PURPOSES ONLY

SCALE: 1"=400' — 01

PRELIMINARY DRAFT - FOR DISCUSSION PURPOSES ONLY - PRELIMINARY DRAFT - FOR DISCUSSION PURPOSES ONLY

DRAWN	SMG
CHECK	RJR
APPROVED	MDN
DATE	7-1-16
JOB NUMBER	7787.16
FIGURE	N1.1

ORICK MILL SITE - OLD GROWTH NOISE BUFFER
ORICK, CA
CONSTRUCTION NOISE SETBACKS AND BUFFERS

SAVE THE REDWOODS LEAGUE
111 SUTTER ST., 11th FLOOR, SAN FRANCISCO, CA 94104

NO	HISTORY / REVISION	BY	CHK	DATE

LACO
EUREKA • UKIAH • SANTA ROSA

APPENDIX 2

USFWS Memorandum: July 31, 2006

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arcata Fish and Wildlife Office
1655 Heindon Road
Arcata, CA 95521-5582
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To:
8-14-2006-2887

JUL 31 2006

Memorandum

To: All Interested Parties

From: Field Supervisor, Arcata Fish and Wildlife Office
Arcata, California

Subject: Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California

This memorandum transmits guidance prepared by the Arcata Fish and Wildlife Office (AFWO) that addresses the potential effects of disturbance on the federally listed northern spotted owl (*Strix occidentalis caurina*) (owl) and marbled murrelet (*Brachyramphus marmoratus*) (murrelet). This guidance promotes consistent and reasonable determinations of effects for activities that occur in or near owl or murrelet suitable habitat and result in elevated human-generated sounds or human activities in close proximity to nest trees. This guidance applies to activities occurring within the jurisdictional area of AFWO; generally, that area including Humboldt, Del Norte, and Trinity Counties, western Siskiyou County, and Mendocino County exclusive of the Russian River watershed.

This guidance applies to activities which have the potential to harass the owl or the murrelet as a result of substantially elevated sound levels or human presence near nests during the breeding season. This guidance was developed as a local adaptation of more general recommendations provided in 2005 by Region 1 of the Fish and Wildlife Service; those general recommendations are included as appendices to our guidance. This local adaptation resulted from extensive discussions among AFWO staff, consideration of local data, and comments provided by biologists from other Service offices and other agencies in California.

Through this memorandum, I am making this new guidance available for use by AFWO staff and the agencies and partners with whom we interact in project design, analysis, and consultation. This guidance will become fully effective as of the 2007 breeding seasons for the affected species. We are releasing it now to facilitate your project planning processes. However, as special case-by-case circumstances may warrant, and as our staff resources permit, we may

consider implementation of this guidance this year for certain projects. If you have such projects, we will work with you to apply it on a site-specific basis. While this guidance is the result of lengthy and detailed discussion and development, and should be implemented substantially as written, it is to be viewed as a living document subject to continued, ongoing revision and improvement as additional data and experience are acquired.

Questions regarding implementation and interpretation of this guidance should be directed to Amedee Brickey, Endangered Species Program Lead, at (707) 822-7201.

Attachments

Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California, July 26, 2006

Marbled Murrelet Sound and Visual Harassment Decision Support Tool Draft User Guide, October 2003

Northern Spotted Owl Sound and Visual Harassment Decision Support Tool Draft User Guide, March 2004

Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California

July 26, 2006

Executive Summary

The issue of project-induced noise disturbance to northern spotted owls and marbled murrelets has drawn increasing attention in recent years, yet remains a complex, controversial, and poorly understood subject. The data available to assess impacts to terrestrial wildlife from these effects are limited, and fewer data yet are specific to these listed species. This guidance document builds upon and consolidates prior efforts (see Appendices) to interpret the limited available data to draw objective conclusions about the potential for these effects to rise to the level of take.

Through this guidance, the US Fish and Wildlife Service (Service) describes behaviors of these two forest species that reasonably characterize when disturbance effects rise to the level of take (i.e., harass), as defined in the implementing regulations of the Endangered Species Act of 1973, as amended (the Act). These behaviors include:

- Flushing an adult or juvenile from an active nest during the reproductive period.
- Precluding adult feeding of the young for a daily feeding cycle.
- Precluding feeding attempts of the young during part of multiple feeding cycles.

We have attempted to provide objective metrics based on a substantial review of the existing literature, as it pertains to these species and appropriate surrogate species. Our recommended methodology relies on a comparison of sound levels generated by the proposed action to pre-project ambient conditions. Disturbance may reach the level of take when at least one of the following conditions is met:

- Project-generated sound exceeds ambient nesting conditions by 20-25 decibels (dB).
- Project-generated sound, when added to existing ambient conditions, exceeds 90 dB.
- Human activities occur within a visual line-of-sight distance of 40 m or less from a nest.

To simplify the analysis of these potential effects, and to promote consistency in interpretation of the analytical results, we established sound level categories of 10-dB increments. The analysis relies on a simple comparison of project-generated sound levels against ambient conditions. Our recommended analysis includes a simple comparison of project and pre-project sound levels within a matrix of estimated distances for which available data support a conclusion of harassment. We provide a real-world example to assist the reader in understanding the correct application of the methodology.

Finally, we provide additional information the analyst should consider in conducting the analysis, as well as guidance on interpretation the final numbers derived from the analysis. We describe site-specific information that is important to include in project analyses, caution against inappropriate inclusion of information and circumstances not relevant to the results, and provide context to the final interpretation.

Introduction

The issue of elevated sound and visual disturbance of forest wildlife species, especially as it affects the northern spotted owl (owl) and the marbled murrelet (murrelet), has received increased attention in recent years, yet remains a complex, controversial, and poorly understood subject. In an effort to provide objective criteria for determining when disturbance of these species might rise to the level of "take", and to promote consistency in the interpretation of analytical results, the Arcata Fish and Wildlife Office (AFWO) developed the following guidance. The purposes of this guidance are (a) to describe the scientific basis for considering the effects of auditory and visual disturbance to owls and murrelets, and (b) to provide a methodology to simplify the analysis of these effects for the large majority of project circumstances typically encountered in or near owl and/or murrelet habitat.

This guidance attempts to quantify the effects of elevated sound levels and visual proximity of human activities to owls and murrelets, and primarily applies to these species within their suitable forest habitats in northwestern California. It may have some applicability to other forest nesting avian species, but was not developed with other species specifically in mind. Future updates of this guidance may address other forest birds.

This guidance has been developed through an extensive consideration of the available literature, incorporating species-specific information as available, but relying substantially on data from a variety of other surrogate avian species and local applications, as appropriate. This guidance is adapted from information compiled and distributed by the Service's Pacific Region, Office of Technical Support, while allowing for local conditions. Appendices A and B of this document include that information. The reader is referred to those documents for important and extensive background information regarding this issue, methods used to estimate the physical attenuation of sound in the forested landscape, and a complete list of cited material supporting our analysis. However, this guidance is intended to stand alone; the user need not read and digest the extensive appended material to fully implement this guidance.

Behaviors Indicating Harassment

The definition of "take" prescribed by the Act includes "harass". The Act's implementing regulations further define harass as "... an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering" [50 CFR §17.3]. Activities that create elevated sound levels or result in close visual proximity of human activities at sensitive locations (e.g., nest trees), have the potential to significantly disrupt normal behavior patterns.

While owls and murrelets may be disturbed by many human activities, we anticipate that such disturbance rises to the level of harassment under a limited range of conditions. For purposes of this guidance, we assume harassment may occur when owls or murrelets demonstrate behavior suggesting that the safety or survival of the individual is at significant risk, or that a reproductive effort is potentially lost or compromised. Examples of this behavior include, but are not limited to:

- An adult or juvenile is flushed from a nest during the incubation, brooding, or fledging period, that potentially results in egg failure or reduced juvenile survival.
- An adult abandons a feeding attempt of a dependent juvenile for an entire daily feeding period, that potentially results in malnutrition or starvation of the young.
- An adult delays feeding attempts of dependent birds on multiple occasions during the breeding season, potentially reducing the growth or likelihood of survival of young.

Other essential behaviors, if disrupted, may also indicate harassment.

We conclude, based on our interpretation of the available literature, that these behaviors may occur when owls or murrelets are subject to elevated sound levels or visual detection of human activities near their active nests or dependent offspring. We interpret the available published data on owls, murrelets and appropriate surrogate species as indicating that the above behaviors may manifest when: (a) the action-generated sound level substantially exceeds (i.e., by 20-25 dB or more as experienced by the animal) ambient conditions existing prior to the project; (b) when the total sound level, including the combined existing ambient and action-generated sound, is very high (i.e., exceeds 90 dB, as experienced by the animal); or (c) when visual proximity of human activities occurs close to (i.e., within 40 m of) an active nest site. Sound levels of lesser amplitude or human presence at farther distances from active nests have the potential to disturb these species, but have not been clearly shown to cause behaviors that meet the definition of harassment. We estimate distances at which conditions (a) and (b) occur by calculating attenuation rates of sound across habitat conditions representative of the forest habitats occupied by owls and murrelets. We describe this calculation in detail in a later section.

These behaviors are difficult to witness or quantify under field conditions. The difficulty associated with documentation of these behaviors, especially in species such as the marbled murrelet that rely on cryptic coloration and behavior to avoid detection, warrants a conservative interpretation of the limited data available on this subject. However, at this time, we have identified only those behaviors associated with active nest sites during the nesting season as potentially indicating harassment.

