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STAFF REPORT: REGULAR CALENDAR

Application No.: 9-22-0733

Applicant: City of Ventura

Project Location: Marina Park Ventura Harbor and Santa Clara River Estuary, Ventura, CA.

Project Description: Construction of an approximately 6,800-foot-long ocean outfall, pump station, and associated onshore conveyance pipeline as well as the discharge of tertiary-treated effluent from the Ventura Water Reclamation Facility through the outfall and the future discharge of concentrate produced from a pending Advanced Water Purification Facility.

Staff Recommendation: Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

The City of Ventura (City) proposes the construction of a new ocean outfall extending approximately 6,800 feet offshore of the City, construction of a pump station, construction of a segment of conveyance pipeline to the outfall from the Ventura Water Reclamation Facility, discharge of up to 4.7 million gallons per day (MGD) of tertiary-treated water through the ocean outfall, and the future discharge of concentrate produced from a pending Advanced Water Purification Facility (AWPF) (**Exhibit 3**). The Ventura Water Reclamation Facility (VWRF) was constructed in 1958 and treats municipal wastewater to tertiary standards (i.e., partial denitrification and filtration).

Approximately 4.7 MGD of this tertiary-treated water is currently discharged into the Santa Clara River Estuary (SCRE) near its connection to the Pacific Ocean.

In March 2010, the Ventura Coastkeeper (a program of the Wishtoyo Foundation) and Heal the Bay filed a lawsuit alleging that the discharges of the tertiary-treated effluent into the estuary violated the Clean Water Act and Porter-Cologne Water Quality Control Act. The City, Ventura Coastkeeper and Heal the Bay entered into a consent decree requiring the City to develop alternatives for dealing with the reclamation and diversion of the treated effluent that would improve conditions for the habitats and species within the estuary.¹

The City ultimately determined that reducing by 90-100 percent the volume of tertiary-treated water being directed into the estuary would be the most beneficial to the native species and habitats it supports and began the process of designing and planning a project that would achieve this. The Ventura Water Pure Project includes two phases: Phase 1a and Phase 1b. Phase 1a includes construction of an AWPf, a new ocean outfall, a pump station, groundwater injection wells, upgrades at the existing VWRf, and conveyance pipelines. Phase 1a would divert 60 percent of the current discharge to the SCRE by 2025 and then Phase 1b would potentially divert up to 90-100 percent starting in roughly 2030 of the treated wastewater currently being discharged into the estuary. This CDP covers the construction and operation of the ocean outfall, a pump station, and conveyance pipelines to the AWPf. The City is currently seeking authorization for the other components of the Project in the coastal zone (including construction and operation of the AWPf and associated groundwater injection wells) through an LCP amendment and separate CDP application. If these authorizations are granted and the AWPf and injection wells are constructed, most of the current wastewater stream would be beneficially reused (i.e., recycled) as a new source of drinking water and the remaining concentrated effluent from the AWPf would be discharged through the proposed ocean outfall. The City is seeking the Commission's authorization for this discharge as part of the development considered in this report in order to expedite bringing the AWPf online and facilitate the availability of its supply of beneficial reuse water.

The proposed project raises several potential issues under the Coastal Act including Environmentally Sensitive Habitat Areas (ESHA), marine resources, coastal hazards, access and recreation, cultural resources, and fill of coastal waters. To guide project phasing, an adaptive management plan (MAAMP) would be developed to confirm that implementation of the up to 90-100 percent diversion of wastewater from the SCRE would not result in adverse impacts to the SCRE. **Special Condition Seven** would require the City to submit a final MAAMP to the Executive Director for review and approval. All proposed onshore development would take place within previously disturbed areas and would not result in adverse impacts to ESHA.

¹ *Wishtoyo Foundation/Ventura Coastkeeper, et al., v. City of San Buenaventura*, United States District Court for the Central District, No. CV 10-02072 (consent decree filed 3/3/2012).

Although adaptation measures proposed by the City would help to protect the proposed development in the more immediate term, the project has not demonstrated that it would be sufficiently safe from coastal hazards over a 100-year design life. As such, the Commission believes that a 30-year authorization period is appropriate in this case as required by **Special Condition One**. **Special Condition Two** would require the City to develop a Coastal Hazard Adaptation and Implementation Plan (CHAIP) that identifies a suite of strategies necessary for protecting, relocating, or otherwise adapting the development authorized by this CDP over the long-term.

Finally, the project includes construction within Ventura Harbor which is one of the most popular coastal access and recreation destinations within the City. Construction at Marina Park would use up to a maximum of 96 parking spaces. To prevent this temporary loss of parking from adversely affecting access and recreation, the City would schedule construction to take place mostly outside of the summer season and provide a compensatory parking program at San Buenaventura State Beach located just upcoast of Marina Park. The project also incorporates mitigation measures from the EIR for noise reduction within Marina Park. **Special Condition Eight** would require submittal of a Traffic Control Plan to ensure coastal access along roadways and sidewalks is not adversely impacted by the project.

The Commission staff therefore recommends **APPROVAL** of the CDP application 9-22-0733, as conditioned. The motion for this is on page 5 of this document. The standard of review for the proposed project is the Chapter 3 policies of the Coastal Act.

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² The Pre-Construction Assessment Program (PCAP) required pursuant to Environmental Impact Report (EIR) Mitigation Measure (MM) BIO-5 that will guide development of the final MAAMP is available on the City’s website: <https://www.cityofventura.ca.gov/DocumentCenter/View/35663/VenturaWater-Pre-Construction-Assessment-Program-and-Monitoring-Assessment-and-Adaptive-Management-Plan>

MOTION AND RESOLUTION

Motion:

I move that the Commission approve Coastal Development Permit Application No. 9-22-0733 pursuant to the staff recommendation.

Staff recommends a **YES** vote on the 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 Coastal Development Permit Application No. 9-22-0733 for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either (1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or (2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

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 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.

SPECIAL CONDITIONS

1. Expiration.

Except as otherwise provided in this special condition, this coastal development permit (CDP) shall expire 30 years from the date of approval (i.e., through April 14, 2053, the expiration date of this CDP). By acceptance of this CDP, the Permittee acknowledges and agrees that the project authorized pursuant to this CDP is thus interim and temporary, and is permitted for the time frame identified in order to provide a reasonable period of time for the Permittee to evaluate future risk of coastal hazards as influenced by sea level rise and plan, develop, and implement any necessary responses to coastal hazards including adaptation or relocation alternatives, to ensure minimization of risk in the long term, or to address any coastal resource impacts associated with maintaining the subject development at this location.

At least six months prior to the expiration of the authorization period, the Permittee or its successors shall submit to the Commission an application for a CDP amendment to either (a) modify the expiration date of this CDP and modify its design, as needed, to ensure consistency with the Coastal Act, or (b) relocate or remove all or portions of the project and restore the affected areas to pre-development conditions or better. If a complete CDP amendment application is filed prior to the CDP expiration date, the authorization period shall be automatically extended until the time the Commission acts on the application. The required amendment application shall conform to the Commission's permit filing regulations at the time and shall reflect the approach(es) identified in the Coastal Hazards Adaptation and Implementation Plan (see Special Condition 2), as well as any necessary updates to reflect the site conditions and regional sea level rise planning approaches at the time of the amendment.

If the City has not begun discharging concentrated effluent as proposed in this project within five years from the date on which the Commission voted on this CDP application, authorization under this CDP for those discharges will expire upon that date, unless an additional five-year extension is granted. If the City seeks such an extension, it shall submit a request to the Executive Director for the extension no later than 180 days before the expiration of the five-year authorization period. The Executive Director may either (1) approve the City's requested extension or (2) require the City to seek an amended CDP in the event that there are changed circumstances affecting this project that warrant an updated review.

2. Coastal Hazard Adaptation and Implementation Plan.

The permittee shall submit for review and approval by the Coastal Commission Executive Director a Coastal Hazards Adaptation and Implementation Plan (CHAIP) at the same time as the CDP amendment required pursuant to Special Condition 1 or at the same time as any future application for modifications to the development authorized

by this CDP, whichever comes first. The CHAIP shall identify a suite of strategies necessary for protecting, relocating, or otherwise adapting the development authorized by CDP 9-22-0733 as necessary to maintain safety from flooding and other coastal hazards in order to minimize risk and assure stability and structural integrity and to ensure protection of coastal resources over the long-term (at least through 2120). The CHAIP shall reflect the ongoing long-term sea level rise adaptation planning efforts by the City of Ventura and outreach and coordination with other relevant agencies, tribes, and stakeholders including but not limited to the State and Regional Water Boards. The CHAIP shall include/address the following:

- A. An analysis of current and future coastal hazards that may impact the development authorized in this CDP, including flood and erosion hazards caused by tidal inundation, extreme tides and storms, overtopping of dikes/levees, and elevated groundwater and/or reduced or inadequate drainage, which takes into account local sea level rise through at least 2120, considering medium-high risk aversion and extreme risk aversion scenarios, and based on the best available science at the time of plan preparation.
- B. An evaluation of alternatives to the development authorized in this CDP to address any coastal hazard vulnerabilities identified, including but not limited to alternatives involving accommodation strategies (e.g., floodproofing), protection measures (living shorelines, or other natural or engineered features), and retreat and relocation strategies (including retreat and relocation of all or portions of the development). The evaluation shall describe the specific design elements and adaptation measures, including how different strategies may be used in combination and over time, to ensure the integrity and functionality of the project and protection of coastal resources. The information concerning these alternatives must be sufficiently detailed to enable the Coastal Commission to evaluate the feasibility of each alternative for addressing consistency with the Coastal Act, including whether the alternatives minimize risks of geologic and flood hazards and ensure protection of coastal resources. The evaluation shall include a feasibility analysis of the alternatives that assesses and considers all potential constraints, including geotechnical and engineering constraints, regulatory requirements, project costs, and potential funding options. The identified adaptation strategies and overall long-term approach shall be the least-environmentally damaging feasible alternative.
- C. A description of any anticipated additional development or other facilities and surrounding sites. The description shall provide detail of the need for the development, including with respect to relevant regulatory requirements, and an explanation as to how such development will fit into the overall, long-term adaptation approach. To the extent feasible, this description shall include a cost-benefit analysis that addresses the costs associated with continued facility upgrades, including any protection measures or other strategies necessary to address coastal hazards at the site, in comparison to retreat and relocation alternatives.

D. A timetable for implementation of the CHAIP (and related proposed development as identified in part (C)) based on projections of SLR and anticipated impacts from coastal hazards. If adaptation strategies would be implemented in response to defined triggers, such as amounts of sea level rise and/or impacts to the development authorized in the CDP, the timetable should identify the time horizons over which such triggers are anticipated to occur. The timetable shall take into consideration expected timeframes for any necessary land acquisition, planning, permitting, design, and construction.

3. Assumption of Risk.

A. By acceptance of this permit, the Permittee acknowledges and agrees (a) that the site may be subject to hazards, including but not limited to erosion and flooding; (b) 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; (c) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (d) 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.

B. Prior to the issuance of this 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.

4. Waiver of Right to Future Shoreline Protective Devices

By acceptance of this permit, the Permittee acknowledges and agrees that the development approved in this CDP is not entitled to shoreline protection under the Coastal Act, and the permittee hereby waives, on behalf of itself and all successors and assigns, any rights to construct a shoreline protective device to protect the development that may exist under the Coastal Act, certified Local Coastal Program, or other applicable laws.

5. Required Approvals.

By acceptance of this permit, the Permittee agrees to obtain all other State or Federal permits that may be necessary for any aspect of the proposed project (including permits from the California Department of Fish and Wildlife, Regional Water Quality Control Board and the U.S. Army Corps of Engineers). Any proposed changes to the approved final plan that may be required by any other agency shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this Coastal Development Permit unless the Executive Director determines that no amendment is legally required.

6. Environmental Impact Report Mitigation Measures.

The Permittee shall implement and adhere to those mitigation measures identified in the September 2019 *Final Environmental Impact Report for the Ventura Water Supply*

Projects applicable to the subject CDP concerning hazards, public access, and marine, biological, and cultural resources, attached to this report as **Exhibit 5**.

7. Adaptive Monitoring

Prior to diverting tertiary-treated water through the ocean outfall, the Permittee shall submit for the review and approval of the Executive Director a final version of the Santa Clara River Estuary (SCRE) Monitoring, Assessment, and Adaptive Management Program (MAAMP) and associated matrix (provided in **Exhibit 6**) that is supported by staff of CDFW, USFW, RWQCB, and NMFS. The purpose of the final MAAMP shall be the collection and analysis of specific ecological monitoring data to ensure that any significant adverse impacts to federally or state listed species or their habitats from diversion of tertiary-treated water from the SCRE are identified and adaptive management actions are implemented to resolve them. Evaluation of significant adverse impacts shall include consideration of all project ecological benefits that may minimize or offset adverse impacts. The data and analysis provided through the MAAMP shall also evaluate changes to SCRE habitat values, quantities and conditions in response to the approximately 60 percent diversion (to an average annual continued discharge level [CDL] of 1.9 MGD, based on a water year from October 1 to September 20), with the goal of understanding if implementation of the approximately 90 percent diversion would result in significant adverse impacts to federally or state listed species or their habitats within the SCRE.

The final version of the MAAMP shall include, but not be limited to, the following:

- Continue the monitoring initiated in the Pre-Construction Assessment Program (PCAP) (pre-Phase 1a) including physical processes and hydrology, water quality, food web, fish (tidewater goby and steelhead), birds (western snowy plover and California least tern), and habitat/vegetation, for a period of five years after Phase 1a discharge reductions are implemented and a minimum of two years after Phase 1b discharge reductions are implemented to evaluate whether significant adverse impacts to federally or state listed species or their habitats within the SCRE occurred as a result of discharge reductions carried out under Phase 1a and/or Phase 1b or would occur as a result of further reductions.
- Prepare annual data reports and submit to the Executive Director, CDFW, USFW, RWQCB, and NMFS to assist in the evaluation of whether implementation of discharge reductions resulted in “take³” or significant adverse impacts to federally or state listed species or their habitats within the SCRE.
- Characterize the effects of reduced discharges, and the return to a more natural hydrology, on designated critical habitat.
- Provide data to support analyses and conclusions as to whether monitored changes in conditions within the SCRE likely result from reduced discharges or

³ The term “take” is defined by Fish and Game Code section 86 as hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

climate, changing hydrology, groundwater pumping, or other outside influences over which the City has no control.

- Provide for adaptations of the data collection methods to best serve the MAAMP objectives.
- Establish a scientific data-driven decision mechanism to support the Coastal Commission, RWQCB, CDFW, USFWS and NMFS in determining whether Phase 1a and Phase 1b result in “take” or significant adverse impacts to federally or state listed species or their habitats within the SCRE.
- Outline management actions to avoid, minimize, offset and/or mitigate adverse impacts of any parameter.

If at any time during the five years of monitoring after Phase 1a implementation of discharges through the outfall (of up to approximately 60 percent diversion of discharges, as previously described), data or results indicate that the diversion of discharges may be causing significant adverse impacts to federally or state listed species or their habitats within the SCRE, including if the Executive makes such a finding based on review of the annual reports, the Permittee shall provide to the Executive Director an explanation of the observed effect and whether there is a significant adverse impact on the species and habitats within the SCRE that is the result of the increased diversions. If the Executive Director concludes that the diversions are causing significant adverse impacts to federally or state listed species or their habitats within the SCRE, the Permittee shall submit an application for a CDP amendment to implement any of the adaptive management actions from the MAAMP necessary to ensure consistency with the Coastal Act, unless the Executive Director determines that no amendment is legally required.

