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W33b

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Staff: Rainey Graeven - SC
Staff Report: 10/25/2019
Hearing Date: 11/13/2019

STAFF REPORT: CDP HEARING

Application Number: 3-19-0344

Applicant: Santa Cruz County Department of Public Works (Flood Control Division)

Project Location: Pajaro River mouth (the southwest most extent of Santa Cruz County, adjacent to the Monterey County line)

Project Description: Breaching of the sandbar at the mouth of the Pajaro River as necessary for flood control purposes

Staff Recommendation: Approval with Conditions.

SUMMARY OF STAFF RECOMMENDATION

The Santa Cruz County Public Works Department is proposing periodic breaching of the sandbar at the mouth of the Pajaro River as necessary for flood control purposes. Like many central coast rivers, a sandbar periodically forms at the mouth of the Pajaro River, preventing river outflow to the ocean. During some years, winter flows and wave action are not sufficient to naturally breach the sandbar; consequently, as river flows are impounded behind the sandbar, water levels rise in the river channel and the Pajaro River lagoon and its associated sloughs and marshes, causing localized flooding in the agricultural and residential areas surrounding the lagoon. To prevent flooding-related health and safety hazards, as well as property damage, the sandbar is mechanically breached when lagoon waters threaten to rise to flood stage.

Artificial breaching can have deleterious impacts on marine and riverine resources, including potential tidewater goby strandings, increased spawning migration times for early run steelhead that may enter the river following a mechanical breach, and a potential reduction to marsh habitat

area if breaching occurs before the outermost extent of the marsh habitat is inundated by rising lagoon/river levels. Pursuant to Coastal Act Section 30236, such substantial alteration of streams may be permitted for, among other things, flood control where no other method for protecting existing structures is feasible and where such protection is necessary for public safety or to protect existing development. In addition, Coastal Act Sections 30230 and 30231 provide for protection of marine and riverine environments, and Coastal Act Section 30240 provides protection for environmentally sensitive habitat areas and the species associated with these habitats.

To maintain consistency with these Coastal Act requirements, staff recommends that the Commission **approve** the proposed breaching activities as conditioned in this report to require that breaching occur only at specified times and location, and by specific methods agreed to by the California Department of Fish & Wildlife (CDFW), U.S. Army Corps of Engineers (ACOE), the National Marine Fisheries Service (NMFS), and the U.S. Fish & Wildlife Service (USFWS). The conditions of approval also require extensive monitoring of the breach area and the lagoon environment in order confirm the projections by USFWS and NMFS that breaching activities are unlikely to negatively impact habitat or population recovery efforts. The project is also conditioned to require protection of public access and implementation of best management practices during mechanical breaching events. Finally, the recommended permit conditions limit the duration of the permit to the expiration of the ACOE permit for the same project or as soon as the County has financed and implemented the Ecosystem Resiliency project, whichever occurs first, with the intent to transition away from managed breaches altogether. Therefore, as conditioned, the project is consistent with the Coastal Act, and staff recommends **approval** of the CDP. The motion is found on page 4 below.

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I. 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 3-19-0344 pursuant to the staff recommendation, and I recommend a **yes** vote.*

***Resolution to Approve CDP:** The Commission hereby approves Coastal Development Permit Number 3-19-0344 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable 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.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Approved Project and Breaching Requirements.** This CDP approves the breaching of the sandbar at the mouth of the Pajaro River lagoon according to the methods and procedures described in all of the following: the Pajaro River Lagoon Management Plan, the California Department of Fish & Wildlife's (CDFW's) 1602 Lake and Streambed Alteration Agreement (**Exhibit 8**), the Army Corps of Engineer's (ACOE's) Provisional Permit No. 2007-00848S (which includes the requirements of the NMFS and USFWS Biological Opinions (**Exhibits 6 and 7**)), the Central Coast Regional Water Quality Control Board's (RWQCB) certification (Certification No. 34416WQ19 dated 12/26/2016), and the conditions of this permit.
 - a. **Duration of Authorization of Permit.** The duration of authorization for development approved under this permit is from the date of the Commission's approval (i.e., **November 13, 2019**) until **March 1, 2027** (which is the tentative expiration date of ACOE's Provisional Permit # 2007-00848S), or until a "Coastal Ecosystem Resiliency Project" (as is described in the Applicant's "Coastal Conservancy Proposition 1 Grant Application" – see **Exhibit 10**) is implemented for the lower Watsonville Slough, whichever of these occurs first.
 - b. **Seasonal Breaching Window:** Breaching may occur between and including October 15th and February 28th of each breaching season if all of the following conditions are present: 1) the staff gauge¹ reading is 4.5 feet or greater; 2) flooding is expected to worsen based on rainfall and/or tidal forecasts, and; 3) the river mouth is either closed or expected to close.
 - c. **Pre-Breach Requirements:** Within 72 hours prior to breaching, a CDFW-approved biologist shall survey the beach and breaching location for western snowy plovers and other special-status species and their habitat, including Globose dune beetles, the California legless lizard, Monarch butterflies, sand-loving wallflower, and the Monterey spineflower. All wildlife species encountered during surveys shall be recorded and avoided as a part of breaching activities, including in accordance with the Final Lake/Streambed Alteration Agreement issued by CDFW, as applicable.
 - d. **Breaching Protocol:** All breaching for the duration of authorization for development under this permit shall adhere to the following protocols:
 - i) Vehicles/heavy equipment shall not exceed ten miles per hour when traversing the beach.
 - ii) The breach channel shall be angled diagonally (see **Exhibit 3**) to the south from the lagoon toward the crest of the barrier beach and then in a direct line to and through the barrier beach crest to the ocean. Approximately 5-10 feet inland from the barrier

¹ The staff gauge is a pole located near the entrance to the Palm Beach Day Use Area that indicates the river's level measured in feet above mean sea level (MSL).

beach crest, the outlet channel shall be fanned out mechanically to reduce scour of the outlet channel. The excavated channel shall be wide and shallow (approximately 10 feet wide and 3 feet deep) to minimize scouring and to maintain lagoon habitat to the maximum extent feasible. Excavation of the breach channel shall begin on the seaward side and gradually move toward the lagoon side. A sand plug shall be left in place between the ocean and lagoon during initial channel excavation; once lagoon waters begin to trickle into the breach channel, all mechanical excavation shall cease and the channel shall be allowed to naturally increase in width and size.

- iii) To the maximum extent feasible, mechanical breaching shall be conducted during spring tides (i.e., tides surrounding either new or full moons) when there is increased likelihood of a successful breach, reduced likelihood of unintentional subsequent mouth closure, and reduced need for multiple mechanical breaches within any given season.
- iv) To the maximum extent feasible, mechanical breaching activities shall occur at variable staff gauge thresholds (as opposed to fixed thresholds). In other words, breaching shall be delayed as long as possible and occur at varying staff gauge readings above 4.5 feet MSL (as opposed to consistently when the staff gauge reads 4.5 feet above MSL) to more closely simulate a natural system.
- v) Managed breaches shall not take place prior to marsh plain inundation (i.e., the lagoon's water level shall be allowed to reach the outermost extent of existing high marsh habitat to ensure that the entire marsh area is wetted ahead of lagoon evacuation). The marsh plain shall be recognized as the area out to the outermost extent of high marsh vegetation and shall be documented from permanent photopoints along with concurrent measurements of the water level and a record of approximate dates of inundation (i.e., the number of days the marsh area has been wetted prior to a breach event).
- vi) The number of breaches shall be limited to six for the duration of authorization for development under this permit (see **Special Condition 1(a)**), consistent with the number of breaches allowed pursuant to ACOE's Provisional Permit No. 2007-00848S. To the maximum extent feasible, breaching shall be delayed as long as possible to reduce multiple mechanical breaches within a given season and to allow for natural breaches when feasible.

2. Other Agency Approvals. No later than the dates shown below, the Permittee shall submit to the Executive Director for review evidence from the RWQCB and CDFW that the following authorizations for breaching been extended:

- a. RWQCB 401 Water Quality Certification Permit: 12/22/2021
- b. CDFW 1602 Lake and Streambed Alteration Agreement: 12/31/2022

3. Public Access. Operational plans for breaching shall minimize disruption of public access to and along the beach. Staging areas shall be located in a manner to least interfere with public access. Equipment on the beach shall be removed promptly upon completion of the breaching

event. During a breaching event, the Permittee shall install temporary fencing or flagging as necessary in a manner that will maintain the general public's ability to gain access to and along the shoreline outside of the breaching area, while protecting public safety.

4. **Breaching/Mobilization Notification.** The Permittee shall notify the Executive Director and staff with the Santa Cruz District of State Parks at least **48 hours** prior to mobilization for any breach. This notification shall demonstrate the need for the breach by including the current height above Mean Sea Level (MSL) as measured at the staff gauge at Watsonville Slough, potential flooding conditions due to expected rainfall and/or tidal forecasts, and the status of the river mouth (e.g., closed or expected to close), as required by Special Condition 1(b).
5. **Monitoring Reports.** Following each mechanical breach, or on an annual or other basis as set forth below, the following sampling/survey results, completed in accordance with the project description and the terms and conditions contained in this CDP, the CDFW permit (see **Exhibit 8**), and the NMFS (see **Exhibit 6**) and USFWS (see **Exhibit 7**) Biological Opinions that informed the ACOE permit, shall be submitted to the Executive Director (and to the Santa Cruz District of State Parks) for review per the following schedule:
 - a. **Within Five Days of Receipt by the Permittee:** 1) Mapping and bathymetry results; 2) Photographs of the lagoon taken before, during, and after breaching; 3) Water quality sampling results; 4) Surveys for western snowy plovers, including any documented impacts to this species; 5) Monitoring logs including the date and time of breaching, type of equipment and labor used, daily water depth measured at the Watsonville Slough staff gauge, and a description of tidal and wave action during the breach; 6) The annual report summarizing fish sampling data; and 7) The ACOE report on the effectiveness of the terms and conditions contained in the U.S. Fish & Wildlife's and National Marine Fisheries' Biological Opinions regarding the western snowy plover and the tidewater goby.
 - b. **Within 45 Days of the Conclusion of Any Breaching Event:** A post-breaching report shall be submitted that provides detailed documentation of lagoon conditions, breaching activities, and pre- and post-breach monitoring. The report shall also contain as-implemented drawings detailing how the breach was done.
 - c. Either in conjunction with or in addition to one of the above-mentioned reports, the Permittee shall submit an annual report (regardless if breaching occurred during the previous season) documenting the state of the river mouth and closure durations using water pressure sensors (once the County acquires and installs water pressure sensors), photo documentation of the lagoon, lower Slough, and Pajaro River throughout the season as a part of daily inspections when the staff gauge reading is +3.5 feet MSL; and to the extent feasible to better inform the "Coastal Ecosystem Resiliency Project:" salinity, temperature and dissolved oxygen time-series sensors as well as morphology surveys of the sand barrier and channel depth including the upper extents of marshes, floodplains, and dunes.