Sound Level Categories

The analysis of auditory and visual disturbance provided herein relies substantially on a simple comparison of the sound level generated by sources (e.g., chainsaws, dozers, trucks, power tools, etc.) anticipated for use in a proposed action against ambient sound conditions prevalent in the action area prior to implementing the project. The analysis compares the sound level that a nesting owl or murrelet is likely to be subject to as a result of implementing a proposed action against the sound levels to which the species may be exposed under existing, pre-project conditions.

Note that in this guidance we define the "ambient" sound level as that sound environment in existence prior to the implementation of the proposed action, and may include any and all human-generated sound sources when they constitute a long-term presence in the habitat being analyzed. Temporary, short-term sources, even if in effect during or immediately prior to the

proposed action, would generally not be considered as part of the ambient but would instead be considered as a separate effect, or considered in combination with the sources from the proposed action. A special case of ambient is the "natural ambient", which includes sound sources native to the forested habitat being considered, such as wind in trees, bird calls, and distant water flow. Human-generated, "white noise" sources, such as a distant highway, may also be part of the natural ambient if (a) distant to the area being considered, (b) relatively low in volume (i.e., <50 dB), and (c) relatively uniform in sound level over the area of consideration. Ambient sound should be estimated based on typical sources experienced on a daily or more frequent basis. For other than "natural ambient", sources are generally located within or near the footprint of the proposed action.

The analytical comparison is provided graphically in Table 1. However, before discussing the methodology incorporated into this table, and the interpretation of numeric values derived from its use, we define and describe the sound level categories used in this analysis. We created sound level categories of 10-dB increments as a means to simplify the analysis. Each sound level category is described in terms of the conditions, equipment, tools, and other sound sources common to the particular level.

The following subsections provide concise descriptions of sound levels typically encountered under pre-project ambient conditions or during project implementation (including post-project use, if future use of the project area results in a long-term alteration of the sound/visual environment). Each description includes the decibel range, a general description, and examples of equipment or tools that typify that sound environment. Measurements and estimates from a broad range of tools and equipment are provided for reference purposes in Table 2.

It should be noted that many tools and equipment demonstrate a range of sound production substantially wider than the 10-dB sound level categories provided here. That range of sound production represents the inherent variability among similar sources, and the variation that typically occurs among measurements of even identical sources. This can easily be seen in a cursory examination of Table 2. When the range of sound measures for a source exceed the 10-dB range of a single sound level category, the analyst should consider the sound source in the context of other sources typical to the proposed activity. For example, chain saws used in timber harvest operations would include those in the higher sound measures, and would not include lower sound levels more representative of homeowner applications. In a related issue, the sound of small trees being felled is not anticipated to be substantially higher than the sound of the saws and other activities. However, the felling of larger trees may exceed the sound of the equipment used to fall and yard them; we have addressed this situation in the sound level descriptions.

We have attempted to create categories here that include similar sound sources, and have generally applied more median values (that is, we have discounted outliers) where multiple values for similar sound sources are encountered. While there may be exceptions within and among these categories, we have attempted to address this variability through an otherwise conservative approach to estimating distances at which harassment behaviors may manifest.

Natural Ambient: Refers to ambient sound levels (generally < 50 dB) typically experienced in owl or murrelet habitat not substantially influenced by human activities, and includes sources native to forest habitats. Human-generated "white noise", such as from a *distant* highway, may apply when < 50 dB and relatively uniform across the action area.

Very Low: Typically 50-60 dB, and generally limited to circumstances where human-generated sound would never include amplified or motorized sources. Includes forest habitats close to less-frequently encountered natural sources, such as rapids along large streams, or wind-exposure, and may include quiet human activities such as nature trails and walk-in picnic areas.

Low: Typically 61-70 dB, and generally limited to sound from small power tools, light vehicular traffic at slow speeds on paved surfaces, non-gas-powered recreational activities, and residential activities, such as those associated with small parks, visitor centers, bike paths, and residences. Includes most hand tools and battery operated, hand-held tools.

Moderate: Typically 71-80 dB, generally characterized by the presence of passenger vehicles and street-legal motorcycles, small trail cycles (not racing), small gas-powered engines (e.g., lawn mowers, *small* chain saws, portable generators), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar).

High: Typically 81-90 dB, and would include medium- and large-sized construction equipment, such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Would include high speed highway traffic including RVs, large trucks and buses, large street legal and trail (not racing) motorcycles. Also includes power saws, large chainsaws, pneumatic drills and impact wrenches, and large gasoline-powered tools.

Very High: Typically 91-100 dB, and is generally characterized by impacting devices, jackhammers, racing or Enduro-type motorcycles, compression ("jake") brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include largest diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (defined as dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included.

Extreme: Typically 101-110 dB. Generally includes use of ground-level, unmuffled explosives, pile driving of large steel piles, low-level over flights or hovering of helicopters, and heavily amplified music.

Sound Levels Exceeding 110 dB: These sound levels, typified by sources such as jet engines and military over flights, large sirens, open air (e.g., treetop) explosives, and double rotor logging helicopters, are special situations requiring site- and situation-specific analysis, and are not covered by the analytical methods provided herein.

Derivation of Harassment Distances

As indicated earlier, available data suggest that harassment occurs when sound levels resulting from project-based sound sources exceed ambient conditions by relatively substantial levels, or when those sound sources exceed a high absolute threshold. Since sound attenuates as a function of the distance from the source (within typical forest habitat, at a rate of approximately 6 dB per doubling of distance from a point source), the analyst can estimate the distance at which various sound sources exceed ambient conditions by anticipated threshold values. We estimated these distances using a spreadsheet model that simulates sound attenuation in typical forest habitats, reasonably accounting for ambient environmental conditions and sound source characteristics. As a means of simplifying the analysis process, we used reasonable median sound values within the above-described categories for both source and ambient sound conditions. Table 1 reports the distances within which elevated, project-generated sound is reasonably expected to exceed ambient conditions to such a degree as to result in harassment of murrelets or owls. The reader is referred to Appendices 1 and 2 and their references for additional, detailed discussion of sound metrics and the model used to derive these distances.

Time of Day Adjustment for the Marbled Murrelet

The disturbance take threshold distances provided in Table 1 are based on a comparison of project generated sound levels with existing (ambient) sound levels, which themselves represent average daytime sound conditions. We recognize, however, that ambient sound level often has a substantial time-of-day component, with nighttime, dawn and dusk ambient sound levels generally 5-10 dB lower than typical midday levels (see Appendix A *in* EPA 1974). It is also known that murrelet flights into nests to feed nestlings and for nest-tending exchanges are concentrated around dawn and dusk (Nelson and Hamer 1995), during the period when ambient noise levels tend to be lower than average daytime levels (EPA 1974).

Therefore, for marbled murrelets, the harassment threshold distances provided in Table 1 apply to noise-generating activities occurring during the midday period, when the risk of harassment is lower. Specifically, for murrelets, the harassment distances in Table 1 apply to noise-generating activities that are not within 2 hours of sunrise or sunset. If proposed activities will occur within 2 hours of sunrise or sunset, and if the ambient sound environment during the dawn and dusk period can reasonably be expected to be 5 dB or more quieter than the midday sound environment, then the estimated harassment distance threshold should be calculated based on an ambient level 10 dB lower (i.e., one row up in the table) compared to the normal ambient rating in Table 1. In some cases, this will result in a larger harassment threshold distance. This time-of-day measure provides a more consistent application of the threshold criteria to the known biology of the murrelet and the anticipated sound environment during dawn and dusk periods.

Similar time-of-day considerations and adjustments are not required for the northern spotted owl.

Application of Harassment Distances to Project Conditions

The following methodology may be used to estimate the approximate distance at which project-generated sound exceeds ambient conditions to such an extent that northern spotted owls or marbled murrelets may be subject to harassment due to sound or visual disturbance.

Step 1: The analyst reviews the environment in the action area to determine the existing ambient sound level. The analyst should include any sound sources occurring in the action area, prior to and not part of the proposed action, that create ambient sound levels higher than the "natural" background. For example, if the proposed action would add a passing lane to a high-use major highway, the ambient condition should include the existing traffic and maintenance on the highway itself, in addition to other sounds native to the adjacent forest environment. As a second example, a proposed action to maintain a remote hiking trail would not include sound sources other than the "natural background" and infrequent human use as part of the existing ambient. Based on this review, the analyst assigns a sound level category to the ambient condition (equivalent to a row of Table 1).

Step 2: The analyst reviews the proposed action to determine the types of equipment, tools, etc., anticipated to be used during the project. Based on the descriptions of sound level categories, above, the analyst assigns a sound level category to the action-generated sound sources (corresponding to the columns in Table 1). Action-generated sound sources should include all major sources necessary to complete the proposed action. When project-specific sound measures are not available, the reader should refer to Table 2 for typical values for equipment, tools, and other sound sources. For projects where distinctly different sound environments (for either ambient or action-generated) may occur within the overall action area, the analyst may complete separate analyses for each distinct sound environment.

Step 3: From Table 1, the analyst finds the cell corresponding to the appropriate row and column for existing ambient sound and action-generated sound, respectively. This cell provides an estimate of the distance within which increased sound level may harass an owl or murrelet. The cell values are generally reported as a distance from the outer edge of the project footprint into occupied or presumed occupied suitable habitat, unless site-specific information indicates sound sources may be more localized within the project footprint (see also "Other Considerations", below).

Step 4: When significant topographic features occur within the sound environment, appropriate consideration may be given to their sound attenuating capabilities. However, the analyst should have a full understanding of the effects of topography on sound attenuation, especially when the species involved typically nests at a substantial distance above the ground. That is, topography may substantially attenuate sound between the source and the receiver (i.e., owl or murrelet nest site) when that topographic barrier is sufficiently high to block line-of-sight transmission between the source and receiver. For species such as owls and murrelets that normally nest high in tall trees, topography or other barriers provide little attenuation unless very close to the sound source, or very high.