Prior to implementing approximately 90 percent diversion of discharges for Phase 1b, the Permittee shall submit evidence to the Executive Director that staff from all relevant State and Federal agencies (including the RWQCB, CDFW, NMFS, USFWS) support or have authorized the approximately 90 percent diversion of discharges from the SCRE. If the Executive Director determines that the results of the monitoring demonstrate that approximately 90 percent diversion of discharge would result in significant adverse impacts to federally or state listed species or their habitats within the SCRE, the Permittee shall submit an application for a CDP amendment to implement any of the adaptive management actions from the MAAMP necessary to ensure consistency with the Coastal Act, unless the Executive Director determines that no amendment is legally required.

Monitoring carried out as part of the MAAMP shall continue for a minimum of two years following implementation of the approximately 90 percent diversion of discharges. If that monitoring indicates that the diversion of discharges may be causing significant adverse impacts to federally or state listed species or their habitats within the SCRE, the Permittee shall provide to the Executive Director an explanation of the observed effect

and proposal of adaptive management action, supported by a clear rationale and anticipated benefit of the action, for Executive director review and approval. If the Executive Director concludes that the diversions caused significant adverse impacts to federally or state listed species or their habitats within the SCRE, the Permittee shall develop a plan to address all prior and future significant impacts. In that event, the Permittee shall apply for and obtain the Commission's approval of such a plan in the form of an amendment to this permit.

8. Traffic Control Plan

A. Prior to construction, the Permittee shall submit, for the review and approval of the Executive Director, Traffic Control Plan that demonstrates the following:

1. Every effort shall be made to minimize the duration of sidewalk, bike, and road land closures so that impacts upon public access are minimized; and
2. The sidewalk, bike and road lanes should be opened, even intermittently, whenever possible during construction; and
3. A detour plan to re-route pedestrian, bicycle, and vehicle traffic shall be identified for those periods when sidewalks and/or bicycle lanes and/or road lanes are closed within the project area.

B. The Permittee shall undertake development in accordance with the approved plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plans shall occur without a CDP amendment, unless the Executive Director determines that no amendment is legally required.

9. State Lands Lease

Prior to the issuance of the CDP, the Permittee shall provide evidence that a lease for the site of the ocean outfall has been obtained from the California State Lands Commission (SLC), or provide written evidence from the SLC that no lease is required.

10. Implementation of the Proposed Project

As conditioned herein, CDP No. 9-22-0733 authorizes the development expressly proposed by the Permittee in this CDP application. The Permittee shall ensure that development is undertaken in accordance with the approved CDP. Any proposed changes to the development shall be reported to the Executive Director. No changes to the approved development shall occur without a CDP amendment unless the Executive Director determines that no amendment is legally required.

FINDINGS AND DECLARATIONS

A. Background and Project Description

The City of Ventura (City) provides water and wastewater services to the residents and businesses of the City and also provides water service to some areas of unincorporated Ventura County. The Ventura Water Reclamation Facility (VWRF) was constructed in 1958 and treats millions of gallons of municipal wastewater each day to tertiary

standards (i.e., partial denitrification and filtration). Currently, the VWRF discharges approximately 4.7 MGD of this tertiary-treated water to the SCRE. Flows are measured at a transfer station before entering treatment ponds (which provide some additional water quality treatment) and then eventually discharging into the SCRE via an outfall channel.

In March 2010, the Ventura Coastkeeper (a program of the Wishtoyo Foundation) and Heal the Bay filed a lawsuit against the City alleging that the discharges of the tertiary-treated effluent from the VWRF to the ponds and then to the SCRE violated the Clean Water Act (CWA), Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and the National Pollutant Discharge Elimination System (NPDES) permit requirements and effluent limitations.

The City, Ventura Coastkeeper and Heal the Bay entered into a consent decree requiring the City to develop and implement alternatives to discharging treated wastewater into the SCRE that would improve conditions for the habitats and species within the SCRE with a goal of eventually diverting and eliminating all of the effluent being discharged to the SCRE. The consent decree required the City to study what volume of discharge would be most beneficial to the SCRE. The results of those studies determined that a low discharge of 0.0 to 0.5 MGD per day (90 -100 percent reduction of the current average annual discharge of 4.7 MGD during dry weather, closed berm conditions) would maximize the potential for supporting habitats and species within the SCRE but complete diversion of all discharges to a level of 0.0 MGD would also be feasible. In response to input from the California Department of Fish and Wildlife, the City decided to phase the reduction in discharge and analyze the response of the habitats and species within the SCRE before moving forward with further diversion of discharge. This phasing would start with a 60 percent reduction in discharge and then move to a 90 -100 percent reduction.

The proposed outfall, pump station, and conveyance pipelines included in the subject CDP application are part of the larger Ventura Water Pure (VWP) project with the goals of protecting the ecology of the Santa Clara River Estuary (SCRE), developing a water supply to meet the demands of future growth, and maintaining reliability of that water supply during years of drought. The VWP project would consist of two phases: Phase 1a and Phase 1b. As discussed above, one purpose of the City's project is to divert treated wastewater from the SCRE to protect the ecology of the estuary. Another purpose of the City's project is to recycle the wastewater to develop a source of drinking water, which would require constructing and operating an Advanced Water Purification Facility (AWPF) and associated infrastructure. As discussed below, the development of the AWPF is contingent on several governmental approvals.

Phase 1 of the City's project includes reducing the amount of treated wastewater discharged into the SCRE by instead sending it directly into the ocean through a proposed conveyance pipeline and ocean outfall system. After the AWPF and associated groundwater injection wells are in operation, treated wastewater would be directed through these facilities to recycle the water as a source of drinking water. In

that event, the proposed conveyance pipeline and ocean outfall system would be limited to discharging concentrated effluent that is produced as a byproduct of advanced purification (as well as occasional use for discharges of tertiary treated wastewater when the AWPF is offline for maintenance or when the AWPF's capacity is exceeded during extreme wet weather conditions).

The reduction in discharge to the SCRE would begin with diversion of approximately 60 percent of the tertiary-treated water by 2025, resulting in a continued discharge level (CDL) to the SCRE of 1.9 MGD (Phase 1a), followed by diversion of approximately 90 percent of the tertiary-treated water by 2030, resulting in a CDL of 0.0 – 0.5 MGD (Phase 1b), provided that increasing the diversion beyond 60 percent would not cause significant adverse impacts.

Phase 1a would consist of construction of the AWPF, ocean outfall, additional conveyance pipelines, a pump station, groundwater wells, and upgrades to the existing VVRF. This CDP covers the construction and operation of the ocean outfall, the pump station, and conveyance pipelines to the outfall and the future AWPF site. Construction of the AWPF and the other components of the Project in the Coastal Zone would require annexation of Ventura County land by the City pending review and approval from the Ventura Local Agency Formation Commission (LAFCO), Commission review and approval of an amendment to the City's certified Local Coastal Program (LCP), and possibly Commission review and approval of a separate CDP application. The potential groundwater wells would be located outside of the Coastal Zone in unincorporated Ventura County. Although implementation of the AWPF and other components is contingent upon multiple discretionary approvals in the future, the City has demonstrated its intent to pursue that development. For instance, the Environmental Impact Report (EIR) included an analysis of the AWPF and those other components (as well as the discharges of the concentrated effluent from the AWPF), and the outfall in the subject CDP application has been designed to accommodate the discharge of concentrated effluent from the AWPF. Additionally, the City previously applied for, and recently was awarded, federal Water Infrastructure Finance and Innovation Act (WIFIA) funding for construction of the AWPF and groundwater wells. This funding was awarded because the City is actively planning to use recycled water.

The primary reason the City is seeking this CDP now for construction of the outfall, pumphouse, conveyance pipelines and diverted discharge rather than first receiving approval of an LCP amendment and then seeking a consolidated CDP for all aspects of the project within the Coastal Zone is that the consent decree calls for diversion of wastewater from the SCRE to begin in 2025. In order to meet that deadline and have infrastructure in place to receive the diverted wastewater (primarily the outfall system), construction is planned to begin in fall of 2023. This schedule would allow the City to maintain seasonal work windows to minimize potential adverse impacts to coastal resources such as coastal access and recreation in Marina Park, the site of horizontal directional drilling operations for the outfall.

Phase 1b would include an expansion of the AWPf to treat the additional water that would be available by reducing the discharges to the SCRE to 90 percent. This reduction of discharges and treatment has been included in the EIR and evaluated as part of this project.

The EIR also includes a Phase 2 of the City's overall project where it may develop additional sources of drinking water, if that additional supply is necessary. The EIR indicates that this additional supply would come from either expansion of recycled water sources (100 percent diversion) or, if there is insufficient supply from recycled water sources, from desalination. The second option considered in the EIR could be an ocean desalination facility that would be able to produce up to 1.2 MGD of desalinated water. Moreover, the EIR identifies the first option (expansion of the AWPf for recycled water) as preferable over desalination in any Phase 2. Because any need for desalination remains speculative, the EIR did not evaluate a potential desalination option for a project-level review under the California Environmental Quality Act (CEQA). Both alternatives included in Phase 2 would require Commission review and approval of new CDP applications. Also, any modifications to the diffuser segment of the outfall that may be necessary to discharge brine from desalination would require a Commission review and approval of an amendment to this CDP.

In addition to reducing the volume of tertiary-treated water discharged into the SCRE and directing concentrated effluent through a newly constructed conveyance pipeline and ocean outfall, the other components included in this CDP application are summarized below. Depictions of the project components are included in Exhibit 3 and details for the proposed horizontal-directional drilling (HDD) are included in Exhibit 4.

Outfall Pump Station

A pump station would be constructed within the existing VWRf site to convey tertiary-treated effluent from the VWRf, and eventually concentrate from the AWPf, through the conveyance pipeline and to the outfall for dispersal. The pump station would be required for operation of the outfall, regardless of whether it is discharging the tertiary-treated water from the existing VWRf or concentrated effluent from the future AWPf. The pump station would be located within a paved portion of the VWRf site, in the location of a recently demolished blower facility, and would have an area of approximately 175 square feet with a maximum height of 23 feet. The pump station would include a total of three equally sized pumps, two which would be actively used and one would be used as a backup. Since the site is previously disturbed and relatively flat minimal grading or other site preparation would be required.

Conveyance Pipeline

A conveyance pipeline would carry tertiary-treated effluent from the VWRf, and eventually concentrated effluent from the AWPf, through the City and ultimately to the outfall for dispersal. The conveyance pipeline would consist of a 20-inch diameter high-density polyethylene (HDPE) beginning at the VWRf located at the southwestern corner of Harbor Boulevard and Olivias Park Drive extending north along Harbor Boulevard, then west on Schooner Drive, and northwest along Anchors Way where it

would eventually meet the entry point for the Ventura Harbor HDD undercrossing. The conveyance pipeline would mostly fall within the right-of-way of city streets and would require excavating a trench for the entire length of the pipeline.

Harbor Crossing

In order to eventually connect with the ocean outfall, a portion of the conveyance pipeline would need to cross under the Ventura Harbor. To accomplish this crossing, the project would use the same HDD worksite within Marina Park that would be used for creating the outfall and drill approximately 1,500 feet laterally, to a depth of 30 feet below the harbor bottom, to a worksite located within the Harbortown Point Marina Resort Boat Storage yard, Exhibit 4. The harbor crossing would consist of 36-inch diameter HDPE pipe. This larger pipe for the harbor crossing is necessary because in addition to the 20-inch pipe for tertiary-treated water, two eight-inch sewer pipelines would be included in order to replace an existing 12-inch diameter cast iron sanitary sewer pipeline that currently crosses under the harbor. All three of the proposed pipes would be bundled together inside of the 36-inch diameter HDPE and pulled through the HDD borehole. The 20-inch pipe would be connected to the conveyance pipeline and the ocean outfall. The two eight-inch sewer pipelines would be connected to existing sewer infrastructure. The existing 12-inch diameter iron sewer pipeline would be filled with concrete slurry and abandoned in place.

Ocean Outfall

The proposed ocean outfall would consist of three individual segments: an HDD segment, a seafloor segment, and a diffuser segment. For the HDD segment, a 20-inch diameter HDPE pipe would be installed within an HDD borehole beginning in Marina Park, continuing underground, and surfacing on the seafloor approximately 4,500 feet offshore. Where the pipe exits the seafloor, a 5-foot-deep, 41-foot-wide, 2,083-foot-long trench would be excavated. Next, a 2,083-foot-long HDPE seafloor segment would be connected to the pipe that would exit the HDD site and be placed within the excavated trench. The seafloor segment would be ballasted with 11 individual prefabricated reinforced concrete ballast weights and covered in 3 feet of D50 12-inch diameter armor rock. Lastly, a 208-foot-long diffuser segment would be connected to the end of the seafloor segment and would consist of 20-inch-wide diameter HDPE with 8-inch-wide pipe risers located every 32 feet. Each riser would terminate with a horizontal duckbill check valve. The diffuser segment would also be ballasted with 11 individual prefabricated reinforced concrete ballast weights. A figure of the ocean outfall and the three segments is included in Exhibit 3.

Construction and Equipment Staging

Construction of the various components of the project will require construction and equipment staging from several locations: Marina Park, the Harbor Crossing HDD Pullback Worksite, the Harbor Cove Worksite, and an Offshore Worksite.

Marina Park

Construction and staging within Marina Park would require use of two individual worksites, the HDD Worksite and the Assembly and Launch Worksite, Exhibit 3.

The HDD Worksite would be situated within the open grassy area of Marina Park and would require an area of approximately 1.28 acres. This area would be used for equipment and material staging as well as drilling of the boreholes for the ocean outfall. In addition, it would be used as a primary location for deployment/pullback of the HDPE pipe strings for both the ocean outfall and harbor crossing components. The HDD Worksite would require limited grading and removal of some of the existing park equipment including three picnic tables and barbecues as well as area for addressing dewatering return flows where the HDD would enter and exit for the outfall and harbor crossing. The work area would be fenced but the remaining portion of Marina Park would remain open to the public. A temporary sound barrier would be erected around the HDD Worksite to mitigate the sound impact from HDD operations on the surrounding residences. The sound barrier would be 15 to 30 feet high and composed of a metal frame with acoustic sound blankets. Work would take place during winter 2023 and spring 2024, Monday through Saturday, 7:00 a.m. to 5:00 p.m. The pullback of pipe would potentially require operating 24 hours per day for several weeks. Maximum noise levels would be 77 decibels (dB) to 90 dB at a reference distance of 50 feet. With the sound barriers and other noise mitigation measures including generator housings and mufflers noise levels are anticipated to be reduced to approximately 69 dB. A noise level of 69 dB is roughly equivalent to the sound produced by a gas lawn mower operating 100 feet away. After completion of construction, the park would be restored to its prior condition with the exception of two 23 foot by eight -foot vault cover doors that would remain within the grassy area at grade to allow access to the pipelines for periodic pigging and inspections.

The Assembly and Launch Worksite would be used for assembly and launch of the HDPE pipeline strings for both the ocean outfall and seafloor segments. This site would be located in the Marina Park parking lot and would require use of up to a maximum of 96 parking spaces (equal to approximately half of the total parking spaces available for Marina Park) for up to eight months. The other parking spaces would remain available for use by the public for the duration of the project. The construction schedule, anticipated noise levels, and noise mitigation measures would be the same as the HDD Worksite.

