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STAFF REPORT: REGULAR CALENDAR

Application No.: 1-16-0899

Applicant: California Department of Transportation
(Caltrans) District 1

Location: Between PM (post marker) 43.3 and PM 44.2 at the Albion River Bridge, State Route 1, in Mendocino County (APNs 123-050-RW, 123-050-12, 123-170-01, and 123-040-07)

Project Description: Conduct geotechnical investigation to provide data for the evaluation of options for the future rehabilitation or replacement of the Highway 1 Albion River Bridge and involving the geotechnical drilling of up to nine 70-125-ft.-deep bore holes within six specified sites, removal of major vegetation, grading, and use of helicopters for placement of drill rigs and construction of temporary access routes to boring sites, conducting seismic refraction surveys, and replanting cleared areas.

Staff Recommendation: Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends approval of CDP Application 1-16-0899 with Special Conditions.

The California Department of Transportation (Caltrans) proposes to conduct geotechnical investigations to provide data for evaluation of the future rehabilitation or replacement of the Albion River Bridge. Caltrans is currently investigating options for correcting structural and geometric deficiencies of the bridge, including but not limited to options for: (a) rehabilitating the existing bridge, (b) constructing a replacement bridge, and (c) the “no-project” alternative. Specific alternatives will be evaluated and presented in a Draft Environmental Impact Report anticipated to be published and circulated for comment in 2019.

The purpose of the geotechnical studies is to gather the subsurface geotechnical data needed to inform the bridge foundation and alignment options for the future rehabilitation or replacement of Albion River Bridge. The subject project does not include approval of any portion of the future bridge rehabilitation or replacement project.

The major issues raised by this application include the project’s consistency with the Commission’s ESHA protection, water quality, and visual resource policies. Caltrans originally proposed drilling up to 16 boring locations at 11 drill sites, but later narrowed the scope of the project to include only the nine boring locations at six drill sites that are needed to evaluate the feasibility of future bridge rehabilitation and replacement alternatives. Caltrans eliminated those drill sites that would have only provided information for refining the design of particular bridge rehabilitation or replacement alternatives after selection of a specific alternative. By so modifying the project, Caltrans has ensured that none of the development will occur *within* environmentally sensitive habitat areas (ESHAs), though some of the proposed development will occur *adjacent* to ESHAs.

With regard to the development proposed adjacent to ESHA, Caltrans has further modified their originally proposed project and has proposed a number of measures to prevent impacts that would either significantly degrade or be incompatible with continuance of the adjacent ESHAs. These measures include, but are not limited to: (1) conducting all project components outside the bird breeding season, which begins February 1 and ends September 15 and further confining grading to the dry period between September 15 and October 15; (2) minimizing the project footprint and ground disturbance by utilizing existing ingress and egress routes and alternative equipment delivery methods; (3) reducing the scale of proposed development to the minimum necessary to solely inform the feasibility of bridge alternatives; (4) conducting pre-construction biological surveys; (5) monitoring biological resources during geotechnical investigation activities; (6) incorporating best management practices (BMPs); and (7) re-contouring, replanting, maintaining, and monitoring disturbed areas. Staff is recommending conditions to ensure implementation of these proposed measures. In addition, staff is recommending that Caltrans revise some of their proposed mitigation measures in order to fully ensure that the proposed development prevents impacts that would either significantly degrade or be incompatible with continuance of the adjacent ESHAs.

The proposed removal of portions of the stand of eucalyptus trees west of the highway at the north end of the bridge would create a noticeable change to the visual landscape. However, the non-native and invasive eucalyptus trees are located within a designated tree removal area as designated in the LCP for the purpose of facilitating unobstructed views to and along the ocean. Removal of the trees would open up views of the ocean from Highway 1, Albion Little River Road, and from other public vantage points. After removal of the eucalyptus trees, Caltrans

proposes to recontour and revegetate the area with native plants, re-establishing a vegetated landscape that is consistent with the natural landscape of the overall area that existed prior to development of the area and the introduction of the exotic eucalyptus trees. Therefore, Staff believes that the proposed removal of eucalyptus trees is compatible with the character of surrounding areas consistent with the requirements of Section 30251 of the Coastal Act.

Staff believes that as conditioned, the proposed project is consistent with all applicable Chapter Three policies of the Coastal Act.

The motion to adopt the staff recommendation of **approval with special conditions** is found on page [5](#).

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I. MOTION AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve coastal development permit 1-16-0899 pursuant to the staff recommendation.

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment:** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration:** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable amount of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation:** Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment:** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land:** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Liability for Costs and Attorneys' Fees.** By acceptance of this permit, the Applicant/Permittee agrees to reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys' fees -- including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorneys' fees that the Coastal Commission may be required by a court to pay -- that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Applicant/Permittee against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission. **PRIOR TO COMMENCEMENT OF ANY DEVELOPMENT**, the Permittee shall enter into a separate written agreement with the Executive Director agreeing to reimburse the Coastal Commission for all court costs and attorney's fees, consistent with the requirements of this condition.
2. **Development Responsibilities.** Caltrans, in accepting the benefits of CDP 1-16-0899, agrees and accepts the following:
 - A. All activities associated with performing the development authorized pursuant to CDP 1-16-0899 shall at all times be undertaken in full accordance with the terms and conditions of CDP1-16-0899 and in full compliance with the court order granted to Caltrans October 5, 2017 by Mendocino County Superior Court (Case Number SC-UK-CV-PT 17-69630 (*State of California v. Seto Properties LLC*)), granting Caltrans permission to enter private property at Mendocino County Assessor's parcel numbers 123-040-07, 123-170-01, 123-050-12, including but not limited to requiring that work on the subject parcels be limited to a total of 50 active work days, which may occur consecutively or intermittently, but shall terminate on or before June 30, 2019.
 - B. Caltrans shall ensure that the relevant bidding documents and eventual contract include: a) sufficient and accurate provisions for Caltrans to ensure the obligation of the winning bidder to comply with all of the conditions of CDP 1-16-0899 and to pursue the project in accordance with the proposed and approved project description; and b) the specific requirement that the contractor and any employees, subcontractors, agents, or other representatives of the contractor or contractors who are responsible for constructing any portion of the project, shall undertake all related activities in full compliance with the project approved pursuant to CDP 1-16-0899, including all terms and conditions imposed by the Commission in approving the permit. It shall be Caltrans' responsibility to ensure

that the bidding documents contain general and special provisions necessary to fully and accurately incorporate all requirements imposed by the Commission or other state or federal agencies with regulatory authority over the project, including timelines for review of documents and other potentially limiting measures that may affect construction scheduling and the timing of construction or other parameters of material interest to the participating parties. It shall also be Caltrans' responsibility to ensure that the winning bid for the construction of the proposed project is adequate to ensure that the selected contractor has taken into consideration and provided for the full cost of compliance with all requirements imposed by the Commission pursuant to the Commission's approval of CDP 1-16-0899.

- C. A copy of CDP No. 1-16-0899, a copy of all final approved plans or other measures required to be completed prior to issuance of CDP No. 1-16-0899, and a copy of the court order granted to Caltrans October 5, 2017 by Mendocino County Superior Court (Case Number SC-UK-CV-PT 17-69630 (*State of California v. Seto Properties LLC*)), shall be attached to the bidding documents for reference by potential bidders.
 - D. After the contract is awarded, Caltrans shall provide a copy of CDP No. 1-16-0899, including the conditions of approval, a copy of the final approved plans, and a copy of the court order granted to Caltrans October 5, 2017 by Mendocino County Superior Court (Case Number SC-UK-CV-PT 17-69630 (*State of California v. Seto Properties LLC*)), to each contractor undertaking any portion of the development authorized pursuant to CDP No. 1-16-0899.
 - E. All activities associated with performing the development authorized pursuant to CDP 1-16-0899 shall at all times be undertaken in full accordance with the terms and conditions of CDP 1-16-0899. It shall be Caltrans' responsibility to ensure such compliance by any party to whom Caltrans assigns the right to undertake any part of the activities authorized herein; this requirement does not relieve other parties of responsibility for compliance with the permit or immunize such parties from enforcement action by the Coastal Commission's enforcement program.
- 3. Debris Disposal Plan.**
- A. Not less than ten (10) working days PRIOR TO THE COMMENCEMENT OF ANY DEVELOPMENT, the permittee shall submit, for the review and approval of the Executive Director, a plan detailing the methods by which, and locations at which any excavated material, including but not limited to soil, vegetative spoils, eucalyptus trees and brush, and other project debris will be legally disposed. The plan shall demonstrate at a minimum that:
 - i. All temporary stockpiles of construction materials, excess soils, excess vegetative spoils, and any other debris, waste, and other excess material associated with the authorized work shall be restricted to areas where they feasibly can be contained with appropriate BMPs to prevent any discharge of pollutants to coastal waters.

- ii. Side casting or placing any construction materials, excess soils, excess vegetative spoils, or any other debris, waste, and other excess material generated by the authorized work within any environmentally sensitive habitat area is prohibited.
 - iii. All development debris, including any excess excavated soil, and all removed vegetation, including but not limited to eucalyptus trees, limbs, chips, and other debris, shall be removed and disposed of in an upland location outside of the coastal zone or at a green waste or other disposal facility authorized to accept such debris.
- B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.
- 4. **Duration of Development.** In accordance with the applicant's proposal dated August 22, 2018, project-related activities, including staging and storage of materials and equipment at the project site, shall only be undertaken and completed during a single construction season from September 15, 2018 through January 31, 2019. Any proposed extension of the work period shall require an amendment to this coastal development permit.
- 5. **Seasonal Limitations for Authorized Development.** Consistent with **Special Condition 9(E)** and the Updated Project Description dated August 22, 2018, no development shall occur between February 1 and September 15, the period of the year comprising the bird breeding season. In addition, consistent with the requirements of **Special Condition 8(E)**, all grading activities shall be further confined to the period of September 15 through October 15 to avoid the rainy season. No proposed changes to the timing of development shall occur without an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.
- 6. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from erosion, landslide, bluff retreat, earth movement, flooding, waves, storm wave, tsunamis, and sea level rise; (ii) to assume the risks to employees and assigns of Caltrans, including contractors and subcontractors and their officers, agents, and employees, and to the public utilizing the proposed project during and after construction, and to the property that is the subject of this permit of injury and/or damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

7. Protection of Archaeological Resources.

- A. Caltrans shall comply with all recommendations and mitigation measures relating to the authorized development that are contained in the archaeological plans entitled “Historical Resources Evaluation Report and Phase 2 Proposal for the Albion Bridge Replacement Project in Mendocino County, California” prepared by Thad Van Bueren at Pacific Legacy, Inc. for Caltrans District 03 under Agreement 03A2156, Task Order 20, and the August 2016 “Late Discovery Plan for a Proposed Geotechnical Investigation at Albion River Bridge, Mendocino County, California” prepared by Jeff Haney, Associate Environmental Planner (Archaeology) for Caltrans by Department of Transportation Division of Environmental Services, including but not limited to the following:
- i. Caltrans Professionally Qualified Staff (PQS) will be notified when construction begins.
 - ii. Bore hole #5 shall be monitored by a historical archaeologist.
 - iii. Bore hole #5 shall be mapped with GPS, with stratigraphic sequences.
 - iv. Any cultural content present within the layers of Bore hole #5 shall be documented.
- B. If an area of prehistoric cultural deposits or human remains is discovered during the course of the project, all activity shall cease and shall not re-commence until a qualified cultural resource specialist, in consultation with the Tribal Historic Preservation Officers of the Manchester-Point Arena Rancheria and Sherwood Valley Rancheria, analyzes the significance of the find and prepares a supplementary archaeological plan for the review and approval of the Executive Director, and either: (a) the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan’s recommended changes to the proposed development or mitigation measures are *de minimis* in nature and scope, or (b) the Executive Director reviews the Supplementary Archaeological Plan, determines that the changes proposed therein are not *de minimis*, and the permittee has thereafter obtained an amendment to CDP 1-16-0899.

- 8. Environmentally Sensitive Habitat Protection.** PRIOR TO COMMENCEMENT OF ANY DEVELOPMENT, the permittee shall stake the actual bore hole locations and field verify all ESHA boundaries. Flagging shall be placed along the edge of ESHA boundaries as generally depicted in [Exhibit 9](#) and no encroachment within ESHAs shall occur. The permittee shall ensure all workers leave the area so delineated undisturbed. Actual bore holes and drill platforms shall be placed following field verification of the ESHA boundary. Any stakes and flagging shall be removed following geotechnical activities.

- 9. Water Quality Protection Measures and Best Management Practices.** Best Management Practices designed to protect the water quality of the Pacific Ocean and Albion River shall be implemented during construction. The permittee shall adhere to the following water quality protection measures and best management practices (BMPs), including, but not limited to, the following:

- A. No construction equipment, materials, debris, fuels, lubricants, solvents, or waste shall be placed or stored where they may enter sensitive habitat, receiving waters or a storm drain, or be subject to wave, wind, rain, or tidal erosion and dispersion. Physical barriers shall be placed and continuously maintained until the completion of all project activities at the downslope project limit, to protect against accidental release of graded spoils or other materials into sensitive habitat, receiving waters or a storm drain;
- B. All stockpiles of construction debris, waste materials, excavated soils, and other materials and debris associated with or generated by the authorized work shall be covered with a sheeting material that will prevent dispersal of the stock pile and construction materials, enclosed on all sides, and contained with berms or other sediment and runoff control devices;
- C. During construction, all trash shall be properly contained;
- D. The discharge of any hazardous materials into any receiving waters shall be prohibited;
- E. Consistent with **Special Condition 4, Special Condition 9(E)** and the applicant's Updated Project Description dated August 22, 2018, no development shall occur between February 1 and September 15, the period of the year comprising the bird breeding season. In addition, all grading activities shall be further confined to the period of September 15 through October 15 to avoid the rainy season. No proposed project changes to the timing of development shall occur without an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.
- F. If rainfall is forecast during the time construction activities are being performed, any exposed soil areas shall be promptly mulched or covered with plastic sheeting and secured with sand bagging or other appropriate materials before the onset of precipitation;
- G. If a temporary erosion control product (such as mulch control netting, erosion control blanket, or mat) is used to stabilize soils until vegetation is established, only products manufactured from 100% biodegradable (not photodegradable) materials shall be used. If temporary erosion control products that have a netting component are used, the netting shall be loose-weave natural-fiber netting. Products with plastic netting, including but not limited to polypropylene, nylon, polyethylene, and polyester shall not be used. If fiber rolls (wattles) are used for wetland protection and/or temporary sediment control, the netting component of these products shall be made of loose-weave natural-fiber (not plastic) netting;
- H. Upon completion of construction activities and prior to the onset of the rainy season, all bare soil areas shall be seeded with fast-growing vegetation and adequately mulched with weed-free rice straw. Revegetation shall be performed only with sterile non-native grasses and/or native vegetation obtained from local genetic stocks within Sonoma, Mendocino, or Humboldt Counties within 30 miles of the coast. Sterile non-native annual grasses shall comprise no more than 50%

of the erosion control seed mixture to be planted (by weight of seed), with the remaining seed composed of native species. If documentation is provided to the Executive Director that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside the local area, but from within the adjacent region of the floristic province, may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted or allowed to naturalize or persist on the parcel. No plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be utilized within the property;

- I. Only weed-free straw shall be used to cover any disturbed soil areas, as needed, following construction activities.
 - J. All equipment used during construction shall be free of leaks of fuels and lubricants at all times;
 - K. Hazardous materials management equipment shall be available immediately on-hand at the project site during construction, and a registered first-response, professional hazardous materials clean-up/remediation service shall be locally available on call;
 - L. The on-site spill prevention and control response program prepared by Caltrans and dated November 22, 2016 (with revision date April 12, 2018), and the supplemental "Hazardous Substance Spill Control and Emergency Response Plan" prepared by Crux Subsurface, Inc. (signed July 19, 2018), consisting of BMPs for the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill, shall be implemented at the project site to capture and clean-up any accidental releases of oil, grease, fuels, lubricants, or other hazardous materials;
 - M. In the event that an accidental release of oil, grease, fuels, lubricants, or other hazardous materials or wastes should reach the Albion River or shoreline, all work shall stop immediately, and retrieval and cleanup shall be undertaken immediately with the minimum intrusion of equipment into the riparian and marine area necessary, and the incident, as well as remedial measures taken, reported to the Executive Director within 24 hours.
 - N. All BMPs shall be maintained in a functional condition throughout the duration of construction activity.
- 10. Biological Surveying, Monitoring, & Mitigation Requirements.**
The permittee shall conduct pre-construction biological surveys, perform biological monitoring during construction, and implement mitigation measures to protect breeding birds and bats, marine mammals, and other sensitive species in conformance with the terms of this permit, as detailed below:

Measures the Permittee Shall Implement as Proposed in the Application:

- A. A qualified Caltrans biologist or Caltrans Environmental Construction Liaison (ECL) with significant pertinent field experience and familiar with the identification of birds, bats, marine mammals, and other sensitive species or habitats that may occur within or adjacent to the project area (hereinafter “monitor”) shall be present to survey and monitor at minimum the following most sensitive work activities: (1) pre-construction surveys; (2) helicopter deployment; (3) seismic refraction surveys; (4) regular site inspections for the duration of the geotechnical investigation ; (5) protective straw wattle installation and removal; and (6) other sensitive activities identified by the Project Manager and/or Resident Engineer.
- B. In addition to being present to survey and monitor the sensitive work activities identified in Part (A) above, at least twice weekly, the biological monitor shall visit the project site and conduct the following inspections:
- i. Ensure that work is being conducted as delineated in the approved design layouts.
 - ii. Inspect construction BMP's, ensure that silt fencing and fiber rolls are in working order.
 - iii. Inspect equipment onsite. Ensure no fluid leakages from equipment or drilling fluid spillage has occurred.
 - iv. Inspect ESA fencing, and ensure that it is functioning as a barrier for protections to sensitive resources.
- C. To avoid impacts to special status birds during the breeding season, and consistent with **Special Condition 4, Special Condition 8(E)** and the applicant’s Updated Project Description dated August 22, 2018, no development shall occur between February 1 and September 15, the period of the year comprising the bird breeding season. In addition, all grading activities shall be further confined to the period of September 15 through October 15 to avoid the rainy season.
- D. During helicopter use in proximity to the geotechnical boring sites, biological monitors with aid of binoculars and/or spotting scopes, shall be present at locations that allow for unobstructed views of the helicopter activity and any hauled-out marine mammals. Biological monitoring of marine mammals during helicopter operations shall be performed in accordance with the following monitoring protocol:
- i. Biological monitors shall be present at (a) Albion Cove, (b) the docks at Albion campground, and (c) (when flights will occur over the Albion River) at docks near Schooner’s landing upriver along the Albion River.
 - ii. If marine mammals are observed hauled out at Albion Cove, the docks at Albion campground, and/or (when flights will occur over the Albion River) at docks near Schooner’s landing upriver along the Albion River, helicopter deployment shall not commence until such time as the mammal(s) have returned to the water.