Step 5: Consider the potential for human activities within 40 m of nest branches of owls or murrelets. If no known or likely nest tree, or flight path to the nest itself, occurs this close to the visual disturbance sources, there would be no visual disturbance of owls or murrelets anticipated. Otherwise, assume visual harassment for up to 40 m from human activities.

Table 1. Estimated harassment distance due to elevated action-generated sound levels for proposed actions affecting the northern spotted owl and marbled murrelet, by sound level.

Existing (Ambient) Pre-Project Sound Level (dB) [1,2]	Anticipated Action-Generated Sound Level (dB) [2,3]			
	Moderate (71-80)	High (81-90)	Very High (91-100)	Extreme (101-110)
"Natural Ambient" [4] (<=50)	50 (165) [5,6]	150 (500)	400 (1,320)	400 (1,320)
Very Low (51-60)	0 (0)	100 (330)	250 (825)	400 (1,320)
Low (61-70)	0 (0)	50 (165)	250 (825)	400 (1,320)
Moderate (71-80)	0 (0)	50 (165)	100 (330)	400 (1,320)
High (81-90)	0 (0)	50 (165)	50 (165)	150 (500)

[1] Existing (ambient) sound level includes all natural and human-induced sounds occurring at the project site prior to the proposed action, and are not causally related to the proposed action.
[2] See text for full description of sound levels.
[3] Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured or estimated at 15.2 m (50 ft) from the sound source.
[4] "Natural Ambient" refers to sound levels generally experienced in habitats not substantially influenced by human activities.
[5] All distances are given in meters, with rounded equivalent feet in parentheses.
[6] For murrelets, activities conducted during the dawn and dusk periods have special considerations for ambient sound level. Refer to text for details.

Example Analysis

The following example is provided to assist the reader in understanding the application of this recommended methodology to a hypothetical yet typical project circumstance.

Proposed Project: An agency proposes to construct an informational kiosk, restroom, and six graveled parking slots at an existing, undeveloped, trailhead parking area along a low-speed (<45 mph), paved road closed to large trucks and buses. The footprint of the proposed project is a roughly circular area of approximately 75-foot diameter (about 1/10 acre). The surrounding

forest is suitable nesting habitat for marbled murrelets, and the agency proposes to do construction during the nest season. Topography in the action area is low rolling ridges less than 50 feet high. No other sound sources of significance are located nearby. The construction project will not remove any large trees, but requires the use of several pieces of equipment (e.g., backhoe, dump truck), as well as smaller power equipment (e.g., saws, cement mixer, portable generator, small chain saw) and hand tools. No jackhammering, pile driving, or larger diesel equipment is needed. The agency agrees to conduct all on-site activities during the midday time period between 2 hours after sunrise to 2 hours before sunset.

Analysis: The ambient sound level at the proposed kiosk includes the existing passenger vehicle/light truck traffic on a paved surface immediately adjacent to the work area, and existing human presence of hikers. Using the above-described sound level categories, this ambient sound level classifies as "low" (61-70 dB). The large construction equipment (i.e., the backhoe and truck) are the greatest sources of increased sound to be considered here, as they exceed the level of the other tools. From the above-described sound levels, we anticipate that action-generated sound levels will fit into the "high" category (81-90 dB). Choosing the appropriate row (Ambient = Low) and column (Action-generated = High) in Table 1, we estimate that disturbance may rise to the level of harassment over an area within 50 m (165 ft) from the footprint of the project. Since all activities will be conducted during the mid-day period, no further adjustment of the tabled value to account for murrelet activity periods is necessary. This 50-m distance, when used as a buffer around the project footprint, results in an estimate of 2.9 acres (1.2 ha) subject to harassment from auditory disturbance. Large potential nest trees exist immediately adjacent to the work area, so visual harassment may also be a consideration. However, human presence already occurs at the trailhead on a daily basis, and the proposed project will not substantially alter that effect. The topographic features in the action area are unlikely to further attenuate any sound experienced by murrelets, which commonly nest more than 50 feet above ground level. Since construction of the kiosk and restroom would not appreciably change the effects of the existing roadway or parking area, the duration of effects would be for a single breeding season, and would not alter effects already at the site in future years.

Interpretation and Application of the Results

The estimated harassment distance resulting from the analysis of any particular project conditions requires careful interpretation. Although seemingly precise, the reported distance represents a reasonable *approximation* of the distance wherein "the likelihood of injury" occurs, as supported by currently available data. That is, the resultant number estimates the distance within which available disturbance data on owls or murrelets (or surrogate species, as appropriate) show that at least some individuals would demonstrate one or more behaviors indicating harassment as a result of anticipated sound levels or visual detection of human activities near nest sites. Given the many sources of variability in such an analysis, such as differences in individual bird response, variation in actual sound level produced by similar sources, variability in sound transmission during daily weather patterns, and non-standardization in sound metrics reported in the published literature, exact estimates of harassment distances are currently infeasible, and likely will remain so.

It is reasonable to assume that owls or murrelets closer to sources of disturbance have a higher likelihood of suffering significant disruption of normal behavior patterns than those at the outer limits of the estimated harassment distance, due to louder sound levels or a visually closer perceived threat to the nest. Further, not all owls or murrelets, except those in the very closest proximity to the disturbance source, may respond to a degree indicating harassment. Thus, the likelihood of injury for any particular individual would range from some low proportion to a higher value depending on its actual proximity to a particular sound/visual source. It is neither reasonable nor necessary for purposes of analysis and estimation of take to predict that all (or even a high proportion of) owls or murrelets within this distance show harassment behaviors. Conversely, it is also unreasonable to conclude that owls or murrelets beyond this distance would never be harassed. A more supportable interpretation is that currently available information does not support a conclusion that owls or murrelets more distant to the anticipated sound/visual disturbances are likely to suffer a significant disruption of normal behavior patterns.

The reporting of take associated with auditory and visual disturbances is necessary, even if somewhat imprecise. It is appropriate to consider all reasonable means to minimize take including, but not limited to, seasonal restrictions and substitution of equipment type to reduce the likelihood of injury, so long as those means are consistent with the "minor change rule" [50 CFR §402.14 (i)(2)]. When considering measures to reduce the effects of harassment, the analyst should bear in mind not only the spatial extent of the disturbance, but also the timing and duration of the disturbance.

Finally, activities which result in estimated distances of zero meters would be expected to have no effect on either owls or murrelets. Activities resulting in estimates of 50 m or less may, under some circumstances, be considered not likely to adversely affect, due in part to the species preference of nesting high up in large trees. However, the analyst should be prepared to describe and justify reasons for these findings.

Other Considerations

This guidance does not consider the direct effects of predation by corvids (ravens, crows and jays) and other predators as a result of human activities in murrelet and owl habitat. That is, while corvids may increase in number in murrelet and owl habitat in response to human activities, the resulting increased take due to predation (injury) is not addressed here. Distance estimates reported in this guidance reflect only the effects of sound attenuation and visual detection on behaviors appropriately interpreted as harassment. We have considered predation only in the sense that detection of the nest as a result of owl or murrelet harassment behavior (e.g., flushing from the nest) may increase the risk of predation, regardless of density of predators, and thus represents a "likelihood of injury."

This analytical method addresses most forest habitat conditions that affect the attenuation rate of sound (and thus the level of sound detected by the owl or murrelet at its location). These conditions include dampening effects of forest vegetation, variability in natural ambient sound typically encountered under forest conditions, use of multiple pieces of identical equipment, and the effect of elevated nest sites on sound attenuation. Departure from the tabled values in this guidance to account for special forest conditions is generally inappropriate except under highly

unusual circumstances. A factor *not* considered in this methodology is the effect of topography on sound attenuation. Therefore, a site-specific assessment of topography should be considered. Steep slopes, ridges, and designed sound barriers may increase sound attenuation when they form complete barriers to the direct line of sound transmission between source and the location of the receiver (here, the actual location of the potentially harassed animal). In general, small ridges or walls not clearly blocking the sources from a highly elevated nest would provide little or no attenuation. When clearly supported by site-specific information regarding topography, action-generated sound may be reduced by one or two levels in the analysis, when compared to existing ambient sound levels.

For some projects, elevated sound levels may cease following completion of the project. For example, sound level following the completion of timber harvest is likely to return to pre-harvest levels, and so would not result in long-term or permanent sound and visual disturbance to owls and murrelets. On the other hand, actions such as the creation of a new road may result in elevated sound levels both during construction and during future use and maintenance of the road. The analyst should carefully consider both spatial and temporal aspects of noise and visual disturbance for each project.

Activities producing sound levels of 70 dB or less (estimated at 15.2 m from the sources), such as use of hand tools, small hand-held electric tools, or non-motorized recreation, would not generally rise to the level of harassment, except in certain circumstances, such as when used in very close proximity (i.e., <25 m) to an active nest. However, under these circumstances, visual detection of human activities by the species near its nest is assumed to be of more consequence than auditory disturbance, and take should be described in such terms.

Activities producing sound levels greater than 110 dB (estimated at 15.2 m from the sources), such as open-air blasting, aircraft, or impact pile-driving, are not addressed in this analysis, and should be evaluated through a more detailed site-specific analysis.