6. Construction Site Documents & Construction Coordinator. DURING ALL BREACHING ACTIVITIES:

- a. Construction Site Documents.** Copies of the signed coastal development permit shall be maintained in a conspicuous location at the breaching site at all times, and such copies shall be available for public review on request. All persons involved with a mechanical breach shall be briefed on the content and meaning of the coastal development permit, and the public review requirements applicable to them, prior to commencement of breaching activities.
- b. Construction Coordinator.** A construction coordinator shall be designated to be contacted during all breaches should questions arise regarding the breaching (in case of both regular inquiries and emergencies), and the coordinator's contact information (i.e., address, phone numbers, etc.) including, at a minimum, a telephone number that will be made available 24 hours a day for the duration of any breach, shall be conspicuously posted at the job site where such contact information is readily visible from public viewing areas, along with an indication that the construction coordinator should be contacted in the case of questions regarding breaching activities (in case of both regular inquiries and emergencies). The construction coordinator shall record the name, phone number, and nature of all complaints received regarding any mechanical breach, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry.

7. Best Management Practices during Construction. The following best management practices shall be employed during each mechanical breach to ensure protection of water quality:

- a.** All work shall take place during daylight hours;
- b.** Equipment operations shall not be conducted below the mean high water line unless tidal waters have receded from the authorized work areas (i.e., the area where the excavation channel is dug);
- c.** When transiting on the beach, all vehicles shall remain as high on the upper beach as possible (but shall avoid dune habitat) and shall avoid contact with ocean waters as much as feasible.
- d.** All vehicles and equipment shall be removed in their entirety from the beach area by sunset each day that work occurs.
- e.** Equipment washing, refueling, and/or servicing shall not take place on the beach.
- f.** Any equipment or vehicles driven onto the beach and/or operated within or adjacent to the Pajaro River shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic life.

8. Minor Changes. The Permittee may only undertake development in conformance with the terms and conditions of this CDP, which shall also be enforceable components of this CDP. Any proposed project changes, including in terms of changes to identified requirements in

each condition, shall either (a) require a CDP amendment, or (b) if the Executive Director determines that no amendment is legally required, then such changes may be allowed by the Executive Director if such changes: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

IV. FINDINGS AND DECLARATIONS

A. PROJECT LOCATION, BACKGROUND, AND DESCRIPTION

Project Location

The Pajaro River forms the boundary between Santa Cruz County and Monterey County, and discharges into the Monterey Bay National Marine Sanctuary (Sanctuary). The project site is located at the sandbar that typically closes off the mouth of the Pajaro River during the summer and fall months of each year. The Pajaro River lagoon spans from the river mouth to the Highway 1 Bridge, a length of approximately 4.5 miles. The lower Pajaro River lagoon is designated as the area between the river mouth and the upper limits of salt marsh (about 2,000 feet upstream from the river mouth). Watsonville Slough, which is generally considered a part of the lagoon, flows into the river from the north, and is located immediately inland of the Pajaro Dunes residential community, which in turn is located along approximately 1.75 miles in the dune area behind and adjacent to Sunset State Beach. Palm Beach is a day use area of Sunset State Beach, and has a separate entrance. Sunset State Beach and Palm Beach are located just north of the Pajaro River mouth in Santa Cruz County, and Zmudowski State Beach is located just to the south in Monterey County. The southernmost portion of the Pajaro Dunes residential community is located adjacent to the river mouth; however, the precise location of the river mouth changes seasonally, and thus sometimes it is closer to the Pajaro Dunes residential community, and other times it is closer to Zmudowski State Beach. Agricultural lands surround the river on both the northern and southern sides of the lagoon. See **Exhibit 1** for a location map and **Exhibit 4** for photographs of the project site.

Flood Impact Levels and Permitting/Breaching History

Like many California central coast rivers, a sandbar periodically forms at the mouth of the Pajaro River, typically in the late summer or fall. The sandbar closes off the mouth of the river, preventing river outflow to the ocean. Normally, the sandbar is breached by winter flood flows and the high-energy waves accompanying winter storms. However, during some years, winter flows and wave action are not sufficient to naturally breach the sandbar; consequently, as river flows are impounded behind the sandbar, water levels rise in the river channel and in the Pajaro River lagoon and its associated sloughs and marshes, causing localized flooding in the agricultural and residential areas in the vicinity of the lagoon. When water levels reach various heights above Mean Sea Level (MSL) (as measured from the County staff gauge which is located on the southeast corner where Beach Road crosses the Watsonville Slough) flooding directly impacts the following areas:

1. The farmland on the Monterey County side of the lagoon begins to be affected at water elevations of 3.0 to 3.5 above MSL. At that level, the fields are not yet flooded but the

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soil becomes too saturated to support crops. Between elevations of 4.5 and 5.5 above MSL, the fields flood. Gravity drainage ditches function only at lower water levels.

2. At +3.5 to +4.0 MSL, marsh areas along the lagoon and the Watsonville Slough begin to flood. In spring and summer this can adversely affect nesting and foraging areas for waterfowl, especially given that the majority of the marshland in the area has been converted to agricultural use. Also, salt marsh vegetation is destroyed if it is inundated for too long a period of time.
3. At +4.0 MSL the lower areas of the Pajaro Dunes residential development begin to flood. These lower areas consist mostly of open space, but also include the Cypress House community building, which serves Pajaro Dunes' residents.
4. At +5.0 MSL the Shell Road pump systems, which function to lower water levels in Watsonville Slough, become overworked and potentially ineffective. This leads to drainage problems on agricultural lands and makes the pumps work harder. Also, the Beach Road shoulder begins to flood.
5. At +5.5 to +5.8 MSL, Shell Road and Beach Road begin to flood. This can cut off vehicle passage to and from the Pajaro Dunes residential development.
6. A sewer pump station at Pajaro Dunes begins flooding at water level +6.0 MSL. This can result in raw sewage spills into Watsonville Slough. Sewer manholes throughout the area are also flooded. PG&E junction boxes are threatened.

To prevent flood-related health and safety hazards, as well as property damage, the sandbar is mechanically breached when lagoon waters threaten to rise to flood stage, which has historically been when the staff gauge reads 4.5 feet and water levels are expected to climb (from anticipated rainfall and/or high tide events). See **Exhibit 5** for the **Technical Memorandum: Pajaro Dunes and Lagoon Flood Vulnerability Assessment** for a detailed list of all potential flood impacts at different water levels.

The table below identifies all mobilization and breaching events since 1988.² In some years (including consecutive years) no mobilization or breaching activities were conducted, while in other years, mobilization only, mobilization and a single breach, or mobilization and multiple breaches have been conducted, with at most three breaches in any one breaching season.

YEARS	DATES & ACTION TAKEN
1988/89	May 6, 1988 – Breach November 26, 1988 - Breach
1989/90	None
1990/91	March 1, 1991 – Breach May 13,15,16, 1991 – Attempted to Close River Mouth June 3, 1991 – Closed the River Mouth
1991/92	January 23, 1992 – Breach

² See discussion below in the Project Description section of this staff report for further discussion regarding the levels and specific activities associated with mobilization for breaching events.

	January 31 1992 – Breach February 1, 1992 – Breach
1992/93	October 29, 1992 – Breach December 7, 1992 – Breach
1993/94	December 9, 1993 – Breach January 24, 1994 - Breach
1994/95	December 27, 1994 - Breach
1996/97	None
1997/98	November 14, 1997 - Breach
1998/99	None
1999/00	None
2000/01	January 4, 2001 - Mobilization
2001/02	November 20, 2001 - Mobilization
2002/03	December 10, 2002 - Breach
2003/04	November 21, 2003 - Mobilization December 5, 2003 - Breach
2004/05	None
2005/06	None
2006/07	None
2007/08	December 19, 2007 - Breach
2008/09	December 18, 2008 - Mobilization January 22, 2009 - Breach
2009/10	None
2010/11	None
2011/12	January 18, 2012 - Breach
2012/13	October 22, 2012 – Mobilization November 28, 2012 – Mobilization November 30, 2012 – Mobilization December 13, 2012 – Mobilization
2013/14	January 29, 2014 – Mobilization February 12, 2014 – Mobilization February 21, 2014 – Mobilization February 27, 2014 – Mobilization February 28, 2014 - Breach
2014/15	December 3, 2014 – Mobilization December 10, 2014 – Breach (unsuccessful attempt) December 11, 2014 – Breach (unsuccessful attempt) December 12, 2014 – Breach
2015/16	December 3, 2015 – Mobilization December 7, 2015 – Mobilization December 8, 2015 - Breach
2016/17	December 1, 2016 - Breach
2017/18	January 8, 2018 - Breach
2018/19	December 18, 2018 – Breach (unsuccessful attempt)

December 20, 2018 – Breach

The Applicant (i.e., the Santa Cruz County Department of Public Works) has performed breaching activities on a relatively annual basis since the 1950s (i.e., some years the river itself breaches the sandbar, in which case no mechanical breach is required; in other years one mechanical breach is deemed necessary, and in still other years two or three mechanical breaches have been necessary because the river mouth closed after the initial breaching attempt and flooding issues persisted). Prior to the Applicant conducting the breaching events, local area residents were known to perform breaching activities on their own independent of any government oversight. The Pajaro River Lagoon Management Plan (Plan) was prepared for the County in 1993 to address lagoon flooding issues and sandbar breaching activities. As a result of the Plan, special breaching protocols to avoid adverse water quality conditions in the lagoon and to protect fisheries were identified and have been included in the sandbar breaching events since that time.

