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F12a

Prepared November 5, 2020 for November 6, 2020 Hearing

To: Commissioners and Interested Persons
From: Susan Craig, Central Coast District Manager
Alexandra McCoy, Coastal Planner
Subject: STAFF REPORT ADDENDUM for F12a
CDP Application Number 3-20-0127 (Monterey Wharf Maintenance)

In the time since the staff report was distributed, staff has continued to work with the Applicant, the City of Monterey, on refining project details to best address coastal resource issues. As a result of that collaboration, staff here is making several changes to the staff recommendation. These changes are best described as minor refinements, and the staff recommendation continues to be approval with conditions. With these changes, the Applicant is in agreement with the staff recommendation.

Specifically, staff makes the following changes to the staff report that was distributed on October 23, 2020:

- To allow hydroacoustic testing to be implemented at each of the two wharfs in separate years in the case that pile driving is only proposed at one of the two wharves in a repair cycle.
- To require that the first piles driven during hydroacoustic testing be located as far as possible from known pinniped haul-out areas to better protect such species.
- To allow the “soft-start” pile-driving measure to be implemented prior to full pile driving activities even if marine mammals or sea turtles are within the designated exclusion zones (EZs) (i.e., the EZs are the designated focus areas for species protection that emanate from the hydroacoustic testing process) because the main purpose of this measure is to allow animals to evacuate the area prior to commencement of full pile-driving activities.
- To require Marine Mammal Observer (MMO) logs to be submitted if there are species-required shut downs or delays related to pile-driving activities five or more times in a seven day period, instead of within a week of completion of any pile driving event, so as to more clearly tie log submittal to actual events being logged.

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- To allow the initial EZ for sea otters to be 50 meters instead of 100 meters to align CDP requirements with U.S. Fish and Wildlife's recommendation on this point.
- To limit all pile-driving activities to daylight hours only (i.e., one-hour before sunrise to one-hour after sunset) to ensure the EZ is observable by the MMO during pile driving activities.
- To allow for some non-pile-driving early morning nighttime work (i.e., pile-driving preparation and related above decking activities) to take place with appropriate mitigation measures (e.g., to minimize noise, lights, and activities beyond ambient levels) in order to help reduce public access impacts that would be more significant during daylight hours.
- To clarify that repair and/or maintenance of substructure components located within the sandy intertidal zone under the base of Wharf 2 is prohibited during the grunion spawning season in order to avoid crushing of grunion eggs or individuals during spawning.
- To limit the required pre-construction eelgrass surveys to areas within 10-meters of affected subsurface foundation components given that potential eelgrass impacts associated with the project would be limited to that area in compliance with the California Eelgrass Mitigation Policy (CEMP).
- To eliminate the requirement for a California State Lands Commission authorization if a side-scan sonar method is used for the pre-construction eelgrass surveys because the City already has such authorization.
- To allow for the completed pre-construction eelgrass surveys to be submitted to the Executive Director for review and approval 30 days (instead of 15 days) prior to commencement of activities to allow for additional time for Commission staff to review results and reduce the potential for delays to construction.
- To allow for the pre-construction abalone survey to be completed more than 30 days prior to commencement of construction activities, including because this change will not affect the efficacy of survey results, and to allow 60 days, instead of 15 days, for the completed survey must be submitted the Executive Director for review and approval, to allow for additional time for Commission staff to review results and reduce the potential for delays to construction.

Commission staff, including the Commission's ecologist, Dr. Lauren Garske-Garcia, has closely considered the above-described changes and has concluded that the project, as revised and conditioned, will continue to appropriately protect coastal resources, including marine mammals, fish, birds, and other species as required by the Coastal Act. These changes do not modify the basic staff recommendation, which continues to be approval with conditions. Thus, the staff report is modified as shown below (where applicable, text in underline format indicates text to be added, and text in ~~strikethrough~~ format indicates text to be deleted):¹

¹ All corresponding special condition sections are re-numbered/re-lettered as necessary to account for the changes, as are all references otherwise in the staff report referring to same.