Table 2. Some Common Sound Levels for Equipment/Activities

Measured Sound Source	Range of Reported dB Values @ Distance Measure (Distance measured @ 50 ft (15.2 m) unless otherwise indicated) Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Quiet Whisper	30 @ 3 ft	6	Ambient
Ambient Sound Level - Forest Habitats (low end[3])	25	25	Ambient
Library (ambient sound level)	30 @ ambient	30	Ambient
Conversation (low end)	55 @ 1 m	31	Ambient
Conversation (high end[4])	62 @ 2 ft	34	Ambient
Conversataion	60 @ 3 ft	36	Ambient
Speech (normal)	65 @ 1 m	41	Ambient
Ambient Sound Level - Forest Habitats (high end)	43.8	44	Ambient
Home Vacuum Cleaner	70 @ 1 m	46	Very Low
Loud Singing	75 @ 3 ft	51	Very Low
Generator (light home/recreational, 900-2,800 W)	59 @ 7 m	52	Very Low
Air Conditioner Window Unit	60 @ 25 ft	54	Very Low
Generator (light commercial, 4,000-5,000 W) (low end)	61 @ 7 m	54	Very Low
Pickup Truck (idle) (low end)	55	55	Very Low
Garbage Disposal (low end)	80 @ 1 m	56	Very Low
Garbage Disposal (high end)	80 @ 3 ft	57	Very Low
Generator (light commercial, 4,000-5,000 W) (high end)	65 @ 7 m	58	Very Low
Conversation (indoor)	60	60	Very Low
Chain Saw Running (rain) (low end)	61	61	Low
Food Blender (low end)	85 @ 1 m	61	Low
Generator (heavy home, 3,300-5,500 W) (low end)	68 @ 7 m	61	Low
Generator (light industrial, 2,600-9,500 W) (low end)	68 @ 7 m	61	Low
Milling Machine	83 @ 4 ft	61	Low
Pickup Truck (idle) (high end)	77 @ 8 ft	61	Low
Motorcycle on Trail (620 cc street legal, meter at ground level)	61.9	62	Low
Powerline	50 @ 200 ft	62	Low
Chainsaw (Stihl 025)	46 @ 105 m	63	Low
Generator (economic home, 2,300-4,500 W) (low end)	70 @ 7 m	63	Low
Street Motorcycles < 100 cc (low end)	65	65	Low
Motorcycle on Trail (100 cc, 2-stroke, meter at ground level)	65.7	66	Low
Chainsaw (McCulloch Promac 260, low end)	46.1 @ 150 m	66	Low
Chainsaw (Stihl 025, low end)	53.8 @ 60 m	66	Low
Food Blender (high end)	90 @ 3 ft	66	Low
Motorcycle on Trail (620 cc street legal, meter elevated 15 m)	66.6	67	Low
Generator (welding, 4,000 W)	74 @ 7 m	67	Low
Passenger Car (50 mph)	67	67	Low
Passenger Car (60 kph)	65 @ 20 m	67	Low
Generator (heavy home, 3,300-5,500 W) (high end)	75 @ 7 m	68	Low
Generator (medium commercial, 6,000 W)	75 @ 7 m	68	Low
Power Lawn Mower	92 @ 1 m	68	Low
Motorcycle on Trail (100 cc, 2-stroke, meter elevated 15 m)	68.1	68	Low
Generator (economic home, 2,300-4,500 W) (high end)	76 @ 7 m	69	Low
Chainsaw (McCulloch Promac 260)	59.9 @ 50 m	70	Low
Generator (25 KVA or less)	70	70	Low
Yelling	92 @ 4 ft	70	Low
Pickup Truck (driving)	87 @ 8 ft	71	Moderate
Motorcycle on Trail (300 cc, 2-stroke, meter at ground level)	71.3	71	Moderate
Chainsaw (McCulloch Promac 260)	61.3 @ 50 m	72	Moderate
Gas Lawn Mower	96 @ 1 m	72	Moderate
Mowers, leaf blowers (low end)	72	72	Moderate
Chainsaw (Stihl 025, high end)	60.5 @ 60 m	73	Moderate

Measured Sound Source	Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Generator (light industrial, 2,600-9,500 W) (high end)	80 @ 7 m	73	Moderate
Street Motorcycles 350-749 cc (low end)	73	73	Moderate
Welder	73	73	Moderate
Automobile	80 @ 25 ft	74	Moderate
Jackhammer (muffled)	74	74	Moderate
Pile Driving (1999 ODOT Study, low end)	74	74	Moderate
Roller (low end)	74	74	Moderate
Street Motorcycles >= 750 cc (low end)	74	74	Moderate
Chain saws (low end)	75	75	Moderate
Off-Road Motorcycles < 100 cc (low end)	75	75	Moderate
RVs (small) (low end)	75	75	Moderate
Concrete Vibrator	76	76	Moderate
Passenger Cars/Light Trucks (65 mph) (low end)	76	76	Moderate
Flatbed Pickup Truck	93 @ 8 ft	77	Moderate
Log Truck	67 @ 46 m	77	Moderate
Pump (low end)	77	77	Moderate
Street Motorcycles 170-349 cc (low end)	77	77	Moderate
BPA Powerline	66 @ 200 ft	78	Moderate
Generator (low end)	78	78	Moderate
Off-Road Motorcycles 100-169 cc (low end)	78	78	Moderate
Street Motorcycles 100-169 cc (low end)	78	78	Moderate
Backhoe	69 @ 46 m	79	Moderate
Off-Road Motorcycles 170-349 cc (low end)	79	79	Moderate
Motorcycle on Trail (300 cc, 2-stroke, meter elevated 15 m)	79.6	80	Moderate
Backhoe (low end)	80	80	Moderate
Boat motors (low end)	80	80	Moderate
Cat Skidder	70 @ 46 m	80	Moderate
Chainsaw (McCulloch Promac 260, high end)	59.5 @ 150 m	80	Moderate
Compressor (low end)	80	80	Moderate
Concrete Mixer (low end)	80	80	Moderate
Front-end Loader (low end)	80	80	Moderate
Ground Compactor (low end)	80	80	Moderate
Horizontal Boring Hydraulic Jack	80	80	Moderate
Medium Construction (low end)	80	80	Moderate
Medium Trucks & Sport Vehicles (65 mph) (low end)	80	80	Moderate
Paver (low end)	80	80	Moderate
Rock Drill and Diesel Generator (low end)	58 @ 200 m	80	Moderate
Roller (high end)	80	80	Moderate
Vacuum Street Sweeper	80	80	Moderate
Cat Skidder	59 @ 200 m	81	High
Concrete Truck (low end)	81	81	High
Off-Road Motorcycles < 100 cc (high end)	81	81	High
Pumps, generators, compressors (low end)	81	81	High
Concrete Pump	82	82	High
Dump Truck Dumping Rock	72 @ 46 m	82	High
Ground Compactor (high end)	82	82	High
Rock Drills and Jackhammers (low end)	82	82	High
Slurry Machine (low end)	82	82	High
Street Motorcycles < 100 cc (high end)	82	82	High
Train	90 @ 20 ft	82	High
Chainsaw, large	73 @ 46 m	83	High
Chainsaw, large	61 @ 200 m	83	High
Concrete Batch Plant	83	83	High
Dump Truck Dumping Rock	54 @ 400 m	83	High
General construction (low end)	83	83	High

Measured Sound Source	Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Highway Traffic (uphill, discontinuous traffic, wet)	61 @ 200 m	83	High
Log Loader	73 @ 46 m	83	High
Power Mower	107 @ 3 ft	83	High
Road Grader (low end)	83	83	High
Backhoe (high end)	84	84	High
Dozer (low end)	84	84	High
Dump Truck	84	84	High
Flat Bed Truck	84	84	High
Generator (high end)	84	84	High
Heavy Construction (low end)	84	84	High
Large Truck (low end)	84	84	High
Motorcycle	88 @ 30 ft	84	High
Motorcycle Enduro Event	62.3 @ 180 m	84	High
Pile Driving (1987 WDOT Study, low end)	84	84	High
Rock Drill and Diesel Generator (low end)	55 @ 400 m	84	High
Motorcycle on Trail (200 cc, 2-stroke, meter at ground level)	84.5	85	High
5 Motorcycles	67 @ 120 m	85	High
Auger Drill Rig	85	85	High
Concrete Mixer (high end)	85	85	High
Concrete Truck (high end)	85	85	High
Crane (low end)	85	85	High
Diesel Truck (40 mph)	85	85	High
Drill Rig (low end)	85	85	High
Dump Truck	63 @ 200 m	85	High
Equipment > 5 horsepower	85	85	High
Gradall (low end)	85	85	High
Highway Traffic (uphill, discontinuous traffic, wet)	75 @ 46 m	85	High
Impact Wrench	85	85	High
Large Tree Falling	63 @ 200 m	85	High
Log Loader	63 @ 200 m	85	High
Mounted Impact Hammer Hoe-Ram (low end)	85	85	High
Mowers, leaf blowers (high end)	85	85	High
Passenger Cars/Light Trucks (65 mph) (high end)	85	85	High
Pump (high end)	85	85	High
Road Grader (high end)	85	85	High
Rock Drill (low end)	85	85	High
RVs (large) (low end)	85	85	High
RVs (small) (high end)	85	85	High
Scraper (low end)	85	85	High
23 ft Detonation Cord, on surface (low end)	80 @ 100 ft	86	High
Chain saws (high end)	86	86	High
Chainsaw (Cantor, one chainsaw running)	86	86	High
Dump Truck Dumping Rock	64 @ 200 m	86	High
Gradall (high end)	86	86	High
Large Diesel Engine	100 @ 10 ft	86	High
Motorcycle Enduro Event	68.4 @ 120 m	86	High
Pneumatic wrenches, rock drills (low end)	86	86	High
Rock Drill and Diesel Generator (high end)	64 @ 200 m	86	High
12 ft Detonation Cord, buried (low end)	66 @ 580 ft	87	High
Diesel Truck (50 kph)	85 @ 20 m	87	High
Front-end Loader (high end)	87	87	High
Hydromulcher (low end)	71 @ 300 ft	87	High
Pumps, generators, compressors (high end)	87	87	High
Crane (high end)	88	88	High
Dozer (high end)	88	88	High