Commission regulatory authority was first exercised over Pajaro River lagoon sandbar breaching in mid-1988 during a period of unusually high lagoon water (Emergency CDP (ECDP) 3-88-57-G). Between that time and 1998, dry season breaching took place pursuant to an Interim Criteria Plan, which included a Memorandum of Understanding (MOU) between the County and the then California Department of Fish and Game (CDFG).³ In 1998, the Commission granted a five-year CDP to the County to allow breaching of the sandbar at the mouth of the Pajaro River as necessary for flood control purposes (CDP 3-97-047). This CDP was allowed subject to the requirement that the County follows the methods and procedures for breaching described in the County's Plan and in the MOU between the County and CDFG. The CDP also noted that if the MOU were not extended, then CDP 3-97-047 would expire concurrent with MOU expiration. The MOU expired without extension on June 1, 1999. Although CDP 3-97-047 expired on June 1, 1999 as well, the County performed two unpermitted breaches (one on December 10, 2002 and another on December 5, 2003). On June 15, 2006, the County secured CDP 3-03-015 for periodic sandbar breaching through September 30, 2007 consistent with the anticipated expiration of the Army Corps of Engineers' (ACOE) permit; however, that CDP was conditioned to allow for extension of the CDP up to September 30, 2012 if the ACOE permit was extended without material changes. The ACOE permit was initially extended to September 1, 2008 and then extended yearly until December 1, 2010. At that time, and as a requirement for any future ACOE breaching permit, ACOE consulted with U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) for those agencies to update and issue new Biological Opinions for future proposed breaching events. The ACOE issued a provisional permit in 2017 that provides for six breaching events until March 1, 2027; however, this ACOE permit will not take effect until the CDP that is the subject of this application is issued. The current CDP application effort is intended to ensure that appropriate protocols that minimize impacts to coastal resources are followed during any breaching events.

The County currently has the following requisite permits in place for Pajaro River breaching:

- CDFW 1602 Lake and Streambed Alteration Agreement (expires on 12/31/22);

³ CDFG was renamed as the California Department of Fish and Wildlife (CDFW) on January 1, 2013.

- Army Corps of Engineers 404 Permit (includes terms and conditions from Biological Opinions issued by NMFS and USFWS); provisional permit (valid once a valid CDP has been issued and expires on 3/1/27);
- Regional Water Quality Control Board 401 Water Quality Certification Permit (expires 12/22/21);
- State Lands Commission ten-year lease (expires on 6/27/29).

To perform breaching activities, the Applicant will need to traverse California Department of Parks and Recreation (State Parks) property with heavy equipment. State Parks is *not* requiring an encroachment permit in order for breaching mobilization access to occur on State Parks' property. Instead, a letter dated April 23, 2019 (see **Exhibit 11**) from Joanne Kerbavaz, a Senior Environmental Scientist with State Parks, states that "State Parks consents to this on-going breaching activity, but reserves the right to withdraw consent by notification of the [County] Department of Public Works and the California Coastal Commission. State Parks also reserves the right to place conditions on the breaching activities to protect State Park resources." In that letter, State Parks further recommended that the following measures be included in the breaching plan: 1) the Santa Cruz District of State Parks be notified at least 48 hours prior to mobilization of breaching activities; 2) a USFWS-approved biologist with the authority to halt work be present at all times when equipment is on the beach; 3) access to the river mouth be through the Palm Beach day use area and that a USFWS-approved biologist accompany (by walking) the heavy equipment from the Palm Beach day use area to the breaching site via the area of dry sand located below the daily high tide line (i.e. the area of beach below the wrack line but above the water level); and 4) summaries of the monitoring reports required by ACOE and CDFW be provided to State Parks once the work is completed.

Finally, the Sanctuary staff has indicated that no authorization for beaching is necessary from the Sanctuary provided that all work is conducted above the mean high tide line. Although the breaching activities would be located outside of the Sanctuary's jurisdiction, Sanctuary staff reiterated that the CDP should include appropriate water quality best management practices to protect against the discharge of any oils, fuel, etc., into Sanctuary waters from breaching equipment.

Project Description

The proposed project requests a regular breaching program to provide for seasonal breaching of the Pajaro River between October 15th and April 1st as needed for flood control purposes.⁴ Mechanical breaching becomes necessary when lagoon levels upland of the river mouth reach a certain threshold, causing flooding to adjacent agricultural land, residential land, and roads that serve as the sole ingress/egress to the Pajaro Dunes residential community.

The Applicant's staff (i.e. Santa Cruz County Department of Public Works' staff) monitors the staff gauge located at the intersection of Beach Road and the Watsonville Slough throughout the year on a weekly basis. During periods of rainfall and/or high surf, the staff gauge is observed and recorded daily. If the gauge readings begin to climb, County staff will walk out to the Pajaro River mouth to determine whether the mouth of the river is closed or likely to close. If the river

⁴ The Applicant has not requested a specific number of breaching seasons in its CDP application.

mouth remains closed (i.e., a lagoon is in place) between October 15th and April 15th County staff will record the staff gauge daily. Once the staff gauge exceeds 3.5 feet and lagoon levels are expected to rise due to predicted rainfall and higher tide events, the Applicant will begin Stage 1 of the mobilization readiness activities, which includes notifying those on the breaching program's distribution list (i.e. nearby property owners and relevant agencies), and schedule water quality and wildlife surveying as is required by CDFW's 1602 Lake and Streambed Alteration Agreement and the federal Biological Opinions. Once the staff gauge reaches 4.5 feet or higher and is expected to rise based on rainfall and/or tidal forecasts and the river mouth is closed or likely to close, the Applicant will begin Stage 2 of the mobilization readiness activities, which includes sending a notification email to those on the breaching program's distribution list, transporting the excavator to the Palm Beach day use parking lot (which serves as the staging area), and other pre-breach activities, including the training session for the mechanical breaching team, water quality testing, and wildlife surveying.

If the staff gauge continues to read 4.5 feet or higher and the river mouth remains closed (i.e. the lagoon is present), mechanical breaching activities will proceed, including pre-breach review of all permit conditions and requirements (including the requirements specified in State Parks' April 23, 2019 letter), and an inspection of the excavator. Once the excavator is determined to be leak-free, the excavator then travels from the Palm Beach day use area to the beach, where it then travels approximately one mile down the beach to the Pajaro river lagoon. A USFWS/CDFW-approved biologist with familiarity with the western snowy plover and other migratory birds will travel by foot in front of the excavator to monitor for the presence of snowy plover and other birds and to ensure that all Biological Opinion and CDFW avoidance measures are implemented, including that the excavator is may only traverse un-vegetated areas and sand below the high tide line (but above the water level), and that the excavator not exceed ten miles per hour to avoid vehicle strikes of sensitive status species.

Once the excavator reaches the lagoon, the breach channel will be excavated (by first excavating beach sand that is closer to the ocean and then extending the excavation toward the lagoon) as far south as possible to maximize the area of contiguous beach habitat north of the now-open river mouth, and to more generally observe and record the behavior of any present western snowy plover to ensure that best management practices are implemented. The excavation channel is dug to be approximately 10 feet wide and 3 feet deep to minimize scouring and to maintain lagoon habitat, and it is dug diagonally to the south before it is angled directly towards the ocean. Approximately 5-10 feet inland from the crest of the beach, the breach channel will be fanned out in order to prevent beach scour at the channel's outlet and at lower beach elevations. Excavated sand is placed on the beach adjacent to the channel. A sand plug (which is approximately 15 to 20 feet long and 10 to 15 feet wide) is left in place at the lagoon mouth to prevent lagoon water from rushing out, which could have detrimental impacts to fish in the river. The sand is then scraped from the plug in the area farthest from the lagoon until the pressure of the lagoon water begins to mount, gradually weakening and wearing away the plug. Once the water begins eroding the sand plug, the channel width typically increases to between 50 and 100 feet and the depth of the channel decreases to 1 to 2 feet.

The excavator is then transported back to the staging area, accompanied by the qualified biologist in the manner described above, and post-breach monitoring ensues, including

monitoring and recording fish presence by species. County staff monitors the lagoon twice a day until the water level of the lagoon has stabilized and/or the sandbar has reformed.

See **Exhibit 2** for all the details of the **Project Description**; **Exhibit 3** for the proposed **Site Plans**; and **Exhibit 4** for **Site Photos**.

B. STANDARD OF REVIEW

The project is located within both the Commission's retained CDP jurisdiction area (for the portion of the excavated channel located below the mean high tide line (MHTL), which may include the route the excavator traverses along the beach from the Palm Beach day use area to the breach site) as well as the County's CDP jurisdiction (for any excavation above MHTL). The Applicant (i.e., the County) and the Executive Director have both agreed to a consolidated CDP processing pursuant to Coastal Act Section 30601.3, and thus the standard of review for the proposed project is the Coastal Act, with the Santa Cruz County Local Coastal Program providing non-binding guidance.

C. FLOOD PROTECTION

The Pajaro River drains a watershed that has been severely manipulated by urban development, conversion of wetlands to agricultural use, and containment of the river within levees. It is recognized that the river cannot be presently returned to a completely pristine, natural state; however, efforts are underway to understand the flooding vulnerability of the residential and agricultural parcels along the Pajaro River and its lagoon to develop an ecosystem-based approach to better address flooding concerns in a manner that is most protective of coastal resources. Although the river system has been heavily manipulated over the years, it still maintains some of its natural attributes, such as riparian vegetation and anadromous fish runs.

As discussed above, the County has regularly manipulated the water level in the lagoon for flood control purposes by breaching the sandbar. The Commission's review of this permit application provides an opportunity to more closely examine the manipulation of water levels in the lagoon and to develop a method by which both flood control and lagoon and river system ecological objectives may be better achieved, consistent with the Coastal Act.

