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STAFF REPORT CDP APPLICATION

Application Number:

3-20-0431

Applicant:

City of Capitola

Project Location:

Capitola Wharf just offshore of the City of Capitola

Project Description:

Public access and wharf resiliency improvements consisting of: widening along 458 linear feet of the wharf, including the addition of approximately 120 16-inch fiberglass pilings with polyethylene sleeves and 7,400 square feet of timber decking; separation of pedestrian and vehicular access; repair of boat hoist landing area and replacement of the boat hoist; relocation of the wharf's utilities from beneath to above the wharf's deck; replacement of 21 damaged creosote pilings with new fiberglass piles; repair of 12 steel pilings at the head (terminus) of the wharf; relocation of the existing wharf entryway sign; replacement of existing lighting; installation of a security gate; replacement of existing benches; installation of two new restrooms (one each near the foot and the head of the wharf); removal of derelict creosote pilings located adjacent to the wharf; and a long-term repair and maintenance authorization.

Staff Recommendation: Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

The City of Capitola's municipal wharf extends out into the Pacific Ocean from the City's village area, and it has long supported a variety of visitor-serving commercial uses and

general public recreational access. The wharf is an extremely popular visitor destination, and it forms the boundary between Capitola's Main Beach fronting the village and Hooper Beach at the City's upcoast end. The wharf's relatively low elevation and narrow width make it vulnerable to storm damage and resulting closures. The City proposes various improvements to reduce the wharf's vulnerability, including increasing the wharf's width and the number of piling supports, and relocating the bulk of the wharf's utilities from beneath to above the wharf deck. The project also includes various public recreational access improvements, including better separating pedestrian and vehicular access areas, and also installing new restrooms and larger benches to enhance access. Finally, the City also seeks authorization to allow for ongoing repair and maintenance of wharf structures and also seeks authorization for previous work performed under emergency CDPs.

As a general matter, the proposed improvements will serve to enhance public recreational access while also respecting the character and design values that make the wharf an iconic part of the City's shoreline, and the visitor experience. These improvements are welcome, and fully supportable under the Coastal Act. At the same time, there is the potential for some adverse impacts during construction, including with respect to the effects of pile installation on marine wildlife and the potential for water quality impacts. Fortunately, these construction impacts are readily addressed through BMPs familiar to the Commission from past open water projects such as this (e.g., pre-construction surveys, "soft" construction starts, sound dampening measures, debris containment, marine wildlife exclusion zones/observers, etc.). In addition, for the most major construction, namely the wharf widening activities, construction would avoid the heavily used summer season to avoid the most significant public access impacts. Finally, the City is generally removing old creosote piles and replacing them with inert fiberglass piles, which should greatly benefit water quality and the marine environment.

In short, staff believes that this project should help to strengthen and improve the Capitola Wharf, and by extension public recreational use and enjoyment of it. Therefore, staff recommends approval with conditions to address potential coastal resource concerns, and the City is in agreement with the recommendation. The motion and resolution to effectuate this recommendation are found on **page 4** below.

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EXHIBITS

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Exhibit 2 – Site Photos

Exhibit 3 – Proposed Project Plans

Exhibit 4 – Proposed Mitigation Measures and BMPs

1. MOTION AND RESOLUTION

Staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development. To implement this recommendation, staff recommends a **YES** vote on the following motion. Passage of this motion will result in approval of the CDP as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

***Motion:** I move that the Commission **approve** Coastal Development Permit Number 3-20-0431 pursuant to the staff recommendation, and I recommend a **yes** vote.*

***Resolution to Approve CDP:** The Commission hereby approves Coastal Development Permit Number 3-20-0431 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.*

2. 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 period of time. Application for extension of the permit must be made prior to the expiration date.
- 3. Interpretation.** Any questions of intent or 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.

3. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

- 1. Approved Project.** This CDP authorizes Capitola Wharf improvements as specified in the proposed project materials (see “Application for Coastal Development Permit for the Capitola Wharf Resiliency and Public Access Improvement Project including Maintenance” dated received in the Commission’s Central Coast District Office on July 21, 2020; see Appendix A) as modified by the terms and conditions of the CDP. Following completion of initial construction activities, the wharf shall remain open for general public use and enjoyment 24 hours/day and 365 days/year, except (a) that the portion of the wharf seaward of the security gate (see **Exhibit 3**) may be closed to general public use during nighttime hours (i.e., from one-hour after sunset to one-hour before sunrise); and (b) when the wharf must closed for limited periods of time due to documented public safety reasons, subject to Executive Director concurrence.
- 2. Hydroacoustic Testing Plan.** PRIOR TO ISSUANCE OF THIS CDP, the Permittee shall submit two copies of a Hydroacoustic Testing Plan (HTP) for review and written approval by the Executive Director. The HTP shall outline an underwater hydroacoustic testing program to be implemented during the installation of an initial subset of timber and fiberglass piles using an impact hammer and/or a vibratory hammer to determine the appropriate exclusion zones specific to individual marine species (i.e. cetaceans, sea turtles, sea otters, sea lions, harbor seals, etc.) to be implemented during all future pile driving and related activities at the Capitola Wharf. The HTP shall provide for and include the following elements:
 - a. Determining Exclusion Zones for Future Pile Driving.** The HTP shall identify all underwater hydroacoustic testing parameters to be used for establishing exclusion zones (during the installation of an initial subset of a small number of timber and fiberglass piles using an impact hammer and/or a vibratory hammer) that will be implemented in all future piling installation that uses a vibratory or an impact hammer. Such exclusion zones shall be defined by the distance between the work site and the locations at which the maximum recorded peak sound pressure level (SPL) or cumulative sound exposure level (SEL) falls below the temporary threshold shift (TTS) and permanent threshold shift (PTS) levels for marine species in the area. The maximum SPL or SEL thresholds used to determine the exclusion zones shall be based on the best available science on TTS and PTS levels for special status fish species and the National Oceanic and Atmospheric Administration’s (NOAA) most up-to-date Marine Mammal Acoustic Technical Guidance.
 - b. Exclusion Zones to be Implemented During Hydroacoustic Testing.** The following minimum exclusion zones (EZs) (consistent with the requirements of National Marine Fisheries Service) shall be implemented during all pile driving activities done concurrently with hydroacoustic testing: 1) a 410-meter EZ for all marine mammals species (except sea otters) during fiberglass or timber pile installation with a vibratory hammer; 2) a 100-meter EZ for sea turtles during all

pile driving activities regardless of pile or hammer type; 3) a 63-meter EZ for all marine mammals (except sea otters) during timber pile installation with an impact hammer; and 4) a 63-meter EZ for sea otters during all pile driving activities regardless of pile or hammer type.

- c. **Hydroacoustic Testing Report.** No more than 30 days after the completion of the required initial hydroacoustic testing activities, the Permittee shall submit a hydroacoustic testing report to the Executive Director for review and approval. The report shall include a description of all initial pile driving activities, a description of the hydroacoustic testing equipment and protocols that were used during such activities, the results of the hydroacoustic testing, a determination of the necessary marine wildlife exclusion zones to be implemented during all future pile driving activities, and a description of any observable marine wildlife behavior that took place during hydroacoustic testing activities. The Executive Director shall sign off on all exclusion zones prior to commencement of future pile driving activities.
- d. **Hydroacoustic Testing Parameters.** The HTP shall fully describe the underwater hydroacoustic testing program, the monitoring equipment, the number of proposed hydroacoustic testing sessions, the hydrophone locations along the wharf and in the ocean waters off of the wharf, the distance of hydrophones from active pile work areas, the type of pilings being installed, the type of pile driving hammers being used, and the rationale for how the program will capture a representative amount of readings that address changes in bathymetry and substrate in the waters surrounding the wharf. During hydroacoustic testing, underwater hydroacoustic testing devices (capable of recording both SPL and SEL at the frequencies corresponding with the hearing capabilities of special status fish species and other marine wildlife anticipated to be present in the project area) shall be placed at an array of increasing distances from the site of active pile driving to fully monitor the project area and allow for multiple readings of the SPL and SEL levels associated with temporary and permanent threshold shifts (TTS and PTS).
- e. **Modifying Exclusion Zones.** If during hydroacoustic testing the SPL or SEL threshold levels are exceeded beyond the exclusion zones used during HTP implementation and/or if the Marine Wildlife Monitor (see **Special Condition 3**) observes dead or injured fish in the vicinity of active pile driving operations or otherwise finds that the size of the exclusion zones should be adjusted to be greater than defined in **subsection (b)** above, the EZs shall be expanded and/or the Permittee shall implement additional feasible power reduction and/or sound dampening measures, and the Permittee shall notify the Executive Director of the change.
- f. **Marine Wildlife Monitor (MWM).** The HTP shall identify protocols for communicating hydroacoustic testing results, including any changes in the boundaries of the exclusion zones, to the MWM.

3. Marine Wildlife Protection. PRIOR TO ISSUANCE OF THIS CDP, the Permittee shall prepare a Marine Wildlife Protection Plan (MWPP) for review and written approval by the Executive Director. The MWPP shall incorporate the following parameters to be implemented during all pile driving activities (including during hydroacoustic testing activities) that are done using an impact or a vibratory hammer:

- a. **Soft Starts.** An initial ramp-up period or "soft start" procedure at the commencement of any impact hammer pile-driving activities, or after a break in impact hammer driving of 30 minutes or more, shall be implemented to avoid potential impacts to marine species that may be present in the exclusion zones. The "soft start" shall consist of an initial set of three strikes made by the impact hammer at 40 percent energy, followed by a one-minute waiting period, then two subsequent three-strike sets, before initiating continuous driving. In addition, the pile driver shall employ sound dampening techniques and/or devices (such as wooden blocks, pile cushions, and/or caps) during all impact hammer pile driving activities. An initial ramp-up period or "soft start" procedure shall also apply to vibratory pile-driving activities, except that this shall constitute a gradual ramp up of vibratory intensity.
- b. **Marine Wildlife Monitor.** One qualified marine wildlife monitor (MWM), or more if required to effectively observe all of the identified exclusion zones, shall be present to conduct observations during all pile driving activities. Each MWM shall be a qualified wildlife biologist, approved by the Executive Director, with experience observing marine wildlife and differentiating normal behavior from signs of injury or distress. MWM duties shall be dedicated to observing marine wildlife only, and MWMs shall not be assigned other duties. MWMs shall have the appropriate safety and monitoring equipment (e.g., binoculars) adequate to conduct monitoring activities and shall be located at an effective vantage point in order to observe all exclusion zones without obstruction.
- c. **Construction Halts.** If the MWM(s) observe any marine wildlife within the specified exclusion zones, then the MWM(s) shall notify City staff and/or the pile driving contractor staff as appropriate and require an immediate shut down of pile driving activities. Such activities may restart once such wildlife are observed to have left the specified exclusion zones or are not observed within the specified exclusion zones for at least 30 minutes. If the exclusion zones are not entirely visible (e.g., due to darkness, fog, etc.), pile driving shall not commence or continue to proceed (if it is underway) until visual conditions have improved and the entirety of the exclusion zones is visible to the MWMs.
- d. **Reporting.** MWMs shall maintain a daily log of observed marine wildlife behavior that shall be of sufficient detail to determine whether the project causes observable effects to marine wildlife. A copy of the MWM's logs shall be submitted to the Executive Director when mitigation measures (i.e., shut down or delay of pile driving activities) are implemented five or more times within a seven-day period. At a minimum, the daily log observations shall include: (1) the date

and time that monitored pile driving activity begins and ends; (2) pile driving activities (e.g., the number and type of piles being driven and their location on the wharf, the type of hammer being used (i.e. impact or vibratory) occurring during each observation period); (3) weather parameters (e.g., wind speed and direction, percent sky cover, visibility, precipitation, etc.); (4) ocean conditions (e.g., water level fluctuation, tide, etc.); (5) a map showing species, numbers, location, and, if possible, sex and age class of all observed marine wildlife; (6) a description of any observable marine wildlife behavior patterns, including those in response to pile driving activities, including their location and distance relative to the work site, direction of travel, and if possible, the correlation of behavior to SPLs; (7) a description of implementation of any required mitigation measures (e.g., shutdown or delay of piling driving activities, etc.); and (8) a description of other human activities in the area (e.g., fishing, diving, swimming, etc.). A final report summarizing the results of monitoring activities shall be submitted to the Executive Director following completion of construction activities. The report shall include daily log observations from MWMs, descriptions of any project delays or cessation of operations due to the presence in the project area of marine wildlife subject to protection, and an evaluation of monitoring protocol effectiveness all determined by the MWMs.