Modify Special Condition 2 on staff report pages 5-6 as follows:

- 2. Hydroacoustic Testing Plan.** *PRIOR TO ISSUANCE OF THIS CDP, the Permittee shall prepare a Hydroacoustic Testing Plan (HTP) for review and approval by the Executive Director. The HTP shall include the following elements:*
- a. To prevent adverse impacts to marine mammals and fish from elevated levels of underwater sound associated with installation of timber piles using an impact hammer, the HTP shall outline an underwater hydroacoustic testing program to be implemented during the installation of an initial subset of timber piles ~~on both wharves~~ in order to establish the limits of the exclusion zone. The HTP shall address and allow for hydroacoustic testing of each wharf independently, such that hydroacoustic testing for one wharf may occur during a different repair cycle than the other wharf.*
 - b. The exclusion zone(s) 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 mammals and fish. The maximum SPL or SEL thresholds utilized to determine the exclusion zone(s) shall be based on the best available science on TTS and PTS levels for special status fish species and NOAA's most up-to-date Marine Mammal Acoustic Technical Guidance.*
 - c. The HTP shall fully describe the testing program, the monitoring equipment, the number of proposed hydroacoustic testing sessions, the hydrophone locations along both wharves and in the ocean waters off of the wharves, the distance of hydrophones from the active pile driving site, and the rationale for how the program will capture a representative amount of readings that address changes in bathymetry and substrate (e.g., rocky versus sandy) in the waters surrounding both wharves. In addition, the HTP shall identify protocols for communicating hydroacoustic testing results, including any changes in the boundaries of the exclusion zone, to the approved marine mammal observer (see **Special Condition 4**).*
 - d. 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 marine mammals 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. A 100-meter exclusion zone shall be implemented for cetaceans, and sea turtles, and a 50-meter exclusion zone shall be implemented for sea otters during hydroacoustic testing in accordance with **Special Condition 4(e)**. Sea lions and harbor seals are subject to the requirements of **Special Condition 4(c)**.*

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- f. The first piles to be driven during hydroacoustic testing will be located as far as possible from known pinniped haul-out locations in the vicinity of either wharf's substructure so that the reaction of the pinnipeds to pile driving activities can be evaluated. The marine mammal monitor (see **Special Condition 4(b)**) shall monitor pinniped reactions during the initial pile driving strikes and then report these observations and related information to the Executive Director in the required Hydroacoustic Testing Report (see **Special Condition 3**).
- g. If during hydroacoustic testing the SPL or SEL threshold is exceeded beyond the 100-meter exclusion zone(s) used during HTP implementation and/or if the marine mammal monitor (see **Special Condition 4(b)**) observes dead or injured fish in the vicinity of active pile driving operations, the exclusion zone(s) shall be expanded or the Permittee shall implement additional feasible power reduction and/or sound dampening measures to ensure that SPL and SEL thresholds are not exceeded beyond the 100-meter exclusion zone.
- h. If hydroacoustic testing results indicate that the size of the exclusion zone(s) should be adjusted to be greater or lesser than 100 meters, the Permittee shall immediately implement the modified exclusion zone and shall notify the Executive Director of the change. Notification shall include a summary of hydroacoustic testing results that provide a justification for the modified exclusion zone(s).
- i. An initial ramp-up period or "soft start" procedure at the commencement of impact hammer pile-driving activities shall be implemented for the hydroacoustic testing, to avoid potential impacts to marine mammals that may be present in the exclusion zone (see subsection (e) above). 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.