Measured Sound Source	Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Drill Rig (high end)	88	88	High
Off-Road Motorcycles 350-750 cc (low end)	88	88	High
Street Motorcycles 100-169 cc (high end)	88	88	High
Motorcycle on Trail (200 cc, 2-stroke, meter elevated 15 m)	88.2	88	High
5 Motorcycles	55 @ 760 m	89	High
Chainsaw (Cantor, two chainsaws running)	89	89	High
General construction (high end)	89	89	High
Jackhammer	89	89	High
Large Truck (high end)	89	89	High
Medium Construction (high end)	89	89	High
Medium Trucks & Sport Vehicles (65 mph) (high end)	89	89	High
Motorcycle Enduro Event	73.3 @ 90 m	89	High
Paver (high end)	89	89	High
Scraper (high end)	89	89	High
Street Motorcycles 350-749 cc (high end)	89	89	High
Chain Saw Running (rain) (high end)	80 @ 150 ft	90	High
Compressor (high end)	90	90	High
Concrete Saw	90	90	High
Heavy Trucks and Buses (low end)	90	90	High
Hydra Break Ram	90	90	High
Mounted Impact Hammer Hoe-Ram (high end)	90	90	High
Circular Saw (hand held)	115 @ 1 meter	91	Very High
Highway Traffic (downhill, discontinuous traffic, wet)	81 @ 46 m	91	Very High
Motorcycle Enduro Event	78.8 @ 60 m	91	Very High
Pneumatic Chipper (low end)	115 @ 1 m	91	Very High
Pneumatic Riveter	115 @ 3 ft	91	Very High
Slurry Machine (high end)	91	91	Very High
Track Hoe (low end)	75 @ 300 ft	91	Very High
Highway Traffic (downhill, discontinuous traffic, wet)	70 @ 200 m	92	Very High
Large Tree Falling	82 @ 46 m	92	Very High
Motorcycle Enduro Event	85.8 @ 30 m	92	Very High
Chainsaw	117 @ 3 ft	93	Very High
Clam Shovel	93	93	Very High
Railroad (low end)	93	93	Very High
Street Motorcycles >= 750 cc (high end)	93	93	Very High
Explosives (low end)	94	94	Very High
Hydromulcher (high end)	88 @ 100 ft	94	Very High
Jake Brake on Truck	110 @ 8 ft	94	Very High
Boat motors (high end)	95	95	Very High
Guardrail Installation and Pile Driving (low end)	95	95	Very High
Heavy Trucks and Buses (high end)	95	95	Very High
Impact Pile Driver (low end)	95	95	Very High
Off-Road Motorcycles 350-750 cc (high end)	95	95	Very High
Pneumatic Chipper (high end)	115 @ 5 ft	95	Very High
RVs (large) (high end)	95	95	Very High
Vibratory (Sonic) Pile Driver (low end)	95	95	Very High
Diesel Truck	100 @ 30 ft	96	Very High
Heavy Construction (high end)	96	96	Very High
Jet Overflight (low end)	80 @ 300 ft	96	Very High
Vibratory (Sonic) Pile Driver (high end)	96	96	Very High
Logging Truck	97	97	Very High
Pneumatic wrenches, rock drills (high end)	97	97	Very High
Rock Drills and Jackhammers (high end)	97	97	Very High
Street Motorcycles 170-349 cc (high end)	97	97	Very High
Door Slamming	98	98	Very High

Measured Sound Source	Reported Decibel Value	"Standardized" Value @ 50 ft [1]	Relative Sound Level [2]
Dump Truck	88 @ 46 m	98	Very High
Pile Driving (1999 ODOT Study, low end)	98	98	Very High
Railroad (high end)	98	98	Very High
Rock Drill (high end)	98	98	Very High
Helicopter S-61 (large, single rotor, loaded) (low end)	79 @ 500 ft	99	Very High
Rock Drill and Diesel Generator (high end)	70 @ 400 m	99	Very High
Off-Road Motorcycles 100-169 cc (high end)	100	100	Very High
Off-Road Motorcycles 170-349 cc (high end)	100	100	Very High
Rock Drill and Diesel Generator	90 @ 46 m	100	Very High
Exterior Cone Blast w/ sand bags (low end)	72 @ 0.25 mi	101	Extreme
Helicopter S-61 (low end)	77 @ 800 ft	101	Extreme
Impact Pile Driver (high end)	101	101	Extreme
Pneumatic tools, jackhammers & pile driver (low end)	101	101	Extreme
Amplified Rock and Roll	120 @ 6 ft	102	Extreme
Helicopter S-61 (large, single rotor, loaded) (high end)	82 @ 500 ft	102	Extreme
Pile Driving (1987 WDOT Study, high end)	103	103	Extreme
Truck Horn	120 @ 8 ft	104	Extreme
Guardrail Installation and Pile Driving (high end)	105	105	Extreme
23 ft Detonation Cord, on surface (high end)	85 @ 580 ft	106	Extreme
Impact Pile Driving	106	106	Extreme
Track Hoe (high end)	96 @ 150 ft	106	Extreme
Columbia double rotor logging helicopter (reading from road)	79 @ 400 m	108	Extreme
Pave Hawk Military Helicopter	92 @ 105 m	109	Extreme
Columbia double rotor logging helicopter (read in forest)	100 @ 46 m	110	Extreme
Pneumatic tools, jackhammers & pile driver (high end)	110	110	Extreme
12 ft Detonation Cord, buried (high end)	92 @ 500 ft	112	Extreme
Helicopter S-61 (high end)	106 @ 100 ft	112	Extreme
Rock Blast	91 @ 575 ft	112	Extreme
Columbia double rotor logging helicopter (reading from road)	84 @ 400 m	113	Extreme
Engine Exhaust (no muffler)	140 @ 3 ft	116	Extreme
Military Flight (low end)	98 @ 500 ft	118	Extreme
Exterior Cone Blast w/ sand bags (high end)	100 @ 500 ft	120	Extreme
Treetop Blast (low end)	110 @ 200 ft	122	Extreme
Columbia double rotor logging helicopter (read at clearing)	101 @ 200 m	123	Extreme
Jet Overflight (high end)	86 @ 4,000 ft	124	Extreme
Exterior Cone Blast (obstructed)	107 @ 500 ft	127	Extreme
Jet takeoff	120 @ 200 ft	132	Extreme
50 HP Siren	130 @ 100 ft	136	Extreme
Jet Plane	130 @ 100 ft	136	Extreme
Treetop Blast (high end)	116 @ 0.1 mi	137	Extreme
Military Flight (high end)	120 @ 600 ft	142	Extreme
Explosives (high end)	145 @ 330 ft	162	Extreme

[1] "Standardized" values are sound levels converted to 50-foot equivalents (i.e., as though measured at 50 feet distance from source). For comparison purposes.

[2] Relative Sound Level: a general, subjective ranking of relative noise levels created by the sources considered here,when used for analysis of relative noise effects on species.

[3] "Low end" indicates the lower value when a range of values is reported for a sound source.

[4] "High end" indicates the higher value when a range of values is reported for a sound source.

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APPENDIX A FOR APPENDIX 2

USFWS Memorandum: July 31, 2006

Marbled Murrelet Sound and Visual Harrasssment Decision Support Tool

Available Upon Request from LACO

APPENDIX B FOR APPENDIX 2

USFWS Memorandum: July 31, 2006

Northern Spotted Owl Sound and visual Harassment Decision Support Tools

Available Upon Request from LACO

APPENDIX 3

RNSP Guidelines: May, 2007

Redwood National and State Parks Auditory Disturbance Guidelines for Projects in Suitable Spotted Owl and Marbled Murrelet Nesting Habitat During the Breeding Season

(Adapted from "Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California". U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office, July 26, 2006)

May 2007

Harassment

"Harassment" (a form of "take" under the Endangered Species Act [ESA]) is defined as "... an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering" [50 CFR §17.3]. Activities that create elevated sound levels or result in close visual proximity of human activities at sensitive locations (e.g., nest trees), have the potential to significantly disrupt normal behavior patterns. These behaviors may occur when spotted owls or marbled murrelets are subjected to elevated sound levels or visual disturbance associated with human activities near their active nests or dependent offspring.

Behaviors indicating harassment may manifest when: (a) the action-generated sound level substantially exceeds (i.e., by 20-25 dB or more as experienced by the animal) ambient conditions existing prior to the project; (b) when the total sound level, including the combined existing ambient and action-generated sound, is very high (i.e., exceeds 90 dB, as experienced by the animal); or (c) when visual proximity of human activities occurs close to (i.e., within 150 ft [45 m] of) an active nest site. Sound levels of lesser amplitude or human presence at farther distances from active nests have the potential to disturb owls and murrelets, but have not been clearly shown to cause behaviors that meet the definition of harassment.

Sound Level Categories

The criteria for auditory and visual disturbance rely on a simple comparison of the sound level(s) generated by project sources (e.g., chainsaws, dozers, trucks, power tools, etc.) against ambient sound conditions prevalent in the project area prior to implementing the project. The sound level that a nesting owl or murrelet is likely to be subject to as a result of implementing a proposed action is compared to the sound levels that the species may be exposed to under existing, pre-project conditions.