The requirements of the approved MWPP shall be implemented during all pile driving activities at the wharf.

4. Nesting Bird Protection. Nesting birds and their nests shall be protected during construction by use of the following measures:

a. Nesting Bird Surveys. For any construction work that would occur during the avian breeding season (i.e., February 15th to September 1st), pre-construction surveys shall be completed by a qualified wildlife biologist, approved by the Executive Director, with experience in observing reproductive and nesting behavior to identify displays of nesting behavior and/or active nests (i.e., as occupied by eggs or nestlings). The following shall apply:

- 1. Timing.** Surveys shall commence no more than 30 days prior to the initiation of construction and may occur weekly thereafter over the breeding season, with the last survey occurring no more than 72 hours prior to the start of construction in any given area. The Permittee shall submit all nesting bird surveys to the Executive Director within 7 days of completion.
- 2. Coverage.** Surveys may be focused on specific work areas rather than necessarily covering the entire wharf, and they may be sequenced as needed to address specific work areas and schedules over the course of the breeding season. Surveys shall be performed extending 300 feet from the project work area to locate any active non-raptor nests and within 500 feet to locate any active raptor (bird of prey) nests, including areas above the wharf's deck (e.g., rooftops, eaves, etc.) and below the wharf's deck (e.g., substructures viewed from the water), as well as adjacent bluffs meeting the distance criteria.

- b. Nest Identification and Buffers.** If it is determined that construction may affect active nests, the qualified biologist shall establish a no-disturbance buffer around the nests and all project work shall halt within the buffer until the qualified biologist determines the nest is no longer in use. These buffer distances are 300 feet for non-raptors and 500 feet for raptors, unless evidence is provided to the Executive Director to conclusively show that a different distance is appropriate, and the Executive Director concurs with that determination. Maps identifying the location of any active nests detected shall be provided, showing the date of survey and nest stage (e.g., eggs, nestlings, etc.) and all buffers.
 - c. Buffer Exceptions.** Minor maintenance and repair efforts limited to the use of hand tools and light power tools (e.g., hand drills but not jack-hammers or power saws) is allowed within established buffers, provided that a buffer of no less than 50 feet within which no activity is allowed shall be applied to active nests in consultation with the qualified biologist. In addition, blinds and similar materials shall be placed between the active nests and the work area to avoid visually disturbing nesting birds. The placement of the blinds shall be overseen by the qualified biologist, who will observe nest sites and parent behavior over the course of activities, or until he/she is satisfied that the nesting birds will not be significantly disturbed by the work in that area. Any birds that begin nesting within an active construction area or buffers amid construction activities may be assumed to be habituated to construction-related noise and disturbance levels. No prescribed buffers are required to be established around active nests in these cases; however, further encroachment shall be avoided, the nests shall continue to be monitored by the qualified biologist and if the nesting birds begin to show distress associated with construction activities, then the prescribed no-disturbance buffers shall be reestablished.
 - d. Construction Halts.** If under any circumstances either construction staff or the qualified biologist observe signs of nesting distress (e.g., parents flush from the nest and do not readily return as activities continue, anxious warning calls, etc.), then work shall be stopped immediately, and the qualified biologist shall consult with the Executive Director to determine necessary modifications to activities. Activities shall resume only after the biologist is satisfied that the modifications are sufficient to avoid continued disturbance to the nests.
 - e. Reporting.** Annual monitoring reports shall be provided to the Executive Director within 90 days of construction completion and shall include: the maps from each nest survey conducted that year; a brief narrative describing the survey methods and observations of the species' tolerances to noise, vibration, and visual disturbance cues; a record of maintenance and repair activities carried out during the nesting season, including their location relative to active nests; and a discussion of any incidents have resulted in a need for further consultation with the qualified biologist and/or the Executive Director.
- 5. Construction Plan.** PRIOR TO CONSTRUCTION, the Permittee shall submit two copies of a Construction Plan to the Executive Director for review and written

approval. The Construction Plan shall, at a minimum, include and provide for the following:

- a. **Construction Areas.** The Construction Plan shall identify the specific location of all construction areas, all staging areas, and all construction access corridors in site plan view. All such areas within which construction activities and/or staging are to take place shall be minimized to the fullest extent feasible in order to have the least impact on public access to and along Capitola Main Beach, Hooper Beach, the Pacific Ocean, and other coastal resources. Special attention shall be given to siting and designing construction areas in order to minimize impacts on the ambiance and aesthetic values of the shoreline area, including but not limited to public views in the beach area.
- b. **Construction Methods.** The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep construction areas separated from public use areas as much as possible (including through use of unobtrusive fencing and/or other similar measures to delineate construction areas). The plan shall also include verification that equipment operation and equipment and material storage will not significantly degrade public views or beach ambiance during construction. The Plan shall limit construction activities to avoid coastal resource impacts as much as possible.
- c. **Construction Timing.** The Construction Plan shall provide that all work shall take place during non-weekend/holiday and non-summer (i.e., the day after Labor Day to the Friday prior to the Memorial Day weekend, inclusive) days during daylight hours (i.e., from one-hour before sunrise to one-hour after sunset) except that wharf widening and rehabilitation may include work on Saturdays. The Executive Director may also authorize non-pile-driving and non-in-water nighttime work due to demonstration of extenuating circumstances, and subject to all appropriate mitigation measures to minimize lighting of coastal water and beaches, and to avoid coastal resources impacts, as much as possible.
- d. **Construction Best Management Practices (BMPs).** The Construction Plan shall identify the type and location of erosion control/water quality best management practices that will be implemented during construction to protect coastal water quality and related coastal resources, including at a minimum all of the following:
 1. **Equipment BMPs.** Equipment washing, refueling, and/or servicing shall take place at an appropriate location inland of the beach to prevent leaks and spills of hazardous materials at the project site, preferably on an existing hard surface area (e.g., a road) or an area where collection of materials is facilitated. All construction equipment shall also be inspected and maintained at a similar inland location to prevent leaks and spills of hazardous materials at the project site.

- 2. Good Housekeeping BMPs.** The construction site shall maintain good construction housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain (including covering exposed piles of soil and wastes); dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the project site; etc.).
- 3. Selection of Treated Wood.** For all components of the wharf that the applicant proposes to construct using preservative-treated wood, a type of treated wood shall be selected that minimizes the risk of aquatic and sediment toxicity.
 - a. All treated wood shall be treated to the standards of the lowest appropriate "Use Category" for each component, to ensure that the treated wood does not exceed the minimum preservative retention level. This will minimize the amount of preservative in the wood that may leach into coastal waters. Use Categories, as specified by the American Wood Protection Association, are based on factors such as whether the wood is subject to saltwater splash vs. immersion, and whether the component is critical and difficult to replace.
 - b. Where available, only treated wood that has been certified as produced for use in aquatic environments shall be used (as indicated by a BMP Quality Mark or Certificate of Compliance), in accordance with industry standards such as the Best Management Practices for the Use of Treated Wood in Aquatic and Wetland Environments by the Western Wood Preservers Institute, et al.
- 4. Construction Using Treated Wood in the Aquatic Environment.** Treated wood sawdust and debris shall not be allowed to enter coastal waters. If treated wood is saw-cut, drilled, or sanded during demolition, removal, installation, or maintenance of the docks, all sawdust and debris generated shall be contained and removed. Field-treatment of Copper Naphthenate preservative shall be applied sparingly to cut ends and drilled holes in treated wood, and drips or spills of Copper Naphthenate shall not be allowed to enter coastal waters. Treated wood and treated wood debris shall be stored a minimum of 50 feet from coastal waters, drainage courses, and storm drain inlets; shall be stored on an impervious surface; and shall be covered during rain events.
- 5. Rubber-tired Construction Vehicles.** Only rubber-tired construction vehicles are allowed on the beach and in the intertidal zone, except track vehicles may be used if the Executive Director determines that they are required to safely carry out construction.

- 6. Construction Material Storage.** All construction materials and equipment placed on or adjacent to the beach during daylight construction hours shall be stored beyond the reach of tidal waters. All construction materials and equipment shall be removed in their entirety from these areas by one hour after sunset each day that work occurs.
- 7. Debris Containment and Disposal.** All debris shall be effectively contained, collected, and properly disposed of. For all work over sandy beach areas, containment netting or similar measures shall be placed under the wharf to collect such debris, including to avoid debris contact with beach areas. For all work over ocean areas, such containment netting and/or other floating containment measures (contained via booms, boats, or a combination of same) shall be applied to avoid debris making it into the ocean. Tarps or other devices shall be used to capture all debris, sawdust, oil, grease, rust, dirt, drips, and spills resulting from overwater construction and demolition activities, to protect the quality of coastal waters. Any such debris that makes it to the ocean shall be immediately collected (e.g., from a boat using seine nets).
- e. Restoration.** All sandy beach and other public recreational use areas and all beach access points impacted by construction activities shall be restored to their pre-construction condition or better within three days of completion of construction. Any native materials impacted shall be filtered as necessary to remove all construction debris.
- f. Construction Site Documents.** The Construction Plan shall provide that copies of the signed CDP and the approved Construction Plan be maintained in a conspicuous location at the construction job site at all times, and that such copies be available for public review on request. All persons involved with project construction shall be briefed on the content and meaning of the CDP (including explicitly its terms and conditions) and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.
- g. Construction Coordinator.** The Construction Plan shall provide that a construction coordinator be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and that his/her contact information (i.e., address, phone numbers, email address, etc.) including, at a minimum, a telephone number (with message capabilities) and an email that will be made available 24 hours a day for the duration of construction, is conspicuously posted at the job site where such contact information is readily visible from public viewing areas while still protecting public views as much as possible, along with indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the contact information (e.g., address, email, phone number, etc.) and nature of all complaints received

regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry. All complaints and all actions taken in response shall be summarized and provided to the Executive Director within one week of receipt of the complaints.

- h. Construction Specifications.** The construction specifications and materials shall include appropriate provisions that require remediation for any work done inconsistent with the terms and conditions of the CDP.
 - i. Notification.** The Permittee shall notify planning staff of the Coastal Commission's Central Coast District Office at least three working days in advance of commencement of construction, and immediately upon completion of construction.
- 6. Ongoing Repair and Maintenance.** This CDP authorizes future maintenance as described in this special condition. The Permittees acknowledge and agree on behalf of themselves and all successors and assigns that it is the Permittee's responsibility to: (a) maintain the approved project and all related development in a structurally sound manner, and in their approved and required states.
- a. Maintenance.** "Maintenance," as it is understood in this condition, means development that would otherwise require a CDP whose purpose is to repair and/or maintain the overall permitted structure including specifically: replacement of up to five piles per year (with up to two piles being driven in any one day); replacement of up to 10 percent of decking (approximately 3,500 square feet) per year; replacement of up to 300 linear feet of deteriorated stringers per year; replacement of up to 200 linear feet of railing per year; repair of the under-wharf sewage pump; repair of any damaged utility lines; and maintenance of coating on the treated wood decking (see below).
 - b. Maintenance of Coating on Treated Wood Wharf Decking.** The polyurea/Arcisoy or other non-toxic sealant applied to the ACZA-treated wood used for the wharf decking (to seal the treated wood and thereby reduce leaching of the preservative chemicals into coastal waters) shall be periodically monitored during the life of the structure, and shall be repaired or replaced if it begins to deteriorate.