The primary Coastal Act policy for addressing flood management concerns is Section 30236, which states:

30236. Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

Breaching of the sandbar at the mouth of the Pajaro River is a substantial alteration of the river and its lagoon. To approve a breaching program for the Pajaro River, such a program must meet two of the relevant tests of Coastal Act Section 30236, including that: 1) the best mitigation

measures feasible will be implemented; and 2) there are no other less environmentally damaging methods for protecting existing structures in the floodplain or that breaching is necessary to protect public safety.

Mitigation Measures

First, appropriate mitigation measures are contained in the terms and conditions of the Biological Opinions of NMFS (see **Exhibit 6**) and USFWS (see **Exhibit 7**) (which are incorporated into the ACOE permit and into the project description), as well as CDFW's Lake and Streambed Alteration Agreement (see **Exhibit 8** – also incorporated into the project description).

Specifically, the NMFS Biological Opinion required the Applicant to complete a steelhead survey plan (which has been developed, reviewed and approved by NMFS, and will be implemented in all future breaches), which is intended to document the presence, distribution, and abundance of steelhead in the Pajaro River lagoon to better inform how breaching activities may impact the species, and includes pre-breach water quality monitoring to assess the habitat parameters that affect steelhead use of the lagoon. The NMFS Biological Opinion further requires that the sand plug be removed during an incoming tide to minimize loss of fish rearing habitat in the lagoon caused by a mechanical breach, and that a critical riffle assessment (i.e., a one-time study documenting all rocky/shallow portions of a river/stream in an effort to gauge areas that may be difficult for salmon to continue upriver for spawning) be completed to ensure that breaching of the sandbar does not expose adult steelhead to unsuitable migration conditions.⁵

The USFWS Biological Opinion sets forth additional recommendations, including requiring that a USFWS-approved biologist survey the area for western snowy plover within 48 hours of any proposed breaching event, and in the event any eggs, chicks, or adult snowy plovers are discovered, USFWS shall be contacted immediately for additional direction; limiting the speed of vehicles and heavy equipment on the beach to no more than 10 miles per hour to protect snowy plovers; requiring a USFWS-approved biologist to monitor the tidewater goby during and immediately following breaching operations to determine whether any tidewater gobies have been stranded and to ensure that they are appropriately relocated back into river waters; and requiring a tidewater goby survey plan (which has already been developed and reviewed and approved by NMFS) to document the presence, distribution, and abundance of the tidewater goby in order to confirm NMFS staff's assumption that the tidewater goby is likely to rebound following any loss of individuals stemming from breaching activities as a part of each breaching event.⁶

⁵ Although the NMFS Biological Opinion recommended a critical riffle assessment, this recommendation has not been completed to date including because the CDFW operating manual states that critical riffle assessments are appropriate for "wadeable streams having low gradient riffles with less than 4% gradient and substrates dominated by gravel and cobble" (see *California Department of Fish and Wildlife. 2017. Critical Riffle Analysis for Fish Passage in California. California Department of Fish and Wildlife Instream Flow Program Standard Operating Procedure CDFW-IFP-001, pp. 25. Available at: <https://www.wildlife.ca.gov/Conservation/Watersheds/Instream-Flow/SOP>). Because the Pajaro River is not a wadeable stream and does not have low gradient riffles, nor is it dominated by gravel and cobble, the Applicant has contacted NMFS and ACOE to discuss eliminating this particular recommendation.*

⁶ Both the tidewater goby survey plan and the steelhead survey plan have been approved by the respective agencies, namely NMFS and USFWS.

In addition, notable project parameters have changed since the Commission approved CDP 3-03-015 in 2006 in an effort to better mitigate and prevent adverse impacts from breaching, including limiting the breaching window to between October 15th and February 28th (instead of year-round), to avoid the snowy plover nesting season (**see Special Condition 1(b)**); and excavating the channel at an angle before turning perpendicular to the shoreline (as opposed to in a straight line from the lagoon to the ocean) to reduce the likelihood that the breach channel will rapidly increase in size, which in turn results in rapid draining of the lagoon and a likely loss of lagoon habitat and impacts to threatened fish species (**see Special Condition 1(d)(ii)**). The above-mentioned Biological Opinions and streambed alteration agreement were developed in consultation with professional biologists to include the best mitigation and avoidance measures that exist presently. To ensure the project complies with the criteria described in the USFWS's Biological Opinion (see Exhibit 7), **Special Condition 1(d)(i)** limits excavator speed on the beach to ten miles per hour.

Furthermore, the Commission's staff ecologist, Dr. Lauren Garske-Garcia, has reviewed the proposed project and has recommended additional mitigation measures (see also the "Marine Resources" section below) to be employed, to the extent feasible, in an effort to further reduce potential adverse impacts from mechanical breaching activities. These additional recommendations include breaching during a spring tide (i.e., tides surrounding either new or full moons) when there is increased beach scour and a larger tidal window, which will increase the likelihood of a successful breach and decrease the need for multiple mechanical breaching events within any given season, thus limiting adverse impacts to lagoon species and habitat; delaying breaching as long as possible and breaching at various staff gauge levels (as opposed to a fixed staff gauge threshold of 4.5 feet MSL) to more closely simulate a natural system where water levels and lagoon volume/size vary and to promote natural variability and resilience of the lagoon; and delaying breaching until the marsh plain has been inundated⁷ (**see Special Conditions 1(d)(iii), 1(d)(iv), and 1(d)(v)**).

Taken together, the mitigation measures from the USFWS and NMFS Biological Opinions, coupled with the CDP **Special Conditions 1(b) and 1(d)(i-v)**, fulfill the first requirement of Coastal Act Section 30236, i.e., that the best mitigation measures feasible shall be incorporated for projects that substantially alter rivers.

Existing Development, Safety, and Alternatives to Breaching

Per Coastal Act Section 30236, flood control projects that substantially alter rivers and streams must also meet another threshold, i.e. such projects may only be approved when no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development. In this case, the proposed project protects both existing development and public safety. In terms of existing development, rising water levels result in a variety of impacts in the vicinity of the Pajaro River mouth, including impacts to farmland, the Pajaro Dunes residential development, Beach Road and Shell Road, the Shell Road sewage pumps, and sanitary sewer manholes. And in terms of public safety, the intersection of Shell Road and Beach Road begins to flood when the staff gauge reaches +5.5 to +5.8 MSL. Because the only ingress/egress to both the northern and southern

⁷ Breaching prior to marsh plain inundation may lead to desiccation of and reduced delivery of nutrients to marsh plants, resulting in loss of vegetation and marsh plain habitat.

Pajaro Dunes residential communities, as well as the Palm Beach day use area, is via Beach and Shell Roads, it is critical that these roads remain passable, including to provide emergency services to those areas. Therefore, the proposed project is intended to protect both existing structures and public safety, and thus this Section 30236 test is also met.

The final Coastal Act Section 30236 test that a flood control project must meet is that there must be no other feasible methods to protect existing structures in the floodplain. As a condition of CDPs 3-97-047 and 3-03-015, the Permittee was required to complete an alternatives analysis that identifies the full range of alternatives to breaching, including but not limited to: the installation of one-way flap gate covers along Rio Boca Road to determine how well these reduced or eliminated flooding of the Pajaro Dunes Cypress House community building, and whether additional flap gate covers along Beach and Shell Roads would provide an effective flood control alternative to breaching; elevating Shell and Beach Roads sufficiently to eliminate flooding of these roads; flood-proofing the Shell Road pump station; flood-proofing sewer lines, the City of Watsonville Pump Stations (Pump #1), and a second sanitary pump station (Pump #3); elevating electrical boxes and sewer manholes; and installation of a weir or a flume along the lagoon's edge. The Applicant's alternatives analysis (see **Exhibit 9**) ultimately analyzed 11 alternatives to breaching, each of which is analyzed briefly below, and some of which have been implemented to date but alone are not sufficient to adequately protect existing structures in the floodplain, thus necessitating the current proposed breaching program:

- 1. Install Flap Gate Covers on Culverts along Beach, Shell, and Rio Boca Roads:** Flap gates have been installed and/or replaced at several locations, including along Rio Boca and Shell Roads, but flooding issues in these areas persist. Thirty-six-inch flap gates could also be installed on the downstream/discharge ends of the four culverts where West Beach Road crosses Watsonville Slough; however, installation of flap gates at this location may cause increased flooding and higher water levels along the drainage ditch that runs parallel to Beach Road. In other words, additional flap gates would only shift flooding issues from one location to another instead of alleviating flooding issues and reducing the need to mechanically breach the lagoon. In addition, according to the Applicant's alternatives analysis, installation of flap gates at this location would require installation of a new pump station to pump local runoff from the Watsonville Slough to a location downstream when the flap gates are closed, potentially altering the salinity levels of the lagoon, which serves as habitat for sensitive species. In addition, flap gates at this location would not address the flooding to the Pajaro Dunes South sanitary system, which occurs when gauge levels reach 5.5 feet MSL or higher. Because the installation of additional flap gates may result in adverse impacts to habitat for sensitive species, and would not eliminate the need to breach, this alternative does not achieve the project's goals and is not considered the least environmentally damaging or feasible alternative.
- 2. Elevating Shell and Beach Roads:** Raising the road at the intersection of Beach and Shell Roads would eliminate flooding at this intersection, but would not address flooding to the Pajaro Dunes South sanitary system, which occurs when gauge levels reach 5.5 feet MSL or higher. Raising the road would also entail widening the road on either side (to create a minimum of a 2:1 side slope) including relocating the drainage ditches, which in turn would entail fill of a wetland via the installation of retaining walls within the Watsonville Slough, potentially raising issues of consistency with Coastal Act Section 30233, which specifies

allowable circumstances for filling of wetlands (see “Marine Resources” section below). In addition, the road widening would likely result in a reduction of actively used agricultural land, thereby potentially also raising issues of consistency with respect to Coastal Act Chapter 3 agricultural policies (*e.g.*, Sections 30241, 30242, and 30243). Lastly, elevating Shell and Beach Roads would not address flooding to other at-risk development, including, but not limited to, the Shell Road pump station and adjacent agricultural lands. For all of the above reasons, elevating Shell and Beach Roads is not considered the least environmentally damaging or feasible alternative. This alternative would also be extremely costly.

