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STAFF REPORT: REGULAR CALENDAR

Application No.:	9-19-1250
Applicant:	City of Santa Barbara
Agents:	See Appendix B
Location:	East Beach, south of Cabrillo Boulevard, City of Santa Barbara, CA (APN #17-191-03)
Project Description:	Replacing and relocating part of the seawater intake system of the City of Santa Barbara's Charles E. Meyer Desalination Facility.
Staff Recommendation:	Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

The City of Santa Barbara ("the City") proposes to replace and relocate a weir box, a section of intake pipeline, fittings, and related components that are a part of the seawater intake system used by the City's desalination facility. These components are currently on the City's East Beach, and the City would install new components about 60 feet inland at a higher elevation on the beach. The project would involve work on the beach that could adversely affect beach habitat, coastal water quality, and public access and recreation. Because of the intake system's design limitations, the City would rely on new shoreline protection in the form of riprap to protect the relocated components.

The standard of review is the Coastal Act's Chapter 3. To provide conformity to relevant Chapter 3 provisions, Commission staff is recommending several Special Conditions that would require the City to conduct project activities using best management practices and in a manner that protects nearby sensitive species, including Western snowy plover and grunion, and that provides for prevention and response to any spills or releases of hazardous materials. The Special Conditions would also require the City to provide a Riprap Relocation and Removal Plan to ensure any shoreline protection is the minimum needed, and to return to the Commission before climate change or sea level rise-related hazards create unsafe conditions for the project components.

Recommendation: Commission staff believes the project, as conditioned, would conform to applicable Coastal Act policies, and therefore recommends **approval** of coastal development permit application 9-19-1250.

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EXHIBITS

Exhibit 1 – Location Map

Exhibit 2 – Site Plan

Exhibit 3 – City’s Proposed Avoidance and Mitigation Measures

I. MOTION & RESOLUTION

Motion:

I move that the Commission **approve** Coastal Development Permit No. 9-19-1250 pursuant to the staff recommendation.

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

Resolution:

The Commission hereby approves the coastal development permit and adopts the findings set forth below on the 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 feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment.

II. STANDARD CONDITIONS

This permit is 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 of interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. **Other Approvals.** PRIOR TO STARTING CONSTRUCTION ACTIVITIES, the Permittee shall provide to the Executive Director a copy of the project's General Construction Activity Stormwater Permit as issued by the Regional Water Quality Control Board or evidence that the permit is not needed. The Permittee shall inform the Executive Director of any changes to the project required by this permit. Such changes shall not be incorporated into the project or undertaken until the Permittee obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.
2. **Riprap Relocation and Removal.** PRIOR TO STARTING CONSTRUCTION ACTIVITIES, the Permittee shall submit, and obtain Executive Director review of and approval for, a Riprap Relocation and Removal Plan that describes the volumes and dimensions of the existing riprap at the project site and the volumes and dimensions of the riprap that will be relocated to protect the new structures. These descriptions shall be supported by engineering and geotechnical evidence showing the basis for the identified need for the proposed amount and layout of the riprap. This Plan shall also describe how any remaining existing riprap not needed to protect the new or existing structures will be removed from the beach and placed at an acceptable upland location.
3. **Sea Level Rise and Climate Change.** By 2040, or at the time that sea level has increased by 2.2 feet over its current 2020 Mean High Water elevation of 4.55 feet NAVD88 at the Santa Barbara tide gauge, whichever occurs first, the Permittee shall prepare, for Executive Director review and approval, a Coastal Hazards Adaptation Report describing conditions at and near the development site and of the intake system. The Report shall describe the experienced increase in sea level rise at that time and the increases expected during the subsequent period of at least 20 years, the experienced rate of shoreline recession and the rate of recession expected during that subsequent period, the experienced coastal hazards at the site, including wave uprush, storm energy, tsunami runup elevations, etc., and any damage or other impacts to the development, along with the hazards expected during that subsequent period. The Report shall also evaluate all potential adaptation measures or intake system modifications that may be needed at that time or during the subsequent period in order to maintain the intake system in a safe, operable condition and to minimize impacts to coastal resources, including sand supply habitat, and public access. The Report shall also consider how individual adaptation measures to address impacts to the intake system relate to broader resiliency needs and adaptation planning for the entirety of the desalination facility. The Executive Director may determine, based on a review of the report, that the applicant must submit a complete CDP application for modification of the intake system if the then-existing system is, or will soon be, subject to coastal hazards that compromise its structural stability or operational abilities. Such modification could include, without limitation, removal of the intake system if it is no longer needed or if an environmentally superior feasible alternative exists.