Harbor Crossing HDD Pullback

For the harbor crossing, two areas would be required for staging, laydown, and installation of the pipeline. A portion of the Harbortown Point Marina boat storage lot would be used for the HDD exit point and a portion of the boat storage lot on the east side of Anchors Way would be used to stage and assemble the HDPE pipe strings. Fencing and a temporary sound barrier would be constructed around the HDD exit point to minimize the sound levels extending to nearby residences. The construction schedule, anticipated noise levels, and noise mitigation measures would be the same as the HDD Worksite. Construction at this site is anticipated to occur for a total of 120 days. Any boats that would need to be temporarily removed from the two storage lots would be relocated to Lot 19A at the northwest corner of Harbor Boulevard and Schooner Drive. The perimeter of Lot 19A would be fenced and additional security

would be provided by an automatic gate and security cameras. After the project is complete the boats would be relocated back to the original lots. The fencing and security equipment would be removed from Lot 19A, thus returning Lot 19A to its previous condition.

Harbor Beach Cove Assembly Worksite

The Harbor Beach Cove Assembly Worksite would be located at the northern end of Spinnaker Drive and would occupy an area of approximately 2.18 acres of back beach. This area would be used to assemble and launch the diffuser segment which would be attached to the end of the seafloor segment. Once assembled onshore, a tugboat or other appropriate vessel would tow the assembled seafloor segment and diffuser segment to the offshore worksite where they would descend to the seafloor and attach to the HDD segment. Construction of the diffuser is expected to require 60 days and towing the diffuser to the offshore worksite would require one day. The area is currently disturbed from other Ventura Harbor maintenance activities and would be returned to its existing condition at the completion of construction of the diffuser segment.

Offshore Worksite

The Offshore Worksite would occur approximately 6,800 feet offshore. The seafloor in this area consists mostly of loose sand and silt mudflat. Heavy lift vessels stationed in this area for deploying the seafloor segment and the diffuser segment would deploy four-point anchoring systems. The length of the individual anchoring legs is anticipated to range between 1,000 feet and 4,000-foot-long. This area would also encompass the trenching and laydown areas for the seafloor segment and diffuser segments of the HDPE pipeline as well as the sites that would be used for installation of concrete ballast and rock armoring for the 2,083-foot-long section of the outfall line and the 208-foot-long diffuser that would rest on the seafloor.

Conveyance Pipeline

Construction of the conveyance pipelines would require saw cutting of pavement, excavating a trench, installing pipe, backfilling the trench with the excavated material, and re-surfacing the pavement to its original condition. Trenches would range from four to six feet wide and six to eight feet deep, depending on the location of any existing utilities. The conveyance pipelines would be installed primarily within the existing roadway rights-of-way (ROW) to the extent feasible.

B. Coastal Commission Jurisdiction and Standard of Review

The project site is located within two different jurisdictions. The segment of conveyance pipeline, equipment and material staging areas, HDD worksite, and pig launcher and receiver vaults would be located within the Coastal Zone inside the City of Ventura's certified LCP boundary. The offshore work including the outfall and diffuser segments and seafloor pipeline and associated ballast and protection would be located within the Commission's retained permit jurisdiction.

Section 30601.3 of the Coastal Act provides that when a project requires a coastal development permit from a local government with a certified Local Coastal Program and

the Coastal Commission, a single, consolidated coastal development permit for the entire project may be considered by the Coastal Commission if the applicant, Commission and local government agree to that process. This section of the Coastal Act also provides that the Chapter 3 policies of the Coastal Act serve as the legal standard of review for the project, with the relevant policies of the certified LCP serving as guidance. On August 8, 2022, the City of Ventura requested a consolidated permit under Section 30601.3 of the Coastal Act.

C. Consultations and Other Agency Approvals

United States Army Corp of Engineers

The United States Army Corp of Engineers (Corps) has permitting authority for the proposed project under Section 404 of the Clean Water Act. According to the City, the Corps' review included consultation with both the U.S. Fish and Wildlife Service (Endangered Species Act review) and the National Marine Fisheries Service (Endangered Species Act, Marine Mammal Protection Act, Essential Fish Habitat). The City submitted an application with the Corp and anticipates approval of the permit in March 2023.

Pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act ("CZMA") the Corps cannot issue an individual permit until the Commission either concurs or is conclusively presumed to concur in a federal consistency certification. Commission approval of this CDP application constitutes concurrence under the CZMA.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) is a resource agency with trustee responsibility over many of the biological resources throughout the state of California, including in the proposed project area. CDFW is also a responsible agency under CEQA, charged with providing biological expertise on projects with potential to affect fish and wildlife resources during the public environmental review process. As such, CDFW staff were engaged throughout the project's CEQA review in evaluating the project's potential to adversely affect these resources and they provided the lead agency (the City) with extensive technical comments, input, and suggestions regarding the project design, evaluation, and mitigation measures. Commission staff drew on this technical input during the review of the City's permit application. Of particular interest to CDFW has been the difference of available open water habitat after a 60 percent diversion versus the amount of available open water habitat after a 90 percent diversion and that a 90 percent diversion could result in an increase in the concentration of contaminations from surface runoff and other sources due to the lack of water available for dilution and discussed in Section D of the report below. The City, CDFW, and Commission staff have been coordination on the development of a post-construction monitoring, assessment, and adaptive management plan (MAAMP).

Los Angeles Regional Water Quality Control Board

Projects involving discharges of dredged or fill material to waters of the United States that require permits from the Corps under Clean Water Act Section 404 may also be

required to obtain authorization from the Regional Water Quality Control Board (RWQCB) under Clean Water Act Section 401. In addition, projects involving discharges through outfalls are required to obtain National Pollutant Discharge Elimination System (NPDES) permits. In addition, changing the discharge of the tertiary-treated water to the SCRE would require a Water Code 1211 Petition. After receiving the application for the petition, the Board would review the potential environmental impacts, publish a public notice of the petition, address any protests that are filed in response to the notice, and determine whether the proposed change would impair instream beneficial uses.

California State Lands Commission

The California State Lands Commission (SLC) is responsible for managing Public Trust lands and issues leases for use or development. The City of Ventura submitted a lease application to SLC for the ocean outfall and diffuser and the application is currently in progress and is anticipated to be heard at the September 2023 SLC meeting. To ensure that the proposed outfall system is not installed without appropriate authorization from SLC, **Special Condition Nine** would require the City to provide evidence that a lease for the site has been obtained from SLC or provide written evidence that no lease from SLC is required.

Tribal Outreach and Consultations

During the CEQA process, The City conducted a Sacred Lands File (SLF) search which indicated that no Native American cultural resources are known to be located within the proposed project areas. The following tribes were contacted by the City pursuant to AB 52: Santa Ynez Tribal Elders of Council, Chumash, Tataviam, Fernadeño, Coastal Band of the Chumash Nation, Barbareño/Ventureño Band of Mission Indians, Northern Chumash Tribal Council, Santa Ynez Tribal Elders Council, Coastal Band of the Chumash Nation, Shoshone, Paiute, and Yaqui.

A request for consultation with the City was received from the Barbareño/Ventureño Band of Mission Indians and the City subsequently conducted consultations in February and March of 2018. The outcome of this consultation is discussed further in Section I of this staff report.

Commission staff also conducted outreach via both mail and email to the Tribes noted above. Staff received a request for formal consultation from the Barbareño/Ventureño Band of Mission Indians on January 31, 2023. Commission staff responded to the Tribe by offering a consultation meeting with the Tribe and subsequently conducted a consultation on March 15, 2023. The outcome of this consultation is discussed further in Section I of this staff report.

D. Environmentally Sensitive Habitat Areas

Section 30231 of the Coastal Act 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.

Section 30236 of the Coastal Act states:

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 flood plain 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.

Section 30240 of the Coastal Act states:

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

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

As detailed above, the proposed project would allow up to 4.7 million gallons per day of tertiary treated wastewater that is currently being discharged from the Ventura Water Reclamation Facility to treatment ponds and into the Santa Clara River Estuary to be transported instead to an AWPf for potable reuse, while the concentrated effluent from the AWPf treatment process would be conveyed through approximately 1.2 miles of conveyance pipeline and discharged into the ocean through a new ocean outfall and diffuser system. While most of these elements would be located onshore within areas of existing development – city streets, a harbor boat storage yard and City park – or in the marine environment, because it would also result in a significant reduction in the volume of treated water that has been released into the estuary since 1958, it is also expected to affect the Santa Clara River, its estuary and the species and habitats it supports. Once constructed and in use, the new ocean outfall system would eventually receive concentrated effluent resulting from the treatment of approximately 60 percent of the water that is currently directed into the estuary (nearly three million of the 4.7 million gallons per day). By 2030, the City proposes to increase the diversion volume to 90 – 100 percent of the water that has been directed to the estuary for the past 65 years. This is anticipated to have net positive, but also potentially negative, effects on the estuary ecosystem by altering the existing habitats it contains (freshwater marsh,

saltwater marsh, open water, and invasive vegetation) and the mix of native and invasive wildlife species it supports as well as the hydrological processes that influence it (including the frequency of natural and artificial lagoon breaching events).

Santa Clara River Estuary

The Santa Clara River Estuary (SCRE) is located at the southernmost end of the City and encompasses an area of approximately 160 acres. The mouth of the Santa Clara River is typically closed because of a natural sand bar which results in the creation of a lagoon. When the sand bar is breached the waters of the lagoon discharge directly to the Pacific Ocean. Breaching of the sand bar occurs naturally during winter storms when back pressure from rising water levels forces a breach or unnaturally when the sand bar is occasionally breached manually.

Sources of water for the SCRE include groundwater, precipitation, flows from the upper Santa Clara River, local runoff, discharges from the Ventura Water Reclamation Facility (VWRF), and tidal flow during periods when the sand bar is open. During wetter or more rainy periods, the predominate source of water for the SCRE is flows from the Santa Clara River. During drier parts of the year, the discharges from the VWRF are the main source of water. Habitat types within the SCRE include riparian, open water, mudflats, foredune, developed/disturbed, open beach and wetland. The SCRE supports an array of bird, mammal and fish species including those identified as special status such as the Steelhead (*Oncorhynchus mykiss irideus*), Tidewater goby (*Eucyclogobius newberryi*), Western snowy plover (*Charadrius alexandrinus nivosus*), and California least tern (*Sternula antillarum browni*).

VWRF Discharges and Consent Decree

As described previously, the VWRF currently discharges approximately 4.7 MGD of tertiary-treated water to the SCRE. Flows are measured at a transfer station before entering treatment ponds and then eventually flowing into the SCRE via an outfall channel. In March 2010, the Ventura Coastkeeper and Heal the Bay filed a lawsuit against the City alleging that the discharges of treated effluent from the VWRF to the ponds and then to the SCRE violated the Clean Water Act (CWA), Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and the City's National Pollutant Discharge Elimination System (NPDES) permit requirements and effluent limitations. Specifically, the allegations called into question whether the discharges were enhancing conditions within the SCRE or whether discharges should be modified to protect the habitat and water quality of the SCRE.

To address these concerns, the Regional Water Quality Control Board (RWQCB) directed the City to complete a series of special studies. These included studies of the SCRE ecosystem under the existing discharge scenario and various discharge alternatives, studies of potential upgrades or changes to the existing VWRF and studies on the feasibility of recycling the tertiary-treated water. Following completion of these studies, the City conducted over 18 stakeholder workshops that included the general public, resource agencies, regulators, and City officials. During these workshops, the City received feedback on data collection and analysis needed to improve the

understanding of the SCRE in relationship to the VWRF discharges. The City combined all of the information and feedback in order to make recommendations regarding how much water should be discharged into the SCRE.

The results of those studies on the effects of tertiary-treated water on the SCRE and the potential benefits of reduced discharges are provided in the project Environmental Impact Report (EIR) and summarized in Appendix B. Key benefits to species and habitats include the following:

- Improved habitat quality within open water areas since a reduced lagoon volume would result in greater salinity stratification between the layers in the water column;
- Reduced need for SCRE unseasonal breaching due to lower SCRE water volumes. Artificial breaching can strand fish in small pools or on mud/sand flats and also can result in substantial mortality of steelhead and tidewater goby;
- The current discharges from the VWRF into the SCRE are one of the primary drivers of nutrient loading and eutrophication. Reducing discharges would reduce eutrophication and associated hypoxia;
- A stable, low salinity estuary with sufficient dissolved oxygen and improved water quality expected from the diversion would provide improved rearing habitat for the early life stages of steelhead;
- Tidewater goby require shallow habitat without high water temperatures or extended periods of low dissolved oxygen. Therefore the diversion of water from the SCRE would improve habitat conditions for the tidewater goby;
- Non-native invasive species are less tolerant of salinity stratification and the diversion of discharges and resulting stratification would therefore reduce the number of non-native invasive species within the SCRE;
- Lower water levels within the SCRE would create increased foraging habitat for Western snowy plover and California least tern.

As evidenced by the summaries provided in the EIR and the key points included above, the discharge of tertiary-treated water is having a variety of adverse impacts on the habitats and species of the SCRE. After the studies established this connection between discharges and the health of the SCRE, an effort was initiated to determine how much water should continue to be discharged into the estuary. A technical review team (TRT) supported by the Ventura Coastkeeper and Heal the Bay was convened to provide peer review of existing studies and comments on how to address discharges into the SCRE. In addition, a scientific review panel (SRP) was created to review both the City studies and also the feedback from the TRT in order to provide a final recommendation on the volume of water that should be discharged into the estuary from the reclamation facility in order to provide the maximum level of ecological protection for it. Because this volume was discussed in terms of how much of the historic wastewater stream should be diverted elsewhere, the term Maximum Ecologically Protective Diversion Volume (MEPDV) was used to describe the optimal diversion volume.

The City also studied various discharge scenarios from 0 to 100 percent of current levels and analyzed the resulting effects on unseasonal breaching, increased potential for flooding of avian nests, increased nutrient loads and related algal bloom effects such as dissolved oxygen and pH variability, reduced riparian habitat availability, and reduced duration of elevated salinity conditions following breach events, as well as other conditions. Based on the conclusions of those studies, the recommended MEPDV developed by the City was that 60 percent of the current VWRP discharge, or approximately 2.8 MGD of the current 4.7 MGD, be diverted and not discharged into the SCRE. The studies also concluded that the remaining discharge of 1.9 MGD should continue to be discharged to the SCRE, specifically during closed-mouth, dry-weather conditions.

The SRP review of the studies reached a different conclusion. The SRP analysis disagreed with the conclusions of the City's studies in several areas and ultimately found that there was not compelling rationale to continue substantial discharges of the tertiary treated water to the SCRE. The SRP recommended a maximum MEPDV of 90 percent, meaning that out of the approximately 4.7 MGD that is currently discharged to the SCRE, only 0.5 MGD would continue to be discharged to it. The SRP analysis also indicated that discharges could be completely diverted from the SCRE. In its conclusion, the SRP analysis found that this level of diversion would better support native species and reduce the likelihood of invasion by nonnative species, would more naturally mimic historic hydrologic flows, would stabilize berm breaching, and improve water quality.

It should be noted, however, that the Santa Clara River would remain a heavily altered system even if the discharge of effluent from the VWRP were fully discontinued. The river and several of its primary tributaries include dams, reservoirs and diversion structures such as the Freeman Diversion Dam, Lake Piru and Lake Castaic that significantly reduce the volume of water that would be available to flow into the estuary and ocean during historic or natural conditions. In some respects, the discharge of effluent into the estuary from the VWRP has partially offset the upstream removal of water from the Santa Clara River. Nevertheless, the results of the extensive study process carried out by the City established that the net effect of high levels of daily discharge from the reclamation facility into the estuary was negative and that this discharge stream should be diverted elsewhere.

Phases and Monitoring

After reviewing the conclusions of the SRP analysis, the City ultimately determined that a diversion of 90 percent of the tertiary-treated water was the appropriate MEPDV and began the process of designing and planning a project that would allow it to direct this volume of water somewhere other than to the estuary. After evaluating a variety of alternatives, the City selected the Ventura Water Pure project. This project includes the proposed ocean outfall and associated conveyance pipeline and diversion of wastewater being considered in the subject CDP application as well as future phases for advanced treatment and groundwater injection. The goals of the Ventura Water Pure project are protecting the ecology of the SCRE, developing a water supply to help

meet the demands of future growth, and maintaining a reliable water supply during years of drought.