- iii. Once any hauled-out marine mammals have returned to the water, the monitors shall notify the helicopter operator by radio and/or cell phone that they are clear to depart the airport for helicopter use at the geotechnical boring sites.
- E. A biological monitor shall be present during all seismic refraction surveys. During the surveys the biological monitor shall perform the following tasks:
- i. Review the surrounding habitat where seismic refraction surveys are proposed and ensure that seismic refraction surveys do not disturb designated ESHA.
 - ii. Evaluate marine mammals during seismic refraction surveys. The biological monitor will scan (with aid of binoculars) Albion Cove for 5 to 10 minutes continuously just prior to the striker plate usage.
 - iii. Striker plate usage can occur once the biological monitor determines that marine mammals are not hauled out at Albion Cove.
 - iv. If marine mammals are observed hauled out at Albion Cove, striker plate usage shall not commence until such time as the mammal(s) have returned to the water.
- F. To avoid impacts to special status amphibian species including but not limited to Northern red-legged frog, preconstruction surveys shall be conducted by a qualified biologist immediately prior to the beginning of ground disturbing operations if any geotechnical investigation activities are conducted during the breeding season and metamorphic life stage of special status amphibian species between January and April. If any special status amphibians are observed, they shall be relocated by a qualified biologist outside of the project area.

Additional Measures the Permittee Shall Implement

- G. Instead of conducting regular site inspections once weekly during the duration of the investigation as proposed by the applicant, inspections shall occur twice weekly.
- H. The monitor shall notify the Executive Director of the date of commencement of geotechnical investigation activities not less than ten (10) working days prior to commencement.
- I. PRIOR TO COMMENCEMENT OF ANY DEVELOPMENT, the monitor shall provide copies of, and brief all on-site personnel on, all the requirements of CDP 1-16-0899, including requirements related to the protection of sensitive habitat and species, and of water quality, and shall provide additional copies and conduct additional briefings as new field personnel join the project, and as the monitor may otherwise determine to be additionally necessary, to ensure that all personnel understand and fully implement the applicable requirements of CDP 1-16-0899;
- J. In addition to the measures proposed by the applicant, the monitor shall maintain a log of all on-site briefings of personnel regarding the requirements of CDP No.

1-16-0899 and shall additionally log any incidents of non-compliance with CDP No. 1-16-0899 and immediately notify the Supervising or Resident Engineer and the Executive Director.

- K. No changes to the measures required by this special condition shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

11. Revegetation of Disturbed Areas.

- A. Revegetation of disturbed areas shall be implemented according to the final revegetation plans prepared by Caltrans titled, "Revegetation Plan: Albion Bridge Geotechnical Investigation," Revised August 10, 2018 and as presented in [Exhibit 21](#), including but not limited to establishing the target baseline cover of native plants immediately after planting at 70% absolute cover, as specified in Section 6(a)(ii)(4)(c) of the revegetation plan.
- B. WITHIN 60 DAYS of installation of plantings, the permittee shall submit photos to the Executive Director demonstrating that all revegetation planting has been installed consistent with the specifications of the final revegetation plan.
- C. Revegetated areas shall be maintained and monitored for successful revegetation establishment consistent with Sections 7 and 8 of the revised revegetation plan. If after the fifth year following installation of the revegetation plantings the monitoring report indicates that revegetation of disturbed soil areas has been unsuccessful, in part, or in whole, based on the Year 5 performance standard of 70% survival of installed and/or recolonized native vegetation and 20% increase above the 70% baseline soil coverage conditions by native plant species since the time of planting, the permittee shall submit a coastal development permit amendment application within 6 months of submittal of the monitoring report for a revised or supplemental restoration planting program, to compensate for those portions of the original revegetation plantings which did not meet the performance standard. The revised or supplemental revegetation program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.
- D. Any proposed changes to the final revegetation plan shall be reported to the Executive Director. No changes to the approved final plans shall occur without a further Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

A. BACKGROUND AND PROJECT DESCRIPTION

Caltrans proposes to conduct a geotechnical investigation to provide data for the future rehabilitation or replacement of the Highway 1 Albion River Bridge in the town of Albion on the

Mendocino County coast. The geotechnical studies would provide subsurface geotechnical data needed to inform the bridge foundation and alignment options for the future bridge rehabilitation or replacement.

The 969-foot-long State Route 1 Albion River Bridge provides the only public access crossing of the Albion River from the mouth of the river at the coast to many miles upriver. The bridge connects Mendocino and Ft. Bragg to the north, with Elk and Pt. Arena to the south. The bridge was constructed using salvaged wood timbers and steel trestle materials in 1944 when wartime necessities restricted access to the materials needed to construct the original concrete arch bridge design.

The California Department of Transportation (Caltrans) has indicated in the past that the Albion River Bridge and the associated approaching alignments have a number of structural and geometric deficiencies. Caltrans has additionally indicated that at nearly 75 years old, the bridge has exceeded its anticipated structural life, and ongoing corrosion of bolts and deterioration of bridge timber supports will require increasing replacement and maintenance in the coming years to extend the bridge life. Caltrans is currently investigating alternatives for either rehabilitating or replacing the bridge that will be evaluated in a Draft Environmental Impact Report (DEIR) anticipated to be published and circulated in 2019.

As part of its preparation of a DEIR, Caltrans is currently conducting a number of studies to investigate various bridge alternatives, including but not limited to options for both: (a) rehabilitating the existing bridge and (b) constructing a replacement bridge, as well as the “no-project” alternative. Caltrans listed project alternatives that are currently being considered as part of a Notice of Preparation (NOP) of a Draft Environmental Impact Report that was circulated for comments on April 1, 2015, including three alignment alternatives¹, three rehabilitation alternatives², and the “no-project” alternative. Commission staff provided preliminary comments in response to the NOP on May 7, 2015 (**Appendix A**). Caltrans is also in the process of pursuing additional studies that will provide information relevant to the evaluation of bridge rehabilitation and replacement alternatives, including but not limited to: (1) an updated Value Analysis Study with a community citizen panel component; (2) a bridge life cycle cost analysis; and (3) additional botanical and wildlife surveys.

The geotechnical studies and related activities will occur on both privately-owned lands and on lands within the Caltrans’ right-of-way. The Caltrans’ right of way includes lands held in fee ownership as well as easement interests for bridge and state highway use, including an easement across one right of way adjoining the northerly staging area. Caltrans has been granted entry on

¹ Replacement alternatives identified in the NOP include: (1) Replacement on the West Alignment (west of and clear of the existing bridge and including 1 retaining wall); (2) replacement on the East Alignment (east and clear of the bridge and including 3 retaining walls); and (3) replacement to the West of the Existing Alignment (located somewhat westerly and on the existing bridge and including 2 retaining walls).

² Rehabilitation alternatives identified in the NOP include: (1) Rehabilitation of the bridge and bridge rail upgrade; (2) Rehabilitation and widening of the bridge and bridge rail upgrade; and (3) Rehabilitate the bridge as a pedestrian bridge as an added option to the east alignment and west alignment replacement alternatives. All rehabilitation alternatives include earthquake retrofits.

to the other privately-owned lands for the purposes of the geotechnical investigation pursuant to a court order issued by the Mendocino County Superior Court³.

Project components include but are not limited to the following, and are further detailed in [Exhibits 5 and 6](#):

- (1) Vegetation trimming, and removal of approximately 90 eucalyptus trees⁴, including approximately 35 trees occurring on the privately-owned parcel at APN 123-040-07 pursuant to the court order that are located northeast of the bridge, and as depicted on [Exhibit 7](#): (a) on the slope above Drill Sites marked “6” and “7,” (b) around Drill Site “8,” and (c) within the right-of-way upslope of Drill Site 8;
- (2) Earthwork using heavy equipment (such as, but not limited to use of cranes, all-terrain rubber tire-or track-mounted drill rig, bulldozer, and water tender) and/ or handwork that will be required to construct site ingress/regress routes, drill pad/staging areas as generally depicted on [Exhibit 2](#);
- (3) Temporary placement of steel drilling pad infrastructure and equipment needed to drill geotechnical borings;
- (4) Drilling of up to 9 geotechnical boring holes within 6 sites, with boring holes and casings ranging in diameter between 94 mm to 153mm (3.7 to 6 inches) each, and extending to a depth ranging from 70 to 125 feet (and as further specified in [Exhibit 6](#));
- (5) Use of a helicopter to deliver equipment and supplies to Drill Sites 2, 5, 6, 7, and a downslope boring location at Drill Site 8;
- (6) Placement of a piezometer, slope inclinometer, and/or geophysical pipe in the borings;
- (7) Installation of erosion control measures and best management practices to control and contain surface drainage and erosion, if any;
- (8) Re-grading and re-contouring graded areas;
- (9) Re-seeding and re-vegetating disturbed areas; and
- (10) Conducting seismic refraction surveys involving the temporary placement of geophone arrays along the ground at specified locations (depicted in [Exhibit 2](#)), and use of a hammer and striker plate and seismograph.

All geotechnical investigation work is proposed to be completed within 8 weeks. For those portions of the project occurring on privately-owned parcels identified as APNs 123-170-01, 123-050-12, and 123-040-07 (such as but not limited to work at Drill Sites 5, 6, 7, and 8, staging areas at APNs 123-170-01 and 123-050-12, and seismic refraction surveys), the aforementioned court order grants entry for a total of 50 active work days (ten active weeks), either consecutively

³ Case Number SC-UK-CV-PT 17-69630 (*State v. Seto Properties*)

⁴ Tree count data is based upon an inventory of trees measured at a diameter at breast height (DBH) as measured 4.5 feet above the ground, and summing the individual DBH of each stem of multi-stemmed trees into one aggregate DBH value, as outlined in a memo dated October 4, 2017 and prepared by a certified arborist.

or intermittently as weather and other practical concerns permit and as further specified in the order ([Exhibit 5](#)), continuing no later than June 30, 2019.

Through the process of evaluating alternatives to avoid and minimize project-related impacts, Caltrans has narrowed the scope of its project proposal as originally submitted on September 19, 2016, to its most current proposal dated August 22, 2018 and as described above by reducing: (a) the number of geotechnical borings; (b) the number of seismic refraction survey transects and lengths; (c) the amount of grading and total disturbed surface area; (d) the number of eucalyptus trees to be removed. The project proposal also includes additional biological monitoring measures and revegetation standards that were not part of the original project proposal.

In particular, Caltrans has narrowed its original proposal to drill at up to 16 boring locations within 11 drill sites, to only the 9 boring locations at 6 drill sites that are needed for evaluating the feasibility of bridge rehabilitation and replacement alternatives and to eliminate those borings from the project that would be needed to refine the design of particular bridge rehabilitation/replacement alternatives. Caltrans has eliminated from the project proposal Drill Sites 1a, 1b, 1c, 3, and 4, plus 2 boring locations at Drill Site 8.

Additionally, the original project proposal included the removal of more than 170 eucalyptus trees to accommodate an equipment staging area and geotechnical investigation operations north of the Albion River Bridge. In response to public comments and in working with Commission staff, and following additional on-site analysis of the minimum space needed to conduct staging and other geotechnical investigation activities, Caltrans has further reduced the number of trees proposed for removal to approximately 90 trees. Caltrans has also narrowed the timing and duration of the total project activities by proposing to: (a) conduct all proposed development outside of the bird breeding season, which ends September 15th; (b) conduct all grading activities before the onset of the wet weather season; and by (c) reducing the project duration to 8 weeks, rather than the originally- proposed project duration of up to 3-4 months. Furthermore, Caltrans reduced the number (from 5 to 4) and overall length of proposed seismic survey transect lines to ensure that all transects and associated placement of geophones along transect lines would occur outside of ESHAs.

Caltrans has also proposed additional biological monitoring and avoidance of marine mammals hauling out near the project site during all helicopter operations. Specifically, biological monitors will be present at Albion Cove, the docks at Albion campground, and (when flights will occur over the Albion River) at docks near Schooner's landing upriver along the Albion River. to avoid any potential impacts that could occur to hauled-out marine mammals, Caltrans has agreed to notify the helicopter operator to delay deployment from the airport if any marine mammals are observed hauled-out at Albion Cove, the docks at Albion campground, or (when flights will occur over the Albion River) at docks near Schooner's landing upriver along the Albion River. Once any hauled-out marine mammals have returned to the water, the monitors will notify the helicopter operator by radio and/or cell phone that they are clear to depart the airport. During seismic refraction surveys, Caltrans will similarly survey for hauled-out marine mammals and halt seismic survey activities until any observed hauled-out marine mammals have returned to the water.

Caltrans has also submitted a revised revegetation plan ([Exhibit 21](#)) that replaces the original version dated December 2016 and that includes more robust success criteria, increased plantings and a more expedited planting schedule, additional monitoring, a reporting schedule and provisions for submittal of monitoring reports to the Executive Director. Additionally, the revised revegetation plan establishes remediation measures that will be implemented in the event that revegetation efforts at the site are unsuccessful after the fifth-year monitoring period.

B. ENVIRONMENTAL SETTING

The project site is located in Mendocino County, along the west side of Highway One adjacent to and north and south of the Albion River Bridge (Bridge #10-0136), and between post marker (PM) 43.3 and PM 44.2. Project activities will occur within a portion of the floodplain area described as the “Albion Flats,” and on the slopes and elevated marine terraces on both sides of the Albion River.

The Albion River Bridge spans the Albion River valley from elevated coastal marine terraces. The southern portion of the bridge spans a steep hillside leading down to the Albion River where the river empties into the Pacific Ocean along the southern portion of the sandy beach at Albion Cove. The steep southern hillside is dominated by coastal scrub vegetation that includes silk tassel (*Garrya elliptica*), California wax myrtle (*Morella californica*), coyote brush (*Baccharis pilularis*), sword fern (*Polystichum munitum*), and thimbleberry (*Rubus parviflorus*). Grassland and scrub-shrub areas containing wax myrtle and coyote brush dominate the uppermost portion of the marine terrace as it transitions from the steeper hillsides.

The northern portion of the bridge spans the relatively flat-lying dune portion of the Albion River Flats. Vegetation along the back dunes is dominated by the non-native invasive known as ice plant (*Carpobrotus edulis*). The back dunes transition eastward into native coastal scrub and brambles including coyote brush, sword fern, salmonberry (*Rubus spectabilis*), thimbleberry, and blackberry (*Rubus ursinus*); and are intermixed with non-native invasives such as vinca (*Vinca major*), cotoneaster (*Cotoneaster spp.*), and cape ivy (*Delairea odorata*). Coastal scrub vegetation and non-native invasive eucalyptus trees (*Eucalyptus globulus*) occur along the steep hillside at the north end of the bridge, and eucalyptus trees dominate the upper terrace immediately north of the bridge.

The Pacific Ocean and the beach at Albion Cove are west of the project site. The privately-owned Albion River Bridge R.V. Park and Campground is located east of Albion River Bridge and provides access to the lower portions of the project site. Undeveloped marine terrace bluffs and the small, predominantly- residential community known as Albion Village exist to the north and south of the project site on both sides of the river.

C. JURISDICTION AND STANDARD OF REVIEW

The overall project area is bisected by the boundary between the retained coastal development permit (CDP) jurisdiction of the Commission and the CDP jurisdiction delegated to Mendocino County by the Commission through the County’s certified local coastal program (LCP).

Section 30601.3 of the Coastal Act authorizes the Commission to process a consolidated CDP application when requested by the local government and the applicant and approved by the Executive Director for projects that would otherwise require coastal development permits from

both the Commission and from a local government with a certified LCP. In this case, County staff formally requested the consolidated permit processing in a memo dated September 13, 2016. The Mendocino County Board of Supervisors passed Resolution 16-115 ([Exhibit 14](#)) as part of Consent Agenda Item 4u on September 13, 2016 requesting the consolidated processing of the application by the Coastal Commission staff. The applicant has also requested that Coastal Commission staff undertake the consolidated permit processing. The Executive Director has authorized the consolidated processing on behalf of the Commission.