 1. Application of coatings or sealants to treated wood shall be conducted a minimum of 50 feet from coastal waters, drainage courses, and storm drain inlets, if feasible. Overwater application of coatings to treated wood shall be minimized. If a coating or sealant must be reapplied to treated wood overwater, containment devices shall be used to prevent any potential drips or spills from entering the water below.
 2. To the extent feasible, treated wood shall not be pressure-washed, sanded, or scraped, as this may increase the leaching of wood preservatives and the discharge of treated wood particles into coastal waters. If treated wood is

- sanded or scraped for repair or maintenance, all sawdust and debris generated shall be contained and removed, to prevent treated wood particles from entering the water below.
3. Deck cleaners and brighteners, especially those containing acid-based or highly oxidizing chemicals (such as bleach, sodium hydroxide, sodium percarbonate, oxalic acid, and citric acid) shall not be used for maintenance of treated wood, as they may increase the leaching of wood preservatives, and contain chemicals that may directly harm aquatic life.
 - c. **CDP Duration for Ongoing Repair and Maintenance Activities.** The ongoing repair and maintenance activities authorized by this CDP may take place for five years from the date of Commission approval (i.e., until July 8, 2026). The CDP duration for ongoing repair and maintenance activities may be extended if a CDP amendment application is submitted and the permit is extended prior to July 8, 2026.
 - d. **Annual Work Plan Reports.** The Permittee shall submit, for review and written approval by the Executive Director, an Annual Work Plan that includes project plans and lists of all anticipated activities for the upcoming repair cycle within 90 days prior to commencement of construction activities. The Permittee shall also submit, for Executive Director review and approval, a Post-Activity report within 90 days of construction completion that compares the anticipated activities with those completed during the repair cycle. The Post-Activity report shall include a description of any issues encountered in terms of ensuring compliance with that year's Annual Work Plan.
7. **Army Corps of Engineers Approval.** PRIOR TO CONSTRUCTION, the Permittee shall submit written evidence that the United States Army Corp of Engineers (ACOE) has authorized the proposed project or that no such authorization is required. The Permittee shall inform the Executive Director of any changes to the project required by ACOE, and any such changes shall not be incorporated into the project until the Permittee obtains a Commission amendment to this CDP, unless the Executive Director determines that no amendment is legally required.
8. **Minor Modifications.** The Permittee shall undertake development in conformance with all of the above conditions and approved plans. Minor adjustments to the terms and conditions of this CDP may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; (2) do not adversely impact coastal resources; and (3) do not legally require a permit amendment.

4. FINDINGS AND DECLARATIONS

A. Project Location, Background, and Description

Project Location

The City of Capitola's municipal wharf extends out into the Pacific Ocean from the City's village area, and has long supported a variety of visitor-serving commercial uses and general public recreational access in central Santa Cruz County, about 350 feet upcoast from where Soquel Creek meets the ocean. The wharf extends seaward into the Monterey Bay within the Monterey Bay National Marine Sanctuary, the largest marine sanctuary in the United States. The wharf is also located directly between and seaward of two of the City's most popular beaches, namely Hooper Beach (upcoast of the wharf) and Main Beach (downcoast of the wharf), which offer a host of beach recreational opportunities. The foot of the wharf is immediately adjacent to the Capitola Venetian Hotel and the Capitola Beach Suites, which include a mix of hotel and short-term rentals/private residences and coastal access pathways. The wharf is also just seaward of Capitola Village, which is a very popular visitor destination, offering a variety of popular restaurants, galleries and shops. Though the wharf extends out into the Pacific Ocean below the mean high tide line, the project site is owned by the City of Capitola because the submerged lands were originally granted to the County of Santa Cruz in 1935 and were subsequently transferred to the City in 1974. See **Exhibit 1** for an aerial photo of the project vicinity and **Exhibit 2** for photos of the wharf and its surroundings.

Wharf Background

The wharf is approximately 866 feet long, beginning at the foot of the wharf (i.e., where it connects to the road and beach parking area) and extending to the head of the wharf (i.e., the seaward most extent of the wharf). The wharf is generally made up of two distinct sections: the trestle and the wharf head. The wharf trestle, which consists of the narrowest part of the wharf nearest the shore, is approximately 543 feet long and mostly about 20 feet wide (other than the initial 85-foot section at the foot of the wharf that is 36 feet wide). The trestle then transitions to the wharf head, which is 60 feet wide and extends another approximately 323 feet into the ocean. The Wharf House Restaurant, Capitola Boat and Bait (which offers gear and boat rentals), a boat launch/hoist, a summer boat dock, as well as a small parking area and restroom facilities, are all located on the wharf head.

The wharf is supported on creosote-treated piles that range from 12 to 14 inches in diameter that are aligned in 12-foot spaced rows (i.e., "bents") perpendicular to the wharf's centerline. Along the trestle, there are typically three piles per bent, and along the wharf head there are typically six piles per bent. However, at the terminus of the wharf head (i.e., the seaward-most portion of the wharf) there are twelve 14-inch diameter steel piles that were installed to increase the stiffness of the wharf's seaward-most area to resist wave energy and associated wave deflection. All piles support 10-foot by 12-foot timber cap beams (pile caps) that span across each bent, and the caps support 6-foot by 12-foot stringers that support the wharf's numerous 3-foot by 12-foot decking planks.

The wharf's deck is situated at an elevation that is only about 20 feet above Mean Lower Low Water (and thus only about 17 feet above mean sea level), meaning that the deck is actually below the crest elevation of incoming waves that are experienced during large storm events. As a result, the wharf is regularly at risk of being damaged during storm events. On this point, the wharf has regularly experienced damage to the supporting foundation piles during winter storms, including when floating logs batter the piles. Depending on the severity of the storm, the wharf has periodically sustained closure until storms abate and necessary repairs can be made. The section of the pier containing the narrower trestle (i.e., the section with only three supporting piles per bent) is the most susceptible to storm damage, and it has endured repeated damage resulting in sustained wharf closures. Wharf closures have occurred up to twice a year and result in the loss of public access and recreational opportunities offered by the wharf, including for walking, fishing, and sightseeing, but also in terms of access to the restaurant, equipment rental, and related activities facilitated by the visitor-serving commercial operations at the wharf head.

Project Description

The purpose of the proposed project is multi-faceted and includes aspects that will improve the wharf's resiliency, enhance public safety, and improve public recreational access, including related to structural repairs and the removal of derelict piles, as well as ongoing and longer-term wharf maintenance activities as needed. Specifically, the proposed project entails:

Wharf Widening, Resiliency, and Access Improvements

- Widening 458 linear feet of the wharf trestle from 20 feet to 36 feet to match the width of the 85-foot-long portion of the trestle located at the foot of the wharf, including installation of up to 120 16-inch fiberglass piles with high-density polyethylene sleeves¹ to support the widened wharf area, and installation of approximately 7,400 square feet of new treated timber decking² in the widened wharf area
- Separation of vehicular and pedestrian travel via creation of a bonified public pathway and a vehicular travel lane
- Relocation of the wharf's utilities (i.e., water, sewer, and electric, except for the wharf's sewer pump) from beneath to above the wharf's deck to protect the utilities from wave damage.³

¹ The purpose of the high-density polyethylene sleeves is to protect the pilings from UV rays and from battering from logs and other ocean debris.

² The new timber decking would be treated with Ammoniacal Copper Zinc Arsenate (ACZA), and it would be coated with either polyurea or a non-toxic sealant such as Acri-soy. The ACZA decking with polyurea/Acri-soy coating is less desirable than untreated wood or wood alternatives; however, it was deemed acceptable for use here due to added special conditions that require regular monitoring and maintenance of the polyurea coating.

³ The utilities will be located on the western exterior side of the wharf to limit potential visual and public access impacts.

- Installation of two new modular restroom units (each with three stalls) that are roughly 144 square feet and 8 feet tall, one each at the foot and the head of the wharf
- Replacement of damaged timber piles with new fiberglass piles and associated metal connection hardware in the boat hoist landing area.
- Repair⁴/replacement of 21 twelve-inch-diameter damaged creosote piles with 21 twelve-inch-diameter ACZA treated and polyurea-coated⁵ timber piles or with fiberglass piles if available
- Repair of 12 existing steel piles by either splicing on new steel piping around the piles or by placing fiberglass jackets around the piles and pumping in grout
- Replacement of 26,500 square feet of existing ACZA-treated decking (i.e., all decking outside of existing building footprints) in kind; placement of 4,500 square feet of new decking on top of existing decking to serve as vehicle runners
- Replacement of up to 260 linear feet of pile caps and 680 linear feet of stringers
- Installation of a new nighttime security gate where the wharf trestle meets the wharf head⁶
- In-kind replacement of lighting
- Replacement of 34 existing standard benches (each accommodating a maximum of two people, and thus seating capacity for 68) with 24 standard benches and 12 larger benches (each accommodating up to five people) for a total seating capacity of 108
- Installation of bird spikes to deter roosting/nesting underneath the wharf to meet water quality objectives regarding bacteria levels
- Relocation of the decorative wharf entry sign closer to the foot of the wharf

⁴ Repair of damaged piles would only occur if the pile is located beneath either of the wharf's buildings. Repair of damaged piles entails installing a fiberglass jacket around each pile. Each fiberglass jacket would then be filled with marine-grade grout to repair the deteriorated portion of the pile. The jackets would extend above the high tide line to allow grout placement without grout entering the Monterey Bay. Pile jacket installation would be performed by a diver with use of a small boat. Grout would be injected via a sealed hose and equipment located either on the wharf above or on the shore.

⁵ Polyurea coating is a marine grade coating designed to encapsulate treated lumber and timber piles to prevent preservatives from migrating into the environment and protecting the lumber and timber piles from abrasion and mechanical damage.

⁶ A security gate was originally installed in the 1990s and then modified in 2000 at this same location to address security and prevent vandalism of the Capitola Bait and Tackle shop and the Wharf House Restaurant per the recommendation of the Capitola Chief of Police. Neither the original gate nor the modified gate was authorized via a CDP, and thus the Applicant is requesting after-the-fact (ATF) authorization for this aspect of the proposed project (i.e., both the gate and the overnight restriction of access past the gate).

Ongoing Repair and Maintenance⁷

- Replacement of up to five piles per year (with up to two piles being driven in any one day)⁸
- Replacement of up to 10 percent of decking (approximately 3,500 square feet) per year
- Replacement of up to 300 linear feet of deteriorated stringers per year
- Replacement of up to 200 linear feet of railing per year
- Repair of the under-wharf sewage pump (which will remain in place below the wharf's deck)
- Repair of any damaged utility lines (e.g., electric, water, sewer, etc.)

Derelict Pile Removal

- Removal of 30 derelict creosote-treated piles adjacent to the wharf (and no longer supporting wharf structures) that are embedded approximately 20 feet deep in the substrate. The City will attempt to remove these piles from the wharf's deck using a mobile crane. If the piles cannot be reached from the wharf's deck, then a track-mounted crane will access the piles from the beach or from a barge at low tide. A vibratory hammer would be used to break the piles free. Because the piles are tapered, once they are broken free from the sediment, they will be extracted by lifting upwards. It is anticipated that most of the piles will be removed fully, however if the pile breaks during removal it will be cut below the mudline. It is estimated that approximately five to ten piles could be removed per day. Therefore, removal of up to approximately 30 creosote treated piles would take a maximum of six days.