Although Ventura Water ultimately agreed with the conclusions of the SRP and began pursuing diversion of the tertiary-treated water, there has not been complete consensus that a reduction in discharges to the estuary would be a net benefit to its ecology. Reductions would be a significant shift to the estuary system and despite extensive study and modeling efforts focused on trying to accurately predict the system's response, substantial uncertainty remains. Currently, the discharge of tertiary-treated water into the SCRE provides approximately 108 acres of open water. A 60 percent diversion would result in approximately 86 acres of open water and a 90 percent diversion would result in 49 acres of open water. While the California Department of Fish and Wildlife (CDFW) has agreed that a 60 percent diversion could be beneficial by improving ecological functions within the SCRE, the anticipated reduction in open water habitat under this discharge scenario could adversely impact species within the SCRE. Specifically, CDFW noted that the reduction in open water habitat could reduce the acreage of spawning and rearing habitat for tidewater goby, reduce rearing habitat for subadult steelhead, and reduce foraging habitat for California least tern and western snowy plover. It also contended that a 90 percent diversion could result in a significant reduction in open water habitat and an increase in the concentration of contaminations from surface runoff and other sources due to the lack of water available for dilution. In response to these concerns and the uncertainty about how the estuary system would respond to the 60 and 90 percent diversion of water from the reclamation facility, the City determined that phasing the project would be an appropriately precautionary approach. Phasing the discharge reduction would provide a mechanism for the SCRE to adapt to changes in the availability of water and allow the positive and negative impacts to habitats and species to be assessed. As such, the City has proposed for the project to begin with a 60 percent diversion of wastewater discharge by 2025 combined with extensive monitoring and mitigation as a precautionary measure to avoid, minimize, or mitigate for adverse impacts. The project would only move to an eventual 90 percent diversion by 2030, if the monitoring results supported a further reduction in discharge to the estuary.

Although the EIR determined that both Phase 1a and 1b would “benefit the beneficial uses and ecology of the SCRE,” the EIR includes two mitigation measures, as a “margin of safety”—MM BIO-5 and MM BIO-6. (EIR at 10.2-16-17.) MM BIO-5 requires the City to prepare a pre-construction assessment program (PCAP) to confirm and update the existing baseline of the hydrological, chemical and biological conditions of the SCRE for a period of three years. The PCAP was finalized in June 2021. The goal of the PCAP is to provide the baseline condition of the estuary from which changes can be measured. The information from the PCAP would also be used to inform the development of a post-construction monitoring, assessment and adaptive management plan (MAAMP). Development and implementation of this MAAMP is required through MM BIO-6 in the EIR.

The MAAMP would include parameters for collecting and analyzing ecological monitoring data within the SCRE for a period of five years once the 60 percent diversion of discharges begins. In the event that the monitoring data and analysis indicate that increasing discharges from 60 to 90 percent would result in adverse impacts to the estuary, the MAAMP would include specific adaptive management actions that would be implemented prior to commencing with a 90 percent diversion. Adaptive management actions could include physical development such as creation of habitat refugia and installation of sub-surface bubblers or management actions including changes to monitoring and coordination with resource agencies to identify and implement other changes.

The City, CDFW, and Commission staff have been coordinating on the development of the MAAMP and the most recent version is provided as **Exhibit 6**. However, as of the date of this staff report the MAAMP has not been finalized and several outstanding issues have been identified by CDFW staff. These include questions about proposed triggers and how effective they would be at identifying adverse impacts, need for additional information on how surveys would be performed, and need for specific and detailed actions to take if adverse impacts are identified. Because a thorough and robust MAAMP is critical to documenting the estuary's response to the proposed reduction in effluent discharge from the VWRP and resolving the current uncertainty about the level and type of adverse and beneficial effects that would result from it, **Special Condition Seven** would require the City to submit a final version of the MAAMP to the Executive Director for review and approval and to implement the revised MAAMP, once approved.

Special Condition Seven would also require annual monitoring reports to be submitted to the Executive Director for a period of five years once the 60 percent diversion of wastewater begins. In the event that implementation of the 60 percent diversion results in significant adverse impacts to the estuary's native species and habitats, the Permittee must submit a plan to address prior and future impacts through a CDP amendment. Furthermore, if proceeding from a 60 percent diversion to a 90 percent diversion would result in significant adverse impacts to the estuary and adaptive management actions need to be implemented, **Special Condition Seven** would further require the City to submit an application for a CDP amendment before any diversion greater than 60 percent occurs, unless the Executive Director determines that a CDP amendment is not necessary.

The proposed reduction in the current volume of wastewater discharged into the estuary and adherence to the requirements of **Special Condition Seven** would help ensure that the biological productivity and water quality of the estuary is both maintained and restored. Further, the proposed project would help minimize the effects of wastewater discharge on the estuary. As such, the project would be consistent with Section 30231 of the Coastal Act.

Alterations to the Santa Clara River

Section 30236 of the Coastal Act allows for substantial alterations of rivers and streams when incorporating the best mitigation measures feasible and when limited to specific purposes, including when the primary function is to improve habitat.

As the seaward most portion of the Santa Clara River, the SCRE is part of that river and therefore subject to the requirements of Section 30236. This section of the Coastal Act establishes a two-part test and requires that projects that would result in substantial alterations of rivers and streams (1) incorporate the best mitigation measures feasible; and (2) fit within one of three categories of project.

The proposed diversion of the tertiary-treated flows currently being discharged into the SCRE constitutes a substantial alteration to the hydrologic conditions within the SCRE. Multiple studies analyzed the effect that the discharges have historically had on the SCRE and determined that the discharges have resulted in adverse impacts including, but not limited to: nutrient loading, algal blooms, dissolved oxygen conditions, increased need for unnatural breaching, and reduced habitat for native species. The primary goal of the project is to divert the tertiary-treated discharge that currently flows into the SCRE to an ocean outfall in order to benefit the habitats and species within the SCRE. As such, the proposed project would meet the one of the two tests of Section 30236 because it would qualify as a “development where the primary function is the improvement of fish and wildlife habitat.”

The other test of Section 30236 requires the project to “incorporate the best mitigation measures feasible.” Although multiple studies and scientific panels determined that a 90 percent diversion of the tertiary-treated water would benefit the ecology of the SCRE, the project incorporates phased reductions in discharges as well as adaptive management to ensure that it not only benefit the SCRE, but not result in significant adverse impacts. Additionally, the project includes a requirement to survey prior to the commencement of construction for the presence of any sensitive species that could be affected by noise and erection of noise barriers to reduce the impact of noise on any sensitive species. Also, a qualified biologist would provide training to construction personnel on identifying sensitive habitats, plants, and wildlife that should be avoided as well as proper avoidance and communication procedures. As such, the phased approach and monitoring plus the mitigation measures would ensure that the substantial alteration of flows will benefit the coastal waters and species of the SCRE consistent with the requirements of Section 30236 of the Coastal Act.

ESHA

As described above, all proposed onshore construction activities would take place within developed or previously disturbed areas. None of the project construction sites would occur within wetlands, environmentally sensitive habitat areas (ESHA), or critical habitat. Additionally, because HDD for the outfall segment would start within Marina Park and continue underground until it surfaces approximately 4,500 feet offshore the project would not adversely impact any areas of the beach or the species that inhabit those areas.

The Harbor Beach Cove Worksite would be located at the northern end of Spinnaker Drive and would occupy an area of approximately 2.18 acres. This area would be used to assemble and launch the diffuser segment which would ultimately be attached to the end of the seafloor segment. The proposed work area has been historically disturbed for decades from Ventura Harbor maintenance activities. However, this location is also adjacent to an area of dune habitat.

The City describes this area of dune as follows:

The disturbed dune mat mapped adjacent to the project site exists as an isolated remnant of what was once likely contiguous coastal dune habitat. It currently supports sandy substrate, characteristic rolling dune topography (particularly the portion immediately south of the project site) and a moderate concentration of native dune vegetation. Review of the NatureServe Heritage Methodology revealed that this community would likely meet the criteria for a CDFW Sensitive Natural Community (state rarity rank of S3).

Much of the dune habitat that originally spanned the coast of California has since been destroyed through coastal development, and that which remains continues to undergo the effects of both natural and artificially-caused pressures that have resulted in increased erosion, reduction in sand supply, alteration of geomorphic processes, etc. Due to its regional rarity, as a rule, the California Coastal Commission considers dune habitat (in most states of condition) ESHA, unless proven otherwise. Thus, the disturbed dune mat would likely qualify as ESHA.

After reviewing the information provided by the City, Commission staff confirmed that the dune habitat located adjacent to the Harbor Beach Cove Worksite does constitute ESHA. Section 30240(b) of the Coastal Act requires that development in areas adjacent to ESHA be sited and designed to prevent impacts which would significantly degrade those areas and shall be compatible with the continuance of those habitat areas.

The proposed work within the Harbor Beach Cove Worksite would include assembly and launching of the approximately 200-foot-long diffuser segment. Construction at the site is anticipated to require 60 days and would require various types of heavy equipment and machinery as well as multiple construction personnel. These types of construction operations have the potential to adversely impact the dune habitat if they were to pass outside of the proposed work area and into the habitat area, which could result in crushing plant and animal species living within the dunes and physically altering dune morphology. In order to avoid adverse impacts to the dunes, the City has agreed to install temporary fencing along the toe of the dunes for the duration of construction. This fencing would prevent equipment and personnel from entering and interacting with the dunes, thus protecting the dunes from any adverse impacts.

Construction activities, including loud noises, can also adversely impact species within the dunes. As discussed above the project EIR includes a mitigation measure requiring

surveys prior to the commencement of construction for the presence of any sensitive species that could be affected by noise and erection of noise barriers to reduce the impact of noise on any sensitive species. Also, a qualified biologist would provide training to construction personnel on identifying sensitive habitats, plants, and wildlife that should be avoided as well as proper avoidance and communication procedures. By implementing these mitigation measures the project would avoid adverse impacts to sensitive species within the dunes. As such, the project will avoid impacts to the dune ESHA consistent with the requirements of Section 30240(b).

E. Marine Resources

Section 30230 of the Coastal Act 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.

Section 30231 of the Coastal Act 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 water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30232 of the Coastal Act states:

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.

Sections 30230 and 30231 require new development within the marine environment to protect and maintain biological productivity and water quality. Section 30232 requires protection against the spillage of hazardous substances and requires development to incorporate effective containment and cleanup procedures in the event that spills do occur.

The proposed project includes installation of an approximately 2,083-foot-long ocean outfall pipeline and 208-foot-long diffuser system on the ocean floor offshore of the City

of Ventura. The end of the outfall diffuser system would be approximately 6,800 feet offshore at a depth of 53 feet. The outfall line would be installed from shore using horizontal directional drilling (HDD) and would cross the beach underground before emerging on the seafloor approximately 4,500 feet offshore. From there, the line would continue on the seafloor for 2,291 feet and would be placed within a trench of approximately five feet deep and 41 feet wide. Other components of the project located within the marine environment include the discharge of up to 4.7 MGD of tertiary-treated water through the outfall and the future discharge of concentrated effluent produced from the pending AWPf. The area of seafloor where the outfall pipeline and diffuser segment would be located consists entirely of sandy bottom substrate. No marine vegetation, boulders or rocky reef areas are present within the proposed outfall footprint.

Excavation of the seafloor would require dredging a trench with a clamshell dredge and depositing the dredged material along both sides of the trench. This excavation and deposition would result in temporary disturbance to approximately 11.9 acres of the seafloor. After excavation, a layer of crushed rock would be placed at the bottom of the trench, followed by the pipeline and finally a layer of 12-inch-diameter armor rock. In total, approximately 7,490 cubic yards of rock would be installed around the proposed outfall line. The diffuser segment would not be covered with any armor rock. The remaining area of the trench not occupied by pipeline, diffuser, or rock would be backfilled with the excavated material. After backfilling with the excavated material, the area of permanent fill on the seafloor within coastal waters would be equal to approximately 1.5 acres.

Benthic Habitat

Ventura Water conducted a hydrographic survey of the area for the proposed pipeline, outfall and diffuser using a high resolution multibeam echosounder to determine depths, topography, marine vegetation and rock outcrops. The results of that survey concluded that the only areas of vegetation are located at the toe of the Ventura Harbor breakwater and groin. One rocky area was identified at the southernmost extent of the survey area. No rock outcroppings or kelp habitat were identified within the project footprint. Based on this information, the area of seafloor where the pipeline would be located consists entirely of sandy bottom substrate.

The benthic communities within the sandy bottom substrate as described in the EIR as follows:

...typically dominated by mollusks (clams and snails), small filterfeeding annelid worms, arthropods (primarily amphipods and other small crustaceans), nemertean, and nematode worms. Further offshore, where silt and clay mud sediments dominate due to decreased influence of wave energy, polychaete worms and other detrital feeding worms, along with mollusks, arthropods, and brittle stars dominate the infaunal community. For example, the infaunal community near the Hueneme outfall was reported to be dominated by polychaete worms (*Armandia bioculata* and *Apoprionospio pygmaea*), a brachiopod (*Goniada littorea*), and

mollusks (*Tellina modesta* and *Nassarius perpinguis*) in water depths less than 40 feet, and by the polychaete worms (*Spiophanes bombyx* and *Dipolydora bidentata*), a sipunculid (*Apionsoma misakiarum*), and a gastropod mollusk (*Caecum crebricinctum*) in water depths greater than 40 feet (Padre Associates 2007).

The Southern California Bight (SCB) epifaunal community (organisms living above the seafloor surface) typically associated with soft substrate subtidal habitats in water depths less than 100 feet include the ornate tube worm (*Diopatra ornata*), assorted cancer crabs (*Cancer* sp.), the masking crab (*Loxorhynchus crispatus*), octopi (*Octopus rubescens* and *O. bimaculatus/bimaculoides*), assorted species of shrimp, the white sea pen (*Stylatula elongata*), the sea cucumber (*Parastichopus californicus*), the sunflower star (*Pycnopodia helianthoides*) occasional polychaete tube worms, *Pachycerianthus* anemones, the spiny sand star (*Astropecten armatus*), the short-spined seastar (*Pisaster brevispinus*), and the seastar *Petalster* (*Luidia foliolata*), the sea pansy (*Renilla kollikeri*), swimming crabs (*Portunus xantusii*), an occasional hermit crab, Kellet's whelk (*Kelletia undosum*), and sand dollars (*Dendraster excentricus*) (AMS 2016, Padre Associates 2007).

Fish species that inhabit this area include juvenile and adult flatfish such as speckled sanddab (*Citharichthys stigmaeus*), spotted turbot (*Pleuronichthys ritteri*), and California halibut (*Paralichthys californicus*), hornyhead turbot (*Pleuronichthys verticalis*), California lizardfish (*Synodus lucioceps*), and English sole (*Parophrys vetulus*).

Dredging seafloor sediments with clamshell dredging equipment has the potential to entrain fish and invertebrate organisms in the benthic environment and result in injury or mortality of these species. Compared to other forms of dredging, however, use of a mechanical clamshell involves a lower risk of capturing fish because individual fish are able to sense the pressure wave created by the clamshell bucket and thus avoid the bucket. Also, because clamshell dredging uses a simple, mechanical bucket as opposed to cutter heads and pumps frequently used during hydraulic dredging, the risk of injuring any fish or invertebrates during dredging is significantly less. Any organisms entrained within the bucket during dredging would likely be unharmed once the excavated material from the bucket is deposited on the seafloor.