4. **Assumption of Risk, Waiver of Liability and Indemnity by the Permittee.**
 - a. By acceptance of this permit, the Permittee acknowledges and agrees: (i) that the site may be subject to hazards, including but not limited to waves, storms, flooding, landslide, erosion, and earth movement, all of which will worsen with future sea level rise; (ii) to assume the risks to the permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and (v) that the mean high tide line is ambulatory in nature and may migrate inland due to sea level rise; thus, the development and associated shoreline protection may become located on public trust lands at some point in the future and, if so, may require a lease from the State Lands Commission and/or may need to be removed if it substantially interferes with public access or other public trust resources.
 - b. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Applicant shall submit a written agreement, in a form and content acceptable to the Executive Director, incorporating all of the above terms of this condition.
5. **Avoidance and Minimization Measures.** The Permittee shall conduct all project activities consistent with the Avoidance and Minimization Measures identified in Section 6.0 of its September 2019 Biological Assessment for the Charles Meyer Desalination Facility, provided as Exhibit D of its coastal development permit application and included as Exhibit 3 of these Findings. The Applicant shall additionally submit, for Executive Director review and approval, the names and qualifications of proposed biologists who will be implementing these measures. Upon request by the Executive Director, the Applicant shall provide all nest survey reports and monitoring results described in these measures.
6. **Habitat Restoration.** The Permittee shall implement habitat restoration, including removal of invasive and non-native species, planting of native species, and monitoring in a 0.16-acre area extending about 1,000 feet south of the new weir box location, as described in the City's October 2019 *Draft Eash Beach Weir Box Relocation Habitat Restoration Plan*.
7. **Grunion Monitoring & Avoidance Plan.** Prior to conducting any project activities at the beach between March 1 and August 31, the Permittee shall prepare, submit, and obtain Executive Director review and approval of, a Grunion Monitoring and Avoidance Plan, written by a qualified biologist, that provides for the following:

- a. The Plan shall identify expected grunion runs as identified in current annual California Department of Fish and Wildlife (CDFW) documentation to determine possible grunion spawning periods.
 - b. Using the above-referenced CDFW documentation, the Permittee shall identify any grunion runs expected to occur during any two week period prior to or during any project work scheduled to occur at or below the high tide line. If grunion runs are expected during those work times, the Permittee shall first monitor the beach area of the work site for any possible grunion runs during those expected times. Monitoring shall be conducted by a qualified biologist at least 30 minutes prior to, and two hours following, the predicted start of any spawning event.
 - c. If monitoring detects a grunion run (i.e., more than 100 fish within the approximately 200-foot wide work area on the beach), the applicant shall avoid all work at or below the high tide line for a minimum of two weeks to ensure grunion eggs are not disturbed.
 - d. All identified grunion runs shall be reported promptly to the Executive Director. Monitoring results shall be made available to the Executive Director upon request.
8. **Construction Best Management Practices.** The Permittee shall conduct all project activities subject to the following:
- a. Prior to the commencement of project activities, the limits of the work areas and staging areas shall be delineated so as to limit the potential area affected by construction to the minimum safely required. All vehicles, equipment and materials stockpiles shall be restricted to within the delineated work area. Project equipment and vehicles shall remain as high on the upper beach as possible and shall avoid contact with ocean waters to the maximum extent feasible. Disturbance to beach wrack shall also be minimized to the maximum extent feasible.
 - b. Best Management Practices (BMPs) shall be designed to prevent sediment and potential pollutants from entering coastal waters. The BMPs shall be implemented prior to or concurrent with construction and maintained throughout the project. The use of temporary erosion and sediment control products (such as fiber rolls, erosion control blankets, mulch control netting, and silt fences) that incorporate plastic netting (such as polypropylene, nylon, polyethylene, polyester, or other synthetic fibers) shall be avoided.
 - c. All debris resulting from project activities shall be removed from the beach by the end of each work day. Any excavated beach sand shall be redeposited on the beach and graded to natural beach contours.
 - d. During construction, all trash shall be properly contained, removed from the worksite, and disposed of on a regular basis. No construction materials, debris, or waste shall be placed or stored where it may be subject to wave or tidal erosion and dispersion. Any debris inadvertently discharged into coastal waters shall be recovered immediately and disposed of consistent with the requirements of this coastal development permit.

- e. Any fueling and maintenance of construction equipment shall occur within designated staging areas. Mechanized heavy equipment and other vehicles shall not be fueled within 100 feet of coastal waters unless within an area where any potential spills can be fully contained.

9. **Hazardous Material Spill Prevention and Response.**

- a. PRIOR TO STARTING PROJECT ACTIVITIES, the Permittee shall submit, and obtain Executive Director review and approval of, a project-specific Hazardous Materials Spill Prevention and Response Plan for all vehicles to be used for project activities. The Plan shall include:
 - a list of all fuels and hazardous materials that will be used or might be used during the proposed project, together with Material Safety Data Sheets for each of these materials;
 - specific protocols for monitoring and minimizing the use of fuel and hazardous materials during project operations, including Best Management Practices that will be implemented to ensure minimal impacts to the environment;
 - an estimate of a reasonable worst case release of fuel or other hazardous materials on the project site or into coastal waters resulting from project repair or maintenance activities;
 - all identified locations within the project footprint of known or suspected buried hazardous materials, including current or former pipelines, underground storage tanks, and the like;
 - a list of all spill prevention and response equipment that will be maintained on-site;
 - the designation of the onsite person who will have responsibility for implementing the plan;
 - a detailed response and clean-up plan in the event of a spill or accidental discharge or release of fuel or hazardous materials; and,
 - a telephone contact list of all regulatory and public trustee agencies, including Coastal Commission staff, having authority over the development and/or the project site and its resources to be notified in the event of a spill or material release.