Regular CDP Authorization for Emergency CDP (ECDP) Repairs

- Authorization of a temporary wharf closure (for approximately 20 days in 2017) and repairs completed pursuant to ECDP G-3-17-0037, including the replacement of one wooden piling and one steel piling

⁷ The City is not proposing a specific length of term that the maintenance program would be in effect.

⁸ The City proposes the potential use of three different types of pile driving methods, specifically: vibratory, hydraulic jetting, and impact pile driving. According to materials submitted by the City, dense layers of sand have been observed beneath the wharf, which could make pile driving difficult and time consuming. The inclusion of hydraulic jetting as another pile driving method would allow the contractor to modify pile driving methods if deemed necessary to address sand deposition issues. Hydraulic jetting works by directing pressurized water flow down the pile to the substrate directly beneath it. Hydraulic jetting liquefies the substrate at the pile tip, reducing friction and causing the pile to descend downwards under its own weight. Hydraulic jetting can decrease pile driving time and the number of impact blows required to drive piles. Hydraulic jetting would be used during periods of energetic wind and wave action along the portions of the wharf nearest the sandy beach as well as the Soquel Creek outlet, which discharges high levels of sand into the ocean. Given the larger grain sizes of the sand that enters the ocean from the beaches and Soquel Creek, some of which settles in the substrate under the wharf, turbidity during hydraulic jetting activities is anticipated to be localized and temporary.

- Authorization of a temporary wharf closure (for approximately five days in 2020) and installation of a beam underneath the wharf to stabilize the boat hoist and the wharf area surrounding the boat hoist (to prevent these from falling into the ocean) completed pursuant to ECDP G-3-20-0001
- Authorization of a temporary wharf closure (for approximately 20 additional days in 2020) and the replacement of four pilings, all completed pursuant to G-3-20-0019.

To avoid impacts during the busy summer tourist season, the wharf widening and major repairs and improvements (not including ongoing regular maintenance over time) would be completed concurrently for up to nine months beginning in September and concluding in May. Construction work would occur Monday through Friday between 7:30 AM and 5:00 PM, and on Saturday between 9:00 AM and 4:00 PM. No construction would take place on Sundays. Work that depends on the low tide cycle may take place outside of these hours with approval from the City's Department of Public Works and a minimum of five days advance request for such. The wharf would be closed to public access during the duration of such construction due to the risk of construction hazards.

The proposed project would require the use of cranes, a diesel-powered impact pile driver, and a vibratory hammer for pile driving, power chain saws, pneumatic tools, electric power tools, and hand tools. Work would be performed from the wharf deck to the maximum extent practical with small boat assistance as needed or via a barge-mounted crane. In-water repairs would be performed by a diver utilizing a small boat. Staging would occur on the wharf's deck or from a floating barge. Construction equipment and materials would be transported via truck along the wharf's deck or by barge.⁹

See **Exhibit 3** for the proposed project plans.

B. Standard of Review

The proposed project is located seaward of the mean high tide line (MHTL) within the Commission's retained CDP jurisdiction¹⁰. The standard of review for development within the Commission's retained jurisdiction is Chapter 3 of the Coastal Act.

C. Coastal Act Use Priorities

Applicable Coastal Act Provisions

The Coastal Act provides a hierarchy of uses, including prioritizing some uses over others. Coastal-dependent and coastal-related uses and development are some of the Act's highest priorities, and are defined as follows:

⁹ The use of a barge is not anticipated but may be preferred by the selected contractor.

¹⁰ The foot of the wharf does extend landward of MHTL; however, the proposed project is limited to work seaward of the MHTL.

Section 30101: "*Coastal-dependent development or use*" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.

Section 30101.3: "*Coastal-related development*" means any use that is dependent on a coastal-dependent development or use.

The Coastal Act's enumerated goals in Chapter 1 also speak to such uses, as well as public recreational use and coastal resource protection more generally. Coastal Act Section 30001.5 states, in relevant part:

Section 30001.5: *The Legislature further finds and declares that the basic goals of the state for the coastal zone are to:*

(a) *Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources....*

(c) *Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.*

(d) *Assure priority for coastal-dependent and coastal-related development over other development on the coast...*

Coastal Act Sections 30234 and 30234.5 also provide specific protections for boating and fishing. They state:

Section 30234: *Facilities serving...recreational boating industries shall be protected and, where feasible, upgraded. Existing...recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.*

Section 30234.5: *The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.*

Analysis

The wharf accommodates a variety of coastal-related and coastal-dependent activities, including recreational fishing¹¹ and boating. In addition to the fishing opportunities provided more generally by the wharf, Capitola Boat and Bait, one of a few businesses on the wharf, offers kayak, boat, and fishing equipment rentals, small private boat launch (for boats up to eighteen feet in length), paddleboard, boogie board, and wetsuit

¹¹ The Capitola Wharf does not support commercial fishing due to its relatively small size. Commercial fishing operations based in Santa Cruz County instead rely on the Santa Cruz Small Craft Harbor, which is located approximately three miles west of the Capitola Wharf in the City of Santa Cruz.

rental, and mooring rentals offshore (hourly, nightly, weekly, or seasonally (May 1st to September 30th)). Recreational activities and related waterfront activities on the wharf generate jobs, provide recreational opportunities, and draw tourists from around the world. The proposed project supports coastal-dependent and coastal-related uses, and it is integral to the continuation of such uses. Further, boating and fishing are coastal-dependent priority uses under the Coastal Act, and the continuation of these uses require a safe and stable wharf. Overall, the wharf also provides significant public recreational access opportunities. All of which is consistent with the Coastal Act's use priorities. Accordingly, the proposed project, which includes both resiliency improvements and provides for ongoing maintenance, is considered a high priority under the Coastal Act.

Coastal Act Section 30234 calls for the protection of boating facilities, and it provides that such facilities shall be updated where feasible. Relatedly, Coastal Act Section 30234.5 recognizes the economic, commercial, and recreational importance of fishing activities. In terms of consistency with Coastal Act Sections 30234 and 30234.5, the wharf supports both recreational fishing and boating activities and industries. In recent years, the Capitola Wharf has been forced to close due to pile damage stemming from winter storms, especially along the narrowest trestle section of the wharf (i.e., the stretch of wharf that would be widened under the proposed project), which is currently supported by only three piles per bent. If one or more of those three pilings is significantly damaged or broken completely, the integrity of the wharf is significantly compromised, prompting partial or complete closure of the wharf. There have been times where all three pilings in a bent have been severely damaged or completely broken, thereby significantly comprising the integrity of the wharf and resulting in extended closure of the wharf and cessation of the recreational boating/fishing industries and activities supported by the wharf. Accordingly, the proposed project seeks to widen the wharf along its narrowest and most vulnerable section from three piles per bent to six piles per bent, thereby substantially bolstering its stability and resiliency, with the goal of reducing the frequency and duration of wharf closures, which in turn will mean fewer disruptions in the recreational fishing and boating activities at the wharf.

Similarly, other components of the proposed project including the relocation of the wharf's utilities from beneath to above the wharf's deck, and the proposal to allow any necessary repair and maintenance activities to be implemented under this permit (as opposed to individual emergency permits) will allow for more efficient implementation of such activities and will help minimize potential impacts to recreational fishing/boating activities and industries. While Coastal Act Section 30610 provides exemptions from CDP requirements for certain routine repair and maintenance activities in order to facilitate ongoing work that does not involve a risk of substantial adverse environmental impact, Section 13252 of the California Coastal Commission's regulations requires a CDP for repair and maintenance in this case because the proposed activities are located in, adjacent to, and above coastal waters, and thus the proposed activities involve a risk of substantial adverse environmental impact.

The proposed repair and maintenance activities are limited to necessary structural

maintenance as needed in the future to restore the wharf to its original capacity and to ensure safe and reliable continued and future use of wharf. Such repair and maintenance activities will also reduce the need for emergency repairs. Subject to conditions, this CDP allows the City of Capitola to proceed with repair and maintenance activities on the wharf that are essential to maintaining and operating the wharf's recreational fishing and boating activities. Therefore, the Commission finds that this project implements, and is consistent with, the Coastal Act's use priorities as articulated above, including Sections 30234 and 30234.5.

D. Public Access and Recreation

Applicable Coastal Act Provisions

As indicated above, one of the Coastal Act's enumerated goals is to maximize public recreational use and enjoyment in the coastal zone. To do so, the Coastal Act requires that public recreational access opportunities be maximized, and specifically protect public recreational activities in coastal areas, such as the boating, fishing, and visitor-serving activities and opportunities found on the Capitola Wharf. Applicable provisions include:

Section 30210. 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. 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 30213. Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred...

Section 30220. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30221. Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Section 30223. Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

Section 30224. Increased recreational boating use of coastal waters shall be

encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

These overlapping Coastal Act policies protect public recreational access to and along the beach/shoreline and to offshore waters for public recreational access purposes, particularly free and low-cost access. Importantly, the Coastal Act Section 30210 direction to maximize access and recreational opportunities represents a different threshold than to simply provide or protect such access, and it is fundamentally different from other like provisions in this respect. Namely, it is not enough to simply *provide* access to and along the coast, and not enough to simply *protect* access; rather such access must also be *maximized*. This terminology distinguishes the Coastal Act in certain respects, and it provides fundamental direction with respect to projects along the California coast that raise public access issues, like this one.

Analysis

Capitola Village is an extremely popular visitor destination along California's central coast. These visitors come not only for the Village's quaint coastal architecture, and its shops and restaurants fronting the shoreline, but also its family friendly beaches and offshore surf areas, and the wharf itself. The Capitola Wharf provides for general public access along its entire length, including to take in the expansive view of the shoreline, the village, and the Monterey Bay that it provides, as well as a variety of distinct public access and visitor-serving uses and amenities (including boating and fishing, and a wharf-end restaurant).¹² The wharf is open to the general public free of charge at all times, and it is a beloved and heavily used public facility.

The proposed project, which consists of wharf widening, rehabilitation, and ongoing repair and maintenance activities, will protect and enhance the significant public access and recreation opportunities and facilities provided by the wharf. In terms of enhancement, the proposed wharf expansion will allow for better separation of pedestrian and vehicular traffic, and more generally increase the space available to the public to recreate (given vehicle traffic on the wharf is pretty limited to non-existent most of the time overall). The project also includes replacing the wharf's 34 benches with 36 new benches (12 of which will be able to accommodate 5 people, thus increasing overall seating availability by 40 seats), and replacing the wharf's one restroom with two restrooms (each with three stalls, one each at the foot and seaward end of the wharf). Further, the proposed wharf widening (which will increase the wharf's structural support) and the relocation of the utilities from beneath to above the wharf's deck (where they

¹² Capitola Boat and Bait offers various equipment and sporting rentals, mooring leases, and small boat launching via the boat hoist. The Wharf House Restaurant provides breakfast, lunch and dinner, and sometimes live music on a roof deck, all with expansive Monterey Bay views.

will be less subject to storm waves) should reduce the wharf's vulnerability to storms, resulting in fewer wharf closures and thus increased public access.

In addition, the Applicant proposes to remove 30 derelict creosote piles located adjacent to the wharf that periodically become exposed when the sand elevation is low and during lower tides. These piles not only present water quality challenges due to the creosote, but they also interfere with public beach use, and can be a dangerous hazard to beach goers, especially when they are just below the surface but not visible. The removal of these derelict piles will open up additional beach space that can be used for public recreational access, and potential safety issues associated with their continued presence will be appropriately mitigated.

Although the proposed improvement project (i.e., wharf widening, rehabilitation, and ongoing maintenance, the addition of benches and restrooms, and derelict pile removal) will improve public access and recreational opportunities at the wharf over the long-term, the proposed project will nevertheless temporarily disrupt coastal access and recreational opportunities during construction activities in the short term. Most notably, the wharf will be closed for the duration of wharf widening and wharf resiliency activities—an estimated timeframe of up to nine months. Although this closure is necessary given the scale of renovation and expansion, to mitigate for impacts to public access and parking, **Special Condition 5c** requires construction to avoid the busy summer season (i.e., construction will begin after Labor Day and conclude prior to the start of the Memorial Day weekend).