The proposed dredging of seafloor sediments would create an approximately 41-foot-wide by five-foot-deep by 2000-foot-long trench and would result in the excavation and deposition of 16,895 cubic yards of material. This material would be deposited within a 100-foot buffer located along both sides of the excavated trench. Deposition of such a large volume of dredged material on the seafloor has the potential to smother benthic organisms in the area and if organisms are unable to escape from the deposited material it could result in mortality. The excavated material would be deposited roughly evenly on both sides of the trench so a total of 8,447 cubic yards of material (16,895 divided by two) would be spread over an area of 200,000 square feet (2000 feet long by 100 feet wide) on each side. This spreading of the deposited material would equate to 0.04 cubic yards, or approximately one cubic foot, of material per square foot. Based on

those calculations each square foot of benthic seafloor would be covered in approximately one foot deep of dredged material.

Since the deposited material would consist of sandy substrate and would be released directly from the clamshell bucket, the sediment would be loosely compacted when it reaches the top of the seafloor. As such, any mobile organisms that happen to have been collected by the clamshell bucket and released in the sediment would likely be able to escape from within the loose sediment. The limited depth of the deposited sediment (roughly 12 inches) would help facilitate this. Any immobile organisms collected by the bucket or within the area of deposition would be covered in a layer of native sandy substrate and would be able to recover quickly. Also, as noted in the project EIR, due to the shallow water depth of the dredging location, approximately 50 feet deep, the dredged spoils are expected to disperse naturally and refill the excavated depression as a result of wave and surge action. The EIR goes on to conclude that over time, marine infaunal and epifaunal communities from adjacent areas are expected to recolonize the deposited sediment almost immediately. Depending on the timing of dredging the benthic community would be expected to recover within a few months to less than two years.

Anchoring of project vessels would result in additional temporary disturbance to the seafloor. Vessels that are anticipated to be used for the project include a derrick barge, a support tug, and a crew boat. The derrick barge is expected to employ a four-point mooring system while the other vessels would use either a one or two-point mooring system. Anchors would be deployed with assistance from a supporting tugboat and would be lowered vertically to the seafloor. The anchors would be set at pre-determined locations on the seafloor to ensure that they would not be placed within any rocky substrate habitat or in the area of underwater infrastructure. Since the vessels would be anchored in pre-determined locations away from sensitive habitat and would only be deployed temporarily, adverse impacts to the marine environment would be avoided.

Finally, following completion of construction, the seafloor segment of pipeline, the diffuser segment, and the rock armoring would remain on the seafloor. In total this would result in 1.49 acres of permanent hard structures. Over time, the excavated trench and permanent structures would backfill with the excavated sediment and, based on the City's calculations, the area of exposed hard structures once backfill is complete would equal approximately 0.5 acres. Since the diffuser segment is the only portion of the development that would require regular inspection and maintenance, the remaining portions of the seafloor segment and rock armoring would not be disturbed and would be allowed to be naturally covered with soft substrate. Thus, the total area of exposed hard structure after completion of the project would be minimal and the exposed area of these hard structures is likely to decrease further over time.

Turbidity

Vessel anchoring, dredging and installation of the outfall could cause localized seafloor disturbance and water quality effects by temporarily decreasing water clarity and increasing turbidity. Indirect impacts of decreased water clarity and increased turbidity

could impair sight range for predators and prey or possibly smother benthic organisms. However, as described in the project EIR, suspended sediments are expected to settle and disperse rapidly due to tides and currents and would return to normal levels relatively quickly. Measures that would be implemented by the City to minimize the risk of potential adverse impacts due to turbidity include Best Management Practices (BMPs) such as silt curtains and gunderbooms which would help limit the area affected by suspended sediment.

Water Quality

Potential adverse impacts to water quality as a result of the project include drilling fluids from HDD operations, contaminants from vessels, and discharge of the tertiary-treated effluent and eventually the concentrated effluent from the diffuser.

The HDD drilling fluids are described by the City in the application as follows:

The drilling fluid used in HDD consists of water and bentonite and may contain polymers or other additives to aid in the required functions of the fluid. Bentonite, the primary non-water component of the drilling fluid, is a naturally occurring clay mineral that is non-toxic, non-hazardous, and meets NSF/ANSI/CAN Standard 60 Drinking Water Additive Standards. Other additives used in HDD drilling fluid, such as soda ash and polymers, are also non-toxic and non-hazardous. Therefore, the environmental concerns associated with an inadvertent drilling fluid return in a water body are generally limited to temporary impacts to turbidity...

... Drilling fluid typically has pH values between 8 and 10 (8.5 to 9.5 is preferred). If the water being used is not within the preferred pH range, the Contractor will add soda ash to achieve the target pH. The amount of the primary non-water component of drilling fluid, bentonite, that is used to make up the drilling fluid depends on the geotechnical conditions but typically ranges between 25 to 60 pounds per 100 gallons of water. Typical "fresh" drilling fluid composed only of water and bentonite typically weighs 8.5 to 8.9 pounds per gallon. Drilling fluid with suspended soil cuttings, assuming good practices are being followed, typically weighs between 9.5 to 11 pounds per gallon.

Preliminary estimates are that up to 100,000 gallons of drilling fluid may be collected from the exit trench during final reaming and pullback operations. The excavated volume of the 300-foot containment trench to the east of the exit point is anticipated to be approximately 2,330 cubic yards in total, or approximately 7.77 cubic yards per foot of trench. It is anticipated that the 350-foot trench (including the 50-foot section to the west of the exit point that will be excavated prior to the approach of the pilot bit) will be capable of containing approximately 550,000 gallons of drilling fluid (approximately 1,570 gallons per foot of trench). The capacity of the containment trench, therefore, greatly exceeds the anticipated volume of drilling fluid that may emerge at the exit point on the seafloor.

The density of seawater is approximately 8.7 pounds per gallon. Since the drilling fluid is anticipated to have a density between 9.5 and 11 pounds per gallon, it is expected to sink and settle in the area where the HDD exits the seafloor and not readily disperse into the water column. As an additional measure to ensure that drilling fluids do not adversely impact the marine environment, the EIR includes mitigation measure MM BIO-7 which requires the City to develop a Drilling Fluid Mitigation and Response Plan. The plan would include containment equipment, monitoring and reporting requirements, and measures to contain any unexpected release of drilling fluids. **Special Condition Six** would memorialize this mitigation measure – and the other relevant measures included in the EIR – and require it to be implemented as part of the proposed HDD operations.

Accidental spills of fuel, lubricants, or hydraulic fluid from equipment and vessels being used offshore during construction of the seafloor segment and the diffuser could also occur. The release of these materials into the marine environment could lead to potential mortality of marine organisms. In response, the project EIR requires the City to prepare a Marine Oil Spill Response Plan that would apply to all powered vessels and equipment used in support of the project. This plan would provide a set of procedures and protocols that would be used in the event of a release or spill. **Special Condition Six** would also incorporate the development and implementation of this response plan into the Commission's approval of the project.

Once construction of the outfall is complete it is proposed to be used to discharge up to 4.7 MGD of tertiary-treated wastewater and eventually concentrated effluent from the future AWP into the marine environment. Increased concentrations of nutrients and chemicals in this wastewater could degrade water quality and adversely affect the biological productivity of marine waters. In addition to monitoring and regulating the constituents of the wastewater, the City also proposes to install a diffuser system at the termination of the outfall line to facilitate dilution of the discharges to background ocean levels. The City analyzed the degree of dilution that would occur within the zone of initial dilution pursuant to relevant water quality standards, including the National Pollutant Discharge Elimination System (NDPES) effluent limitations and the California Ocean Plan (Plan) water quality objectives. This analysis used modeling to determine how the tertiary-treated water and concentrated effluent are expected to dilute at the depth of the diffuser. This data was then used to inform the design of the diffuser, including the number and diameter of diffuser ports. Based on this information, a minimum dilution of at least 128:1 is predicted for the outfall diffuser. At this level of dilution, the tertiary-treated water and concentrated effluent are expected to effectively mix with ocean water and comply with relevant water quality standards.

Lastly, outfalls have the potential to create turbulence-induced shearing stress as a result of the exit velocities from diffuser ports required in order to effectively mix and dilute discharges with seawater. The required exit velocity for mixing is specific to the substance being discharged, but generally substances in higher concentrations require higher velocities, and higher velocities create greater turbulence. High turbulence can lead to individual mortality within plankton populations, particularly thin-shelled bivalve

and gastropod veligers.⁴ In addition to the water quality modeling discussed above, the project also modeled the plumes and exit velocity turbulence that would result from the tertiary-treated water and concentrated effluent being discharged from the outfall. The results of that modeling determined that the velocity required for the discharges would be sufficiently low that the resulting turbulence would not adversely impact plankton or other marine organisms.

To ensure that the diffuser works as proposed and meets all of the relevant water quality standards, **Special Condition Five** requires the City to provide evidence to the Executive Director of all necessary State and Federal permits, including NPDES permits from the Regional Water Quality Control Board (RWQCB). This evidence is required to be provided prior to the discharge of any wastewater and concentrated effluent through the outfall and diffuser system. Also, to ensure that the project incorporates the best available technologies for the production, treatment, and dispersal of concentrated effluent the Commission finds that **Special Condition One** is necessary. **Special Condition One** would grant a five-year authorization period for the commencement of discharges of concentrated effluent. If the City has not started discharging within that timeframe, it would be required to submit a request to the Executive Director for an extension to authorize those discharges. The Executive Director would review the extension request and determine if there are any changed circumstances warranting an updated CDP review, including any technological improvements to the production, treatment, or dispersal of concentrated effluent which could lessen any adverse impacts to the marine environment. **Special Condition Nine** would also require the City to provide evidence of a lease from the California State Lands Commission for the submerged lands that would be used for the outfall prior to receiving a coastal development permit. Any proposed changes to the proposed project that may be required by these agencies as part of their review process shall be reported to the Executive Director of the Commission and no change shall occur without a Commission approved amendment to this permit (unless the Executive Director determines that no amendment is legally required).

Marine Mammals and Turtles

Approximately 40 marine mammals are known to occur within the greater SCB and a total of eight occasionally frequent the nearshore waters of Ventura County where the seafloor segment and outfall would be located. These species include the California sea lion (*Zalophus californianus*), the harbor seal (*Phoca vitulina*), the common long-beaked (*Delphinus capensis*) and short-beaked dolphins (*Delphinus delphis*), the bottlenose dolphin (*Tursiops truncatus*), the humpback whale (*Megaptera Novaeangliae*), the blue whale (*Balaenoptera musculus*), and the gray whale (*Eschrichtus robustus*). Five species of sea turtles are known to occur within the SCB, but only two are known to occur in the nearshore waters off Ventura County. These include the green turtle (*Chelonia mydas*) and the loggerhead turtle (*Caretta caretta*).

⁴ Jessopp, M. J., 2007. The quick and the dead: larval mortality due to turbulent tidal transport. J. Mar. Biol. Ass. U. K. 87: 675-680.

The project involves the use of several ocean vessels including a derrick barge, a support tug, and a crew boat which would create underwater noise that could result in disturbance to marine mammals and other marine species. Since there are currently regular and ongoing activities for vessels moving in and out of the Ventura Harbor within the project area, the marine animals in the area are relatively tolerant of vessels, although individual animals native to the area and individuals migrating through the area are likely to alter their course or change their swimming speed in response to vessel noise. It should be noted that the project does not include the use of piles or other subsurface structures such as sheet pile. Installation of these types of structures requires a large hammer or vibratory device to physically drive the structure into subsurface. Pile driving activities create sound levels that are significantly greater than sounds produced from vessel activities and can result in internal injury, stranding, and mortality. Other adverse impacts to marine mammals and sea turtles could include collisions with project vessels during marine operations including mobilization and construction of the proposed project.

To address potential adverse impacts to marine mammals and turtles, the City prepared a Marine Wildlife Contingency Plan (MWCP) to be implemented during all phases of the project taking place in the offshore marine environment. Prior to mobilization, a biologist would prepare an environmental orientation to educate all project personnel on marine wildlife that could be encountered, regulatory requirements, and how to file a report if a marine animal is injured during project operations. Also, a trained marine wildlife observer would be stationed aboard project vessels at all times to monitor for marine wildlife and would be in direct communication with project personnel. The observer would maintain a 500-foot safety radius for smaller marine wildlife and a 1,000-foot safety radius for large whale species. Should marine wildlife enter the safety radii, the observer would monitor the behavior of the animal(s) and if they display abnormal behavior or distress, project operations would be stopped. The MWCP also includes measures to minimize potential impacts to marine animals from vessel transit such as reducing speeds if marine animals exhibit evasive or defensive behavior, avoiding the accidental separation of members of a pod, and not crossing in front of migrating animals.

Birds

Several bird species are known to inhabit Ventura Harbor including great blue herons (*Ardea herodias*), black crowned night herons (*Nycticorax nycticorax*), and snowy egrets (*Egretta thula*). Although none of these species is listed as threatened or endangered, areas that support sensitive life stages for these species, such as nesting and/or roosting are considered important because of their sensitivity to disturbance and contribution to the health of local populations.

Although the area of Marina Park where project operations are proposed to take place is an active recreation area that regularly includes noises from automobiles, recreational users, City staff, and park maintenance equipment, the proposed HDD operations would emit sounds at upwards of 90 dB which could startle birds within adjacent areas. To reduce adverse impacts from such construction noise, the project would incorporate

materials and techniques to dampen or lessen sound. The project would include sound barriers encircling the perimeter of the project site and consisting of 15- to 30-foot-high metal frames covered with acoustic sound blankets. In addition, generators would be covered in special sound-reducing housings and fitted with mufflers. With the sound barriers and other noise mitigation measures in place, sound levels are anticipated to be reduced to approximately 69 dB which would be roughly equivalent to the sound produced by a gas lawn mower operating 100 feet away. While still noticeable, a sound at this level within an active recreational area is not expected to result in adverse effects on birds or their habitat within Marina Park.

To further protect against the potential for adverse impacts to terrestrial biological resources, the City is proposing to implement the additional protective measures developed in the project EIR. These include mitigation measures MM BIO-2 and MM BIO-4. MM BIO-2 requires that prior to construction activities within 50 feet of sensitive habitat, a biologist would survey for any sensitive species and could be affected by noise. If noise levels would exceed 65 dB in the area of the sensitive habitat for greater than 8 hours, the project would be required to install additional noise barriers between the construction activity and the sensitive resource. MM BIO-4 requires the project to avoid the nesting season for birds to the extent practicable. If avoiding nesting season is not feasible, the project would take additional measures to avoid adverse impacts to nesting birds. These would include pre-construction surveys of nesting locations. If an active nest is located, the project would implement a minimum 300-foot buffer until the young have either left the nest or the nest becomes inactive. **Special Condition Six** would incorporate these mitigation measures from the EIR into the subject CDP.

The existing wastewater treatment ponds at the VWRP are also known to support a variety of bird species. These ponds were constructed as part of the AWP process for additional treatment of tertiary-treated water. The ponds currently receive tertiary-treated water from the VWRP which then flows into the SCRE. The ponds are used by various species of migrating birds as a stopover while other bird species have been observed using the open water habitat within the ponds for feeding. None of the bird species observed to use the ponds are identified as sensitive species. Although the project includes diverting a portion of the tertiary-treated water that would otherwise enter the treatment ponds, a sufficient volume of flows to the ponds would remain to maintain their use by birds and their size and character. If this situation were to change in the future and the City were to propose to permanently discontinue flows into the ponds, they would seek an amendment to this CDP. These remaining flows into the ponds would also still be managed to meet the requirements for discharging into the SCRE.