Minor adjustments to the above HTP requirements may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources. All requirements above and all requirements of the approved HTP shall be enforceable components of this CDP. The Permittee shall undertake development in conformance with this condition and the approved HTP, unless the Commission amends this CDP, or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

Modify Special Condition 3 on staff report page 6 as follows:

- 3. **Hydroacoustic Testing Report.** No more than 30 days after the completion of the required initial hydroacoustic testing activities, the Permittee shall submit a final hydroacoustic testing report to the Executive Director for review and approval. The final report shall compare results of hydroacoustic testing during the installation of timber piles on both Wharf 1 and Wharf 2. If hydroacoustic testing is completed at both wharves during the same repair cycle, the report shall be a final report; if

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hydroacoustic testing is completed during different repair cycles, one report per wharf shall be submitted. The final report(s) shall include a description of all pile driving activities, a description of the hydroacoustic testing equipment and protocols that were used during the pile driving activities, the results of the hydroacoustic testing, a determination of the necessary marine mammal exclusion zones to be implemented during future pile driving activities at each wharf, and a description of any observable fish and marine mammal behavior that took place during hydroacoustic testing activities. The final report, or the report for the second wharf for hydroacoustic testing done during a separate repair cycle, shall compare results of hydroacoustic testing during the installation of timber piles on both Wharf 1 and Wharf 2.

Modify Special Condition 4 on staff report pages 6-9 as follows:

- 4. Marine Wildlife Protection Plan.** PRIOR TO ISSUANCE OF THIS CDP, the Permittee shall prepare a Marine Wildlife Protection Plan (MWPP) for review and approval by the Executive Director. The MWPP shall incorporate the following parameters to be implemented during all timber pile driving activities that are done using an impact hammer:
 - a.** An initial ramp-up period or "soft start" procedure at the commencement of 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 mammals that may be present, ~~but undetected,~~ in the exclusion zone(s) (see also subsection (e) below). 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. ~~A soft start will only be implemented if no sea otters, cetaceans, or sea turtles are present within the 100-meter exclusion zone (described in subsection (e) below).~~ 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.
 - b.** One qualified marine mammal observer (MMO), or more if required to effectively observe the entire exclusion zone(s), shall be present to conduct observations during all pile driving activities. Each MMO shall be a qualified wildlife biologist with experience observing marine mammals and differentiating normal behavior from signs of injury or distress. MMO duties shall be dedicated to observing marine wildlife only, and the MMO shall not be assigned other pile driving-related duties. The MMO 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 the entire exclusion zone(s) without obstruction.
 - c.** Pinnipeds (i.e., seals and sea lions) shall have a discretionary exclusion zone of 50 meters. The effects of pile driving noise on pinnipeds located within 50 meters of pile driving activities shall be monitored by the MMO using the following

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criteria:

- ~~1. The first piles to be driven will be located as far as possible from known pinniped haul-out locations in the vicinity of either wharf's substructure so that the reaction of the pinnipeds to pile driving activities can be evaluated. The MMO shall monitor pinniped reactions during the initial pile driving strikes and then report these observations and related information to the Executive Director in the required Hydroacoustic Testing Report (see **Special Condition 3**).~~
 2. If the normal commotion of preparing the work site for the day's pile driving does not cause the resident pinnipeds to disperse away from the wharf, the MMO will record this in the required logs (see subsection (d) below) and take photos of any lingering pinnipeds on the wharf's substructure.
 3. If pinnipeds remain within the vicinity of either wharf after the initial ramp-up period described in subsection (a) above, regular pile driving activities may proceed as long as the pinnipeds do not exhibit any observable signs of injury or distress.
 4. If one or more pinnipeds appear injured or distressed, the MMO shall direct pile driving activities to cease until the animal leaves the monitoring zone or is determined by the MMO to no longer be at risk.
- d. The MMO shall maintain a daily log of observed marine animals' (i.e., marine mammals and sea turtles) behavior that shall be of sufficient detail to determine whether the project causes observable effects to marine animals. A copy of the MMO'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 within a week of completion of any pile driving event. 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., Wharf 1 or Wharf 2, the number of timber piles being driven and their location on the wharf, the type of hammer being used, etc.) 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 animals.
 6. A description of any observable marine animal behavior patterns, including those in response to piling driving activities, including their location and