The proposed project also includes a request for ATF authorization for the installation of a new security gate at the head of the wharf where the wharf's businesses and boat hoist are located.¹³ The existing unpermitted to-be-replaced security gate was installed following recommendation by Capitola's Chief of Police following repeated vandalism to the wharf's businesses. The security gate allows for night-time closure of the head of the wharf where the wharf's two businesses are located. Although the head of the wharf would be closed during night-time hours, the remainder of the wharf would remain open for use 24 hours/day and 365 days/year (unless closure is necessary for safety reasons). Further, the nighttime closure would be limited to between one-hour following sunset to one-hour before sunrise (see **Special Condition 1a**). In other words, the head of the wharf would still be available to the public during all daylight hours and the remainder of the wharf will be available for public access 24 hours a day. Although there are nighttime public access users of the wharf, they are dwarfed by daytime users, and thus the impact of the gate and the closure of the end of the wharf is less acute. That said, it is still a loss of public access, albeit a small one. In this context, including potential security issues with the visitor-serving businesses at the end of the wharf, it

¹³ There is an existing security gate that has been in place since the 1990s; however, this security gate has not been authorized by a CDP to date, and the City here is requesting ATF approval of the gate and the nighttime access restriction past the gate. Because neither the gate nor the access restriction it enforces have been approved by a CDP, the baseline for evaluating these components of the project is the permitted baseline absent same. In other words, the "before" condition in that analysis is that general public access is available to the full wharf at all times, including during night times.

appears appropriate to allow the gate and the nighttime closure. Nighttime public access users would still be able to use most of the wharf for such activities, and that space appears sufficient to adequately accommodate such users.

Thus, although the project requires sustained closure during the major wharf widening and wharf resiliency construction activities, the proposed improvements will ultimately increase the public access amenities and overall use of the wharf, and will improve the wharf's resiliency, including by minimizing the wharf's vulnerability and susceptibility to significant storm damage, which has resulted in reoccurring wharf closures. The proposed project will maintain and enhance public recreational access and facilities, including for fishing, recreation, and other visitor-serving activities, and is therefore consistent with the above-cited Coastal Act public access and recreation provisions.

E. Marine Resources

Applicable Coastal Act Provisions

Although the proposed project clearly provides for Coastal Act priority uses and development, including in terms of protecting and enhancing public recreational and visitor-serving access, as described above, the proposed project is also located over the beach, the Pacific Ocean, and the Monterey Bay National Marine Sanctuary, all of which raise concerns for the protection of marine resources during project implementation. Coastal Act Sections 30230, 30231, and 30233 each protect such marine resources in a variety of ways, including limiting overwater/fill development to seven enumerated use types, stating:

Section 30230. 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. 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 30233(a). The diking, filling, or dredging of open coastal waters...shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse

environmental effects, and shall be limited to the following: (1) New or expanded port, energy, and coastal-dependent industrial facilities. ... (3) In open coastal waters...new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities. ... (7) Nature study, aquaculture, or other similar resource-dependent activities. ...

Analysis

Background

The Capitola Wharf is located along the northern stretch of the Monterey Bay. The Monterey Bay supports a diverse complex of marine and marine-related habitats including open ocean, kelp forests, rocky seashore, nearshore intertidal, sandy beaches, coastal streams, estuarine systems, and wetlands. Also, annual seasonal upwelling brings nutrient rich, cold water up from the Monterey Bay Canyon, which causes the bay to teem with microscopic life and krill. In turn, this upwelling provides an abundance of nutrition for numerous species throughout the food chain and supports a wide range of marine life, including benthic communities, marine mammals, turtles, and fish. While the abundance of some of the whale species varies seasonally in the bay, many marine mammal species such as seals, sea lions, porpoises, dolphins, and otters are year-round residents of the bay, and are often found in the vicinity of the wharf.

Of the twenty-seven species of cetaceans seen in the Monterey Bay, about one-third occur with relative frequency. Gray whales are the most common and are typically present within three kilometers of the coastline during their predictable winter and spring seasonal migration, while others such as humpback whales are typically present in the bay during feeding aggregations in the summer and fall months. Five species of dolphin and two species of porpoise are also regularly present in the Monterey Bay. In addition to cetaceans, five species of pinnipeds (i.e., seals and sea lions), as well as the southern sea otter, are widely present in the Monterey Bay.

Marine mammals, including California sea lions and Pacific harbor seals haul out on isolated beaches and sand spits throughout the Monterey Bay. The southern sea otter, commonly known as the California sea otter, predominantly inhabits nearshore environments and have been observed in the ocean waters in the vicinity of the wharf. Southern sea otters forage for crustaceans and bivalves in the surf zone during high tide. Pacific harbor seals and California sea lions are also routinely observed in ocean waters in the vicinity of the wharf, although usually as single individuals. No haul outs for either species are known to occur on Capitola beaches (given their generally more urbanized condition) or on the wharf structure itself. Several additional marine mammal species are known to occur within or have the potential to occur in Monterey Bay, including the Steller sea lion, northern fur seal, northern elephant seal, gray whale, blue whale, humpback whale, killer whale, harbor porpoise, and the common bottlenose

dolphin. Additionally, the northern fur seal migrates in offshore waters, but it is rarely seen in the nearshore areas.¹⁴

The Monterey Bay area is also an important stop-over point for migratory birds; ninety-four species of native and non-native seabirds are known to regularly occur in the Monterey Bay, where the predominant species are sooty shearwaters, western grebes, Pacific loon, brown pelican, and western gulls. During summer to fall, species such as black-footed albatross, ash storm-petrel, and Scripps's murrelet can be found foraging over deeper waters of the Monterey Bay. Importantly, the waterbird foraging area off the shoreline located below Depot Hill and between the Capitola Jetty and the mouth of Tannery Gulch (which begins about a quarter-mile downcoast of the wharf and extends some three-quarters of a mile past that) is frequented by numerous bird species, and it is an important habitat associated with Monterey Bay. That area is frequented by numerous shorebirds during low tide such as sanderling, willet, and black turnstone. Finally, many other waterbirds, including cormorants, gulls, and the brown pelican, commonly forage immediately offshore in the waters adjacent to kelp beds.

Proposed activities with the potential to adversely affect sensitive marine resources include all of the structural wharf elements (associated with piles, bents, caps, decking, etc.), the materials being used which may be hazardous to the marine environment (including concrete, plastics, and wood preservatives), as well as fluids and oils associated with mechanized construction equipment. Potential direct and indirect impacts to marine resources include damage to sensitive species and/or their habitats from pile driving activities or interference with movement, foraging, and/or reproduction of sensitive species from equipment operation (e.g., noise, disturbance, etc.), and the discharge of harmful materials into the marine environment.

A biological report was prepared to determine to what extent the proposed project may affect aquatic or terrestrial species listed as threatened or endangered, or species that are candidates for listing, along with any designated or proposed critical habitats, such as Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC).¹⁵ Per the report, sensitive species with the potential to occur within the project area include the southern sea otter (*Enhydra lutris nereis*), the leatherback sea turtle (*Dermochelys coriacea*), the Central Valley and California Coastal Chinook salmon (*Oncorhynchus tshawytscha*), the Coho Salmon (*Oncorhynchus tshawytscha*), the South-Central, Central Coastal, and Central Valley steelhead (*Oncorhynchus mykiss irideus*), the North American green sturgeon (*Acipenser medirostris*), the Marbled murrelet (*Brachyramphus marmoratus*), Brant (*Branta bernicla*), and Osprey (*Pandion haliaetus*). The project site also falls within EFH for a large community of commercially important

¹⁴ As noted in the Applicant's materials, a recent California Department of Fish and Wildlife (CDFW) study found only six species of marine mammals in the nearshore waters (within one kilometer, or just more than a half-mile, from land) of the Monterey Bay: California sea lion, harbor porpoise, sea otter, harbor seal, bottlenose dolphin, and gray whale. The study also found that seasonal abundance varied by species, with the greatest number of harbor porpoises in the nearshore waters during winter; the greatest number of pinnipeds during autumn, and the greatest number of sea otters during spring and autumn.

¹⁵ See Appendix A.

fish, including sharks, rockfish, roundfish, and flatfish (that are managed under three fisheries management plans: the Pacific Coast Groundfish, Coastal Pelagic, and Pacific Coast Salmon Plans). The biological report also identifies various HAPC, with canopy kelp being the only HAPC known to exist within the vicinity of the wharf, and primarily to the east of the wharf. The report also outlined best management practices (BMPs) that are incorporated into the project to avoid potential impacts, and to minimize those that cannot be avoided (see **Exhibit 4** and Appendix A).

Perhaps the most potentially harmful of the proposed project activities is the proposed pile-driving and its related aspects (e.g.: noise and water quality impacts). The project includes the installation of 120 new sixteen-inch-diameter fiberglass pilings wrapped in high-density polyethylene (HDPE) sleeves to provide UV and battering protection, repair of 12 steel piles at the seaward end of the wharf (either by splicing new steel pipes onto the existing piles or by placing fiberglass jackets around the piles and pumping marine grade grout into the jackets to fill the deteriorated sections), and replacement of up to 5 existing piles with the same sixteen-inch-diameter fiberglass pilings per year.¹⁶ The project also includes the removal of 30 derelict creosote-treated timber piles from the beach area adjacent to the Capitola Wharf. The removal of the derelict creosote piles will be a benefit to the marine environment, and is consistent with the Coastal Act's marine resource protection provisions. However, the installation of piles, and really any in water pile work, raises concerns about the harm those activities could cause marine wildlife, whether in terms of impacts to water quality from materials used, impacts to wildlife from underwater acoustical changes, to lighting of the area and debris more generally. Similarly, above-water work and materials (e.g. decking stringers, pile caps, etc.) raise similar concerns, albeit to a lesser extent (e.g., in terms of marine wildlife impacts). Potential impacts and means of addressing them are described below.

Treated-Wood and Other Materials

In terms of materials, the wharf, like all coastal wharves and piers, is exposed to extreme elements, not the least of which is the ocean itself, and these elements generally require materials to be used that can withstand such a brutal environment. Historically, that has meant that wood products were heavily treated with compounds designed to limit deterioration, including creosote timbers for piles, which were historically very commonly used (and continue to be in place at this wharf).¹⁷ Although today there are many more inert materials that can and are used in such open water applications (like fiberglass, concrete, and steel), it is still not uncommon to use wood-based products that are treated to help limit their deterioration over time in a variety of ways. And in more historical applications, where the wood timbers of a wharf are part of its aesthetic appeal and historicity, which is the case for the Capitola Wharf, wood material can sometimes be the only choice that meets other project objectives, and that almost always means that the materials are treated in one way or another to respond to

¹⁶ Replacement pilings would be fiberglass unless fiberglass is not available and the repair is time-sensitive (in which case they would be AZCA-treated wooden piles with a polyurea coating).

¹⁷ The City estimates that the wharf is currently supported by approximately 250 creosote piles, all of which are intended to be replaced with environmentally friendlier materials over time.

the ocean environment. In such cases, it is important to ensure that such materials appropriately protect the marine environment.