3. **Flood-Proofing the Shell Road Pump Station:** Historically, at 5.0 feet MSL the pumps at the Shell Road pump station become ineffective, and when water reaches 5.5 feet MSL, Shell Road begins to flood at the Watsonville Slough crossing. Consequently, the Shell Road pump station becomes inundated, which can lead to failure of the pump station. If the pump station were to fail, Shell Road and its flap gates would act like a dam and would increase flooding (potentially drastically) upstream along the Watsonville Slough. According to the Applicant’s alternatives analysis, this alternative would be costly as it would entail entirely replacing the existing pump station because retrofitting the existing pump station is estimated to be even more costly. Although this alternative would result in increased flood protection redundancy to the portion of Watsonville Slough located upstream of Shell Road, it would not address flooding to the adjacent agricultural areas, the remainder of the Slough, the intersection of Beach and Shell Roads, or the Pajaro Dunes sewer station, and thus this alternative would not eliminate the need for mechanical breaching.

4. **Flood-Proofing Sewer Lines and Sewer Pump Stations 1 & 3:** When the staff gauge reads approximately 6.5 feet MSL, the Watsonville City sanitation pump station (Pump #1) and a second sanitary pump station (Pump #3) are threatened by floodwaters. In the past, as a result of flood elevations, these pumps’ electrical systems have become compromised, requiring City crews to come on site to manually pump out sewage from the area’s sewer lines in order to restore these pumps’ operations. Currently, City crews generally place sandbags around these two pump stations during storm events to protect them from inundation. This alternative would entail flood-proofing the sewer lines by installing flood-proof manholes along eleven sanitary manholes on Rio Boca Road and flood-proofing the above-identified pump stations, including raising electrical systems and securing the bottom lower part of each pump station structure. This alternative would provide protection for the Pajaro Dunes sanitary system, and would eliminate the need for City of Watsonville crews to protect pump stations via sand-bags or to perform manual pumping of sewage. Flood-proofing the sewer lines and Pump Stations #1 and #3 would halt or minimize periodic illicit discharges of raw sewage into portions of the Pajaro Dunes community and the Watsonville Slough; however, this alternative does not address flooding to the adjacent agricultural lands and the Beach and Shell Road intersection. This project in conjunction with a project that eliminates flooding to the Beach/Shell Road intersection may significantly reduce the need for breaching; however, no alternatives that would reduce the flooding to the Beach/Shell Road intersection have been determined to be feasible or less environmentally damaging than the existing manual breaching program.

- 5. Flood-Proofing Electrical Boxes:** When the staff gauge reads 6.0-6.5 feet MSL, sub-surface PG&E junction boxes in the area can become inundated, causing power outages and/or power surges. Pajaro Dunes has experienced at least one fire due to a power surge, which destroyed a residential property. In addition, pump station electrical systems, which are located adjacent to the pump station structures, may also become inundated. Although this alternative would offer protection to the Pajaro Dunes and the pump stations' electrical systems during high water levels, this alternative would not reduce the flooding to Shell and Beach Roads, and thus the project's goals would not be achieved. Therefore, this alternative was eliminated as a feasible alternative.
- 6. Elevating Rio Boca Road and Associated Sewer Manholes:** Raising the elevation of Rio Boca Road and its attendant sewer manholes would either halt or minimize illicit discharges of raw sewage and provide a direct and secondary benefit to humans, wildlife, and water quality. Elevating Rio Boca Road would also protect the sanitary pump stations in Pajaro Dunes; however, this alternative would not address the flood risk at the Shell Road and Beach Road intersection, and thus would not eliminate the need for periodic mechanical breaching. Such elevation in conjunction with a project that eliminates flooding to the Beach/Shell Road intersection may significantly reduce the need for breaching; however, once again, no alternatives that would reduce the flooding to the Beach/Shell Road intersection have been determined to be feasible or less environmentally damaging than the existing mechanical breaching program.
- 7. Installation of a Weir or Flume Along the Lagoon Edge:** A permanent overflow flume or weir along the beach, if appropriately designed and maintained, could allow for a release of river water to the ocean when water in the lagoon reaches a designated height, and thus eliminate the need for mechanical breaching;⁸ however, it is anticipated that this alternative may have significant adverse environmental impacts and, as a result, it is not clear that the relevant regulatory agencies would permit a flume/weir at this location. Specifically, this alternative would entail the installation of an approximately 1,000-foot-long flume on the beach in the vicinity of the river mouth. The flume would require deep footings or piers to ensure it was not washed away by ocean or river processes. It is anticipated that this alternative would require regular maintenance, including the more frequent presence of people and equipment on the beach as compared to the current breaching program, due to the size and power of the river and adjacent oceanographic conditions. The Applicant's alternatives analysis also anticipates that this alternative would alter site hydrology and morphology, and thus would have detrimental impacts to biotic resources, public access, and visual aesthetics. A flume would provide a permanent two-way breach point for discharge of winter flood flows and an inlet for high-energy waves in winter or summer; however, it would also alter the persistence, depth, and salinity of the lagoon, with commensurate

⁸ The City of Capitola has a flume that was installed prior to the Coastal Act (and the Commission authorized repairs to this flume in December 2018 (CDP Waiver 3-18-0721-W). This flume allows for fish passage between the ocean and Soquel Creek when a sand berm is in place. Although the flume has successfully maintained lagoon habitat and allowed for fish passage to and from the ocean/lagoon, the Soquel Creek lagoon is hydromorphologically very different from the Pajaro River lagoon, including in terms of creek/river flows, wave energy, lagoon size and depth, etc., and thus there is little certainty that such a system could be effectively replicated at the Pajaro River mouth/lagoon.

impacts to lagoon habitat. It is further anticipated that there would be a period of normalization for the hydraulic regime and a general reduction in hydraulic variability (i.e., the lagoon would undergo significant hydrological changes, and natural variability and resiliency would likely decrease). In short, the hydrologic and geomorphic variability of the dynamic Pajaro River mouth and its lagoon would be substantially narrowed and significantly altered. While this would alter both biotic and abiotic factors, it is difficult to predict which aquatic species sensitive to such variation would benefit and which would be negatively impacted. The flume would need to be designed to facilitate steelhead in-migration in the rainy season and smolt out-migration between April and June. If the flume elevations are set low enough for spring out-migration there may be an increased likelihood of seawater intrusion into the lagoon, which would raise the lagoon's summer salinity to a level above the rearing threshold for juvenile steelhead and tidewater goby. It is further anticipated that a permanent flume, unless fitted with slide weirs of varying elevations, would create a lagoon with an overall lower water level, which would decrease the amount of habitat available for steelhead and tidewater goby, resulting in decreased food supply, increased predation, and increased competition for space and available food for these species. The Applicant's alternatives analysis also noted that a flume may cause localized sand accumulation from longshore currents at the seaward outlet of the flume, as well as sediment deposition at the inlet to the flume from the Pajaro River, which would require frequent maintenance to correct these conditions. Overall, it is anticipated that this alternative would have significant adverse impacts, and thus this alternative is more environmentally damaging compared to the current mechanical breaching program.

8. **Construction of a Flood Wall along Rio Boca Road:** The construction of a flood wall along Rio Boca Road would entail fill of jurisdictional wetlands along the entire eastern shoulder of the roadway and would result in the loss of significant wetland vegetation that serves as habitat, which would in turn raise potential consistency issues with Coastal Act Section 30233. The installation of a flood wall would also inhibit the movement of small mammals and amphibians to and from the Watsonville Slough, may potentially increase flooding in the agricultural fields, and would result in significant adverse aesthetic impacts. Because this alternative would result in significant adverse impacts, including to sensitive wetland habitat, it is deemed more environmentally damaging than the proposed mechanical breaching program.
9. **Installation of a Tide Gate at the Mouth of the Watsonville Slough:** This alternative would prevent flooding of the Shell and Beach Road intersection as well as the Pajaro Dunes sanitary system, thereby potentially removing the need for mechanical breaching; however, construction of a permanent tide gate facility across the mouth of Watsonville Slough would likely require an Environmental Impact Report as well as additional studies and regulatory permits from the ACOE, CDFW, RWQCB, the Sanctuary, etc., and to date has not received enough support from the aforementioned agencies to recommend that it be pursued further. It is anticipated that this alternative would result in permanent and temporary impacts, the significance of which are difficult to gauge given the complexity of the lagoon system. For example, the Applicant's alternatives analysis notes that if the tide gate were only to be closed briefly and during only some years (similar to past breaching events) the potential impacts to the lagoon and river ecosystem would not likely be significant; however, the

longer and more regularly the tide gate is closed, the more severe its potential impacts become to the lagoon health and species that inhabit the lagoon/river. It is further anticipated that this alternative would include direct fill within ACOE and CDFW jurisdictional habitats in Watsonville Slough; create hydrologic/hydraulic impacts along the Slough, such as the changing the periodicity of flooding and altering the slough's salinity regime; and result in the gradual conversion of habitat from transitional brackish marsh to freshwater marsh. This alternative would therefore also raise consistency issues with Coastal Act Section 30233 and would be fairly costly. Because it is not clear that this alternative would be supported by the relevant regulatory agencies, and may result in significant adverse impacts to environmentally sensitive habitat, this alternative is not considered less environmentally damaging compared to the proposed mechanical breaching program.

10. Flood-Proofing the Cypress House Community Building: This alternative would entail the construction of an approximately two-foot-tall, 250-foot-long berm to protect the Cypress House community building. This alternative would protect the community building, but would not address the flooding of the Shell Road and Beach Road intersection, the sanitary sewer system, the adjacent agricultural land, etc., and thus would not eliminate the need for mechanical breaching.

11. Discontinue Breaching with No Additional Projects (i.e. “the no project alternative”): The “no project alternative” would result in regular inundation of the Shell Road and Beach Road intersection and periodic inundation of the sanitary sewer system, which may pose a significant threat to the water quality of Watsonville Slough, with impacts on wildlife health and habitat, and would also have impacts to human health and safety. As such, this alternative is not considered the least environmentally damaging feasible alternative.