The Permittee shall ensure that all onsite project personnel participate in a training program that describes the approved Plan, identifies the Plan's requirements for implementing Best Management Practices to prevent spills or releases, specifies the location of all clean-up materials and equipment available on site, and specifies the measures that are to be taken should a spill or release occur.

- b. In the event that a spill or accidental discharge of fuel or hazardous materials occurs during project construction or operations, all non-essential project construction and/or operation shall cease and the Permittee shall implement spill response measures of the approved Plan, including notification of Commission staff. Project construction and/or operation shall not start again until authorized by Commission staff.

- c. If project construction or operations result in a spill or accidental discharge that causes adverse effects to coastal water quality or other coastal resources, the Permittee shall submit an application to amend this permit, unless the Executive Director determines no amendment is required. The application shall identify proposed measures to prevent future spills or releases and shall include a proposed restoration plan for any coastal resources adversely affected by the spill or release.

The Permittee shall implement the Plan as approved by the Executive Director. Any proposed changes to the approved Plan, including those resulting from a use of different vessels or equipment than originally proposed, shall be reported to the Executive Director. No changes to the approved Plan shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS & DECLARATIONS

A. PROJECT DESCRIPTION AND BACKGROUND

The City of Santa Barbara (“the City”) is proposing to replace and relocate a weir box, a section of intake pipeline, pipeline transition fittings, and power and communications cables used by the City’s seawater desalination facility. These project components, located on the City’s East Beach, are part of the desalination facility’s intake system used to transport seawater between mesh-covered intakes located about 2,500 feet offshore of the facility, which is located about 800 feet inland of the beach area. During the recent facility recommissioning,¹ the City determined that these components were subject to leaks and damage. In 2017, the City conducted temporary repairs pursuant to CDP #9-14-1781, with the understanding that longer-term repairs would be needed to allow for the facility’s expected 20-year minimum design life.

Onshore components of the desalination facility are within the City’s Local Coastal Program (“LCP”) jurisdiction and are located at 525 East Yanonali Street and 420 Quinientos Street in downtown Santa Barbara (see **Exhibit 1—Location Map**). The project components to be replaced and relocated are within the Commission’s retained jurisdiction in coastal waters and on the City’s East Beach (see **Exhibit 2 – Site Plan**).

Background & History

The City’s desalination facility was built in the mid-1990s in response to state and regional drought conditions and operated for just a short time before being deactivated when the drought ended.² The facility’s intake system was built, in part, by installing a liner within an abandoned wastewater treatment line that was located under East Beach and that had been protected from erosion by riprap placed during the 1930s and is still in place on the beach. The City maintained the facility’s NPDES permits during the next couple of decades, and in 2014 it applied to the Commission for a CDP to recommission the facility. In 2015, and pursuant to the Commission’s approval of CDP #9-14-1781, the City recommissioned the facility by replacing much of the original desalination equipment and modifying the facility’s intake system. These intake modifications included intake pipeline repairs, replacement of various fittings and cables, and other similar activities. In 2017, the City discovered leaks within the weir box and the pipeline transition fittings and conducted temporary repairs pursuant to the repair and maintenance approval provided through coastal development permit 9-14-1781. During these repair activities, the City determined that the design and location of the existing weir box would likely lead to ongoing maintenance problems, due to design constraints within the box and the lack of space between the box, pipeline, and fittings needed to

¹ In February 2015, the Commission approved CDP 9-14-1781 authorizing the facility recommissioning.

² In March 1991, the City approved coastal development permit (“CDP”) #91-CDA-06 for construction and temporary operations of the onshore portions of the facility, and in May 1991, the Commission approved CDP #4-91-18 for construction and temporary operation of facility components within its retained jurisdiction on the beach and in offshore water. In December 1995, the City approved CDP 95-0045 for long-term operation of onshore portions of the facility, and in October 1996, the Commission approved CDP 4-96-119 for long-term operation of portions of the facility within its jurisdiction.

conduct repairs. In May 2019, the Executive Director issued a permit waiver (#9-19-0304-W) allowing the City to conduct geotechnical investigations to determine potential locations for a modified weir box. Through this current CDP application, the City proposes to resolve these issues by installing a new, redesigned weir box and pipeline system at a slightly more inland and higher elevation location, which it expects will provide an expected service life of about 20 years.

The weir box contains pipeline transition fittings and serves as a “pull point” and splice location for power and communication cables that run from the facility to pumps located in the offshore intake structures. The base of the weir box is at about -2.5 feet NAVD88.