Conclusion

For all of the reasons set forth above, the Commission finds that the project, as conditioned, would protect and maintain water quality and the biological productivity of the marine environment as well as protect against the spillage of hazardous substances consistent with Sections 30230, 30231 and 30232 of the Coastal Act.

F. Coastal Hazards

Section 30235 of the Coastal Act states:

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. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

Section 30253 of the Coastal Act states:

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 30253 requires new development to minimize risks to life and property in hazardous areas while Section 30235 allows the construction of shoreline protective devices when they are required to protect existing structures.

The proposed project includes construction of a new conveyance pipeline, pump station, ocean outfall, and diffuser segment that would divert up to 4.7 MGD of tertiary-treated wastewater from being discharged into the SCRE and instead direct it into the Pacific Ocean. The project also includes eventual discharge of concentrated effluent through the ocean outfall. The project does not propose any shoreline armoring. Because the project involves construction of critical infrastructure, it must be evaluated for consistency with relevant sea level rise policies and those sections of the Coastal Act that require consideration of alternatives and the analysis, minimization and mitigation of adverse impacts, while also assuring stability and structural integrity.

Sea Level Rise

The State of California has undertaken significant research to understand the possible range of sea level rise amounts to expect over this century based on future emission scenarios and to anticipate the likely impacts of such sea level rise. In April 2017, a working group of the Ocean Protection Council's (OPC) Science Advisory Team released "Rising Seas in California: An Update on Sea-Level Rise Science." This report synthesized research on sea level rise science at the time, notably including

probabilistic sea level rise projections, as well as the potential for rapid ice loss to lead to extreme sea level rise. This science synthesis was integrated into the OPC’s State of California Sea-Level Rise Guidance 2018 Update (Guidance). This OPC Guidance document provides high-level, statewide recommendations for state agencies and other stakeholders to follow when analyzing potential sea level rise vulnerabilities for various projects.

The appropriate time horizon to use to evaluate sea level rise depends on the expected useful life of development, the point after which the development is expected to be removed, replaced, or redeveloped. The Commission’s 2021 Sea Level Rise Policy Guidance for Critical Infrastructure (SLR Guidance)⁵ identifies wastewater infrastructure, such as the proposed outfall system for the VWRP, as “critical” infrastructure given its long design life, generally low adaptive capacity, and the high consequences associated with its failure. In such cases, the 2018 OPC Guidance and 2021 Coastal Commission SLR Guidance recommend that applicants understand the risks associated with the medium-high risk aversion scenario and extreme (H++) risk aversion scenario and anticipate the need to plan for those scenarios over the expected life of the structure, which for critical infrastructure like the VWRP is typically considered to be 100 years⁶. Taken together, the 2017 Rising Seas science report, updated 2018 OPC Guidance, and the Commission’s 2021 SLR Guidance represent the current best available science on sea level rise for the State of California.

The OPC Guidance provides sea level rise projections, which the Commission adopted in 2018, for twelve California tide gauges, and recommends using the projections from the tide gauge closest to the project site. In this case, the Santa Barbara Tide Gauge is the closest. The following table depicts projected sea level rise at the Santa Barbara Tide Gauge under low-risk, medium-high risk, and extreme-risk aversion scenarios over the 50-year design life of the project proposed by the City as well as the 100-year project life as recommended by the Commission’s 2021 SLR Guidance for critical infrastructure. The probabilities assigned to each scenario are for the likelihood that a given Sea Level Rise amount would be met or exceeded.

Projected Sea Level Rise (in feet)			
Year	Low-Risk Aversion (~17percent probability)	Medium-High Risk Aversion (~0.5percent probability)	Extreme Risk Aversion (no associated probability)
2070	1.7	3.3	4.9
2120	3.7	8.2	13.7

⁵

https://documents.coastal.ca.gov/assets/slr/SLRpercent20Guidance_Criticalpercent20Infrastructure_12.6.2021.pdf

⁶ Although the typical expected life of critical infrastructure is 100 years the City of Ventura has stated that the anticipated design life for the development included in this CDP application is 50 years.

Future SLR is expected to exacerbate problems of coastal hazards and will threaten future operations of the development included in this CDP. Over time, SLR will tend to (i) shrink the distance between breaking waves and the development, (ii) increase water depths and reduce wave attenuation in the nearshore (with the net effects of increasing the frequency and force of wave attack) and (iii) increase the severity and duration of flooding. Although both the rate of future sea level rise and the sensitivity of the bluff to erosion response are uncertain, the potential for large amounts of sea level rise in future decades must be factored into assessments of development risk and adaptation strategies.

Project SLR Analysis

As described above, the statewide SLR guidance for critical infrastructure calls for considering and planning for a 100-year horizon and anticipated SLR projections. The project proposes to deviate from this approach and states that the project was developed with a 50-year design life but could have a potential useful life of up to 100 years. Development such as the pipeline, outfall and diffuser constitute important and necessary investments in critical public infrastructure. This development would improve the biological productivity of the SCRE while still maintaining the operations of the VWRP. A well-functioning wastewater treatment facility, and the capital improvements needed to ensure it remains so, are critical to meeting numerous Coastal Act objectives, including the aforementioned policies protecting water quality and the biological productivity of coastal waters.

The City included a SLR analysis in the CDP application that analyzed potential adverse effects by focusing on four hazards: tidal inundation representing areas that would be regularly inundated by high tides; coastal storm flooding and wave run up which would include areas inundated by a 100-year coastal storm event and landward most extent of wave runup; shoreline erosion depicting future shoreline positions considering no beach nourishment or armoring along the shore; and groundwater levels for existing and future depth.

Based on a 100-year design life, the projected SLR for the site is as follows:

Projected Sea Level Rise (in feet)			
Year	Low-Risk Aversion (~17percent probability)	Medium-High Risk Aversion (~0.5percent probability)	Extreme Risk Aversion (no associated probability)
2030	0.4	0.7	1.0
2040	0.7	1.1	1.6
2050	1.0	1.8	2.5
2060	1.3	2.5	3.6
2070	1.7	3.3	4.9
2080	2.1	4.3	6.3
2090	2.6	5.3	7.9
2100	3.1	6.6	9.8
2110	3.2	6.9	11.5
2120	3.7	8.2	13.7
2130	4.2	9.5	16.0

As described in the hazard analysis report provided by the City, at 4.1 feet of SLR, the landward face of the two vaults in Marina Park are expected to be exposed to tidal inundation which could result in seawater infiltrating the vault from the ground surface. Also, at 4.1 feet of SLR, both vaults would be exposed to coastal storm flooding. At this same level of SLR, most of the conveyance pipeline beginning at the VWRP and extending to Marina Park would be within shallow groundwater. At 6.6 feet of SLR, these conditions would be exacerbated while the entry points and vaults would become exposed to extreme (100-year) coastal storm erosion.

Adaptation

In response to the anticipated adverse impacts of SLR on the project components, occurring over the longer-term period, the City proposed the following adaptation measures:

The conveyance and outfall pipelines will consist of high-density polyethylene (HDPE) pipe. HDPE pipe is inert and will not react with seawater or brackish groundwater. Pipe, fittings and valves inside of both the pig launcher and receiver vaults will be ductile iron pipe that will be fusion bonded epoxy lined and coated, which is particularly robust from saltwater attack, be it from the carrier fluid (reverse osmosis concentrate) or salt water. The ladders and access platforms will be constructed of fiberglass reinforced polymer (FRP) material, which is not subject to rusting. Other pipe features consisting of sampling taps and ladder anchors will be stainless steel 316, which should offer a long life.

With respect to ground water rise and any impacts to the vaults from SLR, buoyancy calculations were performed for the vault structures and appropriate factors of safety exist for the current and proposed groundwater depths have been

provided considering seal level rise. The deeper pig launcher vault will be most subject to buoyancy due to its deeper profile.

To mitigate groundwater from entering the vault, the vaults will be cast in place, as opposed to precast. Precast vaults would take less time to construct but would not allow watertight joints and groundwater to enter the vault at the joint. Vault construction will include a water stop at the floor to wall interface. Wall construction will be specified to be poured monolithically (top to bottom) to avoid an unplanned construction joint from occurring, which would allow water to enter through the joint. The Engineer is considering the addition of Xypex, a crystalline technology that acts as an additional means of blocking water from entering through the concrete walls from the outside.

In addition to these measures, the City also suggested several unspecified adaptation planning efforts including: (1) monitoring of SLR and tide levels in Ventura Harbor and shoreline erosion at Marina Park; (2) assessing when the risk of flooding or erosion exceed an acceptable level; and (3) implementing appropriate adaptation measures before a risk level or threshold is reached. None of these planning efforts include details on monitoring or what triggers would be considered an event that requires action, however. Regarding adaptation measures, the report states that the City should coordinate with other agencies in future adaptation planning. The report states that adaptation measures could include future beach nourishment with or without a living coastal dunes shoreline component, coastal armoring with rock or another hard substance, or building seawalls along areas within the Ventura Harbor.

The report also stated that the outfall facilities, specifically the vaults, could be relocated landward by 75 feet or a greater distance to address potential future coastal storm flooding exposure and erosion exposure. However, the City concluded that moving the vault landward would require a more dramatic bend in the pipeline which would create a greater risk of failure in the event of a hydraulic surge. Moving the vaults landward would also require the vaults to be situated deeper below ground and would thus be more expensive. Considering these factors, the City decided not to move the facilities landward.

Although the adaptation measures proposed by the City would help to protect the proposed development from coastal flooding and groundwater rise in the more immediate term, the project has not demonstrated that it would be sufficiently safe from coastal hazards over a 100-year design life. As described in the report, adverse impacts from tidal inundation and flooding are expected with 4.1 feet of SLR, equal to the level of SLR expected between 2060 and 2070 under the extreme-risk aversion scenario. At 6.6 feet of SLR (2080 under the extreme-risk aversion scenario), the project is expected to be exposed to coastal storm erosion.

Considering the significant amount of time that is required to successfully plan for and adapt critical infrastructure to SLR, the Commission finds that a 30-year authorization period for this CDP is appropriate in this case. This authorization term ensures safety

through 2050 under even the worst-case-scenario SLR projections and provides an opportunity to reassess and plan for future coastal hazard risks. **Special Condition One** authorizes the proposed development on a temporary basis for thirty years and specifies that prior to the expiration of the authorization period, the Permittee or its successors shall submit to the Commission an application for a coastal development permit amendment to either: (a) extend the length of time of the authorized development and modify its design, as needed, to ensure consistency with the Coastal Act, or (b) relocate or remove all portions of the project and restore the affected areas to pre-development conditions.

Special Condition Two builds on this strategy and would further ensure that a future CDP amendment application submitted by the City pursuant to **Special Condition One** reflects an appropriate long term adaptation approach. This condition requires the City to develop a Coastal Hazard Adaptation and Implementation Plan (CHAIP) that identifies a suite of strategies necessary for protecting, relocating, or otherwise adapting the development authorized by this CDP. These strategies would also consider the need to maintain safety from flooding and other coastal hazards in order to minimize risk and assure stability and structural integrity and to ensure protection of coastal resources over the long-term. Required components of the CHAIP include: an analysis of then-current and future hazards related to sea level rise based on best available science; an alternatives analysis that evaluates a variety of adaptation options, including accommodation, protection, and retreat/relocation strategies that specifically prioritize approaches that can limit the need for shoreline armoring; a description of any additional proposed development at the site as well as a description of how such development would fit into the overall long-term adaptation approach, including with respect to the costs and benefits up those upgrades and any necessary protection measures in comparison to relocation; and a timetable for implementation of the strategies identified in the CHAIP.

Further, **Special Condition Three** requires the City to assume the risks of development in an area vulnerable to flooding and other coastal hazards. **Special Condition Four** requires the City to acknowledge and agree that the development is not entitled to shoreline protection under Section 30235 of the Coastal Act and to waive any rights to shoreline protection that may exist under applicable law. These two conditions help ensure that the City bears the risks of developing in a vulnerable area when it is not entitled to shoreline protection and when the Commission may not authorize shoreline armoring to protect the development in the future. However, **Special Condition Four** would not preclude the Coastal Commission from approving shoreline protection in the future if allowed under the Coastal Act, particularly where such protection is designed as part of a broader approach (as developed through the CHAIP) that can be shown to appropriately protect coastal resources over time throughout the project area.

Taken together, **Special Conditions One, Two, Three, and Four** would allow for the currently proposed project to proceed while also building in time to allow for development of a long-term adaptation approach that will help ensure that the proposed development can continue to minimize hazard risks, assure stability and structural

integrity, and protect coastal resources. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30235 and 30253 of the Coastal Act.

G. Coastal Access and Recreation

Section 30211 of the Coastal Act states:

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

Section 30213 of the Coastal Act states:

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided...

Section 30224 of the Coastal Act states:

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

Section 30234 of the Coastal Act states:

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

Section 30240 of the Coastal Act states (in relevant part):

(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.

Sections 30224 and 30234 of the Coastal Act require protection of recreational boating by limiting development that would preclude boating support facilities, including dry

storage areas. Pursuant to Section 30211 new development shall not interfere with public access while Section 30213 requires lower cost visitor and recreation facilities to be protected. Section 30240(b) requires development adjacent to parks and recreation areas to be sited and designed to prevent impacts to those areas and also requires that development is compatible with the continuance of those recreation areas.

The project's physical development would be located entirely underground and therefore would not result in any permanent adverse impacts to coastal access and recreation. Construction of the project is scheduled to start in September 2023 and finish in July 2024, a period of approximately nine months, and would take place within multiple worksites. Four of the work sites would be located throughout the Ventura Harbor area and the fifth worksite would be located between 4,500 feet and 6,800 feet offshore. Due to the distance from shore and distance from the harbor mouth and other primary boating lanes, the offshore worksite is not anticipated to have any adverse impacts on coastal access and recreational boating. However, establishment and use of the worksites within the Ventura Harbor area has the potential to adversely affect coastal access and recreational boating.

Recreational Boating

Potential adverse impacts to recreational boating would primarily be associated with the proposed use of the Harbor Crossing horizontal directional drilling (HDD) Pullback worksite. In order to create the exit point for the HDD, a total of 35 boat storage stalls at the Harbortown Point Marina Resort boat storage lot are proposed to be temporarily unavailable for boat storage. In addition, 70 boat storage stalls within the boat storage lot on the east side of Anchors Way would also be temporarily unavailable for use as the area is proposed to be used to assemble the pipe strings for the Harbor Crossing Component. Construction at these sites is anticipated to last approximately 90 days at which point the sites would need to be restored to their pre-project condition, which is anticipated to take another one to three months.

The boats that are currently stored within these 105 storage stalls would be temporarily relocated to Lot 19A. Lot 19A is a currently vacant lot located a half mile away at the northwest corner of Harbor Boulevard and Schooner Drive. The boats would be stored at this location for approximately four to six months to allow for construction and also restoration of the worksites following the completion of construction. Upon completion of construction, the boats would be returned to their original storage yards and Lot 19A would be returned to its pre-project condition. To facilitate its use as a temporary boat storage area, six-foot high chain link fencing would be constructed around the perimeter of Lot 19A along with an automatic gate and security cameras. Based on an inventory of the boats that would need to be relocated during construction there is sufficient space within Lot 19A to accommodate them. Eight additional spots within Lot 19A would also be established in the event that additional boats need to be relocated.

Analysis

Coastal Act Sections 30224 and 30234 require recreational boating be protected, in part by ensuring that non-water-dependent land uses not preclude boating support facilities.

The proposed wastewater infrastructure project is a non-water-dependent land use that would require temporary use of recreational boating storage facilities within Ventura Harbor. Boat storage facilities are a key component to supporting recreational boating and the loss of these facilities, even temporarily, would adversely impact access to recreational boating within Ventura Harbor. However, by providing adequate, secure boat storage during construction and returning the boat storage yards to their previous condition at the completion of construction, the project would avoid adverse impacts to recreational boating consistent with Sections 30224 and 30234.