In sum, the Applicant's alternatives analysis ultimately found that while the above-identified alternatives may alleviate some, but not all flooding impacts, these alternatives would not eliminate the need for mechanical breaching and/or would not be the least environmentally damaging alternative(s) due to the permanent loss/conversion of agricultural land, impacts to wetland habitats, and potential impacts related to altering the lagoon's dynamics. In other words, the alternatives that would eliminate the flooding to Beach and Shell Roads would be more environmentally damaging compared to the existing mechanical breaching program. That being said, it should be noted that these alternatives have not been studied as extensively as the proposed mechanical breaching program.

While additional studies could be completed to better understand the viability and anticipated impacts of some of the aforementioned alternatives (including a combination of alternatives), it would appear that an additional and likely less environmentally damaging alternative may exist (at a point in the relatively near future). Specifically, the County has applied for Proposition 1 Grant Funding to explore the feasibility of a “Coastal Ecosystem Resiliency” project for the lower Watsonville Slough. The purpose would be to design a primarily nature-based infrastructure project that would re-establish, restore, and enhance and expand tidal marsh habitat in the vicinity of the lower Pajaro River while providing flood risk reduction, climate change adaptation, and recreational opportunities “to economically disadvantaged local community

residents.” Anticipated benefits include improved water quality in the surf zone and nearshore environments adjacent to the Pajaro River lagoon; enhanced and expanded wetland and tidal marsh habitat; either reduced or eliminated mechanical breaching; improved public access opportunities, including California Coastal Trail (CCT)⁹ connectivity; enhanced carbon sequestration through tidal marsh/wetland expansion and restoration; reduced flood risk for adjacent farmlands as well as adjacent infrastructure and development, including roads, the sewer distribution system, the Pajaro Dunes residential community, and wastewater/water supply facilities; and reduced groundwater pumping/aquifer recharge, which would also help to curb saltwater intrusion in this area (see **Exhibit 10** for an excerpt from the Coastal Conservancy Proposition 1 Grant Application). In other words, such a project would either reduce or eliminate the need to breach; would improve and expand lagoon/marsh habitat as opposed to filling additional lagoon/marsh habitat; help address ongoing issues related to groundwater overdraft and saltwater intrusion, fill a gap in the California Coastal Trail, and provide recreational opportunities to “economically disadvantaged local community residents” aligning with the objectives of the Commission’s newly adopted Environmental Justice Policy.¹⁰ Because such a project would: be less environmentally damaging than the alternatives analyzed to date; achieve both CCT and Environmental Justice objectives, and; be designed to address sea level rise, this permit is conditioned to encourage the Applicant to pursue said Coastal Ecosystem Resiliency Project, if feasible, via limiting the duration of authorization for the development approved under this permit to implementation of such a project (which would require a separate CDP) or to March 1, 2027, which is the tentative expiration date of the ACOE’s Provisional Permit # 2007-00848S, whichever occurs first (see **Special Condition 1(a)**). Relatedly, **Special Condition 5** requires the Permittee to submit an annual report documenting: 1) the state of the river mouth including the closure durations, photo documentation of the lagoon, lower Slough, and Pajaro River throughout the breaching window, and to the extent feasible, salinity, temperature as well as morphology surveys of the sand barrier and channel depth including the upper extents of marshes, floodplains and dunes all to gain a better understanding of the lagoon/river/slough dynamics and to provide baseline data to better inform the feasibility of any future Coastal Ecosystem Resiliency project. With these conditions, the project will adequately meet the test of Coastal Act Section 30236 regarding alternatives to breaching by allowing the proposed development, which is *currently* the least environmentally damaging feasible alternative, but by structuring this approval to encourage and facilitate the County to pursue an alternative (i.e., the Coastal Ecosystem Resiliency Project) which potentially appears to be an even less environmentally damaging feasible alternative albeit with further development and investigation as to its potential still needed.

⁹ The CCT is a statewide trail alignment mapped along the entire 1,270-mile coast of California between Oregon and Mexico. A primary goal of the CCT is to provide a continuous trail along the California coastline (i.e., currently only segments of the trail have been completed). The CCT is relevant here because there is an existing CCT trail segment that was provided/re-established when the wastewater treatment plant expanded in 1986 (see CDP 3-86-051); however, the trail does not connect all the way to the coast; it stops where the Watsonville Slough connects with the Pajaro River. CDP 3-86-051 nevertheless required the City to make an easement available to a public agency in the future as necessary to complete the final connection to the coast (including a bridge across the Watsonville Slough, as necessary). In other words, it has long been envisioned that at some point the final CCT connection across the river/slough would be constructed to provide for through public access to the coast in this area.

¹⁰ See https://documents.coastal.ca.gov/assets/env-justice/CCC_EJ_Policy_FINAL.pdf for information related to the Environmental Justice Policy, including the policy language.

Conclusion

The Coastal Act authorizes flood protection projects in riverine systems in order to protect existing development or public safety only where the project is the least environmentally damaging “feasible” alternative (*i.e.*, no other method for protecting existing structures in the flood plain is feasible) and all feasible mitigation measures are implemented. In this case, the County has documented how flooding (as a result of heightened elevation of the seasonal lagoon/estuary that forms on the Pajaro River typically in the winter season) impacts existing public infrastructure and private property, and demonstrated how the flooding poses a threat to public safety. The appropriate mitigation measures as recommended by NMFS, USFWS, CDFW, and the Commission have been incorporated into the Special Conditions of the CDP to ensure that coastal resource impacts from the proposed breaching activities are minimized to a less-than-significant level. In addition, the County has committed to ongoing monitoring and reporting on species and lagoon habitat during and following breaches to ensure that sensitive species and the lagoon/river habitat are not significantly and adversely affected by breaching activities. The County has further determined through an alternatives analysis that mechanical breaches are the least environmentally damaging and feasible alternate presently available. That being said, the County is in the processing of developing and attempting to secure funding for a “Coastal Ecosystem Resiliency Project” that would serve to increase habitat and natural resiliency, and address ongoing flooding impacts in place of periodic river mouth breaching. If the County is able to secure funding for such a project, the “Coastal Ecosystem Resiliency Project” would then likely be deemed the least environmentally damaging feasible alternative, thus facilitating a full or significant transition away from managed breaching. As conditioned, including to promote the County’s investigation and development of the Coastal Ecosystem Resiliency Project as a long-term alternative to managed breaching, the proposed project adequately meets both tests of Coastal Act Section 30236.

D. MARINE RESOURCES

The Coastal Act protects the marine resources and habitat onshore and offshore of this site. Coastal Act Sections 30230, 30231, and 30240 provide:

***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 30240: (a) *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.* (b) *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

The fish population of the Pajaro River Lagoon includes marine and freshwater species. Pacific herring, shiner perch, staghorn sculpin, striped bass, juvenile steelhead, and tidewater goby have been found in the lagoon. Both the steelhead and the tidewater goby are listed by the federal government as threatened and endangered species, respectively. The lagoon and surrounding vegetation support a number of species of birds, including the previously federally listed brown pelican,¹¹ as well as a variety of duck species and migratory waterfowl. The federally listed (threatened) snowy plover nests on the sandy beach adjacent to the lagoon. Vegetation in and around the lagoon includes pickleweed, salt grass, alkali heath, willow, and other species of salt marsh, brackish marks, riparian, and coastal scrub communities. In addition, a number of other sensitive species exist in and around the project area including: Globose dune beetles (critically imperiled/imperiled), which are typically found beneath sea rocket, but are also likely to occur under other foredune vegetation as well; the California legless lizard (CA Species of Special Concern), which has been found in vegetated dunes in Palm Beach Day Use area; Monarch butterflies (imperiled/vulnerable), which overwinter at the west end of Beach Road, primarily in cypress trees but also Eucalyptus trees; and the Sand-loving (or coast) wallflower and the Monterey spineflower, both of which are considered imperiled and are typically found between ocean and Watsonville Slough.

Tidewater Goby

The tidewater goby was listed as endangered on March 7, 1994. The tidewater goby is endemic to California and typically inhabits coastal lagoons, estuaries, and marshes, preferring relatively low salinities of approximately 12 parts per thousand. Tidewater goby habitat is characterized by brackish estuaries, lagoons, and lower stream reaches where the water is fairly still, but not stagnant. Tidewater gobies tend to be found in the upstream portions of lagoons, as is the case here with tidewater gobies found in both the connecting Watsonville Slough and, at a minimum, approximately three miles up the Pajaro River. The Pajaro River and lagoon area (which are directly associated with the proposed project) are designated critical habitat for the tidewater goby. The USFWS's Biological Opinion (see **Exhibit 7**) recognizes that the proposed project may result in the mortality of tidewater gobies and periodic reductions in both the amount and quality of goby habitat; however, USFWS also recognizes that the effects to habitat from breaching activities is temporary, and that tidewater goby populations are unlikely to be affected despite periodic reductions in goby numbers (resulting from breach events). The Biological Opinion also notes that many project parameters significantly reduce the magnitude of adverse impacts to tidewater gobies and their habitat, including the design of the breaching channel (i.e., the location, angle, and dimensions) and the timing of the breaching. Specifically, the breach channel is positioned as far south as possible to avoid the deepest portions of the lagoon; the channel is excavated at an angle facing south before it is re-angled perpendicular to the shore (as opposed to in a straight line from the lagoon to the shore); and the channel is excavated to a

¹¹ Brown pelicans were removed from the Endangered Species list in 2009.

minimum depth (approximately three feet) and width (approximately 10 feet) all to ensure that the lagoon drains slowly and incompletely as opposed to rapid and complete draining. In addition, the breaching window (October 15- February 28th – see **Special Condition 1(b)**) avoids peak goby breeding times (spring and summer), thus reducing the likelihood for goby stranding within burrows.¹² Furthermore, the USFWS Biological Opinion and this CDP (see **Special Condition 1(c)**) require a biological monitor to be present during breaching operations to monitor, capture, and relocate tidewater gobies, and **Special Condition 5** requires submission of an annual report summarizing data collected as part of breaching events, including fish sampling data. Finally, the USFWS’s Biological Opinion also notes that tidewater goby habitat in this area is expansive, with tidewater gobies extending to the connecting Watsonville Slough and at least about three miles upriver. In other words, although the proposed breaching project has the potential to result in some mortality of tidewater gobies, appropriate mitigations will be in place to protect gobies during breaching activities to the maximum extent feasible, and populations further inland and upriver will not be affected by the breaching activities.