Proposed Project Activities

The proposed project involves the following main activities:

- 1) **Conduct biological surveys:** Before any repair/relocation activities, the City would conduct surveys to detect any nesting birds near the project site. If active nests are found, work would not occur or would occur only with appropriate buffers. These and other measures are described below in Section E of these Findings.
- 2) **Place temporary fencing and stormwater protection measures:** The City would install temporary construction fencing around an approximately one-acre work area on the beach to provide for public safety.
- 3) **Demolish and remove weir box and fittings:** The City would remove the existing weir box and pipeline fittings, with most of the buried pipeline between the two to be cut and removed.
- 4) **Prepare subgrade at new weir box and fittings locations:** To provide adequate structural support for the new components, the City will excavate to depths of up to about 15 feet below the existing grades and will install screw piles to support the weir box.
- 5) **Install new weir box, pipeline section, and fittings:** The new weir box is a partially-buried concrete vault with a footprint of about 9.5 by 17 feet and a depth of about 10 feet. The top of the box would be at +9 feet NAVD88 and its base, with foundation, would be at about -3.5 feet NAVD88. This would place the top of the box within the current range of seasonal beach elevations at the site that vary from about +8 to +13 feet NAVD88. The weir box would be located about 60 feet north of the existing weir box site and adjacent to the fittings location. To reduce potential impacts, the structures will be pre-assembled rather than constructed on site.
- 6) **Relocate existing riprap to protect new weir box:** The existing weir box has been protected by riprap for the past several decades. The City proposes to reuse some of that existing riprap and move it several dozen feet inland to protect the new weir box and to prevent the intake pipeline from being undercut by wave action or erosion. The existing riprap footprint covers about 5,000 square feet of beach and intertidal area, whereas the new footprint would cover somewhat less.

The City has also included as part of the project activities restoration of habitat along the upper elevation of about 0.16 acres of dunes at East Beach. The proposed site of the new weir box and fittings is at the beach/dune interface and installation would

primarily disturb unvegetated areas of the beach, though would include disturbance of about 0.01 acres of beach sand that is occupied by invasive or non-native species, including ice plant (*Carpobrotus edulis*) and Bermuda grass (*Cynodon dactylon*). The restoration is meant to mitigate for the potential loss of vegetation during construction and to successfully establish appropriate native vegetation near the work site in an area outside the main points of public access and recreation. This is further described in Section E below.

Some project activities, such as weir box removal and installation, may be done using a crane, which will allow the City to install a pre-cast concrete weir box instead of pouring concrete on the beach. All work is proposed to be done during the day, with lighting limited to that needed for safety purposes, which will be directed downward and inward to the work areas. Project work is expected to take about 14 weeks, starting in May 2020. Construction would occur up to 10 hours per day on Monday through Friday only. The project will also include several activities that the Commission previously authorized under, and are subject to conditions of, CDP 9-14-1781, approved in 2015. These include replacing the facility's offshore intake pumps and cables using a support vessel.

B. COMMISSION JURISDICTION

The locations of the existing and proposed weir boxes and of the section of pipeline that will be relocated are within the Commission's retained jurisdiction, where the standard of review is Chapter 3 of the Coastal Act.

C. OTHER AGENCY APPROVALS & CONSULTATIONS

The project is additionally subject to permits and approvals from the following:

- City of Santa Barbara: Substantial Conformance Determination, August 2015.
- Central Coast Regional Water Quality Control Board: The project is subject to a General Construction Activity Stormwater Permit from the Regional Board.

Special Condition 1 requires that the City submit proof that it has obtained the above permit or documentation that the permit is not needed.

D. COASTAL HAZARDS AND SEA LEVEL RISE

Coastal Act Section 30235 states, in relevant part:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply...

Coastal Act Section 30253 states, in relevant part:

New development shall do all of the following:

- (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
- (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs...

Coastal Act Section 30101 states:

“Coastal-dependent development or use” means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.

The Coastal Act generally prohibits new development from contributing significantly to erosion or geologic instability or from relying on protective devices that would substantially alter natural landforms along bluffs and cliffs. Even in coastal areas without bluffs and cliffs, Coastal Act Section 30250 requires that new development be located in areas where it will not have significant adverse effects on coastal resources. Thus, shoreline protective devices are generally disallowed under the Coastal Act if they will affect natural shoreline processes or have other impacts on visual resources, public access, or other coastal resources. However, Section 30235 of the Act allows for shoreline protection in limited circumstances, including when it is required for coastal-dependent uses and is designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Section 30235 is an “override” provision that requires approval of shoreline protection in certain limited circumstances despite the fact that the protection is inconsistent with other Coastal Act provisions. Although shoreline protection must be approved in these circumstances, the Commission still must ensure that the approved project is the least environmentally damaging alternative and that any impacts of such protective devices are avoided, or if avoidance is infeasible, mitigated.³

³ See, e.g., Public Resources Code § 21080.5(d)(2)(i); *Ocean Harbor House Homeowners Assn. v. California Coastal Commission* (2008) 163 Cal.App.4th 215, 241.