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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.)*
8. *Other human activities in the area.*
- e. *During hydroacoustic testing in accordance with the HTP (**Special Condition 2**), the MMO shall establish a 100-meter exclusion zone for cetaceans, and sea turtles, and a 50-meter exclusion zone for sea otters from the work site. If the MMO observes any cetaceans, sea turtles, or sea otters within the specified is exclusion zone(s) (see subsection (c) above for pinnipeds), the MMO 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 the cetaceans/sea turtles/sea otters are observed to leave the ~~specified 100-meter~~ specified 100-meter exclusion zone(s) or are not observed within the specified 100-meter exclusion zone(s) for at least 30 minutes.*
- f. *Once hydroacoustic testing is complete, for all subsequent days of pile driving, the outer edge of the exclusion zone(s) for cetaceans, sea turtles, and sea otters shall be determined by the results of the Hydroacoustic Testing Plan (**Special Condition 2**).*
- g. *Pile driving activities shall only occur during daylight hours (i.e., from one hour before sunrise to one hour after sunset). If the exclusion zone(s) is 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 entire exclusion zone(s) is visible to the MMO.*
- h. *A report summarizing the results of monitoring activities shall be submitted to the Executive Director following implementation of any repair construction cycle during the five-year term of this CDP. The report shall include marine mammal observations (see subsection (d) above), descriptions of any project delays or cessation of operations due to the presence in the project area of marine mammal species subject to protection, and an evaluation of monitoring protocol effectiveness.*
- i. *To protect spawning grunion, the MWPP shall include a provision that prohibits piling replacement/repairs and maintenance of substructure wharf components at located under the base of Wharf 2 (i.e., in the sandy intertidal zone) during the month of May grunion spawning season (i.e., May through August).*

*The requirements of the approved MWPP are to be implemented during all pile driving activities at the municipal wharves, including during hydroacoustic testing activities authorized pursuant to **Special Condition 2**. Minor adjustments to the above MWPP requirements may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely*

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impact coastal resources. All requirements above and all requirements of the approved MWPP shall be enforceable components of this CDP. The Permittee shall undertake development in conformance with this condition and the approved MWPP, unless the Commission amends this CDP, or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

Modify Special Condition 5 on staff report pages 9-10 as follows:

- 5. Pre-Construction Biological Surveys.** *Prior to any hydraulic jetting, pile repair, or pile replacement activities, the Permittee shall conduct pre-construction biological surveys, as described below, and shall submit the results of such surveys to the Executive Director for review and approval, as follows:*
 - a. Eelgrass.** *A pre-construction eelgrass survey of the areas within 10 meters of all subsurface foundation components proposed for repair or replacement (i.e., all pilings and any concrete substructures) ~~for the areas under both wharves and within a 10-meter buffer area along each wharf during the period of active eelgrass growth (i.e., April through October).~~ The pre-construction survey shall be completed no more than 60 days prior to the beginning of construction and shall be valid until the next period of active eelgrass growth. The eelgrass survey and mapping shall be prepared in full compliance with the California Eelgrass Mitigation Policy (CEMP), and in consultation with the National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW). Divers or side-scan sonar shall be used to complete the survey. ~~If side-scan sonar methods will be used, evidence of a permit issued by the California State Lands commission (CSLC) for such activities shall be provided to the Executive Director prior to the commencement of survey work.~~ The Permittee shall submit the pre-construction eelgrass survey for review and approval by the Executive Director ~~within five business days of completion of each eelgrass survey and, in any event, no later~~ no more than 1530 business days prior to commencement of construction. If the eelgrass survey identifies any eelgrass within the project area that may potentially be impacted by the proposed project activities, such activities will be avoided. If avoidance is not possible, the Permittee shall complete and submit a post-construction eelgrass survey for the review and approval of the Executive Director within 30 days after completion of the survey. If any eelgrass has been adversely impacted, the Permittee shall replace the impacted eelgrass at an appropriate location in the vicinity of the wharves at a minimum ratio of 1.2:1 (mitigation:impact) ratio, or at another location approved by the Executive Director, in accordance with the CEMP. Eelgrass mitigation shall be completed in consultation with the CDFW and NMFS.*
 - b. Black Abalone.** *A pre-construction black abalone survey of all pilings or floating docks proposed for removal/repair, the concrete breakwater located along the eastern edge of Wharf 2, as well as rocky (or otherwise hardscaped) areas and intertidal areas within 10 meters of the pilings or floating docks proposed for*