Note that in this guidance "ambient" sound level is defined as sounds in existence prior to implementation of the project, and may include any and all human-generated sound sources when they constitute a long-term presence in the habitat being analyzed. Temporary, short-term sources, even if in effect during or immediately prior to the proposed action would generally not be considered ambient but would instead be considered as a separate effect, or considered in combination with the sources from the proposed action. "Natural ambient" includes sound sources native to the forested habitat being considered, such as wind in trees, bird calls, and distant water flow. Human-generated "white noise", such as from a distant highway, may also be considered natural

ambient if (a) distant to the area being considered, (b) relatively low in volume (i.e., <50 dB), and (c) relatively uniform in sound level over the area of consideration. Ambient sound should be estimated based on typical sources experienced on a daily or more frequent basis.

Natural Ambient: Refers to ambient sound levels (generally < 50 dB) typically experienced in owl or murrelet habitat not substantially influenced by human activities, and includes sounds native to forest habitats that would be encountered on a mild weather day. Human-generated "white noise", such as from a *distant* highway, may apply when < 50 dB and the sound is relatively uniform across the action area.

Very Low: Typically 50-60 dB, and generally limited to circumstances where human-generated sound would never include amplified or motorized sources. Includes sounds in forest habitats close to natural sources such as rapids along large streams, windy areas or wind tunnels, or quiet human activities associated with nature trails, walk-in picnic areas, and low-use trails.

Essentially the above two categories can be considered as occurring away from everything "developed".

Low: Typically 61-70 dB, and generally limited to sound from small power tools, light vehicular traffic at slow speeds on paved surfaces, non-gas-powered recreational activities, such as those associated with smaller park facilities. Includes most hand tools, small battery operated hand-held tools, administrative roads, and smaller facilities.

Moderate: Typically 71-80 dB, generally characterized by the presence of passenger vehicles and street-legal motorcycles, small trail cycles (not racing), small gas-powered engines (e.g., lawn mowers, *small* chain saws, portable generators, weed eaters), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar devices). Large campgrounds outside the visitor season would fall into this category.

High: Typically 81-90 dB, and would include medium- and large-sized construction equipment such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Would include high speed highway traffic including RVs, large trucks and buses, large street legal and trail (not racing) motorcycles, power saws, large chainsaws, pneumatic drills and impact wrenches, large gasoline-powered tools, circular saws, and hammering. Watershed restoration activities would fall in this category, as long as back-up beepers in use by heavy equipment operators are muffled to 90 dB or less.

Also included are the large campgrounds between Memorial and Labor Day, and public roads (Newton B. Drury Parkway, Hwy 101, Hwy 199, and Lower Bald Hills Road (west of Gans Prairie).

Very High: Typically 91-100 dB, generally characterized by impacting devices,

jackhammers, racing or Enduro-type motorcycles, compression ("jake") brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include the largest diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included. This would include activities associated with logging (e.g., second-growth management), and could include heavy equipment normally associated with lower dB levels if back-up beepers are in this range.

Extreme: Typically 101-110 dB. Generally includes use of ground-level, unmuffled explosives, pile driving of large steel piles, low-level over flights or hovering of helicopters, and heavily amplified music. This may include some back-up beepers on heavy equipment that would otherwise be at a lower dB level.

Sound Levels Exceeding 110 dB: These sound levels are typified by sources such as jet engines and military over-flights, large sirens, open air (e.g., treetop) explosives, and double rotor logging helicopters. They are special situations requiring site- and situation-specific analysis, and are not covered by the guidelines in this document.

Derivation of Harassment Distances

As indicated earlier, available data suggest that harassment occurs when sound levels resulting from project-based sound sources exceed ambient conditions by relatively substantial levels, or when the sound sources combined exceed a high absolute threshold. Since sound attenuates as a function of the distance from the source, distances at which various sound sources exceed ambient conditions may be calculated. Table 1 reports the distances within which elevated, project-generated sound is reasonably expected to exceed ambient conditions to such a degree as to result in harassment of murrelets or owls.

Time of Day Adjustment for the Marbled Murrelet

The disturbance take threshold distances provided in Table 1 are based on a comparison of project generated sound levels with existing (ambient) sound levels, which themselves represent average daytime sound conditions. It's recognized, however, that ambient sound level often has a substantial time-of-day component, with nighttime, dawn and dusk ambient sound levels generally 5-10 dB lower than typical midday levels. It is also known that murrelet flights into nests to feed nestlings and for nest-tending exchanges are concentrated around dawn and dusk, during the period when ambient noise levels tend to be lower than average daytime levels.

For marbled murrelets, the harassment threshold distances provided in Table 1 apply to noise-generating activities occurring during the midday period. If proposed activities will occur within 2 hours of sunrise or sunset, and if the ambient sound environment during the dawn and dusk period can reasonably be expected to be quieter than the midday sound environment, then the estimated harassment distance threshold should be calculated based on an ambient level 10 dB lower (i.e., one row up in the table) compared

to the normal ambient rating in Table 1. Similar time-of-day considerations and adjustments are not required for the northern spotted owl.

Application of Harassment Distances to Project Conditions

The following methods may be used to estimate the approximate distance at which project generated sound exceeds ambient conditions to such an extent that northern spotted owls or marbled murrelets may be subject to harassment due to sound or visual disturbance.

Step 1: Assess the environment in the action area to determine the existing ambient sound level. Include any sound sources occurring in the action area, prior to and not part of the proposed action, that create ambient sound levels higher than the "natural" background. Based on this review, assign a sound level category to the ambient condition (equivalent to a row of Table 1).

Step 2: Review the proposed action to determine the types of equipment, tools, etc., anticipated to be used during the project. Based on the descriptions of sound level categories above, assign a sound level category to the action-generated sound sources (corresponding to the columns in Table 1). Action-generated sounds should include all sources necessary to complete the proposed action.

Step 3: The cell corresponding to the appropriate row and column for existing ambient sound and action-generated sound, respectively, provides the distance within which increased sound level may harass an owl or murrelet. The cell values are generally reported as a distance from the outer edge of the project footprint into occupied or presumed occupied suitable habitat.

Step 4: When significant topographic features occur within the sound environment, appropriate consideration may be given to their sound attenuating capabilities. However, understanding the effects of topography on sound attenuation, especially when the species involved typically nests at a substantial distance above the ground, may be problematic. That is, topography may substantially attenuate sound between the source and the receiver (i.e., owl or murrelet nest site) when that topographic barrier is sufficiently high to block line-of-sight transmission between the source and receiver. Topography or other barriers may provide little attenuation unless very close to the sound source or very high in elevation.

Step 5: Consider the potential for human activities to occur within 150 ft (45 m) of potential nest sites of owls or murrelets. In the park, to date visual disturbance guidelines have been applied only to roads and trails. This distance may be adjusted based on visual screening of a potential nest site by surrounding vegetation.

Table 1. Estimated harassment distance, in feet (m), due to elevated action-generated sound levels for proposed actions affecting the northern spotted owl and marbled murrelet, by sound level.

Existing (Ambient) Pre-Project Sound Level (dB)[1]	Anticipated Action-Generated Sound Level (dB)[1 2]			
	Moderate (71-80)	**High (81-90)**	**Very High (91-100)**	**Extreme (101-110)**
Natural Ambient (<=50) and Very Low (51-60)	165 (50)	500 (150)	1,320 (400)	1,320 (400)
Low (61- 70)	0 (0)	165 (50)	825 (250)	1,320 (400)
Moderate (71-80)	0 (0)	165 (50)	100 (330)	1,320 (400)
High (81-90)	0 (0)	165 (50)*	165 (50)	500 (150)

1 See text for full description of sound levels.
2 Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured or estimated at 50 ft (15.2 m) from the sound source.
* For standard noise-generating work-related activities in the three large campgrounds between Memorial and Labor Day, and along public roads (Newton B. Drury Parkway, Hwy 101, Hwy 199, and Lower Bald Hills Road) no additional harassment or noise disturbance buffer would apply.

Other Considerations

This guidance does not consider the direct effects of predation by corvids (ravens, crows and jays) and other predators as a result of human activities in murrelet and owl habitat. That is, while corvids may increase in number in murrelet and owl habitat in response to human activities, the resulting increased take due to predation (injury) is not addressed here. Distance estimates reported in this guidance reflect only sound attenuation and visual disturbance that may result in harassment. Predation is considered only in the sense that owl or murrelet harassment may increase the risk of predation due to flushing from the nest, and thus represents a "likelihood of injury."

Forest habitat conditions that affect the attenuation rate of sound (thus the level of sound detected by the owl or murrelet at its location) include dampening effects of forest vegetation, variability in natural ambient sound typically encountered under forest conditions, and the effect of elevated nest sites on sound attenuation. Departure from the tabled values in this guidance due to special forest conditions is generally inappropriate except under highly unusual circumstances. A factor *not* considered in the guidance is the effect of topography on sound attenuation. Steep slopes, ridges, and designed sound barriers may increase sound attenuation when they form complete barriers to the direct line of sound transmission between source and the location of the receiver (here, the actual location of the potentially harassed animal). In general, small ridges or walls not clearly blocking the sources from a highly elevated nest would provide little or no attenuation. When clearly supported by site-specific information regarding topography, action-generated sound may be reduced by one or two levels, when compared to existing ambient sound levels.

Activities producing sound levels greater than 110 dB (estimated at 15.2 m from the sources), such as open-air blasting, aircraft, or impact pile-driving, are not addressed in this guidance, and should be evaluated through a more detailed site-specific analysis.