Preservative-treated wood has historically been commonly used in the construction of wharves because it is economical, easy to install, and provides protection from corrosive saltwater, fungal decay, and marine boring organisms. However, the wood preservatives used to protect the integrity of the wood piles can adversely impact aquatic species by leaching into the water column or accumulating in the underlying sediment. Specifically, metals leached into sediments near copper-treated wood in aquatic environments have been found to accumulate in benthic and epibenthic organisms. These metals can bioaccumulate throughout the food chain and can cause toxic effects at higher trophic levels. There is evidence, however, that concentrations of copper in sediments near dock pilings in moderately flushed areas do not show accumulation of metals. Because the sediment below the wharf is well-flushed, it is therefore anticipated that the trophic transfer of metals from ACZA-treated piles to prey species would be insignificant. However, to minimize potential leaching of AZCA chemicals into the water and sediment (which can then accumulate in marine organisms), the City proposes to primarily use fiberglass piles, and to only use ACZA-treated piles¹⁸ if there is a time-sensitive repair and fiberglass piles are unavailable. In addition, any ACZA piles would be coated in polyurea spray¹⁹ to further inhibit ACZA from leaching from the piles into ocean waters.

The Coastal Commission's Coastal Water Quality Program staff recently produced a memorandum with recommendations to minimize the water quality impacts of building materials used in overwater and waterfront structures. While Commission Water Quality staff recommends the use of alternative materials instead of treated wood when constructing overwater structures, such as reinforced concrete, steel, or fiber-reinforced polymer composites (i.e., fiberglass, the City's indicated preference), the memorandum acknowledges that replacing piles in an existing treated wood structure is a valid engineering reason to use treated wood. Further, the memo states that when preservatives are used to treat wood piles and other in-water components of structures in saltwater, the best choices of approved preservatives are ACZA and Chromated Copper Arsenate (CCA)²⁰ (which have the lowest aquatic toxicity) if the treated wood is sprayed with a polyurea coating as is proposed here. The Applicant's preference is to use fiberglass piles, but when they are unavailable

¹⁸ ACZA is a wood preservative that includes both copper and arsenic; it is used to prevent insect infestation, rot, and other sources of wood degradation and breakdown. Dissolved copper is highly toxic to a broad range of aquatic species. However, the arsenic, chromium, and zinc in the metal-arsenate preservatives are less toxic than copper to aquatic organisms in both freshwater and marine environments.

¹⁹ The Applicant has proposed to use Thunderbolt Industries' marine grade polyurea spray. It is designed to encapsulate treated lumber and timber piles to prevent preservatives from migrating into the environment and protect the lumber and timber piles from abrasion and mechanical damage. It is commonly used to encapsulate ACZA, CA-C, CCA, and other wood treatments for use aquatic and wetland environments.

²⁰ In this case ACZA is being used instead of CCA.

and the repair is time-sensitive, the Applicant seeks to use AZCA-treated timber pilings coated with polyurea. The Applicant also proposes to use ACZA-treated timbers for stringers, caps, wood decking, and railings,²¹ where the decking and railings would also be sealed with either polyurea or a non-toxic penetrating coating to limit the possibility that users might be exposed to ACZA via touching the timbers (e.g., Acri-soy).

These proposed use of AZCA-treated wood piles, as a backup only when fiberglass piles are unavailable and the repair is time-sensitive, is consistent with past Commission actions and the conclusions from water quality memorandum. In other words, the Applicant's proposal would adequately minimize the leaching of preservatives into coastal waters, and thus is allowable. Similarly, the use of AZCA-treated wood in other locations (such as wood decking and railings at a lesser concentration and coated), is also a valid engineering choice, and should not lead to undo marine resource impacts. Moreover, special conditions related to ongoing monitoring and maintenance of the exterior coating, and prohibiting, to the extent feasible, activities that may inadvertently lead to the release of AZCA including pressure washing, sanding, and scraping (see **Special Condition 6b**) help minimize the leaching of AZCA into coastal waters. Further, **Special Condition 5(d)(3)** outlines protocols for the selection of treated wood including that all treated wood shall be minimally treated, with the extent of treatment dependent on its use (i.e., in water or above water), also to minimize the potential leaching of the preservatives used to treat wood into coastal waters. Finally, the Applicant proposes a series of construction BMPs to protect against release of preserved wood into the marine environment during project activities, including sawdust, through use of tarps and other appropriate debris collection devices, which have been codified in **Special Condition 5(d)(7)**. Thus, the Commission finds that the proposed materials should adequately sustain the biological productivity of coastal waters and maintain healthy populations of marine species as required by the Coastal Act.

Noise Impacts During Pile Driving

Because pile driving activities would be carried out both above and within marine waters, the project has the potential to result in adverse impacts to both marine organisms and the marine environment. Specifically, the proposed pile driving would result in the generation of elevated levels of underwater sound in nearshore waters known to support a number of marine wildlife species, including harbor seals, California sea lions, southern sea otters, and numerous species of dolphins, porpoises, and whales. All of these species are protected under the Marine Mammal Protection Act, and at least one is listed under the federal endangered species act (i.e., the southern sea otter is listed as threatened).

Marine mammals, and in particular cetaceans such as whales, dolphins, and porpoises, are known to be susceptible to disturbance and injury from high levels of human-generated underwater sound (see also below). Marine mammals rely on

²¹ Although the decking and railings would be treated with ACZA, it would be with a lesser concentration of ACZA.

sound for communication and the ability to sense their environment for a variety of critical life functions (e.g., traveling, finding mates or young, foraging, etc.). Although an animal may communicate and sense its environment in many ways and with a variety of different sensory organs, light can only penetrate a few hundred feet underwater while sound can travel much farther. Because water is denser than air, sound travels faster and farther in the ocean. Its speed and distance depend on the density of the water (determined by its temperature, salinity, and depth) and the frequency of the sound, measured in hertz (Hz). For example, noise waves bend toward colder, denser water.²² Some sounds, particularly low-frequency ones, can cover vast distances, even across ocean basins. As a result, cetaceans and other marine mammals have evolved to rely primarily on sound to sense their environment, communicate, and avoid predators. Increased anthropogenic generated noise in the marine environment has been shown to interfere with these activities and in some cases can cause internal injury, stranding, and mortality. Similar adverse impacts exist for fish and invertebrates as they also use sound for basic life functions.

Sound pressure pulses as a function of time are referred to as a waveform. Peak waveform pressure underwater is typically expressed in decibels (dB) referenced to 1 microPascal (μPa). Sound levels are generally reported as peak levels (peak), root-mean-square pressure (RMS) and sound exposure levels (SEL). In addition to the pressure pulse of the waveform, the frequency of the sound (in Hz) is also important when evaluating the potential for sound impacts. Low frequency sounds are typically capable of traveling over greater distances with less reduction in the pressure waveform than high frequency sounds.

The striking of a pile by a pile-driving hammer creates a pulse of sound that propagates through the pile and radiates out through the water column, seafloor, and air. Exposure of marine mammals or fish to low levels of sound for a relatively long period of time, or exposure to higher levels of sound for shorter periods of time, may result in auditory tissue damage (damage to the sensory hair cells of the ear) or temporary hearing loss referred to as a “temporary threshold shift” (TTS). Species may recover from TTS minutes to days following exposure. However, in some cases, the damage may be permanent, referred to in the literature as a permanent threshold shift (PTS). PTS is a permanent loss of hearing and is generally accompanied by death of the sensory hair cells of the ear. Several studies carried out in recent years suggest that instantaneous exposure to a peak sound pressure level (known as SPL) as well as from accumulated exposure to a lower sound level over a longer period of time (known as cumulative sound exposure level (SEL)) can affect hearing through auditory tissue damage.²³

Marine mammals have been divided into hearing sensitivity groups, referred to as functional groups, under the assumption that there will be differences in hearing

²² See, for example, <https://www.nrc.gov/docs/ML1225/ML12250A723.pdf>.

²³ Again, see, for example, <https://www.nrc.gov/docs/ML1225/ML12250A723.pdf>.

sensitivity and dynamic hearing range between the various species. For example, it is assumed that there are only minor differences between the hearing systems of baleen whales, and thus all baleen whales are classified into the Low-Frequency cetaceans hearing group, while pinnipeds in the water are divided into phocid seals (earless) and otariids (eared seals) (NMFS 2018). NOAA (National Oceanic and Atmospheric Administration) Fisheries compiled and summarized the best available information on the effects of sound on marine mammals' hearing into the National Marine Fisheries Service (NMFS) "Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing." This document provides technical guidance for assessing the effects of underwater man-made sound on the hearing of marine mammal species (i.e., onset of PTS and TTS) by identifying acoustic thresholds that may harass or injure marine wildlife. In addition, substantial progress has been made in quantifying marine mammal hearing and the effects of noise on hearing for a range of taxa in the past few years with updated acoustic thresholds being released annually over the past two years, with the most recent guidance published in 2019.²⁴ This most recent update reflects the latest science and generally indicates that animals are more sensitive than previously thought, and includes acoustic thresholds for amphibious species, such as the sea otter, and reclassified several function groups based on new scientific knowledge. Similarly, in 2008, an interagency working group comprised of representatives of state and federal resource management agencies from California, Oregon, and Washington developed recommendations on peak and accumulated sound levels to be used as thresholds for injury to fish, which are used as the current standard.

Pile driving produces high sound pressure levels in both the surrounding air and underwater environment. Sound levels vary substantially and are specific to the materials and methods used, such as the method of pile driving, the pile materials, and the diameter of the pile. The three pile driving methods proposed by the City are: 1) impact pile driving, where the pile is driven by strikes from a high-energy hammer; 2) vibratory pile driving, where the pile is effectively vibrated into the sediment; and 3) hydraulic jetting, where pressurized water flows down the pile to the sediment directly beneath it, liquifying the soil at the pile tip, and resulting in the pile to descend downwards under its own weight.

One advantage of using a vibratory hammer and/or hydraulic jetting is that these methods produce less significant ground vibrations and noise levels compared to impact pile driving, which produces a loud, impulsive sound during every strike. This makes vibratory hammers and hydraulic jetting the preferred alternatives, especially in light of the relatively turbid environment and lack of eelgrass and black abalone (i.e., sensitive listed species that are especially sensitive to the increased turbidity produced by hydraulic jetting) surrounding the wharf. That being said, the vibratory hammer does result in continuous, sustained noise, unlike the impact hammer where each strike produces sound waves with breaks between each strike. Typically, the use of a vibratory hammer to install timber piles is not preferred

²⁴ Southall et al, 2019 – see Appendix A.

because it can result in damage to the pile because the hydraulic clamps needed to connect the vibratory hammer to the pile can damage the timber. Thus, if/when timber piles are used, they will be driven via an impact hammer because this method of driving will preserve the integrity and extend the life of the replacement timber piles.

To minimize the damaging effects of sound to marine mammals and fish during pile driving activities, the proposed project includes several noise minimization protective measures when driving piles with an impact hammer or a vibratory hammer, such an implementation of the “soft start” technique (to be applied when using either an impact hammer or a vibratory hammer) and use of sound dampening devices (only to be applied when using an impact hammer). The “soft start” or ramp-up technique allows fish and mammals to vacate the area before regular impact hammer pile driving activities commence. The “soft start” technique for an impact hammer begins with a slow increase of the impact hammer’s energy (i.e., an initial set of three strikes made by the hammer at 40 percent energy, followed by a one-minute waiting period, then two subsequent three-strike sets) before initiating continuous pile driving; meanwhile the “soft-start” technique for a vibratory hammer simply entails a gradual increase the hammer’s vibration intensity with no breaks. The project also proposes the use of sound dampening devices and techniques, such as cushion blocks or caps placed between the impact hammer and the pile, to reduce the sound energy transmitted from the hammer into the piles. These noise minimization measures are codified into **Special Condition 3** as part of a Marine Wildlife Protection Plan (MWPP) to be implemented during all pile driving activities.