The policies of Chapter 3 of the Coastal Act provide the legal standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3. The local government's certified LCP may be used as guidance.

D. OTHER AGENCY APPROVALS

California State Lands Commission

As indicated above, the project site occurs in part, within an area containing tidelands, submerged lands and/or public trust lands over which the state retains a public trust interest. The State Lands Commission (SLC) has direct jurisdiction and authority over ungranted sovereign tidelands and submerged lands underlying the State's navigable waterways (ocean, bays, sloughs, lakes, and rivers) as well as over lands subject to the public trust. As discussed in a letter to Caltrans dated April 17, 2018 (see [Exhibit 16](#)), SLC has determined that no lease from the SLC is required for the geotechnical investigation.

California Office of Historic Preservation

As detailed in Section I (Archaeological Resources) below, the area surrounding the Albion River contains both prehistoric and historic archaeological resources, including a historic lumber mill site (CA-MEN-3652H) within a portion of the area of the proposed geotechnical investigation. The proposed geotechnical project involves both federal and state funding and is an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA). The California Office of Historic Preservation is responsible for administering federally and state mandated historic preservation programs. Caltrans consulted with the State Historic Preservation Officer (SHPO) in November 2015, requesting SHPO concurrence that a finding of *No Adverse Effect* with non-standard conditions is appropriate for the undertaking as a whole. The SHPO concurred with this finding in a letter dated December 9, 2015.

E. APPLICANT'S LEGAL INTEREST IN THE PROPERTIES

Under Section 30601.5 of the Coastal Act, an applicant for a CDP does not need to be the owner of a fee interest in the property on which the proposed development is located as long as the applicant can demonstrate a legal right, interest, or other entitlement to use the property for the proposed development, and as long as all holders or owners of any other interests of record in the affected property are notified in writing of the permit application and invited to join as coapplicants. In addition, Section 30601.5 of the Coastal Act requires that the applicant demonstrate authority to comply with all conditions of approval prior to issuance of a CDP.

Portions of the proposed project, equipment staging, and access to the project site are located on lands owned by Sum Seto/ Seto Properties, LLC and Seto Family Trust (APNs 123-170-01, 123-050-12, and 123-040-07; [Exhibit 2](#)). These properties do not comprise a Caltrans right of way

and Caltrans has no fee or easement interest in the property except for a portion of APN 123-040-07. On October 5, 2017, Mendocino County Superior Court granted to Caltrans an order permitting Caltrans to enter the subject properties in order to perform geotechnical testing for a total of 50 active work days (10 active weeks), either consecutively or intermittently as weather and other practical concerns permit and as further specified in the order ([Exhibit 5](#)), continuing no later than June 30, 2019.

Other portions of the proposed project activities will occur on lands within the Caltrans' right-of-way (APN 123-050-RW). The right-of-way includes lands held by Caltrans in direct fee ownership⁵, and lands held by others in fee ownership wherein Caltrans possesses an easement interest for bridge and state highway use over, upon, and across the property⁶. Besides owning a portion of the project site subject to the court order permitting entry for Caltrans to conduct the project mentioned above, records indicate that Sum Seto is also the underlying fee owner of a portion of the right-of-way adjoining the northerly staging area for the geotechnical investigation. Caltrans possesses an easement interest in this latter property.

As required by Section 30601.5 of the Coastal Act, Caltrans has submitted evidence that (a) the owners have been notified of the project as proposed in the CDP application; (b) the owners have been invited to join the CDP application as a co-applicant; and (c) Caltrans has the legal authority to undertake the authorized development. (See [Exhibit 22](#))

The Commission finds that as conditioned, the development is consistent with the requirements of Section 30601.5 of the Coastal Act.

F. PROTECTION OF ENVIRONMENTALLY SENSITIVE HABITAT AREAS (ESHAS)

Section 30240 of the Coastal Act states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Section 30107.5 of the Coastal Act defines "environmentally sensitive area" as follows:

'Environmentally sensitive area' means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in the ecosystem and which could be easily disturbed or degraded by human activities and developments.

⁵ Granted by Louisa R. Brown via Grant Deed recorded November 24, 1942, Book 162 O.R., Page 276; Case 1601.

⁶ Granted by Southern Pacific Land Co. via deeded easement recorded October 20, 1942, Book 162 O.R., Page 76, Case 1603

Environmentally Sensitive Habitat Areas Adjacent to the Project Area

As discussed above, while the policies of Chapter 3 of the Coastal Act provide the legal standard of review for the subject project, the local government's certified LCP may be used as guidance. The certified Mendocino County Land Use Plan (LUP) states that environmentally sensitive habitat areas (ESHAs) in Mendocino County include, but are not limited to: anadromous fish streams, sand dunes, rookeries and marine mammal haul out areas, wetlands, riparian areas, and habitats of rare and endangered plants and animals. (Emphasis added).

Section 30240(a) of the Coastal Act limits development within ESHA to only resource-dependent uses. According to several biological assessments conducted in the area surrounding Albion River Bridge⁷, ESHAs known to occur in the project vicinity include the following:

- (1) Albion River riparian and estuarine system that occurs approximately 220 feet north of the project activities at Drill Site 2, and 410 feet south of the project activities at Drill Site 5;
- (2) Wax myrtle scrub that occurs on the marine terrace south of the river approximately 10 feet south of project activities nearest to Drill Site 1;
- (3) Coastal silk tassel scrub that occurs on the marine terrace approximately 10 feet north of project activities nearest to Drill Site 2;
- (4) A wetland ditch that is located on the marine terrace south of the river approximately 640 feet southeast and upslope of the project activities nearest to Drill Site 1; and
- (5) A sand dune located on the north side of the river adjacent and west of the base of the Albion River Bridge and approximately 25 feet downslope and west of project activities nearest to Drill Site 5.

Riparian and Estuarine System

The Albion River riparian and estuarine system is located 220 feet north of, and 410 feet south of Drill Pad Sites 2 and 5, respectively. The ecological system provides habitat for a broad diversity of wildlife species. The riparian areas adjacent to the Albion River support a medley of plant species providing cover to riverbanks, including among other species, the following: coast redwood (*Sequoia sempervirens*), Douglas fir (*Pseudotsuga menziesii*), Sitka spruce (*Picea sitchensis*), and red alder (*Alnus rubra*). The Albion River system also includes a large estuary with tidal intrusion extending nearly 5 miles upstream as part of a watershed encompassing approximately 27,500 acres.⁸ Eelgrass beds (*Zostera marina*) extend upstream, and the river supports anadromous species such as but not limited to Coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*O. mykiss*). In addition to other ESHAs described below, sensitive amphibians are known to occur in the general vicinity⁹, and heron rookeries have been documented upriver in the Albion River watershed in the past. Shorebirds, seabirds, passerines,

⁷ Biological assessments conducted in the vicinity of the project area include but are not limited to the following: August 2015 Natural Environment Study (Caltrans), October 2015 Butterfly Survey (Arnold), and August 2016 ESHA study (Caltrans). Refer to **Appendix A** for references.

⁸ Northcoast Regional Water Quality Control Board. February 2005. "Watershed Planning Chapter." Accessed online July 20, 2018 at https://www.waterboards.ca.gov/northcoast/water_issues/programs/wpc/13albionsec2.pdf

⁹ Pacific tailed frogs have been documented in Dark Gulch approximately 0.79 miles south of the project area; Northern red-legged frogs have been documented 3.6 miles northeast; and foothill yellow legged frogs have been observed in Navarro River Redwoods State Park, approximately 5 miles southeast of the project area.

raptors, and a number of other avian groups are known to occur within, and/or fly over, the project vicinity.

Wax Myrtle and Silk Tassel Scrub ESHAs

Wax myrtle scrub occurs on the marine terrace south of the river approximately 10 feet south and upslope of project activities nearest to Drill Sites 1, and coastal silk tassel scrub occurs on the marine terrace approximately 10 feet north and downslope of project activities nearest to Drill Site 2. Wax myrtle (*Morella californica*) and silk tassel (*Garrya elliptica*) are evergreen shrubs that grow to a height of approximately 20 feet in coastal areas that include coastal bluffs and headlands such as those present in the project area. Both species can withstand strong winds and salt spray in coastal areas, and are essentially pruned by these conditions. The two species are often co-dominant, and can be found growing with or without associated species that can include thimbleberry (*Rubus parviflorus*), huckleberry (*Vaccinium ovatum*), coyote brush (*Baccharis pilularis*), sitka spruce (*Picea sitchensis*), and/or shore pine (*Pinus contorta* ssp. *contorta*), among others. These coastal scrub communities are often generally small in size (less than 1 ha, or 2.5 acres), and relatively slow-growing.

In the project area, wax myrtle is found growing with the non-native Monterey cypress (*Hesperocyparis macrocarpa*) approximately 10 feet south and upslope of Drill Pad Site 1 (see “ESHA 3” on page 1 of [Exhibit 9](#)), and comprises a total area of 0.081 acre (3,528 square feet). Similar to other coastal scrub habitat in the area, the wax myrtle and silk tassel vegetation communities can provide cover for birds, and attract bees and insects beneficial for pollination. The wax myrtle shrubland alliance vegetation type is considered “vulnerable” at the state and global level due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation¹⁰. Additionally, CDFW Biogeographic Data Branch indicates that natural communities with ranks of S1-S3 are also considered sensitive (VegCAMP 2018¹¹). The wax myrtle natural community association has a state ranking of “S3,” and is therefore recognized as ESHA.

Coastal silk tassel scrub is located approximately 10 feet north and downslope of Drill Pad Site 2 (see “ESHA 4b” on page 1 of [Exhibit 9](#)), and comprises a total area of 0.02 acre (871 square feet) within the project area. The coastal silk tassel scrub plant community alliance has been assigned a “provisional” ranking as vulnerable both globally and at the state level.¹² Its state ranking of “S3?” is a provisional ranking by CDFW due to lack of sufficient field sampling information. Based upon the provisional ranking, coastal silk tassel would qualify as ESHA.

Wetlands

A seasonal wetland/roadside ditch is located on the marine terrace south of the river approximately 640 feet southeast and upslope of the southernmost portion of the project area, on the eastern side of Highway 1 (see “ESHA 1” on page 1 of [Exhibit 9](#)). This small ditch may

¹⁰ In this case, the California Heritage (CNDDDB) ranking of G3/S3 describes the global rank (G rank) as “Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.” The state rank (S rank) for wax myrtle scrub in California indicates this community is “Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.”

¹¹ <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities>

¹² *Garrya elliptica* provisional alliance is “G3?S3?”. The question marks (?) denote an inexact numeric rank because CDFW has insufficient samples over the full expected range of the type, but existing information points to this rank.

provide ephemeral habitat for amphibians and may serve to filter pollutants resulting from stormwater runoff from Highway 1.

Sand Dune

Drill Pad Site 5 would be placed by helicopter approximately 25 feet north of the sand dune feature present in Albion Cove (see “ESHA 6” on page 2 of [Exhibit 9](#)). Generally speaking, dune ecosystems are highly specialized habitat features that are host to a number of community types, ranging from open unvegetated sand formations to stabilized dune forests, and often containing rare and/or endangered plant and animal species. Many dune ecosystems span hundreds of acres if not more (for example, Ten Mile Dunes Natural Preserve, located approximately 22 miles to the north, comprises over 1,300 acres of dunes). At Albion Cove, no dune ecosystem exists per se; rather, a sand dune feature approximately 1 acre in size and partially covered in mats of the non-native, invasive species iceplant (*Carpobrotus edulis*) exists above the wave slope. No other dune ecosystems occur in the immediate vicinity, and therefore the feature is discontinuous. Some citizens have indicated the dune is an unnatural sand-covered berm underlain by remains of sawdust, lumber, and debris from the sawmill.¹³

Coastal sand dunes constitute one of the most geographically constrained habitats in California. Dunes only form in certain conditions of sand supply in tandem with wind energy and direction. Dunes are a dynamic habitat subject to extremes of physical disturbance, drying, and salt spray and support a unique suite of plant and animal species adapted to such harsh conditions. Many characteristic dune species are becoming increasingly uncommon. Even where degraded, the Coastal Commission has found this important and vulnerable habitat to be ESHA due to the rarity of the physical habitat and its important ecosystem functions, including that of supporting sensitive species. As indicated above, the certified Mendocino County Land Use Plan (LUP) states that environmentally sensitive habitat areas (ESHAs) in Mendocino County include sand dunes.

One of the most critical functions of dune systems is their role as habitat for unique flora and fauna that are specially adapted to the conditions and opportunities found in the dunes (e.g., desiccating, salt-laden winds and nutrient poor soils). Several species listed as rare, threatened, and endangered on state and federal lists, such as Menzies’ wallflower, beach layia, dark-eyed gilia, short-leaved evax, pink sand verbena, and others, owe their rarity in part to the overall reduction and fragmentation of natural dune systems over time. Thus, each new impact within these dunes systems has and will continue to contribute to the cumulative decline of these vulnerable species.

Potential disturbance to sand dunes could result from substantial erosion, and direct impacts to rare plants and/or animals. Typically, dunes with sensitive species or vegetation associations are defined and treated as ESHA even when degraded because of their ability to naturally restore/recover through normal ecosystem functions (wind, species movement, etc.).

The dune feature at Albion Cove does not currently support rare plants, and no rare animals have been observed at the site. While none of the rare dune species described above are known to occur nearby, the possibility exists that invasive species could be removed from the sandy substrate and the dune feature at Albion Cove could be restored to native habitat. While the true

¹³ Refer to public comments provided in association with CDP application 1-17-1730, available online at <https://www.coastal.ca.gov/meetings/agenda/#/2017/11>

origin of the sand dune feature at Albion Cove is unknown, the Commission finds that even if the dune feature at Albion Cove qualifies as ESHA, none of the geotechnical investigation activities will occur within or in close proximity to the dunes. The closest drill Pad site, Drill Site 5, is approximately 25 feet north of the sand dune feature and Caltrans proposes placing erosion control features and BMPs (including temporary fiber rolls) downslope of Drill Sites 5. In addition, the Updated Project Description dated August 22, 2019 indicates that water will be delivered to Drill Sites 5-8 by a hose system connected to a water tender/support truck from the staging area for Drill Sites 6, 7, and 8, and workers will avoid dune ESHA near Drill Site 5 by traversing along the edge of the bridge timber towers or along the beach. To maintain a minimum of 50 feet of clearance above the bridge deck, the helicopter will be hovering from about 90 to 170 feet above the respective drill sites and thus will not disrupt sand dunes any more than the high wind conditions that frequent the area.

Other Habitat Areas Not Determined to be ESHA

Some public comments received to date suggest that the project also includes other locations that should be considered ESHA, including a grove of eucalyptus trees that the commentator indicates could support habitat for monarch butterflies or a heron rookery, occurrences of harlequin lotus and western dog violet that commentators indicate could support endangered butterfly species, and vegetation in the area and features of the Albion River Bridge itself that commentators indicate could support roosting bats and nests for special status bird species.

Eucalyptus Grove Is Not ESHA

The Eucalyptus Trees Do Not Support Monarch Butterflies

Some public comments have expressed concern that eucalyptus trees proposed for removal could serve as habitat for monarch butterflies. According to the Xerces Society¹⁴, although monarch butterflies have been known to overwinter from coastal Mendocino County to Baja, California, these butterflies typically are observed within 1.5 miles of the coast and rely on milkweed breeding habitats (which do not occur in the project area¹⁵), and “have very specific microclimatic habitat requirements, such as protection from wind and storms.” With their extreme exposure to winds and storms, the coastal bluffs and shoreline habitat surrounding Albion River do not afford the specific microclimatic requirements that would support the overwintering habits of monarch butterflies. Furthermore, a January 2015 study prepared in part by the U.S. Forest Service and the Xerces Society¹⁶ notes that: “Recent research demonstrates that monarchs do not prefer eucalyptus trees. In fact, they use native tree species more than might be expected by the low density of native species relative to eucalyptus in many overwintering groves (Griffiths and Villablanca, in press).” Thus, the Commission finds that the combination of harsh coastal environments and lack of native trees species eliminates the project site from consideration as potential overwintering habitat, and combined with the lack of key milkweed species in the area that would support breeding habitat eliminates the potential of the project site for consideration as monarch butterfly ESHA.

¹⁴ <https://xerces.org/>

¹⁵ <https://www.monarchmilkweedmapper.org/wp-content/uploads/2016/07/MonarchMap-NatureServe-10.20.15-1.png>

¹⁶ http://www.xerces.org/wp-content/uploads/2015/03/NatureServe-Xerces_monarchs_USFS-final.pdf

The Eucalyptus Grove Does Not Support a Heron Rookery

Public comments have also expressed concern that the eucalyptus trees that are proposed for removal currently support a great blue heron rookery. Great blue herons (*Ardea herodias*) nest communally in colonies containing from a few, up to 50 (or sometimes more) nesting bird pairs, and typically in tall trees away from disturbances and close to shallow water¹⁷. The group of nests is known as a “rookery” or “heronry,” and usually herons will return to the same rookery every year. Nests are often detected visually by the presence of “whitewash” guano stains on foliage underneath nests, and audibly by very noisy chicks within the nests. Due to the large congregations of birds, and often intermixed with other *Ardeids* (such as but not limited to egrets), rookeries can often be detected on aerial imagery¹⁸.