APPENDIX D

Cultural Resources Correspondence

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

August 29, 2016 File No.: 16-0255

Megan Marruffo
LACO Associates
21 W. 4th Street
Eureka, CA 95501

re: Summary Search for Two APN's in Orick, Humboldt County, California / APN: 519-213-018, 520-012-013

Dear Ms. Marruffo,

Records at this office were reviewed to determine if this project could adversely affect cultural resources. **Please note that use of the term cultural resources includes both archaeological sites and historical buildings and/or structures. The review for possible historic-era building/structures, however, was limited to references currently in our office and should not be considered comprehensive.**

Previous Studies:
XX Study # 5039 (Moratto 1982) and Study #44717 (Sloan 2010), covering approximately 25% of the proposed project area, identified no cultural resources,see recommendations below.

Archaeological and Native American Resources Recommendations:
XX The proposed project area has the possibility of containing unrecorded archaeological sites. A study is recommended prior to commencement of project activities.

XX We recommend the lead agency contact the local Native American tribes regarding traditional, cultural, and religious heritage values. For a complete listing of tribes in the vicinity of the project, please contact the Native American Heritage Commission at (916)373-3710.

Built Environment Recommendations:
XX The Orick USGS (1945) 15' and the Orick USGS (1966 pv. 1975) 7.5' quads depict 10-12 buildings or structures in the proposed project area. These buildings or structures may be associated with the Orleans Mill Site described in your request. Since the Office of Historic Preservation has determined that any building or structure 45 years or older may be of historical value, if these, or similarly aged buildings, are present then it is recommended that prior to commencement of project activities, a qualified professional familiar with the architecture and history of Humboldt County conduct a formal CEQA evaluation.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

For your reference, a list of qualified professionals in California that meet the Secretary of the Interior's Standards can be found at http://www.chrisinfo.org. If archaeological resources are encountered during the project, work in the immediate vicinity of the finds should be halted until a qualified archaeologist has evaluated the situation. If you have any questions please give us a call (707) 588-8455.

Sincerely,

Mark Castro
Researcher

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 Fax

September 1, 2016

Megan Marruffo
LACO

Sent by: marruffom@lacoassociates.com
Number of Pages: 2

RE: Request for Contact list for 2 parcels, Humboldt County

Dear MS. Marruffo,

Attached is a list of tribes that have cultural and traditional affiliation to the area of potential project effect (APE) referenced above. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult, as may be required under particular state statutes. If a response has not been received within two weeks of notification, the Native American Heritage Commission (NAHC) requests that you follow-up with a telephone call to ensure that the project information has been received.

The NAHC also recommends that project proponents conduct a record search of the NAHC Sacred Lands File (SLF) at the appropriate regional archaeological Information Center of the California Historic Resources Information System (CHRIS) (http://ohp.parks.ca.gov/?page_id=1068) to determine if any tribal cultural resources are located within the area(s) affected by the proposed action. The SFL, established under Public Resources Code section 5094, are sites submitted for listing to the NAHC by California Native American tribes. The SFL, established under Public Resources Code section 5094, are sites submitted for listing to the NAHC by California Native American tribes. A record search of the SLF was completed for the APE referenced above with negative results. Please note records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of tribal cultural resources. A tribe may be the only source of information regarding the existence of tribal cultural resources.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: frank.lienert@nahc.ca.gov

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contact List

9/1/2016

Big Lagoon Rancheria
Virgil Moorehead, Chairperson
P. O. Box 3060 — Tolowa
Trinidad, CA, 95570 — Yurok
Phone: (707)826-2079
Fax: (707)826-1737
vmoorehead@earthlink.net

Blue Lake Rancheria
Claudia Brundin, Chairperson
P.O. Box 428 — Tolowa
Blue Lake, CA, 95525 — Wiyot
Phone: (707)668-5101 — Yurok
Fax: (707)668-4272
bmobbs@bluelakerancheria-nsn.gov

Blue Lake Rancheria
Janet Eidsness, Tribal Historic Preservation Officer
P.O. Box 428 — Tolowa
Blue Lake, CA, 95525-0428 — Wiyot
Phone: (707)668-5101 — Yurok
Fax: 707-668-4272
jeidsness@bluelakerancheria-nsn.gov

Cher-Ae Heights Indian Community of the Trinidad Rancheria
Garth Sundberg, Chairperson
P.O. Box 630 — Miwok
Trinidad, CA, 95570-0630 — Tolowa
Phone: (707)677-0211 — Yurok
Fax: (707)677-3921
AAtkins@TrinidadRancheria.com

Yurok Tribe of California
Yurok Tribe, NAGPRA Coordinator
P.O. Box 1027 — Yurok
Klamath, CA, 95548
Phone: (707)482-1350
Fax: (707)482-1377

Yurok Tribe of California
James Dunlap, Chairperson
PO Box 1027 — Yurok
Klamath, CA, 95548
Phone: (707)482-1350
Fax: (707)482-1377

Yurok Tribe of California
Robert McConnell, Tribal Historic Preservation Officer
HC 67 P.O. Box 196, Highway 96 — Yurok
Hoopa, CA, 95546
Phone: (707)498-2536
Fax: (707)482-1377
rmcconnell@yuroktribe.nsn.us

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Request for Contact list for 2 parcels,

PROJ-001997 — 09/01/2016 10:10 AM — 1 of 1

Attachment 5

Referral Agency Comments

Referral Agency	Date	Recommendation	Location
Orick Design Review Committee	2-10-17	Denial	Attached
NWIC	8-29-16	Further Study	Attached
Division of Environmental Health	5-31-17	Conditional Approval	Attached
Public Works Land Use	11-28-16	No Comment	Attached
Redwood National Park	12-1-16	Recommend Approval	Attached
Blue Lake Rancheria	12-30-16	Outside area of concern	Attached
NCUAQMD	11-22-16	Recommend Approval	Attached
Building Inspection Division	11-22-16	Recommend Approval	Attached

HUMBOLDT COUNTY
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING DIVISION
3015 H STREET, EUREKA, CA 95501 ~ PHONE (707) 445-7541

RECEIVED
FEB 22 2017

11/21/2016

PROJECT REFERRAL TO: Orick Design Review Committee

Project Referred To The Following Agencies:
Building Inspection Division, Public Works Land Use Division, Health and Human Services Environmental Health Division, Supervising Planner, Current Planning Division, County Counsel, California Department of Fish And Wildlife, Big Lagoon Rancheria, Blue Lake Rancheria, Yurok Tribe, Regional Water Quality Control Board, North Coast Unified Air Quality Management District, United States Fish And Wildlife Service, Orick Design Review Committee, Redwood National Park, Assigned Planner: MEW, Cher-Ae Heights Rancheria

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Applicant Name Save the Redwoods League **Key Parcel Number** 519-231-018-000

Application (APPS#) 11383 **Assigned Planner** Michael Wheeler (707) 268-3730 **Case Number(s)** DR16-015

Please review the above project and provide comments with any recommended conditions of approval. To help us log your response accurately, please include a copy of this form with your correspondence.

Questions concerning this project may be directed to the assigned planner for this project between 8:30am and 5:30pm Monday through Friday.

County Zoning Ordinance allows up to 15 calendar days for a response. If no response or extension request is received by the response date, processing will proceed as proposed.

☐ If this box is checked, please return large format maps with your response.

Return Response No Later Than 12/6/2016

Planning Commission Clerk
County of Humboldt Planning and Building Department
3015 H Street
Eureka, CA 95501
E-mail: PlanningClerk@co.humboldt.ca.us **Fax:** (707) 268-3792

We have reviewed the above application and recommend the following (please check one):

☐ Recommend Approval. The Department has no comment at this time.

☐ Recommend Conditional Approval. Suggested Conditions Attached.

☐ Applicant needs to submit additional information. List of items attached.

☒ Recommend Denial. Attach reasons for recommended denial.

☐ Other Comments: _____

DATE: 02-20-17 PRINT NAME: KIMBERLY FRICK

ORICK DESIGN CONTROL COMMITTEE

MINUTES

February 2, 2017

Present: Kimberly Frick, Marcie Allen, Erica Roane & Cheryl Zuber

Absent: None

Committee met to discuss 519-231-018 Save the Redwoods League tearing down a barn. The committee unanimously voted NO.

Respectfully submitted,

Kimberly Frick

HUMBOLDT COUNTY
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING DIVISION
3015 H STREET, EUREKA, CA 95501 ~ PHONE (707) 445-7541

JUN - 2 2017

DEH received 11-23-16

POSTED

PROJECT REFERRAL TO: Health and Human Services Environmental Health Division

16/17-053

Project Referred To The Following Agencies:
Building Inspection Division, Public Works Land Use Division, Health and Human Services Environmental Health Division, Supervising Planner, Current Planning Division, County Counsel, California Department of Fish And Wildlife, Big Lagoon Rancheria, Blue Lake Rancheria, Yurok Tribe, Regional Water Quality Control Board, North Coast Unified Air Quality Management District, United States Fish And Wildlife Service, Orick Design Review Committee, Redwood National Park, Assigned Planner: MEW, Cher-Ae Heights Rancheria

---

Applicant Name Save the Redwoods League **Key Parcel Number** 519-231-018-000

Application (APPS#) 11383 **Assigned Planner** Michael Wheeler (707) 268-3730 **Case Number(s)** DR16-015

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☐ If this box is checked, please return large format maps with your response.