In addition, the biological report prepared for the proposed project includes examples of sound levels produced from striking different types of piles and an analysis of potential hydroacoustic impacts on fish and marine mammals from pile installation. Based on modeling of the extent of sound pressure levels from impact and vibratory pile installation relative to marine mammal thresholds, the Applicant proposes to implement monitoring of exclusion zones (EZs) that correspond to the radius where sound levels are no longer expected to adversely impact the hearing of marine mammals.²⁵ However, because the proposed exclusion zones may not represent the actual distance needed to prevent sound injury to marine mammals and special status fish species from active pile driving (including because the data the City used to derive these numbers was not based on hydroacoustic testing done in and around the Capitola Wharf), hydroacoustic testing is necessary to determine adequate exclusion zones. The use of hydroacoustic testing has more recently been a typical Commission requirement for pile driving activities because each site has unique features that may alter how sounds waves are transmitted.²⁶ For example, sound waves can bounce between the ocean surface and

²⁵ The exclusion zone is defined as the radial distance between the work site and the locations at which the maximum recorded peak sound pressure level (SPL) or cumulative sound exposure level (SEL) falls below the temporary threshold shift (TTS) and permanent threshold shift (PTS) levels for marine mammals and fish.

²⁶ See, for example, CDPs 3-20-0127 (Monterey Wharves Maintenance) and 3-18-1230 (Port San Luis Harbor District Repair and Maintenance Program).

submerged features, such as rocks, and become magnified (rather than attenuating at a steady rate as can be the case in deeper waters with more homogenous conditions).²⁷

The EZs are proposed to be monitored by at least one qualified biological monitor²⁸ during all pile driving activities to effectively observe for marine mammals. The biological monitor will have the authority to halt work if activities pose a threat to marine wildlife. **Special Condition 3b** requires that a monitor be present during all pile driving activities to effectively observe the exclusion zone. **Special Condition 3c** further requires that the monitor shall halt work if pile driving activities pose a threat to marine wildlife (see below for further discussion).

The Applicant has proposed an EZ of 63 meters (for all marine mammal species) for timber pile installation done with an impact hammer, and also proposes a 410-meter exclusion zone for fiberglass piles installed with a vibratory hammer.²⁹ The Applicant initially did not propose hydroacoustic testing but has since agreed to such testing. Thus, the EZs initially proposed for all future pile driving activities will be used during hydroacoustic testing activities to determine the appropriate EZs for all future pile driving at the wharf. The results of the hydroacoustic testing will determine the EZs for the installation of fiberglass piles versus timber piles based on the method (i.e. vibratory hammers versus impact hammer) used. In order to carry out the work in a manner that will sustain the biological productivity of coastal waters and maintain healthy populations of all species, this approval is conditioned to require an initial (i.e., during hydroacoustic testing) 410-meter EZ for all marine mammals species (except sea otters) during fiberglass or timber pile installation with a vibratory hammer; a 100-meter EZ for sea turtles during all pile driving activities regardless of pile or hammer type; a 63-meter EZ for all marine mammals (except sea otters) during timber pile installation with an impact hammer; and a 63-meter EZ for sea otters during all pile driving activities regardless of pile or hammer type (see **Special Condition 2b**).

Of course, however, case-specific evaluation may dictate a larger or more limited exclusion zone. Accordingly, the Applicant has agreed to perform hydroacoustic testing to verify the size of the exclusion zones to be implemented during all future piling

²⁷ For example, underwater sound recording carried out as part of a causeway repair project in shallow nearshore waters near Rincon Island in Ventura County showed that after declining steadily between 150 meters and 300 meters from the pile driving, sound levels rose again at roughly 450 meters from the source and reached levels that nearly exceeded those at the 150 meter distance.

²⁸ More than one monitor may be needed, depending upon the locations of proposed work and any potential visual obstructions to the clear sight lines required to monitor the exclusion zones.

²⁹ The Applicant proposed in-water exclusion zones based on the most conservative thresholds identified in NOAA's underwater Marine Mammal Acoustic Thresholds (see https://archive.fisheries.noaa.gov/wcr/protected_species/marine_mammals/threshold_guidance.html): i.e., 410 meters for fiberglass piles installed via vibratory hammer and 63 meters for timber pile impact driving). The exclusion zone for installation of fiberglass piles installed with a vibratory hammer is relatively large because the noise created by the vibrations is constant during pile driving activities, whereas the noise produced by impact pile driving is intermittent.

replacement activities at the wharf. In other words, the results of hydroacoustic testing will be used to help determine the appropriate EZs that should be used for pile replacement activities (based on type of piling and method of installation used), based on empirical pile driving results (including typical background noise) for this specific location (**Special Condition 2a**). The initial testing would include baseline information to be recorded (such as weather, waves, etc.), distances from piles where monitoring would be conducted, and monitoring methods. To ensure that adequate marine wildlife protection measures are in place during the driving of timber piles, **Special Condition 2** clarifies and codifies the requirements of the proposed testing. Special Condition 2 requires specificity regarding the testing scheme and methods used to obtain and report the results of the hydroacoustic testing, and is designed to ensure that the decibel units used in establishing the permanent exclusion zones are consistent with the most current guidance (provided by NMFS and Southhall et al. 2019).

Further, **Special Condition 3b** codifies that one or multiple (as necessary) biological monitors will be present during all pile driving activities, including during initial hydroacoustic testing. If sound thresholds are exceeded beyond the exclusion zones used during initial testing and/or if the monitors observe dead or injured fish in the vicinity of active pile driving operations, the exclusion zones will be expanded, or additional feasible power reduction and/or sound dampening measures will be employed. The biological monitor will also have the authority to trigger an immediate shut down of pile driving activities if a marine wildlife is observed within the applicable EZ. Additionally, **Special Condition 2** includes protocols for communicating hydroacoustic testing results, including any changes to the boundaries of the exclusion zone(s), to the Commission's Executive Director. **Special Condition 2c** requires the submittal of a hydroacoustic testing report within 30 days of completion of the required hydroacoustic testing activities.

Special Condition 3 further includes a number of measures to be implemented during all pile driving activities and describes the responsibilities of the biological monitors. They include: monitoring the exclusion zone, requiring cessation of pile driving activities if marine wildlife enters applicable exclusion zones or if the exclusion zones are not entirely visible (e.g., due to darkness or fog), recordation of daily logs during piling driving events, and the submission of an annual report summarizing the results of monitoring activities from the rehabilitation/expansion components of the proposed project.

Special Condition 2 requires submittal of a hydroacoustic testing report(s) that will determine the necessary exclusion zones to be implemented during future pile driving activities. With these measures in place, the Commission finds that the pile driving and related activities will protect healthy populations and the biological productivity of coastal waters as required by the Coastal Act Sections.

Turbidity Impacts

Pile driving may also result in short-term temporary discharge of sediments surrounding the pile driving site, which can cause a relatively minor and temporal increase in the water's turbidity in the immediate vicinity of the project. Among the three installation

methods, hydraulic jetting has the greatest potential to cause sediment disturbances; however, in-water construction activities would occur within intertidal and shallow subtidal areas, which regularly experience turbidity from wave action on the sandy shoreline. Moreover, Soquel Creek discharges high levels of sediment that also increases turbidity adjacent to the wharf, and thus the water adjacent to the project site is already considered a fairly turbid environment. Further, the Applicant has proposed to limit the use of hydraulic jetting to when the other two pile driving methods (vibratory and impact) are deemed infeasible (i.e., due to dense sediment and a desire to decrease the overall pile driving duration in order to limit potential adverse impacts associated with sustained pile driving activities). In other words, sustained pile driving has its own attenuate impacts including sustained noise impacts to aquatic species, and to public access/recreational opportunities via a lengthened wharf closure period to accommodate an extended construction period (i.e., from the dense and very dense layers of silty sand and sandy gravel that make piling driving via hammers slow and time-consuming). In other words, potential elevated turbidity, above the baseline, due to hydraulic jetting is expected to be minimal. Additionally, there is no known eelgrass or black abalone³⁰ in the vicinity, both of which can be sensitive to turbid environments, and although increased turbidity can decrease the productivity of foraging activities for birds, turbidity impacts due to hydraulic jetting or other piling installation methods are again anticipated to be negligible and temporary, and there is ample foraging space in the vicinity of the wharf that would not be impacted and will be available for foraging. In sum, the proposed limited use of hydraulic jetting will adequately protect the biological productivity of coastal waters as required by the Coastal Act.

Lighting Impacts

The effects of artificial light on shallow marine species, including fish, amphipods, and sessile invertebrates, have been documented in recent years, and include effects on physiology, navigation, reproductive behavior, predation success, community structure, and ecosystem services (i.e., the benefits people obtain from ecosystems, such as food and recreation). Artificial night lighting has the ability to adversely affect terrestrial and avian species associated with the shore (e.g., sleeping organisms become more susceptible to predation by nocturnal species). Sessile marine organisms can be affected by changes to diurnal cues for reproduction by being more visible to predators, or due to altered growth patterns (e.g., photosynthesizers). Given the location of the wharf coincides with areas where multiple marine species are present, the use of artificial lighting has the potential to adversely impact these nearer shore species as is described above.

Wharf widening and wharf resiliency construction activities are proposed during daytime hours after Labor Day and before the Memorial Day weekend, and these timing constraints are codified in **Special Condition 5c**. Thus, no nighttime lighting to facilitate construction activities is proposed (and this has been codified in **Special Condition 5c**). However, the proposed project does entail in-kind replacement of ambient night-time

³⁰ Eelgrass (*Zostera pacifica*) is a federally protected species that is designated as Essential Fish Habitat; Black Abalone (*Haliotis cracherodii*), is a federally protected species that lives on hard substrates, including wharf pilings.

lighting to facilitate safe nighttime access to the wharf. This lighting will, however, be downcast toward the wharf's deck and will not extend into coastal waters. Further, there will be only eight lights along the entire length of the wharf, with approximately 100 linear feet between each light. Thus, the proposed lighting will adequately sustain the biological productivity of coastal waters and maintain healthy populations, and thus no mitigation measures are required, and the project can be found consistent with Coastal Act Sections 30230 and 30231 with respect to lighting.

Nesting Birds

Special status bird species with a moderate likelihood of occurring within the vicinity of the project area include the marbled murrelet (*Brachyramphus marmoratus*), osprey (*Pandion haliaetus*) and brant (*Branta bernicla*). Osprey is identified on CDFW's species Watch List, and the ocean and adjacent Soquel Creek lagoon habitat within the project's vicinity provide suitable foraging habitat for that species; however, Osprey are not anticipated to nest on the wharf. Brant is a California species of special concern and the marine and estuarine habitat within and adjacent to the project area provide adequate wintering and foraging habitat for this species; this species is also not expected to nest on the wharf. Third, the Marbled Murrelet is a federally listed species (endangered); and while it may forage within the vicinity of the project area, it too is not expected to nest on the wharf.

In addition to the sensitive species listed above, more than 180 different marine bird species visit or live in the Monterey Bay. Some seabird or shorebird species flock to the area to feed on the teeming numbers of fish that are present due to the upwelling of nutrient-rich coastal waters, while others may stop on their annual "Pacific flyway" migration between southern wintering grounds in Central and South America to northern breeding sites along the North Slope of Alaska. In addition to the special status bird species mentioned above, many of the bird species with the potential to be near the wharf are afforded protection under the Migratory Bird Treaty Act (MBTA). Construction equipment and noise generated from the proposed project have the potential to impact bird nesting and roosting habitat on the wharf's substructures or at nearby shoreline sites.

Noise from construction equipment and the construction activities proposed have the potential to disturb shorebirds, gulls, and other coastal birds that forage or rest on the beaches near the wharf, as well as nesting birds. In terms of potential disturbance to shorebirds, gulls, and other coastal birds that may forage or rest on the beaches adjacent to the wharf, potential impacts are anticipated to be insignificant due to the temporary nature of construction activities and because there will be undisturbed foraging and rest areas not far from the wharf that will be available to birds for the duration of the construction window.