While heronries are commonly found within eucalyptus trees in parts of central California, habitat conditions differ between the rural coastal community of Albion and the more urbanized settings farther south. In particular, biologists monitoring heron and egret nesting colonies in the San Francisco Bay area have observed that: “The predominant use of eucalyptus trees (primarily, *Eucalyptus globulus*) for nesting substrate by herons and egrets is associated with an apparent scarcity of other potential nesting substrates in the vicinity of tidal marshes of the San Francisco Estuary.”¹⁹ In portions of central California where eucalyptus stands now occupy extensive areas that formerly supported native oak, conifer, evergreen forest, and riparian habitats, various bird species are known to utilize eucalyptus stands under certain scenarios. For example, in developed urban and agricultural areas in the Monterey Bay region, birds such as red-shouldered hawk, great horned owl, great blue heron, great egret, and double-crested cormorant are known to choose tall eucalyptus trees with large limb structure for nesting.²⁰ Eucalyptus groves in central California may also be more heavily utilized by birds in areas where coniferous and mixed evergreen forests were once more prevalent than they are now. Suddjian (2004) also observes that bird communities that nest in eucalyptus trees are most closely affiliated with bird communities that would typically utilize native conifer and mixed evergreen forests, whereas “many of the breeding species that are most representative of oak and riparian habitats make little or no use of eucalyptus in the Monterey Bay region.” In contrast, an extensive mixed coniferous forest lines the banks of the Albion River for several miles upriver, and provides native nesting habitat for herons and other bird species that is superior to the grove of eucalyptus trees located west of Highway 1. A heron rookery is known to occur within this upriver habitat, as described below.

In the past, heron rookeries have been documented within the intact riparian and estuarine habitats upriver along the Albion River. For example, on June 30, 2011 a surveyor identified a rookery located nearly 1 mile upriver from the mouth of the Albion River containing an

¹⁷ Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

¹⁸ Van Hattem, Michael (Senior Environmental Scientist Specialist, CA Dept. of Fish and Wildlife Coastal Conservation Planning – Northern Region), telephone conversation April 27, 2018.

¹⁹ Kelly, J. P., K. Etienne, C. Strong, M. McCaustland, and M. L. Parkes. 2006. Annotated Atlas and Implications for the Conservation of Heron and Egret Nesting Colonies in the San Francisco Bay Area. Audubon Canyon Ranch, Marshall, CA, USA.

²⁰ Suddjian DL. 2004. Birds and Eucalyptus on the central coast of California: A love-hate relationship. www.elkhornsloughctp.org/uploads/files/1108147180Suddjianunpublished%20conference%20notes.pdf

estimated²¹ 6 pairs of great blue herons^{22,23}. The Mendocino County certified Land Use Plan (LUP) does not list or map all ESHAs. An area can be determined to be ESHA whether listed or mapped in the LUP or not. The LUP does recognize heron rookeries, including on the Albion River, as “Areas of Special Biological Importance,” as designated on the 1979 maps prepared by CA Department of Fish and Wildlife (CDFW). However, no heron rookeries have been documented within the eucalyptus groves growing on the hillsides adjacent to Highway 1 and upslope of the Albion River.

On January 4, 2016, Commission staff met onsite, including within the eucalyptus grove, with Caltrans staff, County staff, and CDFW staff to evaluate site conditions and discuss the proposed project. CDFW staff had also previously met with Caltrans staff at the site on July 9, 2015 to evaluate potential nesting activity within the project area, and conducted bird surveys within the eucalyptus grove. CDFW staff indicated at the time that nesting activity was not observed within the grove.²⁴ Additionally, on June 6, 2018 Caltrans biologists conducted field surveys to identify any potential nesting activity occurring within the proposed project footprint. During recent surveys, Caltrans noted a lack of native species diversity within the eucalyptus grove that limited the nesting habitat quality needed to support a diversity of bird species. In a memo dated August 16, 2018 ([Exhibit 17](#)), the Caltrans biologist indicated that no nesting or rookery was observed in the eucalyptus grove. Further discussions with Caltrans staff indicated they detected no evidence of guano within the understory, or any sounds of heron chicks within the eucalyptus trees.²⁵

Potential Host Plants are not ESHA

Additionally, although not recognized as rare in and of themselves, two plants that can serve as larval hosts to two endangered butterflies occur within the project vicinity, including: (a) two occurrences of harlequin lotus (*Hosackia gracilis*) observed on marine terrace areas approximately 160 feet south and upslope of the project activities nearest to Drill Sites 1 and 2, and which could support the federally endangered Lotis blue butterfly (*Plebejus idas lotis*); and (b) three occurrences of western dog violet (aka early blue violet) (*Viola adunca*) located approximately 50 feet east and upslope of the project activities nearest to Drill Sites 1 and 2, and which could support the federally endangered Behren’s silverspot butterfly (*Speyeria zerene behrensii*). However, survey efforts conducted during the spring and summer of 2015²⁶ did not find any evidence that either aforementioned butterfly currently occupies the project site.

²¹ Pairs estimated from direct counts of nests (1 nest = 1 pair) unless otherwise noted.

²² Shuford, W.D. 2014. Patterns of distribution and abundance of breeding colonial waterbirds in the interior of California, 2009-2012. A report of Point Blue Conservation Science to California Department of Fish and Wildlife and U.S. Fish and Wildlife Service (Region 8). Available at www.fws.gov/mountain-prairie/species/birds/western_colonial.

²³ Condeso, Emiko (Ecologist/GIS Specialist, Audubon Canyon Ranch), “Re: heron[r]y info.” E-mail message, May 10, 2018.

²⁴ Liebenberg, Angela (Senior Environmental Scientist Specialist, CA Dept. of Fish and Wildlife Coastal Conservation Planning – Northern Region), telephone conversation November 30, 2016.

²⁵ Sundeen, Hilary (Associate Environmental Planner- Natural Studies, CA Dept. of Transportation), telephone conversation July 19, 2018.

²⁶ Butterfly surveys were conducted by Dr. Robert Jensen and Dr. Richard Arnold on April 17, 18, 29, and 30; May 15, 16, 29, and 30; June 12 and 13; July 4, 5, 17, 18, and 19; and August 8 and 9, 2015 (**Appendix A**). Additional surveys were conducted south of Albion Ridge Road in 2014 (Arnold, R.A. 2014. *Report on 2014 surveys for two endangered butterflies for the Highway 1, Salmon Creek Bridge Project*).

Therefore, the Commission finds that the areas where a handful of host plants are located outside of the proposed development area and that could provide limited support for endangered butterflies but which do not in fact do so are not ESHA.

Negative Survey Results for Bats and Special Status Nesting Birds

Caltrans biologists surveyed the project area for roosting bats and nesting birds during the breeding season for bats and special status nesting birds on August 29, 2017 and June 6, 2018, and prepared a memo dated August 16, 2018 summarizing the survey efforts ([Exhibit 17](#)). To determine whether bats were present in the bridge and surrounding eucalyptus grove, surveys were conducted both for daytime (including maternity roosts) and night roosting (foraging) bats, and included focused surveys of the bridge and eucalyptus grove areas. Although habitat potential in the eucalyptus grove was considered somewhat limited due to the lack of fresh water (the Albion River, which remains estuarine up to five miles upriver, is over 700 feet away) and the close proximity to the coastline, the grove was surveyed for bats on June 6, 2018. Bat roosting (day and night) habitat was considered less suitable at the approximately 140-foot-tall bridge due to its close proximity to the ocean where high wind, rain, and fog create unstable conditions, whereas bats require a sheltered environment protected from the elements. No bat or bat sign (guano, urine staining, or vocalizations) were observed at the bridge or within the eucalyptus stand during either survey effort.

In its Natural Environment Study (August 2015) prepared for the proposed project prior to conducting bird surveys, Caltrans biologists determined that special status bird species tricolored blackbird, purple martin, and white-tailed kite could potentially nest within the forest, shrubland, or grassland habitats within and adjacent to the project study area. Tricolored blackbirds, if present, would most likely be found upriver within riparian and marshy areas where they would nest within reeds or blackberry brambles and forage on insects. White-tailed kites, if present, would likely be found within the grasslands of the adjacent Albion Head or emergent wetlands upriver foraging for rodents and insects, and likely nesting within the broad-leaved deciduous trees such as the alder trees that occur upriver²⁷. Purple martins are often found in open coniferous and riparian woodlands, residential areas, and agricultural land where they forage for insects, often over open water.²⁸ Caltrans biologists conducted focused early morning bird survey and behavioral observations on June 6, 2018. The surveys documented the presence of several species of songbirds that appeared to be nesting in shrub dominated habitats in the south bank, but did not detect any nesting or rookery within the forest habitats, including the eucalyptus grove as described above. Additionally, no tricolored blackbirds, white-tailed kites, or purple martins were detected within the area.

Measures to Avoid ESHAs Consistent with 30240(a)

No development associated with the geotechnical investigation project is proposed within any of the ESHA identified at the site. In addition, Caltrans has taken several measures to avoid unintentional encroachment of development within ESHAs and to protect against significant

²⁷ Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. Updated by California Wildlife Habitat Relationship Program staff February 2005.

²⁸ Miklos Udvardy and John Farrand, Jr. *National Audubon Society Field Guide to North American Birds Western Region*. Second Edition. Alfred A. Knopf Inc., New York, 1994.

disruption of ESHAs. As part of its initial analysis before submitting an application for a CDP, Caltrans staff evaluated other alternative arrays of geotechnical drilling sites that would have involved grading within silk tassel ESHA (Drill Site 3) and wax myrtle ESHA (between Drill Sites 1a and 1) and subsequently designed the project to avoid these impacts, although early proposals still included placement of steel drilling platforms within ESHAs. Caltrans has since sited and designed the geotechnical investigation to avoid direct disturbance to all ESHAs. First, Caltrans has limited the array of drilling sites and will use assumptions from data gathered at the currently-proposed geotechnical boring sites west of Highway 1 to inform other bridge rehabilitation or replacement alternatives. The reliance on data from the proposed geotechnical investigation to inform the feasibility of all bridge alternatives avoids disturbance of ESHA and landforms east of Highway 1. Second, Caltrans also removed those drill sites that were not necessary for evaluating the feasibility of alternatives, but would have only provided information for refining the design of particular bridge rehabilitation or replacement alternatives that would be needed after preparation of an EIR and selection of a specific project alternative is chosen (e.g., length of “pile tips”). For example, geotechnical borings needed to inform the design of the length of pile tips that were not needed for evaluating bridge rehabilitation or replacement alternatives were eliminated. If there is a need for additional geotechnical boring for design refinements, such a request would be included in a subsequent CDP application for whichever bridge rehabilitation or replacement alternative Caltrans proposes. In particular, Caltrans has removed the following drill sites from its original project proposal: Drill Sites 1a, 1b, 1c, 3, and 4. Third, Caltrans reduced the number and length of proposed seismic survey transect lines to ensure that all transects and associated placement of geophones along transect lines would occur outside of ESHAs.

Furthermore, Caltrans has also minimized the footprint of the proposed development and will avoid direct disturbance to ESHA by utilizing existing ingress and egress routes to the greatest extent feasible, and utilizing alternative equipment delivery methods. For example, access to Drill Sites 2, 5, 6, 7, and a downslope boring location at Drill Site 8 will utilize a helicopter to deploy drilling equipment and supplies, thereby reducing the need to either grade additional ingress and egress routes to the sites or remove additional vegetation. The proposal to use a helicopter to deliver equipment to Drill Site 5 reduces the potential disturbed surface area (“DSA”) by 0.4 acre (17,424 square feet), as compared to earlier project proposals. Water will be delivered to Drill Sites 5-8 by a hose system connected to a water tender/support truck from the staging area for Drill Sites 6, 7, and 8, and workers will avoid dune ESHA near Drill Site 5 by traversing along the edge of the bridge timber towers or along the beach.

North Coast District staff visited the site with Caltrans staff and Commission staff ecologists John Dixon, Ph.D. and Laurie Koteen, Ph.D. on June 2, 2016, and again with Caltrans staff on August 16, 2017. On January 17, 2018, Dr. Koteen conducted another site visit with North Coast District staff and Caltrans staff. During the January 17, 2018 site visit, Commission staff confirmed that proposed geotechnical investigation activities will occur outside of ESHAs. Dr. Koteen has prepared a memorandum summarizing her observations during the site visits, including descriptions of the plant species observed at each of the proposed drill site locations. Dr. Koteen affirms in her memo ([Exhibit 18](#)) that during each of her visits to the areas of proposed project activities, she was able to confirm that no special status species or vegetation were present at proposed development sites, thereby affirming that all proposed development has been sited to occur outside of ESHAs.

Although, based on the above review, the project site does not provide ESHA or habitat for sensitive bird species, Caltrans' revised project description proposes to conduct all project activities at the site outside of the breeding season, which begins February 1 and ends September 15, to ensure that the development will not affect nesting of any bird species, including any special status bird species ([Exhibit 6](#)). **Special Conditions 5 and 10** incorporate these proposals as conditions of approval. To ensure that all proposed development remains outside of ESHAs, **Special Condition 8** requires that no encroachment into the ESHA occurs; that ESHA boundaries in proximity to drill sites shall be flagged in the field; and the actual bore hole locations shall be staked. **Special Condition 8** also requires that all workers shall be instructed to leave delineated areas undisturbed, and that all flagging shall be removed following geotechnical activities. To further ensure that all development occurs consistent with the timing provisions of Special Conditions 5 and 10, the Commission attaches **Special Condition 10H** requiring the project monitor to notify the Executive Director at least 10 days prior to commencement of any development on the site.

Additionally, Caltrans has proposed that the biological monitor will attend a preconstruction meeting with construction engineers and contractors to ensure a full understanding of the requirements for sensitive biological resources. **Special Condition 10I** incorporates this proposal as a condition of approval, and to further ensure that all on-site personnel understand the requirements of this permit, **Special Condition 10I** requires the monitor to provide copies of CDP 1-16-0899 to all on-site personnel, and further requires that additional copies and briefings shall be provided as new field personnel join the project. Furthermore, the Commission attaches **Special Condition 10J** requiring the biological monitor to maintain a log of all on-site briefings of personnel regarding the requirements of CDP 1-16-0899, and to additionally (a) log any incidents of non-compliance with CDP 1-16-0899 and (b) notify the Supervising or Resident Engineer and the Executive Director of any non-compliances with CDP 1-16-0899. As conditioned, the Commission finds that no development will occur within ESHAs, and ESHAs will be protected against any significant disruption of habitat values, consistent with Section 30240(a).

Prevent Significant Degradation to, and be Compatible with Adjacent ESHA, Consistent with 30240(b)

Section 30240(b) of the Coastal Act requires that development in areas adjacent to ESHA and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas. Although Caltrans has sited and designed project activities to occur outside of ESHAs, some of the geotechnical work will occur adjacent to ESHAs ([Exhibit 9](#)) and in proximity to marine resources, as discussed in **Finding G** ("Marine Resources and Water Quality") below. Without additional mitigation and protective measures as discussed below, some project activities could potentially result in impacts that could significantly degrade and/or be incompatible with the continuance of adjacent ESHAs.

Vegetation Removal and Ground Disturbance

Project activities have the potential to cause impacts to adjacent ESHA in a number of ways as discussed below, including (a) facilitating the colonization of ESHA by invasive plants, (b) causing sedimentation and pollution of ESHA, and (c) creating noise impacts that would affect special status species.

Potential Impacts of Colonization by Invasive Plants

Areas adjacent to ESHA where ground vegetation becomes disturbed by the development could facilitate establishment of invasive species that could subsequently more readily invade, displace, and adversely impact intact native vegetation communities in the various ESHAs at the project site. Areas where potential impacts from invasive plants could occur include: (a) graded areas at Drill Sites 1 and 8, (b) drill platform placement at Drill Sites 2, 7, and 8 (and potentially at Drill Sites 5 and 6, depending on site logistics), (c) between Drill Sites 1 and 2 where brush trimming would occur to create a 3-foot-wide walkable path for personnel (if soil is disturbed); and (d) along the 4 seismic refraction lines where brush trimming would occur to create a 3-foot-wide walkable path for personnel (if soil is disturbed). If left unattended, invasive exotic plant species could colonize environmentally sensitive habitat areas and displace native vegetation, thereby disrupting the functions and values of the adjacent sensitive areas.

As described above, Caltrans has taken several measures to minimize ground disturbance and vegetation removal that would facilitate colonization by invasive plants. First, Caltrans proposes to minimize the project footprint outside of ESHAs to only the essential area needed for the proposed development. Furthermore, while Caltrans must trim any vegetation underneath the drill platform placement where the height of vegetation could interfere with the drill platform itself (approximately 30-foot by 40-foot area), there will only be minor ground-clearing disturbance for anchoring the four corners of the steel platform to the ground (approximately 2-foot by 2-foot area), with the exception of Drill site 1, where a 10-12-foot notch must be cut within the right-of-way to provide access and a level area for platform placement (refer to Revised Geotechnical Investigation Plan on pages 4-16 in [Exhibit 6](#)). Caltrans has also provided an exhibit depicting the smallest-sized equipment available to accommodate the drill rigs and cranes that must be used for the sites and that necessitate the minimum ground disturbance proposed as part of the project ([Exhibit 19](#)). Any further reduction in grading operations would interfere with Caltrans' ability to use the equipment needed to carry out the geotechnical investigation.