Steelhead

Steelhead was listed as threatened on January 5, 2006. Steelhead are considered anadromous fish, meaning steelhead hatch and spend their juvenile years in freshwater (usually between one to three years), then migrate to the ocean for the bulk of their growth (between one to four years), and then return to freshwater to spawn. According to Fukushima and Lesh (1998),¹³ the timing of smolt migration (juvenile migration to sea) is typically between January and June with the peak period being between March and May. Although steelhead are capable of spawning multiple times, it is believed that most steelhead only spawn once.

Seasonal lagoons, such as the Pajaro River lagoon, are considered important rearing/nursery habitat for the steelhead due to the presence of invertebrates as prey. Also, the turbidity of the lagoon can shield steelhead from predation by visual predators. In general, populations of steelhead have gradually declined since the mid-1960s. Agricultural operations in the lower Pajaro Valley (including adjacent to the Pajaro River and lagoon) are believed to be a primary factor affecting steelhead populations in the Pajaro River. The adjacent agricultural operations have been found to have a direct impact on stream channels, riparian function, and stream flow. The Pajaro River watershed steelhead population is considered a Core 1 population by NMFS, meaning that it is identified as the highest priority for recovery efforts and impacts. Although steelhead populations have steadily declined, the NMFS’s Biological Opinion (see **Exhibit 6**) ultimately concludes that Pajaro River sandbar breaching activities “are not likely to jeopardize the continued existence of steelhead” or “adversely modify or destroy critical habitat for steelhead.” NMFS’s Biological Opinion acknowledges that the proposed project has the potential to create unsuitable migration flows (i.e., if an adult steelhead enters the river following a mechanical breach and river flows are insufficient for the fish to cross shallower areas, they may expend excessive energy as they make their way upriver (because their migration is extended

¹² Tidewater gobies are known for burrowing within muddy/sandy substrate beneath lagoon/river water during the breeding season. Burrowed tidewater gobies can thus become stranded in their burrows if the river is mechanically breached and lagoon levels recede beyond their burrow.

¹³ https://www.waterboards.ca.gov/water_issues/programs/tmdl/records/region_1/2003/ref2108.pdf

while they await suitable flows), which may ultimately make for weakened fish more disposed to disease, reduced spawning success, or pre-spawning mortality); however, it also notes that it is likely that only a small percentage of these early run steelhead will experience spawning failure resulting from breaching activities and delayed migration. In other words, NMFS's Biological Opinion notes that because the mechanical breach is intended to simulate a natural breach (including in terms of flow rates and the timing of the year – see **Special Conditions 1(a) and 1(d)ii-iv**) and mechanical breaches are limited to six breaches until no later than March 1, 2027 (which has been codified in this permit via **Special Condition 1(d)(vi)**), the potential impacts are generally considered minimal. Although NMFS's Biological Opinion ultimately concludes that impacts to steelhead in the Pajaro River are likely minimal, NMFS nevertheless required a number of reasonable and prudent measures to ensure that the proposed breaching activities are likely to have minimal impact. These reasonable and prudent measures include requiring: 1) completion of a steelhead survey plan to document the presence, distribution, abundance, and condition of steelhead in the lagoon (the survey plan has been completed and has been reviewed and approved by NMFS); 2) an annual report documenting the information identified in the steelhead survey plan (see **Special Condition 5**); 3) and a critical riffle assessment.¹⁴ Taken together, the report documenting steelhead pursuant to the approved survey plan and the critical riffle assessment (if required) are intended to give a better estimate of the number steelhead that enter the river following a mechanical breach and whether those steelhead successfully make it upriver for spawning purposes.

Snowy Plover

The western snowy plover is a small shorebird that forages for invertebrates in areas such as intertidal zones, dry sandy areas above the high tide line, salt pans, and the edges of salt marshes. The Pacific coast population of the western snowy plover was federally listed as threatened on March 5, 1993. Snowy plovers are known to nest in and along the project site, including throughout Sunset and Zmudowski State Beaches.

The USFWS Biological Opinion (see **Exhibit 7**) found that the proposed project “is not likely to jeopardize the continued existence of the western snowy plover” and that although there may be some temporary effects from breaching on limited areas of breeding habitat, USFWS does “not expect these effects to appreciably reduce the likelihood of both the survival and recovery of the western snowy plover.” USFWS, however, anticipates some western snowy plovers could be taken as a result of the breaching activities. “Take” is defined as “to harass, harm pursue, hunt shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”). Specifically, the biological opinion found that western snowy plovers may be killed if they are struck by vehicles or heavy equipment during breaching operations, and could be harassed if they are disturbed by breaching activities (i.e., if they abandon their normal sheltering behaviors, which in turn may make them more vulnerable to predation). Though USFWS anticipates minimal adverse impacts to western snowy plovers, USFWS nevertheless recommends the following prudent and reasonable measures to further minimize impacts and potential for take: 1) a qualified individual (i.e., an approved biologist) shall direct breaching activities away from

¹⁴ The critical riffle assessment has not been yet been completed but, as described in footnote 4 above, the Applicant has contacted NMFS and ACOE to discuss eliminating this particular recommendation.

western snowy plovers and shall monitor effects of breaching activities on the species; 2) driving speeds on the beach shall be minimized to reduce the likelihood of birds being crushed by vehicles; and 3) breaching shall be done outside the snowy plover breeding season (which is March 1st through September 30). These recommended prudent and reasonable measures have been incorporated into this CDP (see **Special Condition 1**). In addition, pursuant to CDFW's Final Streambed Alteration Agreement (**Exhibit 8**), a CDFW-approved biologist will conduct a brief training session for all breaching personnel before any mobilization for breaching activities begins within the project area. This training will cover the snowy plover's behavior, habitat, sensitivity to human activities, and measures to be implemented to protect and conserve the western snowy plover during breaching operations. The approved biologist will also perform surveys for western snowy plovers prior to each breaching event and will submit a monitoring report to the Applicant after each breaching episode documenting any impacts to the snowy plover, and such reports will then be submitted to the Executive Director and to State Parks. Accordingly, the requirements of CDFW's Final Streambed Alteration Agreement have also been incorporated into the project description of this CDP (see **Special Condition 1** for incorporation of the conditions from CDFW's Final Streambed Alteration Agreement; **Special Condition 1(c)** for the required snowy plover surveys; and **Special Condition 5** for the required monitoring reports).

Pajaro River and Lagoon Ecosystem

In addition to examining how the proposed breaching activities may affect individual listed species, it is also important to consider how the proposed breaching activities may affect the greater Pajaro River and lagoon ecosystem. While the Pajaro River and lagoon system have been heavily manipulated by human activities over time (including the construction of levees along the lower 22 miles of the river, and the conversion of land adjacent to the river from wetlands to agricultural use), breaching activities may nevertheless result in additional impacts to the overall river/lagoon system and its health.

The Commission's staff ecologist, Dr. Lauren Garske-Garcia, has reviewed the proposed project and has made a number of recommendations to minimize potential adverse impacts from the proposed project, with an emphasis on the overall ecosystem health and vitality of the Pajaro River and lagoon. These recommendations include, to the maximum extent feasible, conducting mechanical breaching during spring tides (i.e., tides surrounding either new or full moons), delaying breaching as long as possible, and breaching at variable staff gauges/after marsh plain inundation. Breaching during spring tides increases the likelihood of a successful breach, and reduces the likelihood of unintentional subsequent river mouth closure and need for multiple mechanical breach events within any given season (as was the case in the 2014-2015 season and again in the 2018-2019 season; see the chart on page 11 of this staff report). Breaching at variable staff gauge thresholds (as opposed to fixed thresholds) and delaying breaching as long as possible more closely simulates a natural system where water levels and lagoon volume/size vary at the time of breaching, which promotes natural variability, microhabitat diversification, and resilience in the surrounding salt marsh. In other words, if the lagoon's habitat boundaries are artificially fixed by always breaching at a fixed threshold (e.g., +4.5 MSL), then the marsh will never be able to extend further inland than that threshold and, as a result, the marsh could potentially recede. Natural variability in any ecosystem promotes a mosaic of microhabitats, and that diversification in turn promotes more resilient ecosystems. These recommendations have been codified in **Special Conditions 1(d) (iii) and (iv)**.

Breaching prior to marsh plain inundation (i.e., before the existing outermost extent of the high marsh habitat has been inundated with the season's freshwater) leads to desiccation (i.e., the removal of moisture from the marsh habitat); reduces the delivery of nutrients to the marsh vegetation; and ultimately leads to the loss of vegetation and habitat. In other words, breaching prior to marsh plain inundation leads to overall reduced marsh health and a smaller marsh area. Therefore, **Special Condition 1(d)(v)** requires managed breaches to occur after marsh plain inundation, and requires the use of photo documentation to verify that inundation has occurred. This condition also requires the Applicant to record the marsh water level before and after breaching, and requires documentation identifying how long the high marsh area has been inundated (i.e., the number of days the outermost extent of the high marsh habitat marsh area has been wetted via rainfall and continued river mouth closure) prior to breaching taking place. In addition, Dr. Lauren Garske-Garcia recommends, prior to any breaching event, surveying, recording, and avoiding any dune/vegetation habitat where other special-status species, including Globose dune beetles, the California legless lizard, Monarch butterflies, sand-loving wallflower, and the Monterey spineflower may reside (see **Special Condition 1(c)**).

Taken together, these recommendations are intended to increase the likelihood of a successful breach event (for the years a mechanical breach is deemed necessary) and help simulate a natural breach event in an effort to further reduce potential impacts to marine and wetland resources and maximize lagoon diversification and resiliency.