To minimize potential impacts to nesting birds, the Applicant has proposed to conduct pre-construction nesting bird surveys for any construction within nesting bird season (i.e., between February 15th and September 15th). More specifically, if project construction occurs outside of nesting bird season, no additional mitigation is required, and if project construction occurs within the nesting bird season, a pre-construction

nesting bird survey shall be conducted. As proposed by the Applicant, the pre-construction survey shall be conducted no more than one week prior to initiation of construction activities or within 14 days after start of nesting bird season if construction activities have already commenced. The Applicant has proposed to use a qualified biologist with at least five years of experience in conducting nesting bird surveys, and nesting bird surveys shall be conducted 500 feet from the construction area to determine if active nests of bird species protected by the MBTA, the Endangered Species Act (ESA), and/or the California Fish and Wildlife Code are present. In addition, the Applicant has proposed ongoing periodic surveys for active nests every 14 days during project construction throughout the nesting season. Further, the Applicant has proposed that if active nests are found, construction activities within 300 feet from nests of MBTA-protected species and within 500 feet from nests of ESA-listed species and raptors (or other sufficient distance pending field conditions as determined by the qualified biologist) shall be modified, postponed or halted until the nest is vacated, the young have fledged, and/or there is no evidence of a second attempt at nesting.

To ensure the proposed pre-construction and ongoing periodic surveys accurately identify all bird nests located either under or on the wharf, including the roofs of wharf buildings or on nearby bluffs, **Special Condition 4** includes modifications to the proposed surveys, including requiring: pre-construction surveys to commence no more than 30 days prior to the initiation of construction, with the last pre-construction survey occurring no more than 72 hours before construction activities commence; a no-construction-activity buffer of no less than 300 feet for non-raptors and 500 feet for raptors for all nests detected in the pre-construction survey or in the ongoing periodic surveys (except that minor maintenance work using hand tools or light power tools shall only require a 50-foot buffer from nests); and the submittal of nesting bird surveys and annual monitoring reports to the Executive Director for review.

Finally, the City initially proposed bird netting to deter roosting beneath the wharf and to protect water quality; however, this City has since agreed to bird spikes instead of netting because netting can lead to potential entrapment. With these measures in place, adequate populations of breeding birds will be appropriately maintained consistent with the protections afforded them by the Coastal Act.

Ocean Fill

Finally, the proposed project includes the “filling” of open coastal waters through new piles and the proposed widening of the wharf, and also includes potential for additional fill through the replacement of pilings, including when removal of an existing damaged piling is not recommended because it continues to provide some level of structural support and to limit construction activities/disturbance.³¹ Projects that include, or have the potential to include, fill of coastal waters must satisfy the three-pronged test contained in Coastal Act Section 30233(a). The first prong requires that the proposed activity fit into one of seven categories of uses enumerated in Coastal Act Section

³¹ Partially or completely broken piles that may potentially be hazardous to boaters, paddlers, swimmers, and marine life will be removed entirely. Partially broken piles that continue to provide some level of structural support will remain with a new pile installed immediately adjacent to each broken pile.

30233(a). As described above, the wharf provides for both coastal-dependent and coastal-related uses including recreational fishing, boating, and sporting equipment rental and private boat launch and mooring, and thus it qualifies as a public recreational pier that provides public access and recreational opportunities under Section 30233(a)(3). Further, the widening and continued provision of the wharf will allow for enhanced public access and recreational opportunities on the wharf, including for nature study and interpretation, which is allowed by 30233(a)(3). Therefore, the first prong under Section 30233(a) is satisfied.

The second prong of the 30233 test requires the project to be the least environmentally damaging feasible alternative. As stated above, a primary driver of the proposed project is to increase the wharf's resiliency and reduce the frequency and duration of wharf closures. These goals would be accomplished through the proposed project and the City's proposal to undertake regular monitoring and maintenance activities on the wharf. Other alternatives were considered, including the no-project alternative as well as beam strengthening and pile jacketing, but none of these alternatives would address the wharf's primary vulnerability; namely that there are only three piles for each trestle bent along the bulk of the wharf. If either of the outside piles in a single trestle bent are severely damaged or lost, then the wharf must close either partially or entirely, and if additional pilings are severely damaged or lost, then the wharf must be closed entirely due to severely compromised structural integrity. There have been also been occasions when all three piles on a single trestle bent have been demolished by wave action during successive winter storms. One of the main benefits of the widening is to increase the number of piles in each trestle bent from three to six, which will substantially increase the wharf's resiliency to failure. Moreover, because the narrowest trestle section of the wharf is located nearer to shore than the wider wharf head, the majority of the wharf becomes unusable if it is forced to close when piles are damaged along the narrowest stretch of the trestle.

It is further worth noting that the wharf sustains some extent of pile damage nearly every year, and it regularly requires closure for sustained periods of time. Although beam strengthening and pile jacketing would slightly improve the wharf deck's strength and durability and/or the strength of the piles, neither of these alternatives would sufficiently strengthen the wharf against its primary vulnerability, including its susceptibility to periodic and sustained closures. Finally, the no-project alternative would not achieve any of the project's goals (i.e., improvements in wharf resiliency, public access, and public safety). And with respect to the proposal to allow for ongoing wharf maintenance activities, this aspect of the proposed project would allow repair of wharf structures in their approved configurations. Because the proposed work involves repair and maintenance of existing infrastructure as well as widening of the wharf, there are no alternative locations for the project that could entirely avoid coastal waters. Based on the above considerations, the Commission therefore finds that there are no feasible less environmentally damaging alternatives to the proposed fill. Accordingly, the proposed project meets the second prong of the Coastal Act Section 30233 test.

The third and final prong of the Section 30233 test is that all feasible mitigation measures to mitigate project impacts of the proposed fill have been incorporated into

the project. The primary impacts of the proposed fill are associated with disturbance of the benthic habitat and turbidity. However, as discussed above, in-water construction activities would occur within intertidal and shallow subtidal areas that are generally sandy, and which regularly experience turbidity from wave action on the sandy shoreline. Moreover, Soquel Creek discharges high levels of turbidity adjacent to the wharf, and thus the water adjacent to the project site is already considered a turbid environment. Further, the Applicant has proposed to limit the use of hydraulic jetting to when the other two pile driving methods (vibratory and impact) are deemed infeasible. And, as discussed above, no black abalone or eelgrass (which are sensitive to turbidity) are known to be present in the area. Finally, the proposed project includes the removal of approximately 30 derelict creosote piles immediately adjacent to the wharf, which would restore an existing filled area to an unfilled state, helping to offset any latent impacts. Taken together, these special conditions, along with the mitigation measures proposed by the Applicant, satisfy the third prong of Section 30233(a) and all feasible mitigation measures have been provided to minimize adverse environmental effects.

Other

In addition to the City's proposed mitigation measures, staff also recommends the following additional mitigation measures that are necessary to find that coastal resources are being protected as required by the Coastal Act. **Special Condition 6c** limits the term for ongoing repair and maintenance activities to 5 years to allow for a review of the permit following initial implementation and to ensure that the project adequately protects marine and biological resources using the best available science and management practices as they evolve. **Special Condition 5d** adds a series of BMPs to the project that are typically required by the Commission, including good housekeeping methods during construction and delineation of construction staging areas. **Special Condition 6d** requires the City to submit pre-activity reports and project plans prior to construction as well as post-activity reports for any maintenance activities.³² **Special Condition 8** requires that any modifications to activities authorized by this CDP shall require a CDP amendment, unless the Executive Director determines that no amendment is legally necessary.

Marine Resources Conclusion

The proposed project entails a substantial rehabilitation and expansion, and it provides for long-term repair to maintain and improve facilities for recreational boating, public access, and visitor-serving opportunities. The majority of the proposed activities, other than pile driving, would have relatively low potential for significant adverse impacts to biological resources and water quality because they limit the use of equipment in the water. The proposed project includes appropriate BMPs to protect water quality and marine resources, including pre-construction surveys and mitigation measures for protected or sensitive species; maintaining good construction-site housekeeping controls and procedures; a prohibition on equipment washing, refueling, or servicing over water; daily maintenance of equipment to prevent leaks of petroleum products;

³² The pre-activity reports shall be submitted with project plans at least 90 days prior to construction and are subject to Executive Director review and approval. The post-activity reports will describe all repair and maintenance activities completed and shall be submitted within 90 days after completion of work.

limiting the use of ACZA-treated timber piles to when fiberglass piles are unavailable and the repair is time-sensitive; coating any ACZA-treated timber piles with polyurea; environmental awareness training for construction workers; and precautionary measures limiting the use of certain types of chemically treated wood products.

Additional measures to minimize noise impacts from pile driving on marine mammals and fish, include: a “soft start” technique for timber pile driving with an impact hammer or a vibratory hammer; utilization of sound dampening devices with an impact hammer; and hydroacoustic testing to determine appropriate exclusion zones for marine mammals and sea turtles and submittal of hydroacoustic testing results. A partial list of the Applicant’s proposed mitigation measures can be seen in **Exhibit 4**. The BMPs and mitigation measures described in **Exhibit 4**, as refined and modified by the terms and conditions of this CDP, are enforceable components of the project. To further protect marine wildlife, **Special Condition 5c** prohibits nighttime lighting of coastal waters and restricts construction activity to daytime hours only, and **Special Condition 6c** limits the term for ongoing repair and maintenance activities to 5 years to allow for a review of the permit following initial implementation to ensure that the project adequately protects marine and biological resources as the best available science and best management practices evolve. As conditioned, the project is consistent with Coastal Act Sections 30230, 30231, and 30233.

F. Other

Other Agency Approvals

The Applicant currently has a permit for the project from the Central Coast Regional Water Quality Control Board (Water Quality Certification Number 34420WQ13), and is awaiting approval of the necessary U.S. Army Corps of Engineers’ (ACOE’s) permit, which will incorporate recommendations from NMFS and USFWS. CDFW has indicated that a permit from their agency is not required. To ensure that the proposed project is authorized by all regulatory agencies, **Special Condition 7** requires the Applicant to submit evidence of a valid ACOE permit prior to commencement of construction activities.

Minor Modifications

Special Condition 8 allows for minor project changes, and requires that any modifications to activities authorized by this CDP shall require a CDP amendment, unless the Executive Director determines that such modifications will not adversely impact coastal resources and that no amendment is legally necessary.

G. Environmental Quality Act (CEQA)

CEQA Section 21080.5(d)(2)(a) prohibits a proposed development from being approved if there are feasible alternatives and/or feasible mitigation measures available that would substantially lessen any significant adverse effect that the development may have on the environment. The City of Capitola, acting as the CEQA lead agency, adopted a Mitigated Negative Declaration for the proposed project on July 5, 2020.

The Commission's review, analysis, and decision-making process for CDPs and CDP amendments has been certified by the Secretary of the Natural Resources Agency as being the functional equivalent of the environmental review required by CEQA (CCR Section 15251(f)). Accordingly, in fulfilling that review, this report has analyzed the relevant coastal resource issues with the proposal and has identified appropriate and necessary modifications to address adverse impacts to such coastal resources. All above findings are incorporated herein in their entirety by reference.

Accordingly, the Commission finds that only as modified and conditioned herein will the proposed project avoid significant adverse effects on the environment within the meaning of CEQA. As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects that approval of the proposed project, as modified, would have on the environment within the meaning of CEQA. If so modified, the proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

5. Appendices

A. Substantive File Documents³³

- National Marine Fisheries Service (2018). Revisions to: *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts*. U.S. Dept. of Commerce, NOAA. NOAA Technical Memorandum NMFS-OPR-59, 167 pp.
- Caltrans. 2015. *Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish, Appendix I Compendium of Pile Driving Sound Data*. California Department of Transportation Division of Environmental Analysis. Pp. I-179 – I-180. November 2015.
- Southall, B., et al. (2019). *Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects*. Aquatic Mammals 45(2): 125-232.
- CDP Application File 3-20-0431

B. Staff Contact with Agencies and Groups

- City of Capitola

³³ These documents are available for review in the Commission's Central Coast District office.