To minimize opportunities for invasive plants to colonize vegetated areas that will unavoidably be disturbed by the development, Caltrans submitted a revegetation plan as part of its original application. Commission Staff Ecologist Laurie Koteen, Ph.D. has reviewed the adequacy of the proposed revegetation plan. Following feedback from Commission staff, Caltrans staff revised their revegetation plan to include more effective success criteria, increased plantings and a more expedited planting schedule, additional monitoring, a reporting schedule and provisions for submittal of monitoring reports to the Executive Director. Additionally, the revised revegetation plan establishes remediation measures that will be implemented in the event that revegetation efforts at the site are unsuccessful after the fifth-year monitoring period. Furthermore, while Caltrans had proposed that container plants would be obtained "preferably from Mendocino County," the revised revegetation plan now proposes that all proposed container plantings shall

be obtained from local genetic stocks within Mendocino County, thereby ensuring the integrity of the local native gene pool will be retained.

Implementation of the revised revegetation plan dated August 10, 2018 ([Exhibit 21](#)) will minimize the risk of encroachment of invasive species to disturbed areas by facilitating the establishment of native vegetation before invasives can colonize the sites. To ensure that revegetation efforts are carried out consistent with the proposed revegetation plan, **Special Condition 11** requires that revegetation of disturbed areas shall occur in accordance with the final revegetation plan. To ensure that the revegetation of disturbed area occurs in a timely manner as proposed in the revegetation plan, **Special Condition 11B** requires that the permittee submit photo documentation that all revegetation plantings have been installed as proposed within 60 days of the replanting. As proposed in the final revegetation plan, the special condition also specifies that all planting shall be completed as soon as possible and by no later than the first optimal growing season after completion of the geotechnical investigation. **Special Condition 11** also requires that all maintenance, monitoring, and reporting of revegetation efforts shall occur consistent with the revised revegetation plan (dated August 10, 2018). To ensure that disturbed areas are successfully revegetated within 5 years and consistent with the performance standards presented in the revegetation plan, the Commission attaches **Special Condition 11C**. **Special Condition 11C** requires that, if revegetation efforts are unsuccessful after the fifth year following installation of plantings, the permittee shall submit a coastal development permit amendment application within 6 months of submittal of the monitoring report for a revised or supplemental restoration planting program, to compensate for those portions of the original revegetation plantings which did not meet the performance standard. The revised or supplemental revegetation program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

As conditioned, the Commission finds that the proposed vegetation removal and soil disturbance is sited and designed to prevent impacts that would significantly degrade adjacent environmentally sensitive habitat areas, and is compatible with the continuance of those areas, consistent with Section 30240 (b) of the Coastal Act..

Potential Impacts of Discharges of Sediment and Waste Materials from Grading Operations

Grading and other soil movement activities upslope of the Albion River and Pacific Ocean that are necessary to complete the proposed project could pose a risk of discharge of graded spoils or other materials into coastal waters and/or adjacent ESHAs. Such discharge could cause sedimentation or pollution of ESHA downslope of project activities, including of adjacent silk tassel scrub and dunes, identified as ESHAs 4b, 6, and riparian and estuarine system on [Exhibit 9](#), resulting in adverse impacts to fisheries and other biological resources. As the wetland ditch (“ESHA 1” on [Exhibit 9](#)) is located on the other side of the highway several hundred feet from the project area, project activities will not affect the wetland ditch and no risk of sedimentation entering the wetland from grading operations is expected. Similarly, wax myrtle scrub (“ESHA 3” on [Exhibit 9](#)) is located upslope of grading operations and therefore no impacts associated with grading activities are expected to occur.

Silk tassel scrub is located downslope of Drill Sites 1 (approximately 35 feet away) and 2 (approximately 10 feet away). No grading will occur at Drill Site 2, but the potential exists that

sediment could migrate in stormwater runoff to silk tassel scrub areas from grading access to Drill Site 1 (approximately 2,178 square feet of disturbed surface area) unless best management practices (BMPs) are implemented. Caltrans has proposed various measures to protect water quality and adjacent ESHA from impacts associated with the proposed development and to ensure the development is sited and designed to prevent impacts which would significantly degrade those areas and is compatible with the continuance of those habitat areas. These measures include, but are not limited to: (1) minimizing the project footprint as discussed above; (2) limiting all grading activities to the period of September 15 through October 15 to avoid the rainy season; (3) incorporation of BMPs; and (3) re-contouring, revegetating, and monitoring disturbed areas. In particular, Caltrans proposes placing temporary fiber rolls and silt fencing downslope of Drill Sites 1 & 2 and revegetating disturbed areas consistent with the revegetation plan required to be implemented by **Special Condition No. 11** as described above. Caltrans also proposes placing erosion control features and BMPs (including temporary fiber rolls) downslope of Drill Sites 5 (which is approximately 25 feet away from the dune feature), 6, 7, and 8. Caltrans will also install temporary check dams along graded areas adjacent to Highway 1 (near Drill Site 8), and silt fencing will be placed along the downslope edge of the graded area near Drill Site 8. As discussed further in **Finding G** (“Marine Resources and Water Quality”) below, **Special Condition 8** includes requirements that Caltrans adhere to the proposed BMPs.

Project-related waste materials (e.g., excess soil and vegetative debris) could also adversely affect nearby wetlands and other ESHAs if not disposed of at authorized upland locations. Caltrans indicates that the handling of excess soil, eucalyptus tree and vegetative spoils, and other debris disposal will be the responsibility of the contractor selected to oversee the project. To ensure that debris is properly disposed of at a licensed facility in upland locations and is not discharged in locations that affect nearby ESHA at the site, **Special Condition 3** requires preparation of a final debris disposal plan that identifies appropriate disposal sites for all materials including but not limited to soil and, to ensure that the material is properly disposed without adverse effects that may result from improper dumping of such material.

As conditioned, the Commission finds that the proposed grading is sited and designed to prevent impacts that would significantly degrade adjacent environmentally sensitive habitat areas, and is compatible with the continuance of those areas, consistent with Section 30240 (b) of the Coastal Act.

Noise-Generating Activities

The geotechnical investigation will include a number of temporary noise generating activities that include: (1) drilling operations; (2) use of a helicopter at specified locations (Drill Sites 2, 5, 6, 7, and a downslope boring location at Drill Site 8) to deliver a drill rig and materials to sites with limited accessibility and to minimize grading; (3) tree removal, including use of chainsaws; and (4) seismic refraction surveys involving the use of a hammer and striker plate.

When activities that create elevated sound levels occur in close proximity to sensitive habitat areas (such as but not limited to bird nest sites) and over an extended period of time, a potential exists to adversely affect sensitive species. As part of its August 16, 2018 biological memo summarizing bat and birds survey results, Caltrans indicated the following:

If project activities were to occur within the nesting season for birds there is a potential for impacts to nesting birds, including migratory birds subject to the Migratory Bird Treaty Act (MBTA) and native birds protected under California Fish and Game Code (CFG) Section 3503.

Under the federal Migratory Bird Treaty Act of 1918, it is unlawful to kill, hunt, sell, or possess migratory birds. The law applies to the removal of nests occupied by breeding birds during the breeding season. California Fish and Game Code Section 3500 also prohibits take or possession of birds, and includes Section 3503 that explicitly prohibits the take, possession, or destruction of any bird nest or eggs. While noise-generating activities occurring outside the nesting season run little risk of violating either the MBTA or the applicable Fish and Game codes, significant noise disruption during the nesting season could trigger a significant risk of destroying, either directly or indirectly, nests recently built or rebuilt and about to receive eggs, viable eggs, nestlings, and fledglings.²⁹ Flushing of nesting birds could also interfere with brooding behavior (e.g., egg incubation and turning, and attendance to nestlings).

Dooling and Popper prepared a review report in 2007 for Caltrans titled, “The Effects of Highway Noise on Birds”³⁰. In this report they review the literature for studies that evaluate the impacts of traffic and construction noise on birds. They list three classes of potential effects of noise on birds: (1) physiological and behavioral effects; (2) damage to hearing from acoustic over-exposure; and (3) masking of important bioacoustics and communication signals all of which may also lead to dynamic behavioral and population effects. In terms of potential physiological and behavioral effects, most studies examining effects of non-highway noise on birds focus on effects of nesting birds (e.g., Brown 1990; Andersen et al. 1989; Delaney et al. 1999; **Appendix A**), including evaluating effects on breeding biology (e.g., Bunnell et al. 1981); **Appendix A**), survival of eggs and young (e.g., Burger 1983; Ellis et al. 1991; **Appendix A**), and non-auditory physiological effects³¹.

Dooling and Popper (2007) also note that birds are more resistant to both temporary and permanent hearing loss or to hearing damage from acoustic overexposure than are humans and other mammals that have been tested.³² Their report includes a table with guidelines for potential noise effects on birds at relative distances from the source based on a synthesis of the available literature, indicating that hearing damage could potentially occur from single impulses at or above 140 dBA, or from multiple impulses at or above 125 dBA when birds are close to the source (e.g., within 50 feet). At greater distances from the noise source, where noise levels fall below 110 dBA, birds may experience a temporary loss of hearing (known as a temporary threshold shift) from continuous noise above 93 dBA. Masking may occur at decibels above and below 93 dBA, depending on ambient noise levels.

²⁹ Jones, H. Lee and Peter H. Bloom. “Effects of Human Activity on Reproductive Success in Birds.” In Southern California Edison San Joaquin Cross Valley Loop Transmission Project Nesting Bird Management Plan. March 2013. Accessible at <https://www.fws.gov/sacramento/outreach/2013/07-24/docs/SCE%20HCP%20vol2%20-%20pg200-415.pdf#page=146>

³⁰ Dooling, R.J. & A.N. Popper. 2007. The Effects of Highway Noise on Birds. Prepared for: The California Department of Transportation, Division of Analysis. Prepared by: Environmental BioAcoustics LLC, Rockville, MD

³¹ Ibid.

³² Ibid.

Caltrans prepared a Noise and Air Quality Analysis, seismic refraction striker-plate noise survey ([Exhibit 10](#)), and a supplemental biological analysis to address anticipated noise levels associated with project activities ([Appendix A](#)). Caltrans additionally conducted both a long-term (22-hour) and short-term (20 minute) noise measurement near the Albion River Bridge³³ in September 2016. The noise measurements recorded average ambient noise levels of 49-53 dBA, with average maximum noise levels recorded at 65 dBA. Table 1 below summarizes anticipated maximum construction noise levels at varying distances.

Table 1. Construction Noise Levels at Varying Distances.

Construction Phase	Maximum Noise Level (L_{max} , dBA)			
	50 feet	100 feet	200 feet	300 feet
Earthwork/Excavation	85	79	73	69
Helicopter	90-105	84-99	78-93	74-89
Drilling	84	78	72	68
Seismic Survey using metal striker plate and sledgehammer (120 dBA at the source)	92	86	80	76

Potential Impacts of Noise from Drilling Operations

Noise generated by drilling operations would be intermittent and temporary. As described above, no special status birds or bats were observed in the project area during surveys conducted during the nesting season in 2017 and 2018. Additionally, in working with Coastal Commission staff, Caltrans has proposed as part of its revised project proposal to conduct all project activities outside the bird breeding season (February 1 through September 15). As proposed, the project as revised avoids the potential for noise-related impacts to special status nesting birds.

Potential Impacts of Noise Generated During Helicopter Operations

Caltrans proposes temporary operations involving the use of a helicopter for at least 5, and possibly 6 bore holes located within five drill sites (Drill Sites 2, 5, 6, 7, and a downslope boring location at Drill Site 8) to deliver a drill rig and materials to sites with limited accessibility. Helicopter activities will be temporary and intermittent, occurring for approximately 6 days total, but spread out over the course of up to four weeks. An estimated number of 5-8 deployments to and from the airport will be needed for helicopter operations associated with each drill site to deliver equipment, supplies, personnel and the drill rig to each drill site, and to periodically refuel (after approximately 40 minutes of flight time following each deployment). The helicopter would deploy from the Little River Airport, which is located approximately 3.5 miles from the project area and would require a round-trip travel time of approximately 10-15 minutes. The helicopter would pick up equipment and supplies from support vehicles and/or staging locations adjacent to drill sites. Traffic would be stopped in each direction along Highway 1 and adjacent roadway connections during helicopter support activities, for a period of time not to exceed 20

³³ The 22-hour noise measurement was taken in September of 2016 approximately 100 feet from Highway 1. There was an approximate 15 foot elevation difference between the roadway and the measurement location. The results of the 24-hour measurement shows the average (L_{eq}) hourly daytime (8:00 a.m. to 6:00 p.m.) ambient levels were around 49 dBA and the loudest hour was 52 dBA. The maximum (L_{max}) daytime level reached 70 dBA and the average daytime L_{max} was 65 dBA. The short term measurement was taken approximately 150 feet from Highway 1. The measurement was taken at 1:00 p.m. and the recorded noise level was 53 dBA L_{eq} .

minutes. When the roadway reopens, the helicopter would either hover at sea or return to the airport to refuel until all accumulated traffic clears from Highway 1. A temporary road closure and equipment delivery process would continue until operations are completed for each site. The cumulative (not continuous) duration of time required by the helicopter to support drilling activities at each drill site is anticipated to be 2 hours, in addition to travel time to and from the site to the airport. To maintain a minimum of 50 feet of clearance above the bridge deck, the helicopter will be hovering from about 90 to 170 feet above the respective drill sites.

As discussed above, if project activities were to occur within the breeding season for birds there is a potential for impacts to special status nesting birds inconsistent with federal and state laws. However, Caltrans has modified their project proposal to specify that all project components would occur outside of the bird breeding season (which begins February 1 and ends September 15), thereby avoiding all potential impacts to any birds that could be nesting nearby during that timeframe. During other times of the year, although helicopter activity may temporarily flush passerine birds from seeking cover within coastal scrub habitats such as the rare wax myrtle and silk tassel shrubs (“ESHAs 3,” “4a,” and “4b” on page 1 of [Exhibit 9](#)), the helicopter would only hover to within 90 feet above the drill site and nearby ESHAs, and non-nesting birds could freely move to other areas for cover. Similarly, birds that could be foraging in riparian habitats upriver, or along the shoreline near dune areas could temporarily disperse during helicopter operations but would likely occupy nearby habitats and return following helicopter operations. **Special Conditions 5 and 10C** incorporate Caltrans’ proposed mitigation measures, and **Special Condition 10A** specifies the minimum most sensitive work activities that a biologist will monitor, including but not limited during helicopter operations. Therefore, as conditioned, the Commission finds that the proposed helicopter operations are sited and designed to prevent impacts that would significantly degrade adjacent environmentally sensitive habitat areas, and is compatible with the continuance of those areas, consistent with Section 30240(b) of the Coastal Act.

Potential Impacts of Chainsaw Noise from Eucalyptus Tree Removal

The removal of approximately 90 eucalyptus trees north of the river on bluff areas west of the highway using chainsaws will generate temporary noise levels of approximately 71-90 dB at the source of the activity and 85 dB from fifty feet away. Chainsaw noise from tree removal would occur more than 800 feet from coastal scrub habitats on the coastal terrace and bluffs south of the river such as the rare wax myrtle and silk tassel shrubs, and approximately 100 feet upslope from the sand dune. Bird surveys conducted June 6, 2018 did not identify any birds nesting within the eucalyptus trees, and as noted above Caltrans proposes to conduct all project activities outside the bird breeding season, thereby avoiding any potential disruption to birds nesting in adjacent areas during this time of the year. Additionally, no special status bats or birds were identified in surveys of the site for the project, and during other times of the year, any birds present in the area during chainsaw operations could readily move to other foraging and roosting areas. Therefore, as conditioned, the Commission finds that the proposed tree removal is sited and designed to prevent impacts that would significantly degrade adjacent environmentally sensitive habitat areas, and is compatible with the continuance of those areas, consistent with Section 30240(b) of the Coastal Act.

Potential Impacts of Noise from Seismic Refraction Surveys

Seismic refraction surveys will be utilized to gather additional geophysical subsurface information of the project area. Seismic surveys involve the placement of “geophones” on the ground using 2-inch-wide by-3-inch long spikes inserted in the ground and distributed along transect lines that are connected with a cable to a battery-powered seismograph. Seismic refraction surveys will be conducted along 4 transect lines (depicted on [Exhibit 3](#)) and involve a sound detonation at the upslope end (closest to Highway 1) of each line using a striker plate and 12- to 16-lb. sledgehammer that will generate a sound of up to 106 dB (within 10 feet of source). Additional site-specific details are provided in the appendix to the Revised Geotechnical Investigation Plan (GIP), included on pages 11-12 in [Exhibit 6](#).

Although seismic refraction survey activity may temporarily flush passerine birds from seeking cover within coastal scrub habitats such as the rare wax myrtle and silk tassel shrubs (“ESHAs 3,” “4a,” and “4b” on page 1 of [Exhibit 9](#)), the activity would occur outside the bird breeding season and would not result in significant disruption of ESHA and would be compatible with the continuance of these habitats.