This proposed project involves replacing and relocating several components of an existing seawater intake system from a lower elevation on the beach to a slightly higher location on the beach about 60 feet further inland. Relocating these components will still subject them to sand movement, erosive forces, and wave uprush, so they will need new shoreline protection to provide stability. The riprap is affecting, and will affect erosion rates and sand supply in both the existing and proposed locations by disrupting the flow of sand and water along the shoreline, by reducing wave and water energy within the riprap footprint, and by redirecting wave and water energy to adjacent areas. Because this proposed project involves new development needing shoreline protection, and because that shoreline protection will affect the natural erosion of the beach in a manner that is inconsistent with Section 30253 and 30250, the Commission must determine whether the development should nevertheless be approved pursuant to Section 30235 because it is a “coastal-dependent” use and is designed to eliminate or mitigate adverse effects on local sand supplies.

Pursuant to Section 30101, for a use to be coastal-dependent, it must occur “on, or adjacent to, the sea to be able to function at all.” As the City describes in its CDP application, the intake system has design constraints that prevent the weir box and its associated structures from being located more than about 60 feet further inland from their current locations. The weir box serves as a “pull point” for the electrical and communications cables that run between the desalination facility and the pumps in the offshore intake structures, and the limited distance and angles through which these cables can be pulled limit any new location to those within about 60 feet from the existing location. This restricts any alternative locations to the beach and therefore, “on, or adjacent to, the sea.”

Additionally, the Commission has several times previously considered seawater desalination intakes to be “coastal-dependent,” particularly in locations where site constraints do not allow for other types of intakes, such as wells, that could be located away from the shoreline – for example, in areas where there is little or no intruded seawater that wells could withdraw. For this facility, the City conducted an investigation of potential subsurface intake opportunities in 2015-16 and found those approaches to be infeasible along this part of the shoreline.⁴

Based on the above, and with the project intended to support an existing coastal-dependent use – i.e., providing seawater to the City’s desalination facility – the Commission finds that the proposed new development is coastal dependent. It therefore may rely on new shoreline protection if the project conforms to the other requirements of Section 30235 – 1) that it is designed to eliminate or mitigate adverse effects on local sand supply processes—and 2) that it is the least environmentally damaging alternative and mitigates any other coastal resource impacts.

⁴ See Carollo Engineers, *City of Santa Barbara Subsurface Desalination Intake Feasibility Study*, 2016.

Regarding sand supply effects, the existing intake system includes an area of riprap that protects the current weir box and part of the intake pipeline. The riprap is having a moderate effect on sand movement, as it extends into the intertidal zone where much of the sand conveyance occurs. Moving the weir box and associated components, along with the amount of riprap needed to protect them, to the proposed higher elevation would reduce the current relatively limited effect on conveyance of the local sand supply. The new location would also allow for a smaller riprap footprint than the currently existing approximately 5,000 square feet – which would further reduce any project effects on sand movement. However, with future sea level rise and potential beach erosion, the new and moved riprap will take up an area of beach that would otherwise be acted on by waves and will eventually affect sand movement in the area. To minimize these effects, **Special Condition 2** requires the City to submit a plan, subject to Executive Director review and approval, that describes the proposed relocation of the existing riprap and the removal from the beach and intertidal area of all riprap that is not needed to protect the new and existing structures. This will ensure that the City will use the least amount of riprap needed to protect the new development, thereby ensuring that impacts to sand supply and shoreline processes are minimized to the extent feasible.

Sea level rise/climate change

Although the locations for the new components are at slightly higher beach elevations than the existing locations, the weir box and associated structures will continue to be exposed to seasonal sand movement, erosion, and wave uprush, all of which will be exacerbated by expected increases in sea level and storm energy resulting from climate change. As noted previously, the top of the new weir box would be located at +9 feet NAVD88 and its base at -3.5 feet NAVD88. Under existing conditions, this would place the top of the box within the current range of seasonal sand elevations at the beach, which are about +8 feet in winter to +13 feet in summer. Under these conditions, the new box would be about four feet below the beach surface during high summer sand elevations and about a foot below the beach surface during lower sand conditions in the winter. The pipes inside the box would be inundated during high tides, but would drain during low tides.

The City assessed how expected increases in sea level over the next several decades would affect the new proposed structures. Using the “medium-high” and “extreme” risk scenarios from the Commission’s current Sea Level Rise Policy Guidance,⁵ the City identified potential hazards to the structures based on expected future water elevations and amounts of shoreline recession, which are shown in the table below.

⁵ California Coastal Commission, *Sea Level Rise Policy Guidance*, November 2018.

Table 1: Expected sea level rise and amounts of shoreline recession

	Sea Level Rise		Shoreline Recession	
	Medium-High Scenario	Extreme Scenario	Medium-High Scenario	Extreme Scenario
Existing	0	0	0	0
2050	1.8	2.5	121	164
2070	3.3	4.9	220	318
All units in feet.				