Coastal Access and Recreation

Potential concerns regarding access and recreation to the Ventura coast also include movement of bicycles, pedestrians, and vehicles, and also the proposed use of the Marina Park Worksite and the Harbor Beach Cove Worksite. Both of these locations are situated in popular destinations for coastal access and recreation and construction of the various components of the project, including mobilization and operation of heavy-duty equipment, has the potential to adversely affect coastal access.

Bicycles, Pedestrians, and Vehicles

The proposed project includes construction of 1.2 miles of conveyance pipeline along Olivas Park Drive, Harbor Boulevard, Schooner Drive, and Anchors Way. Olivas Park Drive and Harbor Boulevard are important thoroughfares for bicycles, pedestrians, and vehicles moving within the greater City coastal area. Schooner Drive and Anchors Way provide one of the means of accessing Ventura Harbor.

Construction of the conveyance pipelines would require saw cutting of pavement, excavating a trench, installing pipe, backfilling the trench with the excavated material, and re-surfacing the pavement to its original condition. Trenches would range from four to six feet wide and six to eight feet deep, depending on the location of any existing utilities. The conveyance pipelines would be installed primarily within the existing roadway rights-of-way (ROW) to the extent feasible.

Work within the ROW including the use of heavy-duty equipment and open trenches would create a dangerous situation for bicycles, pedestrians, and vehicles in the area. As such, to ensure that work can be completed safely the EIR includes a mitigation measure which requires the City to prepare a Traffic Control Plan for all signage, striping, and detours necessary to ensure that work can be conducted safely while still allowing the public to move throughout the area. Although this measure would help to ensure that movement of the public is not impeded, the Traffic Control Plan required by the EIR did not specifically require consideration of movement within the Coastal Zone and how it might differ from other areas within the region of impact (ROI). Therefore, the Commission finds that **Special Condition Eight** is necessary. **Special Condition Eight** would require submission of a Traffic Control Plan to the Executive Director for review and approval demonstrating that a diligent and reasonable effort is made to minimize any impacts to public access in the Coastal Zone. In addition, no changes to the approved final plans shall occur without a CDP amendment, unless the Executive Director determines that no amendment is legally required.

Harbor Cove

The Harbor Cove Beach Assembly Worksite would occupy a 2.18-acre area located at the northernmost end of Spinnaker Drive. This area is immediately north of Harbor Cove Beach which is a popular beach recreation area due to the large amount of free parking, beach volleyball courts, wide open sandy area, and sheltered cove for swimming. The proposed Harbor Cove Beach Assembly Worksite is a disturbed, dirt area that is typically closed off to access with a gate and historically has been used by the Army Corp of Engineers and other public agencies for various projects within and outside the Ventura Harbor.

Because the area that would be used for the Harbor Cove Beach Assembly Worksite is closed to the public and does not offer any access and recreation amenities, use of the site would not directly affect any coastal access or recreation activities. Additionally, construction personnel, equipment, and materials would be staged entirely within the confines of this site. Therefore, the project would not require use of any of the unrestricted public access parking spaces for Harbor Cove Beach. As such, project activities within the Harbor Cove Beach Assembly Worksite would not directly or indirectly impact access and recreation in this area.

Marina Park

Marina Park covers a total of 15 acres and is located near the intersection of Pierpont Boulevard and Coral Street. The park includes a large, open grassy area with picnic tables and barbecues, restrooms, walkways, a sheltered sandy beach, playgrounds, and 191 parking spaces. Marina Park also provides access to popular surfing, fishing, and sailing locations. Project activities would take place within two separate areas of Marina Park: the Marina Park HDD Worksite and the Marina Park Assembly and Launch Worksite.

Coastal Act Section 30211 states that new development shall not interfere with the public's right of access to the sea, including beaches, and Section 30213 requires that lower cost visitor and recreational facilities shall be protected. Further, Coastal Act Section 30240(b) requires development adjacent to parks and recreation areas to be sited and designed to prevent impacts to those areas and also requires that development is compatible with the continuance of those recreation areas. Marina Park is one of the most popular coastal access and recreation destinations in the City of Ventura due to its proximity to sandy beaches, large grassy area and park facilities, and because of the large 191 space parking lot that provides free all-day parking. Construction of the proposed project has the potential to adversely impact the public's ability to enjoy the beach and these low-cost recreation facilities in three ways.

First, the project would occupy upwards of 96 of the 191 parking spaces within the parking lot for a period of approximately nine months. Occupying parking spaces, even temporarily, would reduce the amount of parking available to the public to access the park and the beach. As part of the analysis regarding how the temporary use of this parking lot could adversely affect coastal access, the City provided Commission staff

with survey results of the Marina Park parking lot recorded over a period of four different days throughout the year. The survey days included two weekdays during the Spring, one weekday during Summer and one weekend during Summer. The survey results show that the parking lot is completely occupied by visitors during Summer weekends, but outside of those peak times, less than half of the parking lot is typically occupied. Because proposed construction activities would primarily occupy the parking lot outside of the summer season and would only extend three weeks beyond Memorial Day, temporary loss of parking as a result of the project is not expected to have a significant adverse impact on parking at Marina Park.

In the event that the parking lot is full, on-street parking is also available nearby along the City streets surrounding the park, including Greenock Lane, Pierpont Boulevard, Coral Street, and Bayshore Avenue. However, to compensate for the temporary loss of parking spaces during construction and ensure there are no adverse impacts to coastal access and recreation, the City has also committed to provide for compensatory parking at San Buenaventura State Beach located approximately one mile upcoast of Marina Park. Similar to Marina Park, the San Buenaventura State Beach includes large, open grassy areas with recreation facilities and is located close to a large sandy beach. The City's proposed compensatory parking program would include a sign outside of the Marina Park parking lot to notify visitors about the temporary reduction in parking and would provide directions to San Buenaventura State Beach. San Buenaventura State Beach charges fees for parking and the City's sign would also include directions with a QR code to help direct park visitors on how to receive full reimbursement by the City for parking at San Buenaventura State Beach. In addition to using electronic QR codes, there would also be an option for mailing in parking receipts to receive reimbursement. The sign would be printed in both English and Spanish.

Second, the proposed HDD Worksite and the two proposed vault cover doors would take up space within the grassy area of Marina Park that would otherwise be available for the public to use for recreation. In total, the project would occupy 1.28 acres of the 12 acres at Marina Park, equal to approximately 11 percent of the park. The remaining grassy areas, park facilities and pathways would remain open to the public throughout project activities. Although the HDD worksite would occupy a portion of the interior of the park, there would still be substantial areas for the public to recreate within. Additionally, the project would not impact the ability of the public to walk along the pathways or walk through the park to access the beach.

In total, two 23-foot by eight-foot vault cover doors would remain within the grassy area at grade following completion of the project. The purpose of the vault doors is to allow access to the pipelines for periodic pigging and inspections. Pipeline pigging includes moving tools called "pigs" through a pipeline either for inspections or cleaning. Although the vault doors would be a permanent feature that would take up otherwise grassy area, considering the relatively small size of the doors (0.008 acres) and their location within the interior of the park away from picnic tables, children's play areas, and walkways, the vault doors would not adversely impact recreation within Marina Park.

Third, construction work could result in significant noise that would disrupt the experience of visitors to Marina Park. Work within Marina Park would take place September 2023 through May 2024, Monday through Saturday, 7:00 a.m. to 5:00 p.m. The pullback of pipe would potentially require operating 24 hours per day for several weeks. Working 24 hours per day during this period would be necessary in order to prevent a potential collapse of the previously bored hole. Maximum noise levels would be 77 decibels (dB) to 90 dB at a reference distance of 50 feet. This level of noise would be roughly equivalent a gas lawn mower operating 3 feet away.

Individual sensitivities and responses to sound are influenced by multiple factors including the type of noise, the environmental setting, the time of day, and the duration of the noise. Operation of the construction equipment and emitting sounds at upwards of 90 dB would likely be a significant adverse impact to members of the public recreating within Marina Park. The project is scheduled to avoid the summer season when access and recreation within Marina Park would be most popular, but one method to minimize the impact that construction noises would have on the public could include avoiding construction on Saturdays when more people would be recreating. However, the project schedule includes construction on Saturdays to maximize the amount of available days for construction so that the project can complete construction before the busier summer season. Eliminating work on Saturdays from the project schedule to minimize impacts from sound would cause construction to extend into summer and thus result in greater adverse impacts to the public.

Another option for reducing adverse impacts from noise includes incorporating materials or techniques to dampen or lessen sound. The project would include sound barriers encircling the perimeter of the project site and consisting of 15- to 30-foot-high metal frames covered with acoustic sound blankets. In addition, generators would be covered in special sound-reducing housings and fitted with mufflers. With the sound barriers and other noise mitigation measures sound levels are anticipated to be reduced to approximately 69 dB which would be roughly equivalent to the sound produced by a gas lawn mower operating 100 feet away. While still noticeable a sound at this level would be significantly less and therefore minimize the adverse effect on members of the public recreating within Marina Park.

Including the requirement for a Traffic Control Plan would ensure that project construction within the road ROW would not have adverse impacts to access and recreation. By scheduling the project construction to primarily occur outside of the busiest summer months and occupying relatively small areas within Marina Park, the project would minimize adverse impacts to coastal access and recreation. As an additional measure, the project will be providing directions to a nearby public beach park and also providing compensatory parking at that facility by reimbursing visitors for paid parking. The project also includes sound blankets and other noise mitigation measures to minimize the impacts that noise from project construction would have on the public recreating within Marina Park. Further, as discussed below, the project is also expected to have a long-term, positive effect on coastal access and recreation in Ventura County by helping to address a long-standing issue of flooding at McGrath

State Beach facilities on the downcoast side of the Santa Clara River Estuary (SCRE). These measures will ensure that the project will not result in significant adverse impacts to coastal access and recreation within this area of Ventura consistent with Sections 30211, 30213, and 30240(b) of the Coastal Act.

McGrath State Beach

McGrath State Beach (McGrath) is a California State Parks facility initially established in 1948 and is located immediately south of the SCRE and 400 yards inland of the beach. McGrath includes 173 campsites including hike-in and bike-in campsites, plus amenities such as day-use parking, restrooms, and showers. Since it is located so close to the SCRE and the beach, McGrath is considered one of the premier bird watching areas in California. McGrath is also a popular location for other types of coastal recreation including fishing, surfing, and hiking.

In addition to the adverse impacts to habitats and species within the SCRE that result from the discharge of tertiary-treated water to it, McGrath has also been adversely impacted by the discharges. The discharges from the VWRP contribute to elevated water levels within the SCRE which can overtop the banks of the SCRE and flood McGrath. The flooding of McGrath limits camping and coastal recreational opportunities and also damages facilities. Large portions of McGrath have been previously closed and the entire park has been closed since July 2019 because of flooding. The park does not currently have an expected date to reopen due to uncertainty about when flood waters will recede and how long the necessary repairs to damaged facilities will take.

The City conducted extensive studies to analyze how changing the discharge of treated water would affect the SCRE and the ongoing flooding of McGrath. Currently, McGrath is subject to flooding when water surface elevations (WSE) within the SCRE exceed 9.5 feet. The City determined that at a WSE of 9.0 feet or below McGrath would no longer be susceptible to flooding. The City then analyzed how reducing the amount of water discharged into the SCRE at varying levels (i.e., 30 percent reduction to 100 percent reduction) would affect the WSE and therefore flooding of McGrath. Based on this information, the City found that reducing discharges to 1.9 MGD (equal to a 60 percent reduction) would result in a WSE below 7.4 feet. Thus, the diversions proposed in this project are expected to sufficiently lower the WSE within the SCRE so that McGrath would no longer be as susceptible to flooding.

Coastal Act Section 30213 requires that lower cost recreational facilities be protected. Discharges of treated water from the VWRP into the estuary have contributed to higher water levels within it and exacerbated the flooding of McGrath. This flooding has resulted in multiple closures of the park, including the current extended closure that has been in effect since 2019. By decreasing the amount of treated water that would be discharged into the SCRE, the proposed project would lower the elevation of water within the SCRE and therefore significantly reduce or eliminate flooding within McGrath. Once flooding has been eliminated and McGrath has been repaired it could be reopened to the public. The proposed project would therefore help to protect lower cost

recreation in the area by promoting the eventual reopening of the park. As such the project is consistent with Section 30213.

H. Cultural Resources

Section 30244 of the Coastal Act states:

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

Coastal Act Section 30244 states that reasonable mitigation measures shall be required where development would adversely impact identified archaeological resources. These resources may be sacred lands, traditional cultural places and resources, and archaeological sites.

The Area of Potential Effects (APE) for the project was established according to Section 106 of the National Historic Preservation Act (NHPA) and encompasses an area of approximately 49 acres. The City conducted a search of the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) which indicated that 19 cultural resources studies have been conducted within a one-mile radius of the project. These studies indicate that no cultural resources have been identified within the project area or within the one-mile buffer. A Sacred Lands File (SLF) search carried out by the City also concluded that cultural resources are not known to be located within the project area. Lastly, a cultural resource survey of the project area was conducted by a cultural resource specialist hired by the City and no cultural resources were identified within the project area.

As mentioned above in Section C, the City conducted outreach to Native American Tribes during the CEQA process. The City's outreach is summarized as follows:

The City sent consultation notification letters to 22 tribal representatives with potential interest in the APE and its vicinity. Of the 22 representatives contacted, two members of the Barbareño/Ventureño Band of Mission Indians, Chairperson Julie Lynn Tumamait-Stenslie and Patrick Tumamait, responded requesting consultation. On February 8, 2018, and March 23, 2018, the City, along with ESA cultural resources staff, met with tribal representatives, Julie Lynn Tumamait-Stenslie and Patrick Tumamait. At the February 8, 2018, meeting the City provided an overview of the WaterPure Project objectives and components. Mrs. Tumamait-Stenslie and Mr. Tumamait described their knowledge of archaeological resources in the general area and requested to continue to be involved in the WaterPure Project. At the March 23, 2018, meeting, the City met with Patrick Tumamait to discuss the records search results for the Water Supply Project obtained from the SCCIC. Mr. Tumamait indicated the possible presence of prehistoric archaeological resources in the vicinity of Saticoy, as well as in the vicinity of the parcel in which Well #1 would be located. This area is not part of

the APE, and no further resources were identified as part of the consultation process.

Despite the investigations of existing cultural resource information by the City, the proposed scope of work has the potential to cause direct or indirect impacts to cultural resources as a result of ground disturbing activities. To address these potential impacts, the project incorporates the mitigation measures of the EIR requiring cultural resource sensitivity training for construction personnel, cultural resource surveys prior to the commencement of any ground disturbing activities, use of a cultural resources monitor onsite during ground disturbing activities, and procedures for halting work and notifying appropriate authorities and/or Tribes in the event that cultural resource or human remains are discovered during construction activities. With the incorporation of these mitigation measures, the proposed project is expected to avoid or mitigate potential impact to known and unknown cultural resources.

Commission staff also conducted outreach to the Tribes identified by the NAHC. Staff received a request for consultation from Annette Ayala of the Barbareño/Ventureño Band of Mission Indians and on March 15, 2023, Commission staff met with Ms. Ayala. At the meeting, Commission staff and Ms. Ayala discussed the project scope, the results of the cultural resources records search and cultural resource surveys, and mitigation measures of the EIR. Additionally, Commission staff and Ms. Ayala discussed the project construction schedule and Ms. Ayala stated that she would coordinate with the City to ensure that a monitor from the Barbareño/Ventureño Band of Mission Indians would be available and onsite during ground disturbing activities.