Conclusion

As conditioned in the manner discussed above, the Commission finds that the proposed development is sited and designed to prevent impacts that would significantly degrade adjacent environmentally sensitive habitat areas, and is compatible with the continuance of those areas, consistent with Section 30240(b) of the Coastal Act.

G. MARINE RESOURCES AND WATER QUALITY

Section 30230 of the Coastal Act states that:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act states that:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges- and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30232 of the Coastal Act states the following:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or

transportation of such materials. Effective containments and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Marine Resources within the Project Area

As discussed above, the ecological system comprising the Albion River, Albion River estuary, and open coastal waters at Albion Cove provides habitat for a broad diversity of wildlife species. The Albion River system also includes a large estuary with tidal intrusion extending nearly 5 miles upstream as part of a watershed encompassing approximately 27,500 acres.³⁴ The Albion River is identified by the Statewide Critical Coastal Areas Committee³⁵ as one of California's Critical Coastal Areas and was originally found in 1995 to be an impaired water-body in the North Coast Region. Among other things, the river has a high sediment load and water quality problems as a result of pollutants from silviculture, the construction and subsequent erosion of logging roads, and past small episodic oil spills associated with the fishing industry. Beneficial uses of the river include but are not limited to: water supply, recreational uses, commercial sport fishing, cold freshwater habitat for aquatic organisms, and estuarine habitat. Additionally, the Albion River and Albion River Cove provide habitat for marine mammals such as harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*). Drill Pad Sites nearest to the Albion River and estuary include Drill Pad Site 2, 220 feet upslope to south, and Drill Pad Site 5, 410 feet upslope to north.

Potential Marine Mammal Impacts

Potential Impacts of Noise Generated During Helicopter Operations

As described above, Caltrans proposes temporary operations involving the use of a helicopter at up to six bore holes located within five drill sites (Drill Sites 2, 5, 6, 7, and a downslope boring location at Drill Site 8) to deliver a drill rig and materials to sites with limited accessibility and to reduce grading. An estimated number of 5-8 deployments to and from the airport will be needed for helicopter operations associated with each drill site to deliver equipment, supplies, personnel and the drill rig to each drill site, and to periodically refuel (after approximately 40 minutes of flight time following each deployment). The helicopter would deploy from the Little River Airport, which is located approximately 3.5 miles from the project area and would require a round-trip travel time of approximately 10-15 minutes.

The cumulative (not continuous) duration of time required by the helicopter to support drilling activities at each drill site is anticipated to be 2 hours, in addition to travel time to and from the site to the airport. To maintain a minimum of 50 feet of clearance above the bridge deck, the helicopter will be hovering from about 90 to 170 feet above the respective drill sites.

Caltrans staff prepared two addenda (**Appendix A**) to the August 2015 Natural Environment Study to further address potential noise effects and areas of potential disturbance resulting from geotechnical activities. National Marine Fisheries Service has established acoustic thresholds to

³⁴ Northcoast Regional Water Quality Control Board. February 2005. "Watershed Planning Chapter." Accessed online July 20, 2018 at https://www.waterboards.ca.gov/northcoast/water_issues/programs/wpc/13albionsec2.pdf

³⁵ The Statewide Critical Coastal Areas Committee consists of representatives from 15 state agencies, and also includes National Ocean Atmospheric Administration, the U.S. Environmental Protection Agency, and the Ocean Conservancy.

the levels of sound that, if exceeded, will likely result in temporary or permanent changes in marine mammal hearing sensitivity.

Caltrans staff contacted staff from National Marine Fisheries Service (NMFS/NOAA) in August 2015 to inquire whether it would be necessary to initiate formal consultation in association with proposed geotechnical investigation activities, and NMFS staff responded in part that “since the work will not be performed in water, will not include pile driving, and is not expected to disturb marine mammal haul-out areas, we would not expect the geotechnical investigation project to affect marine mammals.”

Recent changes designed to minimize alteration of landforms and avoid ESHAs have increased the amount of proposed additional helicopter operations since NMFS staff first reviewed the project. Therefore, Commission staff requested that Caltrans contact NMFS to verify whether they had any concerns or additional comments. On July 24, 2018, NMFS responded to an inquiry initiated via email from Caltrans, commenting that what is being proposed under the revised project proposal remains consistent with what NMFS previously discussed and considered. Commission staff also spoke with NMFS staff on July 9, 2018³⁶, and NMFS staff noted that even if marine mammals were to disperse during temporary helicopter operations, a sufficient number of alternative haul-out areas exist nearby, and therefore helicopter operations were not expected to adversely affect marine mammals.

Although NMFS does not anticipate adverse impacts to marine mammals, Caltrans has proposed biological monitoring and avoidance of marine mammals hauling out near the project site during all helicopter operations. Specifically, biological monitors will be present at Albion Cove, the docks at Albion campground, and (when flights will occur over the Albion River) at docks near Schooner’s landing upriver along the Albion River to prevent any potential impacts that could occur to hauled-out marine mammals. Caltrans has agreed to notify the helicopter operator to delay deployment from the airport if any marine mammals are observed hauled-out at Albion Cove, the docks at Albion campground, or (when flights will occur over the Albion River) at docks near Schooner’s landing upriver along the Albion River. Once any hauled-out marine mammals have returned to the water, the monitors will notify the helicopter operator by radio and/or cell phone that they are clear to depart the airport. **Special Condition 10D** incorporates Caltrans’ proposed avoidance measures as conditions of approval. As noted above, even if marine mammals were to disperse during temporary helicopter operations, a sufficient number of alternative haul-out areas exist nearby, and therefore helicopter operations are not expected to adversely affect marine mammals. By avoiding commencement of helicopter operations when marine mammals are hauled out, Special Condition 10D further reduces the risk of any temporary disturbance to marine mammals. To ensure that all biological monitoring protocol are implemented as proposed, the Commission includes **Special Condition 10K** which requires that no changes to the biological monitoring protocol shall occur without a Commission amendment to this permit unless the Executive Director determines that no permit is legally required.

³⁶ Howe, Darren (Natural Resource Management Specialist, National Marine Fisheries Service), telephone conversation July 9, 2018.

As conditioned, the Commission finds the proposed helicopter operations will be carried out in a manner that will maintain healthy populations of all species of marine organisms, consistent with Section 30230.

Potential Impacts of Noise from Seismic Refraction Surveys

As described above, seismic refraction surveys will be utilized to gather additional geophysical subsurface information of the project area. Seismic surveys involve the placement of “geophones” on the ground using 2-inch-wide by-3-inch long spikes inserted in the ground and distributed along transect lines that are connected with a cable to a battery-powered seismograph. Seismic refraction surveys will be conducted along 4 transect lines (depicted on [Exhibit 3](#)) and involve a sound detonation at the upslope end (closest to Highway 1) of each line using a striker plate and 12- to 16-lb. sledgehammer that will generate a sound of up to 106 dB (within 10 feet of source). Additional site-specific details are provided in the appendix to the Revised Geotechnical Investigation Plan (GIP), included as [Exhibit 6](#).

For the proposed geotechnical investigation, Caltrans staff reviewed noise data prepared for the project site and relevant literature and based on those data, determined that a “Level B behavioral disruption³⁷” would likely occur for any harbor seals occurring within 40 feet of a noise source, or non-harbor seal pinnipeds occurring 20 feet from the noise source during seismic refraction surveys. Based upon this analysis, marine mammals could exhibit a response to disturbance if the noise source occurred within 20-40 feet of pinnipeds hauled-out on land.

All striker plate soundings would occur more than 600 feet away from the docks at Albion Campground, and therefore no adverse impacts to any marine mammals potentially hauled out in this area are anticipated during seismic refraction surveys. According to a February 6, 2017 addendum to the Natural Environment Study prepared by Caltrans, none of the seismic refraction survey striker soundings will occur closer than 130 feet from the edge of open coastal waters, where marine mammals would potentially haul out onto sandy beach areas at Albion Cove.

Further, as proposed, a biological monitor will be present at Albion Cove during all seismic refraction surveys to survey for hauled-out marine mammals. Seismic survey operations will not commence until any hauled-out marine mammals have returned to the water. **Special Conditions 5 and 10E** incorporate Caltrans’ proposed avoidance measures as conditions of approval and ensures protection of marine mammals, consistent with Section 30230.

Water Quality

As discussed above, the construction of temporary ingress and egress routes needed to access the proposed geotechnical investigation sites involves earthwork. At Drill Site 1 (south of Albion River Bridge), grading will consist of cutting an access route alongside the base of the hillslope within the right-of-way west of and adjacent to Highway 1. Additionally, to create a sufficiently stable pad to accommodate a rubber-tired truck-mounted drill rig, a 30-foot by 40-foot pad area would be graded which also involves cutting a 10-12-foot vertical notch into the base of the

³⁷ For federal Incidental Harassment Authorization permitting purposes a “take” or Level B harassment would include either: (a) movements in response to the source of disturbance, ranging from short withdrawals at least twice the animal’s body length to longer retreats over the beach, or if already moving a change of direction of greater than 90 degrees; moving or flight responses; or (b) all retreats to the water.

hillslope within the right-of-way. The disturbed surface area (DSA) at this location is estimated to be 0.05 acre (2,178 square feet). Additional earthwork will occur upslope of Drill Site 8 (north of Albion River Bridge) and immediately west of and adjacent to Highway 1. Grading and removal of eucalyptus trees will occur at this location to accommodate access for vehicles and for staging of equipment, including a crane to deliver the drill pad to Drill Sites 6 and 7, and for placement of the drill pad for Drill Site 8. The proposed earthwork will result in approximately 0.274 acre (11,935 square feet) of DSA.

Caltrans staff met extensively with the local community in Albion³⁸, and in partial response to community concerns, redesigned the extent of grading proposed to occur at the geotechnical staging area upslope of Drill Site 8 (north of Albion River Bridge), resulting in a reduction to disturbed surface area by 0.07 acre (3,049 square feet), and reducing the number of trees to be removed by approximately 85 trees. Caltrans staff also redesigned the extent of grading proposed at Drill Site 1, resulting in a reduction to the DSA by 0.30 acre (13,068 square feet).

Caltrans also proposes best management practices (BMPs) during all project activities. Areas of disturbed soil at the site could also erode through the action of wind and rain, releasing sediments into the downgradient waters of the Albion River and Pacific Ocean. To avoid discharge of sediment from disturbed areas, filter wattles and silt fencing will be installed around all disturbed areas. Caltrans also proposes erosion control measures that include site recontouring and the use of temporary check dams upslope of Drill Site 8 to reduce and capture water runoff following grading activities. While Caltrans has proposed various measures to protect water quality, conditions are needed to ensure implementation of the proposed measures. In addition, certain additional measures are needed to ensure that the project as implemented prevents impacts that could adversely affect the biological productivity and quality of coastal waters. **Special Condition 9** includes requirements that Caltrans adhere to the proposed BMPs. In addition, to protect wildlife and minimize plastic in the environment, **Special Condition 9G** requires that only those temporary erosion control products manufactured from 100% biodegradable (not photodegradable) materials shall be used, and that if any products containing a netting component are used, the netting shall be loose-weave natural-fiber netting. In addition, as discussed above, consistent with **Special Condition 10C** and the Updated Project Description dated August 22, 2018, no development shall occur between February 1 and September 15, the period of the year comprising the bird breeding season. To further protect water quality, **Special Condition 8E** limits grading activities to between September 15 and October 15, thereby avoiding site disturbance during the winter rainy season when there is a greater risk that storms could cause runoff from the disturbed areas of the site into coastal waters below.

In addition to the ongoing BMPs that all on-site staff will adhere to, Caltrans proposes that a biological monitor will conduct regular site inspections, once weekly during the duration of the geotechnical investigation, to: (1) ensure that work is being conducted as delineated in the design layouts; (2) inspect construction BMP's, including ensuring that silt fencing is in working order; (3) inspect all equipment onsite to ensure that no fluid leakages from equipment or drilling fluid spillage has or will occur; and (4) inspect all ESA ("environmentally sensitive area" fencing, ensuring that it is functioning as a barrier for protections to sensitive resources. **Special**

³⁸ Recent public meetings and workshops between Caltrans staff and the community include, but are not limited to meetings held April 17, 2018; November 14, 2017; September 20, 2017; July 27, 2017; May 9, 2017.

Condition 10B incorporates this proposal as a condition of approval. Additionally, **Special Condition 10A** specifies the minimum kinds of development activities that a biologist must monitor, including but not limited to regular site inspections for the duration of the geotechnical investigation. However, the Commission finds that inspections conducted twice weekly, rather than once weekly, would further ensure protection of the biological productivity of coastal waters by allowing earlier and more frequent detection and response to any potential project maintenance needs. Therefore, the Commission attaches to **Special Condition 10G** the requirement that inspections shall occur twice weekly.

Project-related waste materials (e.g., excess soil and vegetative debris) could also adversely affect nearby wetlands and other ESHAs if not disposed of at authorized upland locations. Caltrans indicates that the handling of excess soil, eucalyptus tree and vegetative spoils, and other debris disposal will be the responsibility of the contractor selected to oversee the project. To ensure that debris is properly disposed of at a licensed facility in upland locations, **Special Condition 3** requires preparation of a final debris disposal plan that identifies appropriate disposal sites for all materials including but not limited to soil and, to ensure that the material is properly disposed without adverse effects that may result from improper dumping of such material.

Caltrans has submitted a spill prevention and response plan (SPRP), along with a supplemental SPRP prepared by its contractor, that identify measures to avoid spills of fuels, lubricants, and other chemical contaminants used in construction, and establish containment measures to protect water quality in the unlikely event of a spill ([Exhibit 8](#)). The SPRPs also contain BMPs for the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill to capture and clean-up any accidental releases of oil, grease, fuels, lubricants, or other hazardous materials. For example, to avoid and prevent spills, no fuel will be stored on site, with the exception of fuel needed for drilling when the drilling equipment is actively drilling on the site. Additionally, all vehicles and equipment containing petroleum must be inspected daily for leaks or signs of deterioration that could cause a spill, and will be repaired prior to use. Caltrans and its consultants also specify that all containers must be kept closed unless material is being transferred, all transferring operations shall be monitored and not left unattended, and use, storage, and transport of oil, hazardous materials, and wastes must be performed in accordance with all applicable local, state, and federal regulations. To contain any amount of potential spillage on the drill pads, the perimeter of the pads/ platforms will be diked utilizing straw wattles or pipe wrapped in the plastic sheeting. To further protect against spills, drip pans and/or other collection devices will be used to contain potential drips or leaks from containers and equipment, and any small spills or leaks will be immediately cleaned up and managed consistent with the spill prevention and response procedures. Drilling preventative equipment on site will also include two 55-gallon universal spill kits (see specifications on pages 4-5 of [Exhibit 8](#)), a quick response spill kit, and 6-mil plastic sheeting and straw wattles that can be used to form a bermed seal enclosure encompassing the fluid usage area. In the event of a spill, the SPRPs outline steps to extinguish any sources of nearby ignition, stop leaks at the source, evacuate spilled liquids, contain spills, and use spill kits to absorb, contain, and properly dispose of waste material. The SPRPs contain local agency contact numbers and contact information for key Caltrans personnel associated with the project who will be notified in the event of a spill incident, and documentation procedures. As proposed, the measures contained within the SPRPs provide for

effective containments and cleanup facilities and procedures for accidental spills that do occur, consistent with Section 30232. **Special Condition 9L** requires the applicant to adhere to the SPRPs as submitted.

During drilling operations water will be mixed with the bentonite in a closed system that includes drill pipe, hoses, and a mud tank used for sealing the bore holes, then after completion of drilling operations, all drill cuttings and fluids will be pumped into 55-gallon drums and transported to a lab for processing. Boring holes will then be backfilled, and disturbed areas will be seeded and/or planted, then covered with straw.

Conclusion

As conditioned in the manner discussed above, the Commission finds that the proposed development will maintain marine resources, and sustain the biological productivity and quality of coastal waters consistent with Sections 30230, 30231, and 30232 of the Coastal Act. The Commission further finds that the proposed development will provide protection against the spilling of gas, petroleum products, and hazardous substances and provide effective containment and cleanup for accidental spills that do occur consistent with Section 30232 of the Coastal Act.

H. VISUAL RESOURCES

Section 30251 of the Coastal Act states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

While the policies of Chapter 3 of the Coastal Act provide the legal standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3, the local government's certified LCP may be used as guidance. The visual resource protection policies of the Mendocino County certified LCP are included in **Appendix B**.

The Mendocino County certified LCP designates the area containing the project site as "highly scenic" and part of the "special community" of Albion. The site is also within a designated tree removal area. As described above, the project site is located along the west side of Highway One as it crosses the Albion River. The Pacific Ocean and the beach at Albion Cove are west of the project site, and the privately-owned Albion River Bridge R.V. Park and Campground is located east of Albion River Bridge and provides access to the lower portions of the project site. Undeveloped marine terrace bluffs and the small, predominantly- residential community known as Albion Village exist to the north and south of the project site on both sides of the river. The character of the Albion Village conveys a by-gone era, dating back to the 1800's with its small residential community situated amongst rolling hills, and the last remaining wood trestle bridge in California spanning the Albion River. Project activities will occur within a portion of the

floodplain area described as the “Albion Flats,” and on the slopes and elevated marine terraces on both sides of the Albion River. The Highway 1 Bridge affords magnificent views of the ocean and the jagged bluffs that frame the mouth of the Albion River to the west, as well as scenic views of the community of Albion and the conifer covered valley through which the Albion River winds its way to the sea to the east. North of the bridge, coastal views are obstructed by a dense grove of eucalyptus trees. South of the bridge, coastal views through the project area are obstructed by a through cut in the natural hillside landform created for the highway.