The City’s assessment focused on determining when three future conditions would occur: 1) when inundation would limit access to the weir box, 2) when the weir box would be undercut by erosion, and 3) when the new pipeline segment would be exposed due to erosion. For the first condition, the City calculated that a 2.9-foot increase in sea level would result in high tides reaching the weir box foundation, which would cause shallow flooding and would periodically limit access. This condition is currently expected to occur sometime between 2055 and 2065. For the second condition, the City’s evaluation shows that the weir box is not expected to be undercut by erosion until after 2100, based on expected increases in sea level and the expected rate of shoreline recession. For the third condition, the City determined that the new pipeline segment would be exposed and possibly undercut when sea level increases by 4.3 feet, which is currently expected to occur about 2070 or beyond.

Although the project design includes components that would allow these structures to resist failure to some degree, the City’s CDP application acknowledged that these intake system would require some type of adaptive measures under these future conditions and proposed two thresholds for when to consider what adaptations would be needed:

- To address the likely weir box inundation, the City proposed starting the review process to identify needed modifications when sea level increased by 2.2 feet from current levels. This would provide about a decade of lead time before the weir box experienced the periodic flooding expected with a 2.9-foot increase in sea level.
- To address the likely pipeline undercutting, the City proposed starting the review process when sea level increased by 3.3 feet from current levels. This would provide a similar approximately one decade lead time to identify needed changes.

Under current projections for a worst-case scenario, these two levels of increase could occur as soon as about 2045 and 2055, respectively. The City’s CDP application included brief descriptions of several possible future adaptation measures – for example, and based on future conditions, the City could consider moving the weir box to higher ground, adding rock cover to the pipeline, or constructing an entirely new intake system. However, with uncertainty about the timing, extent, or types of potential future conditions as well as what adaptation measures may be available, it is difficult to select a proposed approach at this time.

Instead, to ensure that needed measures will be considered and selected at an appropriate time, the Commission is requiring through **Special Condition 3** that the City submit, by 2040 or by the time sea level increases by 2.2 feet from its current elevation⁶ (whichever occurs first), a report for Executive Director review and approval that describes conditions at the site and of the intake system and that evaluates all adaptive measures available at the time to address both existing and expected conditions at the site. Based on the evaluation conducted at that time, **Special Condition 3** also requires the City to submit a subsequent CDP application to modify or remove the intake structure.

The City has identified an expected operating life for these new project components of about 20 years – i.e., until about 2040 – so with the earlier adaptation threshold being just at that range or slightly beyond, the timing of the required report would likely mesh with other intake system modifications that may be required. Importantly, the City’s desalination facility is also expected to experience sea level rise/climate change effects relatively soon thereafter and the City has identified the need for a detailed study of the facility’s vulnerability.⁷ The report required through **Special Condition 3** would therefore likely help inform any changes that may be needed not only to the intake system, but to the overall facility. In addition, and in recognition that the site of this proposed development could be affected by coastal hazards at any time, the Commission also imposes **Special Condition 4**, which requires the applicant to assume the risk of development in a hazardous location and to acknowledge that the development may need to be removed if future conditions create additional hazards or make the development inconsistent with public trust resources at the site.

Based on the above, the Commission finds that the project, as conditioned, conforms as much as feasible to the relevant provisions of the Coastal Act’s coastal hazards policies and is the least environmentally damaging alternative. It also finds that the conditions of Section 30235 are met and that the shoreline armoring is therefore permissible.

⁶ According to the National Oceanic and Atmospheric Administration’s tide gauge in Santa Barbara (Station #9411340), the current Mean High Water elevation is 4.55 feet NAVD88; therefore, the 2.2-foot increase would occur when this tide gauge shows that Mean High Water has reached 6.75 feet NAVD88.

⁷ See City of Santa Barbara, *Draft City of Santa Barbara Sea-Level Rise Adaptation Plan for the Local Coastal Program Update – Vulnerability Assessment Update*, November 2018. The City has identified possible adverse effects to the facility occurring by about 2060.

E. PROTECTION OF COASTAL WATERS AND SPECIES

Coastal Act Section 30230 states:

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.

Coastal Act Section 30231 states:

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 waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Coastal Act Section 30232 states:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

These Coastal Act policies require generally that development be conducted in a manner that protects coastal waters, that it not result in adverse effects to those waters and their associated coastal resources, and that it protect against spills of hazardous substances into coastal waters. The proposed project activities could affect coastal waters, habitats, and species primarily due to heavy equipment operating on the beach, which would create project-related noise and disturbance to nearby wildlife or habitat and could result in releases of oil, fuel, or other hazardous materials onto the beach or into adjacent coastal waters.

The beach habitat on which the project activities would occur has been affected due to its extensive use for public access and recreation, with the upper beach elevations sparsely vegetated with what are primarily non-native species such as ice plant (*Carpobrotus edulis*) and Bermuda grass (*Cynodon dactylon*). Nonetheless, the beach, including the proposed location of the new weir box and pipeline, is within designated critical habitat for the federally-endangered Western snowy plover (*Charadrius nivosus*

nivosus),⁸ and the work site is about 300 feet from designated critical habitat for the federally-endangered tidewater goby (*Eucyclogobius newberryi*), which is found in the nearby Laguna Creek estuary. The beach also often serves as an area of seasonal spawning habitat for the California grunion (*Leuresthes tenuis*), which spawns during high tides between March and September.