Conclusion

Artificial breaching can have deleterious impacts on marine, riverine, and lagoon resources, including impacts to listed species such as the western snowy plover, the tidewater goby, and steelhead as well non-listed species and ecosystem health and resiliency. The requirements of the CDFW 1602 Streambed Alteration Agreement, the ACOE permit, the USFWS Biological Opinions (regarding goby and snowy plover) and the NMFS Biological Opinion (regarding steelhead) have been incorporated into the project description and are intended to protect these and other species during breaching events via numerous monitoring and reporting requirements (including notify the respective agencies prior to breaching activities, submission of the results of required surveys, mapping, bathymetry, and fish and water quality sampling). Additionally, **Special Condition 4** of this permit also requires that the County notify Commission and State Park's staff 48 hours prior to any mechanical breaching event. Relatedly, **Special Condition 2** identifies each permit/authorization and requires the Applicant to maintain/show proof that that CDFW and the RWQCB permits (which expire before this CDP) have been renewed in a timely manner (i.e., to ensure appropriate breaching protocols, best management practices, and mitigation measures continue to implemented), and **Special Condition 5** requires submission of all monitoring reports to the Executive Director and State Parks' staff for review. The results of these reports collectively will provide guidance to all agencies regarding future adaptive management requirements for breaching of the Pajaro River mouth to ensure the best protection of the marine and riverine lagoon environments and the species that inhabit these environments.

Special Condition 6 requires that a construction coordinator be present during all breaching events and that all persons involved with any breaching event shall be briefed on the content and meaning of this CDP to ensure compliance with the required conditions. Additionally, this

permit is conditioned to require implementation of best management practices to protect water quality during breaching episodes, including that: 1) equipment operations shall not be conducted below the mean high water line unless tidal waters have receded from the authorized work areas; 2) when transiting on the beach, all vehicles shall remain as high on the upper beach as possible (while avoiding dune habitat) and avoid contact with ocean waters as much as feasible; 3) equipment washing, refueling, and/or servicing shall not take place on the beach; and 4) any equipment or vehicles driven onto the beach and/or operated within or adjacent to the Pajaro River shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic life (see **Special Condition 7**). Also, this CDP authorizes the project as proposed by the Applicant except as modified by the special conditions. Any project changes, including with respect to any Executive Director-approved plans required pursuant to the special conditions, shall require an amendment to this CDP, unless the Executive Director determines that no amendment is legally necessary (**Special Condition 8**).¹⁵

Most importantly however, the permit is limited in duration until the County is able to implement a “Coastal Ecosystem Resiliency Project” as is described in more detail in **Exhibit 10**, or until March 1, 2027, the tentative expiration date of the ACOE Provisional Permit, whichever occurs first (see **Special Condition 1(a)**). In other words, managed breaches are only authorized as long as managed breaches remain the least environmentally damaging and feasible alternative. If and when the County is able to finance and implement the Ecosystem Resiliency project, the duration of authorization for the development approved under this permit will expire.¹⁶ Although a Coastal Ecosystem Resiliency Project that improves and expands marsh areas to better accommodate influxes of water due to storms and high tide events is strongly preferred to the proposed managed breaching program, including due to its apparent clear benefits to environmentally sensitive habitat area (as well as improved public access/recreational opportunities to “economically disadvantaged local community residents” and abatement/management of saltwater intrusion), the practical reality is that funding and planning such a project is an arduous process that will take some time. The permit duration of development authorization here is thereby intended to give the County the time necessary to complete funding and planning efforts in the hope of eventually implementing the Coastal Ecosystem Resiliency alternative. It is worth noting that the County is actively putting forth every effort to ensure that the Ecosystem Resiliency Project becomes a reality as demonstrated by the County’s very thorough grant application (see **Exhibit 10**). Thus, the proposed breaching is intended to serve as an interim solution until the County is able to fund, plan, and implement such a resiliency project. As conditioned, the proposed project ensures that marine resources and biological resources will be adequately maintained, and that there will be no significant

¹⁵ Note that **Special Condition 8** can be justified in Commission CDP approvals to account for the needed minor refinements and changes that commonly occur as projects are being built out but which are not so significant as to implicate a meaningful change to the project in terms of new potential impacts to coastal resources. This operational flexibility is important, particularly for complex public works projects like this one.

¹⁶ While the intent of the “Coastal Ecosystem Resiliency Project” is, in part, to address sea-level rise impacts including to reduce, and to the extent feasible, eliminate flooding and the need for regular breaching, the grant application for the “Coastal Ecosystem Resiliency Project” acknowledges that periodic breaching may still be necessary. However, if periodic breaching is deemed necessary as a part of the Coastal Ecosystem Resiliency Project, it would be included in the CDP application for the “Coastal Ecosystem Resiliency Project” and thus considered for authorization under that permit.

disruption of habitat values to the Pajaro River and lagoon ecosystem, while simultaneously directing the County towards a project most consistent with Coastal Act Section 30230, which calls for marine resources to be enhanced and, where feasible, restored. In sum, with the proposed conditions of this CDP and the requirements imposed by CDFW, ACOE, USFWS, and NMFS that are included as part of the proposed project description, adverse impacts to marine resources, biological productivity, and sensitive habitat areas will be minimized as is required by Coastal Act Sections 30230, 30231, and 30240(a).

E. PUBLIC ACCESS AND RECREATION

Coastal Act Section 30604(c) requires that every coastal development permit issued for any development between the nearest public road and the sea “shall include a specific finding that the development is in conformity with the public access and public recreation policies of [Coastal Act] Chapter 3.” The proposed project is located seaward of the first through public road (San Andreas Road). The following Coastal Act Sections specifically protect public access and recreation at this location. In particular:

***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 30212(a):** Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military needs, or the protection of fragile coastal resources...*

***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.*

Coastal Act Section 30240(b) also protects parks and recreation areas such as Palm Beach, Sunset State Beach and Zmudowski State Beach. Section 30240(b) states:

***Section 30240(b).** Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

These overlapping policies protect access to and along the shoreline and to offshore waters for public access and recreation purposes, particularly free and low-cost access. The beach seaward of the Pajaro River lagoon is accessible from both Sunset State Beach and the Palm Beach day

use area to the north and from Zmudowski State Beach to the south. The beach itself is owned and managed by State Parks. As discussed above, State Parks is not requiring that the County obtain an encroachment permit, but instead is requesting that State Parks be notified 48 hours in advance of any breaching activities and is requiring that a USFWS-approved snowy plover biologist be present during any breaching activities. The wide, sandy beach is almost always passable from north to south; the times when it may not be are when there are high tides coupled with storms or when the Pajaro River is flowing to the ocean.

The number of times per year (if any) that the Applicant breaches the lagoon can vary widely depending on the amount of winter rainfall, the height of the sandbar, the amount of agricultural runoff, etc. In any event, when the sandbar is breached, either with or without human assistance, the breach area may be impassable depending on the depth of the channel resulting from the breaching and the strength of the river's current as it flows from the lagoon into the ocean.

The Coastal Act's Public Access and Recreation policies require that development generally not interfere with the public's right of access to the sea and along the coast. One of the exceptions to this requirement is when such access is inconsistent with public safety. (*See, e.g.*, Coastal Act sections 30210 and 30212(a).) In the case of breaching, whether natural or induced, the volume and velocity of water flowing from the lagoon to the ocean may be such that lateral beach access is impossible. There are a number of public safety issues relevant here. One is the hazardous nature of attempting to cross the river; another is the need to protect the public from sewage spills (which can occur if the sewer pump station or sanitary manholes are flooded); and finally, protection from hazardous driving conditions if Beach Road or Shell Road flood. If the sewage pump fails, the lagoon waters will become contaminated and a public hazard will result. Therefore, maintenance of water levels in the lagoon, or addressing existing flood hazards using alternative measures, are essential for maintaining safe public access.

On the other hand, the work involved with a mechanical breach can temporarily interfere with coastal access and recreation in the vicinity of construction activities and, by creating an open channel to the ocean, may result in an obstruction to lateral coastal access. To minimize temporary construction impacts, **Special Condition 3** requires that mobilization and breaching procedures minimize disruption of public access to and on the beach. This condition also requires that staging areas be located in a manner that least interferes with public access and that any equipment on the beach is promptly removed upon completion of the breaching operation. To minimize unnatural disruptions to lateral access caused by artificial breaching, the project description and the permit conditions delay such breaches until they are absolutely necessary. Therefore, as conditioned, the proposal is consistent with the above-cited public access and recreation policies of the Coastal Act.

F. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Santa Cruz County, acting as the CEQA lead agency, adopted a Mitigated Negative Declaration for the proposed project on January 22, 2003. Section 13096(a) of the Commission's regulations requires that a specific finding be made in conjunction with Commission decisions on coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA (codified at Public Resources Code section 21000 *et seq.*).

In turn, Section 21080.5 of CEQA provides that a “certified regulatory program” of a state agency is exempt from the requirements of preparing CEQA documents (*e.g.*, EIRs, negative declarations, initial studies), though a certified regulatory program is still subject to other provisions of CEQA, such as the policy of avoiding significant adverse effects on the environment where feasible. (*See* Pub. Res. Code § 21080.5(a); 14 CCR § 15250.) The CEQA Guidelines expressly identify the regulatory program of the California Coastal Commission dealing with consideration and granting of CDPs as a certified regulatory program. (14 CCR § 15251(c).) In other words, the Coastal Commission’s review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA.

To qualify as a certified regulatory program, Section 21080.5(d)(2)(A) of CEQA requires, among other things, that the rules and regulations adopted by the Commission for its CDP program prohibit a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect that the activity may have on the environment.

The preceding coastal development permit findings discuss the relevant coastal resource issues with the proposal, and the permit conditions identify appropriate modifications to avoid and/or lessen any potential for adverse impacts to said resources. As such, there are no additional feasible alternatives or feasible mitigation measures presently available which would substantially lessen any significant adverse environmental effects which approval of the proposed project, as conditioned, would have on the environment within the meaning of CEQA, nor are any additional feasible alternatives or mitigation measures necessary to ensure CEQA compliance because, as discussed, the project as modified and conditioned avoids and/or lessens any potential adverse impacts to a less than significant level. Thus, if so conditioned, 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).

3-19-0344 (Pajaro River Breaching)

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS¹⁷

- CDP files for 3-97-047, 3-03-015, and 3-19-0344
- Pajaro River Management Plan
- ACOE Provisional Permit

APPENDIX B – STAFF CONTACT WITH AGENCIES AND GROUPS

- Santa Cruz County Department of Public Works, Flood Control Division

¹⁷ These documents are available for review in the Commission's Central Coast District office.