Section 30251 requires that all new development be sited and designed to (a) protect views to and along the coast, (b) minimize the alteration of natural landforms, and (c) be visually compatible with the character of the surrounding area. Development in highly scenic areas shall be subordinate to the character of its setting. Three elements of the development associated with the geotechnical investigation raise visual resource issues, including (1) the removal of eucalyptus trees along the west side of the highway at the north end of the bridge, (2) excavation to create drilling pads and construction access, and (3) temporary visual impacts during construction.

Removal of Eucalyptus Trees.

A dense stand of non-native, invasive eucalyptus trees spans the coastal terrace on both sides of Highway 1 immediately north of the Albion River and continues down the hillsides on both sides of the bridge. As noted above, eucalyptus trees are an invasive, non-native species in California, and the California Invasive Plant Council³⁹ describes eucalyptus trees as inhibiting the ability of native vegetation to establish in the understory due its production of allelopathic chemicals and the high volumes of physical debris formed by bark strips, limbs, and branches. Eucalyptus trees are also extremely flammable and create a severe fire risk.

At the location of the eucalyptus trees, the highway traverses a “through-cut” in the natural hillslope landform, with a cut slope rising about 5 feet on both sides of the highway. The Albion River Inn is situated west of Highway 1 and immediately north of the through-cut and the stand of eucalyptus trees, and is the closest commercial establishment to the bridge. Albion River North Side Road extends east from Highway 1 just north of the bridge and provides access down to the campground along the river just upstream of the bridge. Approximately 160 feet north of Albion River North Side Road, Albion Little River Road joins Highway 1 and continues eastward, providing access to several homes situated in a small rural neighborhood.

As described above, the geotechnical investigation will involve vegetation trimming and removal, including substantial removal of eucalyptus trees west of Highway 1 (up to 90 trees, ranging in individual trunk diameter at breast height from 4 to 24 inches⁴⁰). Caltrans does not propose to remove any portion of the eucalyptus grove east of the bridge. Some residents view the eucalyptus grove as a part of the rural community’s character, and describe the trees as a “veil” that frames the Albion River Bridge and also serves to screen views of the Albion River Inn from east of Highway 1 (pages 40-42 of [Exhibit 24](#)). Thus, the Commission must evaluate whether the visual effects of removal of eucalyptus trees in general and the potential reduction of

³⁹ <http://www.cal-ipc.org/>

⁴⁰ Tree count data is based upon an inventory of trees measured at a diameter at breast height (DBH) as measured 4.5 feet above the ground, and summing the individual DBH of each stem of multi-stemmed trees into one aggregate DBH value, as outlined in a memo dated October 4, 2017 (**Appendix A**) and prepared by a certified arborist.

screening of the Albion River Inn is compatible with the character of the surrounding area, and as the project area is within a highly scenic area, the Commission must also evaluate whether the removal of the eucalyptus trees is subordinate to the character of its setting consistent with Section 30251.

In addition, the certified LCP provides guidance. Land Use Plan (LUP) Policy 3.5-5 of the Mendocino County certified LCP requires in part that new development shall not allow trees to block ocean views, and in those areas identified for tree removal on the land use plan maps, trees currently blocking views to and along the coast shall be required to be removed or thinned as a condition of new development. As noted above, the project site is within such a designated tree removal area. In addition, Coastal Zoning Code (CZC) Section 20.504.015(C), which provides development criteria for highly scenic areas, states in subsection (9) that “in specific areas, as designated on the Land Use Maps and other circumstances in which concentrations of trees unreasonably obstruct views to and along the ocean and scenic coastal areas, tree thinning or removal shall be made a condition of permit approval.” Thus, the LCP directs that even in highly scenic areas, trees currently blocking views to and along the coast within designated tree removal areas such as the subject site shall be removed.

Caltrans has prepared a Visual Impact Assessment and visual simulations ([Exhibit 12](#)). According to the visual impact assessment, coastal views will increase for northbound travelers along Highway 1 following the removal of eucalyptus trees. Tree removal will also open up views of the sky and sunset for southbound travelers along Highway 1 and for westbound travelers along Albion Little River Road, who will also benefit from a more expansive view of the ocean following tree removal.

After removal of the eucalyptus trees, Caltrans proposes to revegetate the area with native plants, re-establishing vegetation that is consistent with the natural landscape of the overall area and with the vegetation that existed at the affected area prior to development of the area and the introduction of the exotic eucalyptus trees. Therefore, for all of the reasons stated above, the Commission finds that removal of the grove of eucalyptus trees is (a) visually compatible with the character of the surrounding area and (b) subordinate to the character of its setting consistent with the Section 30251 of the Coastal Act.

As noted above, some residents have expressed concern that removing trees in this area will reveal less favorable views of the Albion River Inn, such as the employee parking lot, a maintenance shack, and general inn activity. LUP Policy 3.5-5 does recognize that in certain instances trees can serve a valuable purpose in screening structures. Although a substantial number of trees will be removed upslope of Drill Site 8, a cluster of trees immediately south of the Albion River Inn will remain (see pages 2 and 3 of [Exhibit 7](#)), thereby partially screening views of the inn, consistent with the guidance of LUP Policy 3.5-5. As the tree removal will not significantly expose the Albion River Inn to public view, the Commission continues to find that the tree removal development is compatible with the character of the surrounding area consistent with Section 30251.

Excavation for Drilling Pads and Construction Access.

As indicated above, the construction of temporary ingress and egress routes needed to access the proposed geotechnical investigation sites and the creation of the drilling pads involves grading.

At Drill Site 1 (south of Albion River Bridge), grading will consist of cutting an access route alongside the base of the hillslope within the right-of-way west of and adjacent to Highway 1. Additionally, to create a sufficiently stable pad to accommodate a rubber-tired truck-mounted drill rig, grading a 30-foot by 40-foot pad area and cutting a 10-12-foot vertical notch into the base of the hillslope within the right-of-way will be necessary. The disturbed surface area (DSA) at this location is estimated to be 0.05 acre (2,178 square feet). To ensure that excavation work at Drill Site 1 does not inadvertently encroach onto the adjacent privately-owned property, Caltrans proposes that survey personnel will set slope stake offset points along the state right-of-way adjacent to Drill Site 1 prior to commencement of work. Caltrans also proposes to regrade Drill Site 1 to its original contours upon completion of the geotechnical investigation work.

Additional earthwork will occur upslope of Drill Site 8 (north of Albion River Bridge) and immediately west of and adjacent to Highway 1. Grading and removal of eucalyptus trees will occur at this location to accommodate access for vehicles and for staging of equipment, including a crane to deliver the drill pad to Drill Sites 6 and 7, and for placement of the drill pad for Drill Site 8. The proposed earthwork will result in approximately 0.274 acre (11,935 square feet) of DSA. Initial grading operations will result in temporary excavation of 572.5 cubic yards of material, which will include several inches of eucalyptus tree debris and leaf litter, which will be disposed of as described above. Upon completion of work at Drill Site 8, the graded area will be overlain with approximately 70 cubic yards of intact stockpiled soil and approximately 500 cubic yards of imported soil (including amendments as described in the revised revegetation plan). The site will be contoured to create a vegetated slope and temporary check dams will be installed immediately adjacent to the roadway to control erosion.

Section 30251 requires that development minimize the alteration of landforms. Caltrans has minimized the alteration to natural landforms by utilizing alternative equipment delivery methods. For example, access to Drill Sites 2, 5, and 6 will utilize a helicopter to deploy drilling equipment and supplies, thereby reducing the need to grade additional ingress and egress routes to the sites or to remove additional vegetation. The proposal to use a helicopter to deliver equipment to Drill Site 5 reduces the potential DSA by 0.4 acre (17,424 square feet), as compared to earlier project proposals. Additionally, Caltrans eliminated from the project proposal Drill Sites 1a, 1b, and 1c that would have necessitated additional grading (resulting in a reduction of 0.36 acre, or 15,682 square feet of DSA). Caltrans staff have also met extensively with the local community in Albion, and in partial response to community concerns, Caltrans staff redesigned the extent of grading proposed to occur at the geotechnical staging area upslope of Drill Site 8 (north of Albion River Bridge), resulting in a reduction to disturbed surface area by 0.07 acre (3,049 square feet), and reducing the number of trees to be removed by approximately 85 trees. Caltrans staff also redesigned the extent of grading proposed at Drill Site 1, resulting in a reduction to the DSA by 0.30 acre (13,068 square feet).

Caltrans additionally met with the contractors onsite in July 2018 to further evaluate the minimum area needed for all geotechnical investigation work. Caltrans has indicated that any further reduction in grading operations would interfere with Caltrans' ability to use the equipment needed to carry out the geotechnical investigation:

The subject Geotechnical Investigation Plan was designed to utilize the minimal space possible to perform safely and efficiently the drilling operations including minimal

ground disturbance and vegetation trimming. Every effort has been made to minimize grading and other landform [alterations] to the maximum extent feasible.

As designed, the proposed geotechnical investigation will minimize the alteration of natural landforms by limiting the area and quantities of disturbed surface areas, and by recontouring graded areas as proposed by the applicant and as described above. In particular, Drill Site 1 will be restored to the same contours and elevations as currently exist. The area near Drill Site 8 will be contoured in a way that will raise the grade to within a few feet of the current grade, resulting in a reshaping of the topography in a manner that does not significantly differ from the current condition of the site. **Special Condition 2E** requires that the measures proposed by the applicant be implemented, including those that will minimize the alteration of natural landforms.

Although the landform alteration associated with the geotechnical investigation will be minimized, the denuded appearance of the graded areas would adversely affect the visual character of the area if not quickly revegetated. As part of its application, Caltrans submitted a revegetation plan (**Appendix A**). Commission staff consulted with Staff Ecologist Laurie Koteen, Ph.D. regarding the adequacy of the proposed revegetation plan. Following feedback from Commission staff, Caltrans staff revised their revegetation plan to include more effective success criteria, increased plantings and a more expedited planting schedule, additional monitoring, a reporting schedule and provisions for submittal of monitoring reports to the Executive Director. Additionally, the revised revegetation plan establishes remediation measures that will be implemented in the event that revegetation efforts at the site are unsuccessful after the fifth-year monitoring period. Furthermore, while Caltrans had proposed that container plants would be obtained “preferably from Mendocino County,” the revised revegetation plan now proposes that all proposed container plantings shall be obtained from local genetic stocks within Mendocino County, thereby ensuring the integrity of the local native gene pool will be retained.

Implementation of the revised revegetation plan dated August 10, 2018 (**Exhibit 21**) will establish native vegetation in disturbed areas and preventing encroachment by invasive species. As discussed above, the revegetation will re-establish vegetation that is consistent with the natural landscape of the overall area and with the vegetation that existed at the affected area prior to development of the area and the introduction of exotic eucalyptus trees. To ensure that: (a) the disturbed area will be successfully revegetated as proposed in the revegetation plan and (b) the development will be compatible with the character of the surrounding area and subordinate to the character of its setting, consistent with Section 30251, the Commission includes **Special Condition 11** requiring that revegetation of disturbed areas shall occur in accordance with the final revegetation plan, and be completed as soon as possible no later than the first optimal growing season after completion of the geotechnical investigation.

Temporary Visual Impacts During Construction.

The visual character of the project site will also be temporarily affected by the staging of equipment at the westernmost portion of the Albion River Campground, upslope of Drill Site 8 (west of Highway 1), and on 2 parcels east of Highway 1 at its intersection with Albion Little River Road. Staging equipment will include, but is not limited to, cranes, various drill rigs, an equipment/water tender, drill crew cab, and support vehicles. However, given the short duration of the project of 8 weeks, the impact on visual resources will not be significant.

The Commission finds that as conditioned, the proposed geotechnical investigation will (a) protect views to and along the coast, (b) minimize the alteration of natural landforms, and (c) be visually compatible with the character of the surrounding area consistent with the requirements of Section 30251 of the Coastal Act.

I. PUBLIC ACCESS AND RECREATION

Section 30210 of the Coastal Act states:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 of the Coastal Act states:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212 of the Coastal Act states, in relevant part:

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) Adequate access exists nearby

Section 30213 of the Coastal Act states, in relevant part:

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Coastal Act Section 30214 requires in part (Emphasis added):

(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:

(1) Topographic and geologic site characteristics.

(2) The capacity of the site to sustain use and at what level of intensity.

(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.

(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

(b) It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to [Section 4 of Article X of the California Constitution](#). Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under [Section 4 of Article X of the California Constitution](#).

In applying Sections 30210, 30211, 30212, 30213, and 30214, the Commission is limited by the need to show that any denial of a permit application based on these sections or any decision to grant a permit subject to special conditions requiring public access is necessary to avoid or offset a project's adverse impact on existing or potential access.

In the project area, Highway One is the major public access route providing access to and along the ocean. Public access is currently available to the shoreline and beach at Albion Cove via an access road connecting from Highway One through the privately-owned Albion River Campground and Marina ("Albion River North Side Road"). Potential impacts to public access during construction activities will be temporary and the minimum necessary to implement the proposed development.

Caltrans proposes to conduct all work after September 15, thereby avoiding potential peak holiday traffic around Labor Day and summer vacation activity when schools are not in session. Consistent with the Statewide Standard Caltrans uses for construction projects, traffic would be stopped in each direction along Highway 1 and adjacent roadway connections during helicopter support activities, for a period of time not to exceed 20 minutes. When the roadway reopens, the helicopter would either hover at sea or return to the airport to refuel until all accumulated traffic clears from Highway 1. The temporary road closure and equipment delivery process would continue until operations are completed for each site. The cumulative (not continuous) duration of time required by the helicopter to support drilling activities at each drill site is anticipated to be 2 hours, in addition to travel time to and from the site to the airport that would not interfere with traffic flow. Only 1-2 drill rigs will be delivered within a day, followed by 2-3 days of drilling before the helicopter returns to the site to transport drilling equipment to the next 1-2 sites. Therefore, traffic delays and noise disturbances to visitors and local residents from helicopter activities will be temporary and intermittent, occurring for approximately 6 days total, but spread out over the course of up to four weeks.

The maximum 20-minute intermittent traffic closures are necessary to allow sufficient time for the helicopter to transport drill rig equipment from support vehicles and/or staging locations adjacent to drill sites. Helicopter operations are the only feasible alternative to deliver the equipment needed to conduct geotechnical investigations in a manner that avoids ESHAs and minimizes alteration of landforms. To minimize impacts to traffic during helicopter operations, Caltrans will implement statewide standards for notifying the public 10 days in advance of traffic delays, including the use of social media (e.g., notices sent via Twitter, Facebook and posts to Caltrans' website), providing road information bulletins as public service announcements via radio and television, notifying local citizens via email, providing temporary lane closure announcements on portable changeable message signs, and identifying alternate routes where feasible. For example, depending on the traveler's destination, alternative inland routes through Willits (Routes 101 and 20) or Anderson Valley (Route 128) could be utilized to bypass

temporary traffic delays. To the extent feasible, Caltrans has also indicated that helicopter operations will likely occur from 9am to 11 am and 1 pm to 3pm to avoid peak travel times occurring around lunchtime.

Caltrans has coordinated with the local fire department to ensure emergency vehicles are able to access the roadway during temporary road closures in the event of an emergency. Specifically, if emergency vehicles need access during the temporary road closure, Caltrans' Engineering Geologist overseeing the operation will notify the helicopter pilot to suspend operations and the helicopter would fly out over the ocean until emergency vehicles pass and traffic queues have cleared.

During tree removal and grading operations, one-way reversing traffic control lane closures and related traffic delays of up to 10 minutes may occur along Highway 1, Albion Little River Road, and Albion River North Side Road (which leads to Albion River Campground). However, none of the proposed development activities require the closure of any nearby visitor and recreational facilities, such as but not limited to the Albion River Inn, Albion River Campground, or Schooner's Landing Campground and Marina. During geotechnical investigation operations, Caltrans anticipates up to 8 support vehicle trips may occur along the road leading to the Albion River Campground each day, including transport of personnel to the job site and staging of work vehicles. Although equipment staging will utilize a portion of the westernmost part of the campground, the campground will remain open during geotechnical investigation activities and the staging activities will not interfere with the public's ability to access the shoreline, river, marinas, or other recreational opportunities in the area. As noted above, potential impacts to visitor and recreational opportunities are further minimized by: (1) conducting all work after September 15, thereby avoiding potential peak holiday traffic around Labor Day and summer vacation activity when schools are not in session; and (2) conducting proposed development activities only during daytime hours on weekdays, thereby avoiding weekends when visitor travel through the area peaks. Thus, no significant adverse impacts to visitor, recreational, boating, or commercial access are anticipated.

Caltrans has submitted a Transportation Management Plan dated November 22, 2016 ([Exhibit 14](#)). Timing of construction as proposed would avoid peak use weekend periods, and Caltrans estimates a maximum of 10-minute traffic delays during most construction activities, with some intermittent closures of up to 20 minutes (e.g., during helicopter operations). In addition, the duration of the project is not expected to exceed 8 weeks. Therefore, the Commission finds that the impact on public access use of the highway will not be significant.