The coastal waters immediately offshore of the project work area provide a mix of habitat, including open water, kelp beds, seagrasses (including native eelgrasses *Zostera marina* and *Z. pacifica*, and surfgrasses *Phylospadix torreyi* and *P. scouleri*) and several types of hard bottom substrate. The hard bottom substrate – mostly rocky reef or cobble – are more sensitive to disturbance than the surrounding sandy bottom areas and support a diversity of species not commonly found in the soft bottom areas. Similarly, kelp beds and areas of seagrass are considered a more sensitive resource supporting a diversity of species not found in other nearby habitats. These coastal waters also serve, at different times of the year, as habitat for several types of marine mammals, all of which are protected against “take,” harm, or harassment under the federal Marine Mammal Protection Act.⁹ Pursuant to the federal Magnuson-Stevens Fishery Conservation and Management Act, the offshore waters are designated as Essential Fish Habitat for several dozen species, including a number that are important for commercial and recreational fishing.

The City has conducted several biological surveys in the project area – two in 2014 as part of previous projects related to the desalination facility’s intake system, and most recently in September 2019. The surveys found no nests in the project area, though many shorebird, waterfowl, and passerine species were observed foraging in and around the area. There are no recent records of nesting in the immediate project area.

The City has proposed several mitigation measures meant to avoid or reduce potential adverse effects on nearby sensitive species. It has include in the project some replanting of an area of native beach dune vegetation in about 0.16 acres of upper beach just downcoast of the project site. The planted area would be a strip about 1,000 feet long varying in width up to about 50 feet and located between existing vegetation along the public bike path and the beach. The City plans to install temporary fencing around the areas to be planted, remove any invasive or non-native plants, install a temporary irrigation system, and plant a mix of appropriate native species, including several species of sand verbena (*Abronia* spp.), beach suncup (*Camissoniopsis cheiranthifolia*), and seacliff buckwheat (*Eriogonum parvifolium*). The City will monitor

⁸ In its August 2019 certification of the City’s updated Coastal Land Use Plan, the Commission determined that the inclusion of East Beach as part of designated critical habitat for the Western snowy plover did not automatically result in its designation as an environmentally sensitive habitat area (“ESHA”). The City’s certified Land Use Plan states that “if southern foredune or nesting habitats for the western snowy plover were found or established in the future, those habitats would be considered ESHA.”

⁹ Marine mammals can be found year round in the waters offshore of Santa Barbara. Some pass through during annual migrations, such as gray whales (*Eschrichtius robustus*) during December through April each year and humpback whales (*Megaptera novaeangliae*) in May through September each year. Others, including harbor seals (*Phoca vitulina*) are year-round residents.

the planted area to ensure success and to ensure no more than 10% (5% after Year 3) of the area includes non-native or invasive plants. It will also provide ongoing reports to the Executive Director describing project implementation and monitoring results.

Special Condition 5 requires the City to conduct habitat restoration as described in the October 2019 Draft East Beach Weir Box Relocation Habitat Restoration Plan provided as part of the CDP application.

The City also proposed as part of its project a number of avoidance and minimization measures, such as providing training to workers about the avoidance and minimization measures that are to be implemented during project activities, conducting pre-project nesting bird surveys, monitoring biological activities during the project, providing authority to qualified biologists to modify or shut down project activities if adverse effects are observed, and others (see Exhibit 3 – Avoidance and Minimization Measures). To reduce potential effects on marine mammals from the drilling needed to place pilings beneath the weir box location, the City’s proposed measures include a “soft start/ramp-up” process at the beginning of drilling activities that will result in a gradually increasing noise level from drilling meant to alert nearby marine mammals and allow them to move to a safe distance from any noise propagation. To ensure these measures are fully implemented, **Special Condition 6** adopts these measures as part of this CDP and additionally requires the City to submit, for Executive Director review and approval, the names and resumes of proposed qualified biologists who will be implementing the measures, the described documentation of worker training, nest survey reports, and biological reports.

Because much of the project site may be used for spawning by grunion, **Special Condition 7** provides a number of protective measures to ensure the project does not adversely affect grunion. The grunion is a species of concern due in part to its unique spawning behavior. It spawns on the highest elevations of the beach reached during certain high tides between March and September and its eggs incubate in that area until subsequent high tides about two weeks later move the eggs into the water column. Project activities that occur in this area during that time could damage the incubating eggs. The City is planning on conducting some activities during the early part of grunion spawning season, due largely to the favorable sand conditions that will result in less need to transport sand away from the work site. To ensure grunion are protected, **Special Condition 7** requires the City to prepare a Grunion Monitoring and Avoidance Plan that ensures areas used by grunion are not affected by project activities through monitoring and avoidance, should grunion spawning occur in the work area.

To more fully protect nearby coastal waters and biological resources, **Special Condition 8** requires the City to conduct project activities using several construction Best Management Practices, such as removing all trash and debris from the site, operating equipment as far from the coastal waters as feasible, and fueling equipment only when any potential spills can be fully contained.