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removal or repair. The survey shall be completed in spring ~~within 30 days~~ prior to construction activities. The survey shall be completed by a NMFS-qualified biologist visually on foot for intertidal areas located above the mean lower low water (MLLW) datum and by a diver for intertidal areas located below MLLW and for pilings proposed for repair or removal. The survey results, including a map showing the locations of all black abalone identified during the survey and their maximum shell length to the nearest millimeter, shall be submitted to the Executive Director for review and approval no more than ~~60~~ 15 days prior to commencement of pile driving or hydraulic jetting activities. If any pre-construction black abalone survey indicates the presence of black abalone on in-water pilings or floating docks proposed to be repaired or replaced, the survey report shall include a Mitigation Plan that identifies specific methods to remove and relocate black abalone to a suitable area.

Modify Special Condition 8 on staff report page 12 as follows:

- 8. Daylight Work Only.** All work shall take place during daylight hours (i.e., from one-hour before sunrise to one-hour after sunset), except that the Executive Director may 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 waters and beaches, and to avoid coastal resource impacts, as much as possible.

Modify text on staff report pages 27-29 as follows:

Thus, to ensure that the modeling results are accurate, the Applicant proposes to submit a Hydroacoustic Testing Plan (HTP) to verify the size of the exclusion zones to be implemented for each wharf when driving timber piles with an impact hammer. Pile driving is not proposed during the first repair cycle. Hydroacoustic testing at each wharf may occur during the same repair cycle, or during different repair cycles depending on when pile driving activities are needed at either wharf. The HTP would be implemented to determine the appropriate EZs that should be used for all future pile driving activities at these wharves, based on empirical pile driving results (including typical background noise) for these specific locations (**Special Condition 4(f)**). The HTP 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 HTP. The HTP would specify the testing scheme and methods used to obtain and report the results of the hydroacoustic testing and will ensure that the decibel units used in establishing the permanent marine mammal exclusion zones are consistent with the most current guidance provided by NMFS and Southhall et al. 2019. Further, **Special Condition 2** codifies that one or multiple (as necessary) MMOs will be present during all pile driving activities for which hydroacoustic testing is taking place. If sound thresholds are exceeded beyond the proposed exclusion zone(s) used during HTP implementation and/or if the marine mammal monitor observes dead or injured fish in

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the vicinity of active pile driving operations, the exclusion zone(s) shall be expanded, or additional feasible power reduction and/or sound dampening measures shall be employed. The MMO will also have the authority to trigger an immediate shut down of pile driving activities if a marine mammal (other than pinniped) or a sea turtle is observed within the EZ's. Additionally, **Special Condition 2** includes protocols for communicating hydroacoustic testing results, including any changes in the boundaries of the exclusion zone, to the Commission's Executive Director. **Special Condition 3** requires the submission of a hydroacoustic testing report within 30 days of completion of the required hydroacoustic testing activities. The report will be a final report if hydroacoustic testing is implemented on both wharves during the same repair cycle. Otherwise, the results of hydroacoustic testing will be submitted no more than 30 days after completion of hydroacoustic testing at either wharf with the second report also containing a final report. The final report will compare hydroacoustic testing results on both Wharf 1 and Wharf 2 to determine the appropriate EZs for all future timber pile driving using an impact hammer for both wharves, including whether each wharf should have its own distinct set of EZs.