With implementation of **Special Condition Six**, which requires the applicant to carry out the mitigation measures pursuant to the final EIR, the proposed project would avoid known archeological resource areas and include reasonable mitigation measures to address potential adverse impacts to archaeological or paleontological resources. The Commission therefore finds the proposed project, as conditioned, consistent with Section 30244 of the Coastal Act.

I. Fill of Coastal Waters

Section 30233 of the Coastal Act states:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(6) Restoration purposes.

(7) Nature study, aquaculture, or similar resource dependent activities...

Section 30233 limits the dredging and filling of coastal waters to several specific uses where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided.

The project involves drilling underground and surfacing the proposed pipeline on the seafloor approximately 4,500 feet offshore of the City of Ventura within the SCB, excavating an approximately 2,000 foot long trench along the seafloor, constructing an approximately 2,000-foot-long segment of pipeline along the seafloor, attaching a 200 foot long diffuser segment to the end of the pipeline, anchoring and covering the pipeline with 12-inch rock protection, and discharging up to 4.7 MGD of tertiary-treated effluent and eventually concentrated effluent through the diffuser

Allowable Use

Coastal Act Section 30233(a) limits the dredging and fill of coastal waters to specific, enumerated uses. The proposed dredging and fill are allowable under Section 30233(a)(4) of the Coastal Act because they are for an “incidental public service purpose, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.” First, the proposed ocean outfall is being undertaken by a public agency in its service to the public and therefore has a public service purpose. The dredging of the seafloor is necessary to contain any release of drilling fluids during HDD operations and is also necessary to create a secure foundation for the seafloor segment of the pipeline and the diffuser. The proposed dredging and fill are also incidental to the primary service provided by the existing wastewater treatment system. The proposed project would only create a new method of treated wastewater discharge and would not increase service capacity or expand service to areas not already served by the existing system.

Alternatives Analysis

Coastal Act Section 30233(a) also requires that projects involving filling of coastal waters be the least environmentally damaging feasible alternative. Coastal Act Section 30108 defines “feasible” as “...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors.”

In the process of developing the project, the City analyzed three alternatives to disposing of the tertiary-treated water through an ocean outfall. These alternatives include: injecting the effluent deep underground using wells, evaporating the fluid completely and disposing of the leftover solid waste products, and trucking the effluent to another water treatment plant or outfall pipeline. All of these three alternatives were found to be impracticable. As a result of the high salinity of well fields in the area of the project injecting the effluent would lead to clogging and binding of soil, and also would violate existing state water quality standards. Evaporation and trucking the effluent would both require significant amounts of truck trips resulting in high energy consumption and associated emissions of air pollutants, and also include significant operations and maintenance costs. After settling on discharge through an ocean outfall as the most appropriate method, the City analyzed ten different options for the proposed outfall, including reuse of existing, dilapidated outfalls and pipelines within the greater Ventura area and installing new outfalls in other areas of the SCB located offshore of Ventura County. All of these alternatives were ultimately found to be impracticable due to the distances from the existing VWRf which would require substantial subterranean conveyance pipelines, significant excavation and more intense HDD resulting in greater adverse impacts to resources. In addition, proximity of alternative sites to various faults would threaten the integrity of the outfall pipeline and seafloor and subterranean obstructions such as shipwreck debris or boulders and other rock fill which could adversely affect HDD operations.

Additionally, the City analyzed various alternatives to the selected outfall design. These options included constructing the outfall and diffuser segment at various locations offshore. These alternatives evaluated potentially moving the outfall closer to shore to eliminate segments of pipeline along the seafloor - thus minimizing the amount of proposed fill - or moving it further offshore to potentially benefit water quality due to the placement of the diffuser at a greater depth. These options were found to increase the risks of inadvertent loss and release of drilling fluids to the surrounding marine environment while not resulting in any additional benefits to water quality.

Lastly, the City analyzed alternatives to the proposed trenching and cover with 12-inch-diameter rock. Solely laying the pipeline on the seafloor unarmored would leave it exposed to wave and current action. These forces would impose uplift and lateral forces on the pipeline, as well as displace the sand along the seafloor that would be supporting the pipeline. Collectively, these forces could result in failure of the pipeline. Also, the City determined that the rock cover would be necessary due to the lower density of the tertiary-treated water relative to seawater. Without the rock covering, the pipeline would be prone to buoyant forces which could rupture it. The rock covering would serve both

as armoring and as an effective ballast to weight and stabilize the pipeline along the seafloor.

Mitigation

The third test set forth by Section 30233 is whether feasible mitigation measures have been provided to minimize significant adverse environmental impacts. Section E of this report describes feasible mitigation measures requiring the City to: minimize adverse impacts from turbidity, release of drilling fluids, hazardous material spills; and minimizing the spread of non-native invasive species. With the imposition of these mitigation measures, the Commission finds that the third test of Coastal Act Section 30233(a) has been met.

On this basis and based on the findings regarding alternatives and the allowable use test, the Commission finds that the project is consistent with Section 30233(a) of the Coastal Act.

J. California Environmental Quality Act (CEQA)

The City of Ventura, acting as lead agency under CEQA, finalized an Environmental Impact Report (EIR) in September 2019. Section 13096 of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified 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 approval of a proposed development if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant impacts that the activity may have on the environment. The project, as conditioned herein, incorporates measures necessary to avoid any significant environmental effects under the Coastal Act, and there are no less environmentally damaging feasible alternatives or mitigation measures. Therefore, the proposed project is consistent with CEQA.

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

1. 9-22-0733 (City of Ventura) and accompanying technical documents.
2. ESA Associates. 2019. Ventura Water Supply Projects Final Environmental Impact Report. Case No. EIR-9-19-52130. Project # PROJ-1383313707. SCH No. 2017111004. September.
3. Stillwater Sciences. 2011. City of Ventura special studies: Estuary Subwatershed Study assessment of the physical and biological condition of the Santa Clara River Estuary, Ventura County, California. Amended Final Report. Prepared by Stillwater Sciences, Berkeley, California for City of Ventura, California. September.
4. Stillwater Sciences. 2018. City of Ventura Special Studies – Phase 3: assessment of the physical and biological conditions of the Santa Clara River Estuary, Ventura County, California. Final Report. Prepared by Stillwater Sciences, Berkeley California for City of Ventura, California. February.
5. Scientific Review Panel's Report on the City of Ventura Special Studies- Phase 3 Phase 3: Assessment of the Physical and Biological Conditions of the Santa Clara River Estuary, Ventura County, California, 2018. Technical Memorandum- SRP Recommendations (Final), June 25, 2018.

APPENDIX B – KEY BENEFITS TO SPECIES AND HABITATS

Habitat Acreage

... acreage of open water habitat, tidally exposed mudflats, freshwater wetland habitats, and disturbed wetlands would be reduced compared with existing conditions. Riparian habitat and riparian riverwash habitats would significantly increase in acreage...

Habitat Quality

The large open water area of the lagoon supports invasive aquatic species that contribute to the decline of native and special-status species. Examples of species that either compete directly or are predatory to tidewater goby are western mosquitofish (*Gambusia affinis*, competitor) and African clawed frog (*Xenopus laevis*, predator). Decreasing discharge from the VWRF... would promote more salinity stratification immediately following mouth closure and after overtopping events, since the reduced lagoon volume would provide less freshwater dilution than under existing conditions. Increased salinity stratification would help decrease competition and predation from nonnative invasive fishes because, unlike native species that are adapted to salinity stratification, invasive species have less tolerance for these conditions. Reducing the numbers of individual non-native fish, including the predatory carp, green sunfish, and bass, while providing good habitat for the goby, which utilize the open water less than the vegetated fringes of the lagoon, would be a benefit to the species. Reduction of open water would reduce total numbers of non-native fish and increase periods of higher salinity which would reduce impacts of predatory species on native tidewater goby.

Reduction in SCRE Unseasonal Breaching

Natural, flow-induced breaching relates to the ability of the SCRE to store high river flows. Natural breaching during storms is a function of the pre-storm (antecedent) water volume in the SCRE and the magnitude and duration of storm-induced flows, as well as sand berm and ocean conditions. In addition to storm-induced wave impacts, wave overwash into the SCRE when the mouth is closed during any season can both add to the SCRE water volume and initiate the formation of a breach-mouth channel, the latter process causing rapid draining of the lagoon when the tide recedes...

Authorized and unauthorized breaching of the SCRE beach berm has also occurred in the past to alleviate risks of flooding adjacent to the lagoon... The lower water levels that would result from the diversion of discharge from the VWRF ... would reduce the likelihood and possibility of such unnatural breaches that are facilitated at high estuary stages caused by the VWRF discharge.

The impacts of an artificial breach can be catastrophic and lead to substantial take (injury or death) of fish species. During the low water period of summer and early fall, tidewater goby lay their eggs in burrows in shallow areas of the lagoon, within the sandy substrate. Juvenile salmon reside in the lagoons until they are ready to

migrate to the ocean. Closed-mouth conditions protect the lagoon from ocean tides. When dry-weather breaches occur, the lagoon rapidly drains. Artificial breaching has three deleterious effects on sensitive native species and their habitat. First, rapid dewatering can leave fish isolated in small pools or trapped on mud/sand flats that were previously shallow water habitats. Tidewater goby lay their eggs in burrows that are completely susceptible to stranding if water elevations drop. Observations of the SCRE following an artificial breach have shown substantial mortality of stranded steelhead and tidewater goby. Second, rapid dewatering can transport fish out of the estuary to the ocean before they are ready for ocean conditions. Third, the influx of seawater rapidly increases the salinity within the estuary, when juvenile steelhead and tidewater goby are unable to tolerate salinity changes, especially in early stages of development.

Water Quality

The Phase 3 report found that water quality conditions resulting in eutrophication (when a body of water becomes overly enriched with minerals and nutrients that induce excessive growth of plants and algae) and low dissolved oxygen concentrations within the lagoon may be present 40 percent of the time under current conditions, primarily during closed mouth conditions. The lagoon is unsuitable for steelhead and goby under these conditions. During extended periods of times the estuary exhibits dissolved oxygen levels of zero or close to zero mg/L such that conditions would be lethal for the species. The primary sources of nutrients driving these patterns are discharges from the VWRF and groundwater exfiltration (Kramer 2018). The proportion of nutrient loading associated with groundwater exfiltration versus VWRF discharges is unknown. However, reducing nutrient loading from the VWRF can only serve to reduce eutrophication and associated hypoxia (oxygen deficiency in a biotic environment). The SRP Report (Kramer 2018) concludes that the benefits of reduced nutrient loading outweigh potential benefits of dilution from VWRF discharge, if indeed the VWRF does provide any dilution benefit (the VWRF discharge may also increase the concentration of nitrate and phosphate in the estuary). Therefore, less discharge from the VWRF would benefit the tidewater goby and juvenile steelhead by improving water quality in the lagoon.

Steelhead

The SCRE provides a migratory corridor and salinity acclimation habitat for upstream adult steelhead spawners and outmigrant smolts, as well as potential rearing habitat for steelhead smolt. Rearing steelhead require moderately low salinity, relatively high dissolved oxygen, refuge from excessive water temperatures, and cover to avoid avian predation. Key hazards for subadult steelhead include periods of low DO, high temperatures, and unseasonal breaching which can interfere with life development and migration. Juvenile steelhead prefer lower salinities for rearing. The proposed project would improve water quality conditions compared to existing conditions for steelhead subadults.

During open mouth conditions corresponding to wet weather, steelhead utilize the lagoon to initiate migration upstream to rearing habitat (November to May). Juvenile steelhead rear in the SCRE during the spring and summer months. The proposed project would not reduce the opportunity for migration during open mouth conditions. During closed mouth conditions, when steelhead would not be expected to migrate due to insufficient migration flows in the Santa Clara River mainstem, reduced discharge would result in lower water levels in the lagoon. Lower water levels would protect against unseasonal breaching of the lagoon caused when the water level is too high, as under existing conditions...

Decreased discharge would also decrease the acreage of open water in the lagoon currently available to steelhead juveniles. However, a stable, low salinity estuary with sufficient DO and water quality provides necessary rearing habitat for early life stages. Even if the habitat acreage of the deeper pool is decreased, shoreline refugia will develop similar to existing conditions. In addition, the reduction of non-native invasive species that prey on and compete with steelhead smolt...is important for steelhead survival and successful rearing.

Tidewater Goby

Tidewater goby use aquatic habitats within the SCRE for their entire life-cycle. They have been one of the most abundant fish species in the SCRE during past surveys, but were relatively scarce during Phase 3 surveys. Tidewater goby require shallow habitat with sandy substrate for spawning burrow construction, and the enlarged lagoon area caused by the VWRP discharges in recent years has not resulted in increased tidewater goby populations. Adults are relatively tolerant of salinity fluctuations. Very high water temperatures or extended periods of low DO may be unsuitable for rearing and spawning tidewater goby. Major threats to goby in the SCRE include dispersal due to storm flows, dewatering of nests due to unauthorized breaches, water quality including low DO and high temperature, and predation by or competition with native and introduced species.

...

The proposed projects would improve water quality compared with existing conditions, reduce the deeper-water, low-salinity habitat that is conducive to predatory invasive species, and eliminate unseasonable breaches. Although the acreage of open water would reduce by 55 – 62 percent, the Scientific Review Panel (SRP) Final Report concludes that the improved quality of habitat for goby and reduction of non-native invasive species that prey on and compete with goby ... is more important than the quantity of acreage of open water for long term viability of the species in the SCRE.

Western Snowy Plover

Western snowy plover occupy open beach and foredune habitats for nesting and foraging for invertebrates, such as insects and crustaceans, on the sand, in stranded seaweed on the beach, and from low-growing plants. Major threats to

western snowy plover include habitat loss and degradation due to factors ranging from invasive plant species (e.g., ice plant, giant reed), urban development, and recreational use of beaches. Human interference and predation are both common causes of nest failure in the SCRE and vicinity.

The Phase 3 Study notes that foraging habitat decreases with higher lagoon water levels. Consequently, the diversion of discharge would have positive effects on foraging habitat. Nesting habitat is generally farther from the water's edge and is less affected by high water... Both the western snowy plover and the California least tern would also benefit from reduced VWRP discharge, since artificial breaches during the summer may impact existing nesting and foraging habitat for the plover.

California Least Tern

California least tern is found near the SCRE only during the summer (nesting) season. Nesting activity typically peaks in June or July. California least tern forage in aquatic habitats where small bait fish are abundant, including shallow estuaries, lagoons, coastal ponds, or nearshore waters. Similar to western snowy plover, major threats to California least tern include habitat loss and degradation as a function of invasive plants, urban development, and recreational use of beaches. Human interference, nest abandonment, and predation are common causes of nest failure in the SCRE. Foraging habitat for California least tern increases with the extent of open water. Nesting habitat is typically sand or gravel beaches above high tide that are relatively free of vegetation as a result of scour from periodic high storm tides (Stillwater 2018).

The proposed projects would reduce the foraging acreage in open water habitat. During the highest stage of the SCRE during closed-mouth periods, open water foraging habitat would be reduced by 55 – 62 percent. Foraging opportunities would remain in the smaller lagoon, similar to a more natural condition, and other foraging opportunities exist along the coastline, including the ocean, Lake McGrath, and coastal inlets all along the Ventura County coastline. Potential nesting habitat, e.g., open beach and foredune habitats above the high tide line on barren to sparsely vegetated beaches, would increase. The availability of suitable foraging habitat near the SCRE, the enhanced quality of foraging in the SCRE, and improvements to nesting habitat would ensure that the impacts of the proposed projects would be less than significant.