Therefore, the Commission finds the proposed development does not have any significant adverse effect on public access, and that the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, and 30212, 30213, and 30214.

J. HAZARDS

Section 30253 of the Coastal Act states, in pertinent part, that new development shall:

- (1) *Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*

- (2) *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

The August 22, 2018 “Revised Geotechnical Investigation Plan” (pages 4-16 of [Exhibit 6](#)) describes a portion of the area of proposed investigation work as occurring on steep bluffs approximately 148 feet in height. The report describes the bluffs as globally stable, but notes that part of the purpose of the geotechnical investigation is to study the extent of areas where some evidence of earth movement has been observed in the form of mass wasting, slumping, and debris flows. A portion of the proposed geotechnical investigation will involve the temporary placement of steel work platforms at Drill Site locations that are situated on steep slopes. Each platform is supported by four- to- six steel legs with nominal surface area contacting the slope, thereby minimizing ground disturbance where platforms are placed. The ground disturbance at the site of the geotechnical boring holes ranges in diameter between 94 mm to 153mm (3.7 to 6 inches) each, and extends to a depth ranging from 70 to 125 feet. Thus, the extent of ground disturbance associated with the geotechnical investigation activities is relatively small Caltrans has provided photographic examples of similar geotechnical investigation activities occurring on steep terrain ([Exhibit 19](#)). Additionally, Caltrans has indicated the following:

The contractor employed for this project (Crux Subsurface, Inc.) is an experienced geotechnical contractor that specializes in performing exploration and construction drilling in difficult including steep hillside terrane [sic] and at environmentally sensitive locations (See Crux Subsurface Inc. Relevant project list). On very steep hillsides such as at Albion River Bridge site the steel work platforms will be stabilized by the installation of certified engineered anchors. Each drill site will be carefully evaluated for proper setup to insure the stability of the steel work platforms. The advantages of employing steel platform drilling is that ground disturbance, erosion, geologic instability and vegetation trimming/removal are minimized.

Commission Staff Geologist Joe Street, Ph.D. and Senior Coastal Engineer Lesley Ewing, Ph.D have reviewed the proposed geotechnical investigation plan and concur that the proposed project as designed minimizes risks to life and property from geologic hazards, and will not create or contribute significantly to erosion, geologic instability, or destruction of the site, consistent with Section 30253. In a memorandum dated August 23, 2018 ([Exhibit 20](#)), they state in part the following:

In the present case, Caltrans has proposed reasonable measures for minimizing the existing geologic hazards and potential project impacts, given the lack of site-specific data that currently exists. Caltrans’ proposed geotechnical investigation is not analogous to other projects in unstable areas that have come before the Commission involving long-term development, such as the siting of commercial or residential development near a coastal bluff edge. Rather, the geotechnical investigation is a temporary project that is a necessary component of the evaluation of a much larger, more permanent project – the repair or replacement of the Albion River Bridge – and the

information it can provide is likely to be critical in determining the larger project's consistency with Coastal Act policies.

Caltrans also proposes as part of the project activities to grade a portion of the landform upslope of Drill Site 8 and adjacent to and west of Highway 1. Upon completion of work at Drill Site 8, the graded area will be restored, including a vegetated swale with temporary check dams immediately adjacent to the roadway. It is anticipated that the proposed removal of trees from this area, and regrading the site to direct stormwater runoff away from the bluff, will help reduce erosion and benefit the geologic stability of the bluff. Furthermore, work is proposed to occur within one construction season and is not expected to exceed 8 weeks. **Special Condition 9F** requires that all grading activities shall be limited to the drier season period of May 15 through October 15, thereby minimizing risks from erosion.

The site is also located within area designated "High Fire Hazard" as depicted on the County fire hazard severity map⁴¹ adapted from California Department of Fire and Forestry Protection ("CalFire"). As described above, eucalyptus trees are highly flammable. According to information provided by the California Invasive Plant Council ("Cal-IPC")⁴²:

The fuel complex formed by [eucalyptus forest] debris is extremely flammable, and under severe weather conditions could produce drifting burning material with the potential to ignite numerous spot fires. Because stringy bark is carried away while burning, eucalyptus forests are considered the worst in the world for spreading spot fires. The Oakland hills firestorm was both intense and difficult to control because of the many stands of eucalyptus. Individual trees growing near structures or in public use areas are hazardous because of the potential for branch failure. Stature and growth form are distinctive and unlike native tree species, which compromises the visual quality of natural landscapes.

Approximately 90 eucalyptus trees will be removed from the project site as part of geotechnical investigation activities. The tree removal will help reduce fire hazard in the area and minimize risk to life and property, consistent with Section 30253.

As described in a February 3, 2014 Hydraulic Report prepared by Caltrans (**Appendix A**), the lower portion of the site near the river is also subject to tidal influence, tsunami inundation, and rising sea levels. However, the project does not include the construction of new structures or any permanent improvements that might be exposed to flood hazards. The Commission also attaches **Special Condition 5**, which requires the applicant to assume the risks of extraordinary erosion and geologic hazards of the property and waive any claim of liability on the part of the Commission. Given that the applicant has chosen to implement the project despite these risks, the applicant must assume the risks. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit amendment for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand hazards.

⁴¹ <https://www.mendocinocounty.org/home/showdocument?id=6982>

⁴² <http://www.cal-ipc.org/resources/library/publications/ipcw/report48/>

Therefore, the Commission finds that as conditioned, the proposed geotechnical investigation will not create or contribute significantly to erosion, geologic instability, or destruction of the site and the project minimizes risks of geologic and flood hazard consistent with Section 30253 of the Coastal Act.

K. ARCHAEOLOGICAL RESOURCES

Section 30244 of the Coastal Act states:

Where development would adversely impact archeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

The area surrounding the Albion River contains both prehistoric and historic archaeological resources. The area was originally inhabited by the Northern Pomo at the time of European contact. According to information presented in an archaeological late discovery plan prepared for Caltrans (Bean and Theodoratus 1978 in Haney 2016; **Appendix A**), “the Northern Pomo are one of seven groups identified as Pomoan, although each of these groups spoke a separate, distinct language that is part of the larger Hokan linguistic phylum.” Historic sites in Albion River Flat include a lumber mill and the location of the former Albion town including a general store, hotel, businesses and post office established during early settlement by Euro-Americans in the late 1800’s.

In 2015, Caltrans conducted an intensive pedestrian study of a large area surrounding the bridge that encompassed the site of the proposed geotechnical investigation project to evaluate potential archaeological resource areas that could occur within the area. Caltrans has identified two properties within the vicinity of the geotechnical investigation sites.

The first of the two sites (CA-MEN-3645) was investigated for prehistoric cultural resources in 2015 in consultation with the Manchester-Point Arena Rancheria and Sherwood Valley Rancheria and is distant from the most currently-proposed geotechnical investigation sites; the latter tribe provided a monitor during a Phase II archaeological field investigation within CA-MEN-3645⁴³. The second site (CA-MEN-3652H) represents remains of a 19th and 20th century lumber mill and is within the area of potential effect of proposed geotechnical bore hole #5.

The proposed geotechnical project involves both federal and state funding and therefore represents a federal undertaking subject to Section 106 of the National Historic Preservation Act (NHPA). The California Office of Historic Preservation is responsible for administering federally and state mandated historic preservation programs. Caltrans proposes to consider the archaeological site as eligible for inclusion in the National Register of Historic Places for the purposes of the geotechnical investigation work, and has proposed measures that will ensure minimization of the potential for inadvertent damage to site CA-MEN-3652 during geotechnical drilling, as discussed further below. Caltrans consulted with the State Historic Preservation Officer (SHPO) in November 2015, requesting SHPO concurrence that a finding of *No Adverse*

⁴³ Shapiro, L., R. Jackson, and A. Kovak. 2015. *Phase II Archaeological Evaluation Report for Prehistoric Site CA-MEN-3645 for the Albion Bridge Replacement Project; 01-MEN-1, K.P. 69.68-71.13/P.M. 43.30-44.20, EA 01-401100*. Report on file, California Department of Transportation, District 03/North Region, Marysville.

Effect with non-standard conditions is appropriate for the undertaking as a whole. The SHPO concurred with this finding in a letter dated December 9, 2015.

In addition to Caltrans' tribal consultation outreach efforts, Commission staff requested comments from California Native American tribes traditionally and culturally affiliated with the area around Albion River and surrounding environments⁴⁴. Outreach occurred to those tribal contacts known from consultation efforts for previous nearby projects, and included the most recent tribal consultation list contacts received from the Native American Heritage Commission. Commission staff received responses from: (1) Kashia Band of Pomo Indians of Stewarts Point Rancheria indicating the subject project is out of the Aboriginal Territory of the Stewarts Point Rancheria Kashia Band of Pomo Indians; and (2) Sherwood Valley Band of Pomo indicating they would be responding to plans and would contact Commission staff with any questions; no further response has been received as of the date of publication of this staff report.

To evaluate potential resources or features that could conceivably be present in the case of inadvertent discovery during the proposed geotechnical work, a Historical Resource Evaluation Report and Phase II Proposal report were prepared in 2015 for historic site CA-MEN-3652H (Van Bueren; **Appendix A**), and a Late Discovery Plan was prepared in August 2016 (Haney; **Appendix A**). The Late Discovery Plan describes known archaeological sites, and presents procedures for the research design, post-review discovery procedures (including field and laboratory methods), monitoring, and Native American coordination for both archaeological sites described above. **Special Condition 5A** requires the applicant to comply with all recommendations and mitigation measures contained in the archaeological plans prepared by Haney and Van Bueren.

Additionally, to ensure protection of any prehistoric cultural resources that may be discovered at the site during geotechnical investigation activities, the Commission attaches **Special Condition 5B**. This condition requires that if an area of prehistoric cultural deposits is discovered during the course of the project, all activity must cease, and a qualified cultural resource specialist must analyze the significance of the find. To recommence activity following discovery of cultural deposits, the applicant is required to submit a supplementary archaeological plan for the review and approval of the Executive Director to determine whether the changes are *de minimis* in nature and scope, or whether an amendment to this permit is required.

Therefore, the Commission finds that, as conditioned, the proposed geotechnical investigation is consistent with Coastal Act Section 30244, as the authorized development includes reasonable mitigation measures to ensure that the geotechnical investigation will not result in significant adverse impacts to archaeological resources.

⁴⁴ Correspondence was sent December 27, 2016 to 12 federally-recognized and 1 non-federally-recognized ("NFR") tribal contacts, including: Coyote Valley Band of Pomo Indians, Guidiville Band of Pomo Indians, Hopland Band of Pomo Indians, Laytonville Rancheria/Cahto Indian Tribe, Manchester-Point Arena Rancheria, Noyo River Indian Community (NFR), Pinoleville Pomo Nation, Potter Valley Tribe, Redwood Valley Rancheria of Pomo, Sherwood Valley Rancheria of Pomo, Kashia Band of Pomo Indians of Stewarts Point Rancheria, and Stewarts Point Rancheria.

L. REIMBURSEMENT OF COSTS AND FEES

Coastal Act Section 30620(c)(1) authorizes the Commission to require applicants to reimburse the Commission for expenses incurred in processing CDP applications. See also 14 C.C.R. § 13055(g). Thus, the Commission is authorized to require reimbursement for expenses incurred in defending its action on the pending CDP application. Therefore, consistent with Section 30620(c), the Commission imposes **Special Condition 1** requiring reimbursement of any costs and attorneys' fees the Commission incurs in connection with the defense of any action brought by a party other than the Applicant/Permittee challenging the approval or issuance of this permit.

M. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The California Department of Transportation is the lead agency for purposes of CEQA. On June 24, 2016, the Department found the project to be categorically exempt from environmental review pursuant to Section 15306 (Class 6) of the CEQA guidelines.

Section 13906 of the Commission's administrative regulations requires Coastal Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits approval of a proposed development if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. As specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

Appendix A

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Appendix B

Excerpts from the Mendocino County LCP Policies Regarding Visual Resources

Section 30251 of the Coastal Act has been specifically incorporated into **LUP Policy 3.5-1** of the Mendocino LCP and states in part (emphasis added):

...

The scenic and visual qualities of Mendocino County coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas designated by the County of Mendocino Coastal Element shall be subordinate to the character of its setting.

Policy 3.5-3 of the certified LUP states as follows, in applicable part (emphasis added):

The visual resource areas listed below are those which have been identified on the land use maps and shall be designated as "highly scenic areas," within which new development shall be subordinate to the character of its setting. Any development permitted in these areas shall provide for the protection of ocean and coastal views from public areas including highways, roads, coastal trails, vista points, beaches, parks, coastal streams, and waters used for recreational purposes.

- ...
- *Portions of the coastal zone within the Highly Scenic Area west of Highway 1 between the Ten Mile River estuary south to the Navarro River as mapped with noted exceptions and inclusions of certain areas east of Highway 1.*

In addition to other visual policy requirements, new development west of Highway One in designated "highly scenic areas" is limited to one-story (above natural grade) unless an increase in height would not affect public views to the ocean or be out of character with surrounding structures. Variances from this standard may be allowed for planned unit development that provides clustering and other forms of meaningful visual mitigation. New development should be subordinate to natural setting and minimize reflective surfaces. All proposed divisions of land and boundary line adjustments within "highly scenic areas" will be analyzed for consistency of potential future development with visual resource policies and shall not be allowed if development of resulting parcel(s) could not be consistent with visual policies.

CZC Section 20.504.020 states, in applicable part, as follows (emphasis added):

...

(D) The scenic and visual qualities of Mendocino County Coastal Areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal

areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas designated by the County of Mendocino Coastal Element shall be subordinate to the character of its setting. (Ord. No. 3785 (part), adopted 1991)

LUP Policy 3.5-4 states in part the following (emphasis added):

...

Minimize visual impacts of development on hillsides by (1) requiring grading or construction to follow the natural contours; (2) resiting or prohibiting new development that requires grading, cutting and filling that would significantly and permanently alter or destroy the appearance of natural landforms; (3) designing structures to fit hillside sites rather than altering landform to accommodate buildings designed for level sites; (4) concentrate development near existing major vegetation, and (5) promote roof angles and exterior finish which blend with hillside.

LUP Policy 3.5-5 states as follows, in applicable part (emphasis added):

Providing that trees will not block coastal views from public areas such as roads, parks and trails, tree planting to screen buildings shall be encouraged. In specific areas, identified and adopted on the land use plan maps, trees currently blocking views to and along the coast shall be required to be removed or thinned as a condition of new development in those specific areas. New development shall not allow trees to block ocean views.

In circumstances in which concentrations of trees unreasonably obstruct views of the ocean, tree thinning or removal shall be made a condition of permit approval. In the enforcement of this requirement, it shall be recognized that trees often enhance views of the ocean area, commonly serve a valuable purpose in screening structures, and in the control of erosion and the undesirable growth of underbrush.

Section 20.504.015 (“Highly Scenic Areas”) of the certified Coastal Zoning Code (CZC) states as follows, in applicable part (emphasis added):

(A) The visual resource areas listed below are those which have been designated highly scenic and in which development shall be subordinate to the character of its setting:

...

(2) Portions of the Coastal Zone within the Highly Scenic Area west of Highway 1 between the Ten Mile River estuary south to the Navarro River as mapped with noted exceptions and inclusion of certain areas east of Highway 1...

(C) Development Criteria.

(1) Any development permitted in highly scenic areas shall provide for the protection of coastal views from public areas including highways, roads, coastal trails, vista points, beaches, parks, coastal streams, and waters used for recreational purposes.

...

(6) Minimize visual impact of development on hillsides by the following criteria:

- (a) Requiring grading or construction to follow the natural contours;*
- (b) Resiting or prohibiting new development that requires grading, cutting and filling that would significantly and permanently alter or destroy the appearance of natural landforms;*

...

(9) In specific areas, as designated on the Land Use Maps and other circumstances in which concentrations of trees unreasonably obstruct views to and along the ocean and scenic coastal areas, tree thinning or removal shall be made a condition of permit approval

LUP Policy 3.5-2 states in applicable part:

... ..

Other communities and service centers along the Mendocino Coast including Westport, Caspar, Little River, Albion, Elk and Manchester shall have special protection to the extent that new development shall remain within the scope and character of existing development by meeting the standards of implementing ordinances

CZC Section 20.504.020, “Special Communities and Neighborhoods,” states in applicable part:

...

(B) The communities and service centers, designated as CRV or CFV, of Westport, Caspar, Albion, Elk and Manchester, and the additional areas of Little River, Anchor Bay and Gualala, as described below, shall have special protection as set forth in Section 20.504.020(C):

...

(C) Development Criteria.

- (1) The scale of new development (building height and bulk) shall be within the scope and character of existing development in the surrounding neighborhood.*
- (2) New development shall be sited such that public coastal views are protected.*
- (3) The location and scale of a proposed structure will not have an adverse effect on nearby historic structures greater than an alternative design providing the same floor area. Historic structure, as used in this subsection, means any structure where the construction date has been identified, its history has been substantiated, and only minor alterations have been made in character with the original architecture.*
- (4) Building materials and exterior colors shall be compatible with those of existing structures.*

(D) *The scenic and visual qualities of Mendocino County Coastal Areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas designated by the County of Mendocino Coastal Element shall be subordinate to the character of its setting. (Ord. No. 3785 (part), adopted 1991)*