The extensive use of the wharves by California sea lions and harbor seals poses a challenge for observing the proposed 50-meter exclusion zone while conducting timber pile driving. Yet, it is understood that these species are accustomed to a noisy waterfront and are not easily deterred by human activities. For example, monitoring of behavioral disturbance of seabirds and marine mammals during similar construction at the U.S. Coast Guard breakwater, just northwest of the wharves and also in the Monterey Harbor, determined that disturbance resulting from construction was minor and did not cause long-term or permanent changes in behavior.² Thus, it is anticipated that pinnipeds accustomed to living on the substructure of the wharves will tolerate some amount of commotion and disturbance associated with the project's pile driving activities. Instead of ceasing activities if a pinniped is observed within the 50-meter EZ, the effects of pile driving noise on all pinnipeds within 50 meters of pile driving activities will be monitored and the MMO will have the discretionary authority to cease pile driving activities if a pinniped appears injured or distressed. Further, the first piles to be driven during hydroacoustic testing will be located as far as possible from known pinniped haul-out locations in the vicinity of either wharf's substructure so that the reaction of the pinnipeds to pile driving activities can be evaluated. The MMO shall monitor pinniped reactions during the initial pile driving strikes and then report these observations and related information to the Executive Director in the required Hydroacoustic Testing Report (see **Special Condition 3**). Finally, ~~In addition,~~ a series of protections for pinnipeds will be implemented during all pile driving activities to ensure the protection of these species (**Special Condition 4(c)**).

Special Condition 4 further includes a number of measures to be implemented during all pile driving activities at the municipal wharves and describes the responsibilities of

² Revised Request for Incidental Harassment Authorization for Waterfront Repairs at U.S. Coast Guard Station Monterey, California (<https://www.fws.gov/ventura/docs/species/ss0/2017%207-11%20Revised%20Request%20for%20IHA.pdf>).

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the MMOs, which include: monitoring the exclusion zone, evaluating the effects of pile driving on pinnipeds in the project area, requiring cessation of pile driving activities if marine mammals (other than pinnipeds) or sea turtles enter the exclusion zone or if pinnipeds show signs of distress or if the exclusion zone is not entirely visible (e.g., due to darkness or fog), the keeping of daily logs during piling driving events, and the submission of an annual report summarizing the results of that year's monitoring activities.

The Applicant's proposed EZs, which would be used observed during hydroacoustic testing activities, are 100 meters for cetaceans and sea turtles, 50 meters for pinnipeds (see above), and 30 meters for sea otters. However, the proposed EZ for sea otters may not be adequate because it is based on the otariid pinniped hearing group due to lack of data on sound thresholds for sea otters in the 2016 NMFS guidance. The most recently published guidance includes sound thresholds for amphibious species, such as the sea otter.³ Thus, the proposed EZ for sea otters is not based on published sound thresholds for that species. Additionally, in consultations with U.S. Fish and Wildlife (USFW) staff on whether federally threatened species near the wharves (including the southern sea otter) may be adversely affected by proposed repair and maintenance activities, USFW staff determined that adverse impacts to the southern sea otter would not be likely to adversely affect sea otters if a 50-meter EZ was observed during pile driving activities. Thus, given that the southern sea otter is a federally protected species, a 50-meter EZ for sea otters is warranted. Special Condition 2(e) specifies that a 50-meter EZ for sea otters and a 100-meter EZ for cetaceans and sea turtles will be used for pile driving activities during which hydroacoustic testing will take place. Given that the southern sea otter is a federally protected species, a 100-meter EZ for sea otters is warranted. Special Condition 2(e) specifies that a 100-meter EZ for marine mammals (other than pinnipeds) and sea turtles will be used for pile driving activities during which hydroacoustic testing will take place. Special Condition 3 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, adverse impacts to marine mammals, sea turtles, and fish species during pile driving activities are appropriately addressed, and the project can be found consistent with Coastal Act Sections 30230 and 30231.