Return Response No Later Than

Planning Commission Clerk
County of Humboldt Planning and Building Department
3015 H Street
Eureka, CA 95501
E-mail: PlanningClerk@co.humboldt.ca.us **Fax:** (707) 268-3792

We have reviewed the above application and recommend the following:

Conditional Approval

Comments:
A septic tank destruction permit application is needed in order to complete planning permit approval.

Response Date: 5/31/2017 **Recommendation By:** Mario Kalson

HUMBOLDT COUNTY
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING DIVISION
3015 H STREET, EUREKA, CA 95501 ~ PHONE (707) 445-7541

RECEIVED
NOV 22 2016
HUMBOLDT CO. PUBLIC WORKS
LAND USE DIVISION

11/21/2016

PROJECT REFERRAL TO: Public Works Land Use Division

Project Referred To The Following Agencies:
Building Inspection Division, Public Works Land Use Division, Health and Human Services Environmental Health Division, Supervising Planner, Current Planning Division, County Counsel, California Department of Fish And Wildlife, Big Lagoon Rancheria, Blue Lake Rancheria, Yurok Tribe, Regional Water Quality Control Board, North Coast Unified Air Quality Management District, United States Fish And Wildlife Service, Orick Design Review Committee, Redwood National Park, Assigned Planner: MEW, Cher-Ae Heights Rancheria

Applicant Name Save the Redwoods League **Key Parcel Number** 519-231-018-000

Application (APPS#) 11383 **Assigned Planner** Michael Wheeler (707) 268-3730 **Case Number(s)** DR16-015

Please review the above project and provide comments with any recommended conditions of approval. To help us log your response accurately, please include a copy of this form with your correspondence.

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☐ If this box is checked, please return large format maps with your response.

Return Response No Later Than 12/6/2016

Planning Commission Clerk
County of Humboldt Planning and Building Department
3015 H Street
Eureka, CA 95501
E-mail: PlanningClerk@co.humboldt.ca.us **Fax:** (707) 268-3792

We have reviewed the above application and recommend the following (please check one):

☒ ~~Recommend Approval~~. The Department has no comment at this time.

☐ Recommend Conditional Approval. Suggested Conditions Attached.

☐ Applicant needs to submit additional information. List of items attached.

☐ Recommend Denial. Attach reasons for recommended denial.

☐ Other Comments: _____

DATE: 11/28/2016 PRINT NAME: KENNETH FREEL

HUMBOLDT COUNTY
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING DIVISION
3015 H STREET, EUREKA, CA 95501 ~ PHONE (707) 445-7541

11/21/2016

PROJECT REFERRAL TO: Redwood National Park

Project Referred To The Following Agencies:
Building Inspection Division, Public Works Land Use Division, Health and Human Services Environmental Health Division, Supervising Planner, Current Planning Division, County Counsel, California Department of Fish And Wildlife, Big Lagoon Rancheria, Blue Lake Rancheria, Yurok Tribe, Regional Water Quality Control Board, North Coast Unified Air Quality Management District, United States Fish And Wildlife Service, Orick Design Review Committee, Redwood National Park, Assigned Planner: MEW, Cher-Ae Heights Rancheria

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Applicant Name Save the Redwoods League **Key Parcel Number** 519-231-018-000

Application (APPS#) 11383 **Assigned Planner** Michael Wheeler (707) 268-3730 **Case Number(s)** DR16-015

Please review the above project and provide comments with any recommended conditions of approval. To help us log your response accurately, please include a copy of this form with your correspondence.

Questions concerning this project may be directed to the assigned planner for this project between 8:30am and 5:30pm Monday through Friday.

County Zoning Ordinance allows up to 15 calendar days for a response. If no response or extension request is received by the response date, processing will proceed as proposed.

☐ If this box is checked, please return large format maps with your response.

Return Response No Later Than 12/6/2016

Planning Commission Clerk
County of Humboldt Planning and Building Department
3015 H Street
Eureka, CA 95501
E-mail: PlanningClerk@co.humboldt.ca.us **Fax:** (707) 268-3792

We have reviewed the above application and recommend the following (please check one):

☒ Recommend Approval. The Department has no comment at this time.

☐ Recommend Conditional Approval. Suggested Conditions Attached.

☐ Applicant needs to submit additional information. List of items attached.

☐ Recommend Denial. Attach reasons for recommended denial.

☐ Other Comments: _____

DATE: December 1, 2016 PRINT NAME: Shannon Dempsey

District Environmental Coordinator

Lippre, Suzanne

From: Janet Eidsness <JEidsness@bluelakerancheria-nsn.gov>
Sent: Monday, November 28, 2016 2:56 PM
To: Wheeler, Michael; Planning Clerk
Cc: erikacooper@brb-nsn.gov; Tom Torma (tom@wiyot.us)
Subject: Blue Lake THPO comment on Save the Redwoods League deconstruction of barn at Orick mill site

Dear Michael:

Thanks for sending the subject Project Referral dated 11/21/16 with comments requested by 12/6/16

The project is located outside Blue Lake Rancheria's mapped area of concern for tribal cultural resources. Orick is located in ancestral Yurok territory.

Regards,

Janet P. Eidsness, M.A.
Tribal Heritage Preservation Officer (THPO)
Blue Lake Rancheria
P.O. Box 428 (428 Chartin Road)
Blue Lake, CA 95525
Office (707) 668-5101 ext. 1037
Fax (707) 668-4272
jeidsness@bluelakerancheria-nsn.gov
cell (530) 623-0663 jpeidsness@yahoo.com

SCANNED

POSTED

RECEIVED
NOV 30 2016
Humboldt County
Planning Division

HUMBOLDT COUNTY
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING DIVISION
3015 H STREET, EUREKA, CA 95501 ~ PHONE (707) 445-7541

11/21/2016

NOV 22 2016

CA

PROJECT REFERRAL TO: North Coast Unified Air Quality Management District

Project Referred To The Following Agencies:
Building Inspection Division, Public Works Land Use Division, Health and Human Services Environmental Health Division, Supervising Planner, Current Planning Division, County Counsel, California Department of Fish And Wildlife, Big Lagoon Rancheria, Blue Lake Rancheria, Yurok Tribe, Regional Water Quality Control Board, North Coast Unified Air Quality Management District, United States Fish And Wildlife Service, Orick Design Review Committee, Redwood National Park, Assigned Planner: MEW, Cher-Ae Heights Rancheria

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Applicant Name Save the Redwoods League **Key Parcel Number** 519-231-018-000

Application (APPS#) 11383 **Assigned Planner** Michael Wheeler (707) 268-3730 **Case Number(s)** DR16-015

Please review the above project and provide comments with any recommended conditions of approval. To help us log your response accurately, please include a copy of this form with your correspondence.

Questions concerning this project may be directed to the assigned planner for this project between 8:30am and 5:30pm Monday through Friday.

County Zoning Ordinance allows up to 15 calendar days for a response. If no response or extension request is received by the response date, processing will proceed as proposed.

☐ If this box is checked, please return large format maps with your response.

Return Response No Later Than 12/6/2016

Planning Commission Clerk
County of Humboldt Planning and Building Department
3015 H Street
Eureka, CA 95501
E-mail: PlanningClerk@co.humboldt.ca.us **Fax:** (707) 268-3792

We have reviewed the above application and recommend the following (please check one):

☒ Recommend Approval. The Department has no comment at this time.

☐ Recommend Conditional Approval. Suggested Conditions Attached.

☐ Applicant needs to submit additional information. List of items attached.

☐ Recommend Denial. Attach reasons for recommended denial.

☐ Other Comments: _____

DATE: NOV 22, 2016 PRINT NAME: JASON DAVIS NCUAQMD

HUMBOLDT COUNTY
PLANNING AND BUILDING DEPARTMENT
CURRENT PLANNING DIVISION
3015 H STREET, EUREKA, CA 95501 ~ PHONE (707) 445-7541

11/21/2016

PROJECT REFERRAL TO: Building Inspection Division

Project Referred To The Following Agencies:
Building Inspection Division, Public Works Land Use Division, Health and Human Services Environmental Health Division, Supervising Planner, Current Planning Division, County Counsel, California Department of Fish And Wildlife, Big Lagoon Rancheria, Blue Lake Rancheria, Yurok Tribe, Regional Water Quality Control Board, North Coast Unified Air Quality Management District, United States Fish And Wildlife Service, Orick Design Review Committee, Redwood National Park, Assigned Planner: MEW, Cher-Ae Heights Rancheria

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Applicant Name Save the Redwoods League **Key Parcel Number** 519-231-018-000

Application (APPS#) 11383 **Assigned Planner** Michael Wheeler (707) 268-3730 **Case Number(s)** DR16-015

Please review the above project and provide comments with any recommended conditions of approval. To help us log your response accurately, please include a copy of this form with your correspondence.

Questions concerning this project may be directed to the assigned planner for this project between 8:30am and 5:30pm Monday through Friday.

County Zoning Ordinance allows up to 15 calendar days for a response. If no response or extension request is received by the response date, processing will proceed as proposed.

☐ If this box is checked, please return large format maps with your response.

Return Response No Later Than 12/6/2016

Planning Commission Clerk
County of Humboldt Planning and Building Department
3015 H Street
Eureka, CA 95501
E-mail: PlanningClerk@co.humboldt.ca.us **Fax:** (707) 268-3792

We have reviewed the above application and recommend the following (please check one):

☑ Recommend Approval. The Department has no comment at this time.

☐ Recommend Conditional Approval. Suggested Conditions Attached.

☐ Applicant needs to submit additional information. List of items attached.

☐ Recommend Denial. Attach reasons for recommended denial.

☐ Other Comments: _____

DATE: 11/22/16 PRINT NAME: MD. I