To ensure all project activities adjacent to coastal waters provide adequate protection against spills and allow for the necessary response should spills occur, **Special Condition 9** requires the City to submit a Hazardous Material Spill Prevention and Response Plan for all vehicles and equipment the City proposes to use during project activities. That Plan is to identify maximum spill potential during project activities, identify specific protocols to monitor and minimize the use of fuel and hazardous materials during those activities, identify all spill response equipment that will be immediately available to respond to any spills, a notification list of responsible agencies to be contacted in the event of any spills or releases, and other similar measures meant to avoid and minimize potential spills.

Based on the above, the Commission finds that the project, as conditioned, conforms to the relevant marine life and coastal water protection policies of the Coastal Act.

F. PUBLIC ACCESS, RECREATION, AND VISUAL RESOURCES

Coastal Act Section 30211 states:

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

Coastal Act Section 30212(a) states:

Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) Adequate access exists nearby, or, (3) Agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Coastal Act Section 30214 states, in relevant part:

- (a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:
- (1) Topographic and geologic site characteristics.
 - (2) The capacity of the site to sustain use and at what level of intensity.
 - (3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.
 - (4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

Coastal Act Section 30221 states:

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 30251 states, in relevant part:

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

Coastal Act policies require generally that development located adjacent to the shoreline in an area with ongoing public use not interfere with that use and provide access to the shoreline. It also requires that permitted development protect views to and along the coast. The proposed project activities would occur on a beach and adjacent to a coastal bike path, both of which are used extensively for public recreation and access to the shoreline. The project would result in temporary adverse effects due to the movement and use of mechanized equipment at the work site and the equipment's access to the work site across the public bike path. The City estimates that construction activities will take up to about 14 weeks and require about a one-acre area to be secured with temporary construction fencing to provide for public safety and room for project equipment. They would also result in visual impacts due to the presence of large construction equipment, particularly drilling equipment, on and near the beach, though these impacts are expected to be relatively temporary and minor the drilling would take place only during part of the work period. Longer term, moving the existing riprap from its current location relatively low on the beach to a smaller area higher up on the beach will overall result in a somewhat greater amount of sandy beach area that can be used for access and recreation. Nevertheless, this new development will take up an area of sandy beach that would otherwise be available for public recreational use. While the relocated riprap will result in visual impacts along the shoreline, those impacts will be reduced compared to existing conditions, due to the smaller overall footprint and due to all or some of the relocated riprap being naturally buried by beach sand during some times of the year, particularly in the summer when beach use is highest.

The City has included several measures meant to minimize the effects of project activities on public access and recreation. It will conduct its staging activities away from the beach at the inland location of the desalination facility, and it will shorten the needed work time at the beach by installing pre-built components rather than constructing a new weir box at the site. To further reduce potential impacts, the City will conduct project activities for no more than ten hours per day on weekdays only, which will minimize

interference with heavier use of the beach by the public on weekends. Any project-related lighting needed will be directed downward and inward towards the work areas to the extent feasible as needed for safety. Project vehicles will access the weir box area by using an existing public bikeway along the beach. This will result in minor and short-term reductions of public access, but will also reduce potential effects on nearby sensitive species, as described above in Section E. While these would represent impacts to access, recreation, and visual resources, these temporary impacts are relatively minor and are consistent with Chapter 3 policies.

Based on the above, the Commission finds that the project, as conditioned, conforms to the relevant visual resource policies of the Coastal Act. Its temporary impacts also conform to relevant public access, recreation, and visual resource policies. However, its long-term impacts to public access and recreation are inconsistent with Coastal Act policies that require maximization of public access to the coast. However, such access impacts are minimized to the extent feasible through designing the riprap to be as minimal as feasible, requiring future consideration of modifications or removal if sea level rise causes the facility to no longer be operable, and other measures described in these findings. Because the project is a coastal-dependent facility, it is approvable under the Section 30235 override provision even to the extent some access-related impacts exist.

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096(a) of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The proposed project has the potential to result in significant adverse environmental impacts to a number of coastal resources. The Commission has identified and adopted ten special conditions necessary to avoid, minimize, or mitigate these impacts. With the inclusion of these special conditions, the Commission finds that, within the meaning of the California Environmental Quality Act of 1970, there are no further feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the proposed project may have on the environment. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA.

APPENDICES

Appendix A – Substantive File Documents

City of Santa Barbara, Coastal Development Permit Application #9-19-1250, December 2019.

City of Santa Barbara, Coastal Development Permit Application #9-14-1781, and associated submittals, March through December 2014.

California Coastal Commission, Coastal Development Permit #4-96-119, issued to the City of Santa Barbara for long-term operation of the Charles E. Meyer Desalination Facility, October 11, 1996.

California Coastal Commission, Coastal Development Permit #4-91-18, issued to the City of Santa Barbara for temporary operation (up to 5 years) of the Charles E. Meyer Desalination Facility, May 9, 1991.