Modify text on staff report pages 30-31 as follows:

To avoid or minimize impacts to eelgrass beds due to future project activities, the Applicant proposes to complete pre-construction eelgrass surveys prior to any piling replacement activities (whether via hydraulic jetting or pile driving) to map the extent of eelgrass habitat within and immediately adjacent to the proposed activities. Such surveys are proposed to be conducted by individuals located either atop the wharves' decks and/or from a small boat. Any eelgrass identified by the surveys would be avoided during piling replacement activities. However, CDFW staff confirmed that eelgrass beds cannot be reliably identified from above the water's surface. In addition,

³ Southall et al, 2019.

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the proposed surveys are limited to 10 meters from any pile proposed for replacement and do not include other subsurface structures on the seafloor included in the Program, such as concrete block foundations proposed for repair. To ensure the proposed pre-construction surveys accurately capture the extent of any eelgrass under or near the wharves, **Special Condition 5(a)** requires that the eelgrass pre-construction eelgrass surveys occur within 10 meters of all subsurface foundation components proposed for repair or replacement, including concrete substructures, and that the pre-construction eelgrass surveys be completed by divers and also requires such surveys to be completed in accordance with California Eelgrass Mitigation Policy (CEMP) guidelines. Further, the proposed eelgrass surveys do not address how eelgrass mitigation will occur in the chance the eelgrass identified in the survey is impacted by Program activities. To ensure that project impacts to eelgrass are minimized or appropriately mitigated for **Special Condition 5(a)** requires completion of a post-construction eelgrass survey when impacts to eelgrass from project activities cannot be avoided, and also requires that any eelgrass adversely impacted by Program activities be replaced at a minimum ratio of 1.2:1 (mitigation:impact) ratio either in the vicinity of the wharves, or at another location approved by the Executive Director, in accordance with the CEMP. Further, In addition, to minimize the potential for smothering of eelgrass during hydraulic jetting, the Applicant proposes to use silt curtains (or other appropriate turbidity containment methods) if water jetting activities are proposed within 50 meters of eelgrass identified in the pre-construction surveys. This measure is codified in **Special Condition 6.** With these measures in place, adverse impacts to eelgrass are appropriately addressed, and the project can be found consistent with the requirements of Coastal Act Sections 30230 and 30231. ...

To minimize impacts from piling replacement on black abalone, the Applicant proposes to conduct pre-construction surveys of suitable habitats (i.e., pilings or floating docks proposed for removal/repair, the concrete breakwater along the eastern edge of Wharf 2, and rocky/intertidal areas) by a NMFS-qualified biologist ~~within 30 days prior to commencement of activities~~ to ensure no black abalone are present. Such surveys of the intertidal habitat or wharf components would be completed visually (i.e., from above the water's surface in a boat) unless water visibility is too low to accurately assess the presence of black abalone, in which case divers will be used to complete the survey. However, it is unlikely that black abalone in the portion of the intertidal zone located below the mean lower low water (MLLW) datum could be observed during a visual survey by boat given the cryptic and crevice-dwelling nature of this species, To ensure the proposed pre-construction surveys accurately capture all black abalone, **Special Condition 5(b)** further requires that the pre-construction surveys be completed in spring by divers, except for intertidal areas above the MLLW datum where such surveys may be conducted on foot.

Modify text on staff report page 32 as follows:

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,

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and ecosystem services (i.e., the benefits people obtain from ecosystems, such as food and recreation).⁴ Artificial night lighting could potentially affect terrestrial and avian species associated with the shore (e.g., sleeping organisms become more susceptible to predation by nocturnal species). Sessile marine organisms could be affected by changes to diurnal cues for reproduction, by being more visible to predators, or due to altered growth patterns (e.g., photosynthesizers). In addition, the locally rare California grunion (*Leuresthes tenuis*) is known to consistently spawn on the portion of Del Monte Beach located underneath the base of Wharf 2 and on the beach area just upcoast of Wharf 2. Grunion typically spawn on this beach between May and August during the highest nighttime spring tides. Female grunion swim ashore at night with the rising high tide and lays eggs in the sand, which are then fertilized by the male grunion. The eggs incubate in the sand for 10-14 days and then hatch on the next high tide. Program activities are proposed to occur following Labor Day (first Monday of September) and prior to the Memorial Day weekend, which coincides with the grunion spawning period in early and mid-May. Lighting of nighttime waters during spawning could make individuals more vulnerable to predators when they reenter the water, and thus the proposed activities also have the potential to adversely impact spawning events. Given the location of the municipal wharves in the Monterey Bay, which coincides with where sensitive or protected species, such as grunion and other intertidal organisms are present, the use of artificial lighting during Program activities has the potential to adversely impact intertidal species and grunion in the ways described above.

The City has agreements with tenants on Fisherman's Wharf (i.e., Wharf 1) that allow for repair and maintenance of the wharf while minimizing disruption to wharf businesses, including to avoid pile-driving during business operating hours. Many wharf restaurants open for business relatively early in the day, and there is oftentimes only a small window (from daylight until about 10am) during which to drive piles. To avoid significantly impacting wharf businesses, the Applicant proposes some early morning (i.e., starting around 4am) preparation activities atop the wharf itself (e.g., mobilizing equipment, modifying decking for piling access, etc.), but no in-water work.

Currently, there is ambient lighting on the wharf overnight and during the early morning hours when such preparation work is proposed (i.e., existing modest nighttime lighting to ensure wharf public safety), and it is unlikely that additional significant lighting would be required to facilitate such preparation activities. Similarly, Wharf 1 is already fairly active during these same early morning hours (e.g., with deliveries, trash/recycling pick up, cleaning, etc.), and noise and activity levels are not expected to dramatically increase from such construction preparation work either. The wharf is also covered in asphalt and buildings (with the buildings oriented along the edges of the wharf), and thus by design it already helps to dilute/diffuse the effects of any noise, lights, and activities from being perceived below it, especially in the ocean itself. Thus, the proposed early morning preparation activities are unlikely to result in the types of

⁴ Garratt, M., et al. (2019). Mapping the consequences of artificial light at night for intertidal ecosystems. *Science of the Total Environment*, 691, 760-768.

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nighttime problems that are often associated with such work in and around the beach and ocean waters (i.e., related to construction noise, lights, and activities).

To minimize impacts from such early morning preparation activities, the Applicant proposes to avoid such work as much as possible. When such work at night is necessary due to extenuating circumstances (such as may be the case with the pile-driving preparation work described above), the Applicant intends to rely on existing ambient wharf lighting as much as possible. However, if additional lighting is necessary to safely complete the work, the Applicant proposes that such lighting be limited to a maximum of three directional spotlights (either mounted on tripods or set on the wharf deck facing upwards) placed in such a way as to prevent illuminating ocean waters. These measures should help to limit any potential impacts. In order to ensure coastal resource protection, this approval allows for such limited early morning preparation activities subject to Executive Director signoff to ensure appropriate resource protection precautions are taken and to ensure there will be no significant impacts to coastal resources from them (see **Special Condition 8**). ~~Special Condition 8 prohibits nighttime lighting of coastal waters by limiting the daily work window to daylight hours (i.e. one hour before sunrise to one hour after sunset).~~ To further protect grunion from piling construction activities prior to the Memorial Day weekend in May, **Special Condition 4(i)** prohibits ~~piling replacement on the beach area~~ repair and/or maintenance of substructure wharf components located under the base of Wharf 2 (i.e., in the sandy intertidal zone) during the grunion spawning season (i.e., May through August) ~~May~~. With these measures in place, adverse impacts to intertidal species and grunion from nighttime lighting, and to grunion from piling construction activities, are appropriately addressed, and the project can be found consistent with Coastal Act Sections 30230 and 30231.