
CHAPTER 3.0 ENVIRONMENTAL ANALYSIS

This EIR analyzes a total of 15 environmental issue areas for both the lagoon enhancement and materials disposal/reuse components of the Enhancement Project. Sections 3.1 through 3.15 describe existing conditions for each issue area, and disclose environmental impacts associated with implementation of the project alternatives.

To identify environmental impacts for each issue area, the Enhancement Project alternatives are compared to the baseline condition, which is described in Section 3.0.2 below. The difference between the Enhancement Project alternatives and the baseline is then compared to a threshold to determine if the difference is significant. Where applicable, project benefits are also discussed, as identified below. An overview of the organization of each section is provided below, followed by a discussion of baseline relative to this dynamic project site, and a definition of key terminology.

3.0.1 ORGANIZATION OF EACH SECTION

To assist in comparing information about the various environmental issues, each section is linked to an issue area and is organized in the manner outlined in the following paragraphs.

Existing Conditions for both the lagoon study area (Figure 2-2) and the materials disposal/reuse study area (Figure 2-10) are described before project implementation and serve as the baseline for the analysis of project impacts. More detail regarding the baseline is provided following this overview.

Significance Criteria defines specific thresholds used to determine whether an impact is or is not considered to be significant under CEQA. Although sample questions listed in Appendix G of the CEQA Guidelines were considered for use as significance criteria to characterize impacts, different thresholds are sometimes used in Chapter 3 to reflect the unique and dynamic nature of lagoon enhancement and materials placement activities. Thresholds not developed from Appendix G have been derived from previous enhancement projects involving lagoon enhancement or beach sand replenishment, including the San Elijo Lagoon Restoration Project EIR/EIS (SCH #201111013), the Bolsa Chica Lowlands Restoration Project EIR/EIS (SCH #2000071068), and the 2012 Regional Beach Sand Project EA/EIR (SCH #2020051063).

To facilitate review within Chapter 3, each significance criterion is identified with a letter, and each conclusion under the analysis refers back to those criteria. CEQA regulations generally

define a significant effect on the environment as a substantial or potentially substantial adverse change in the physical environment (CEQA Guidelines Sections 15064 and 15126.2).

Impact Analysis provides independent analyses of the two project components: lagoon enhancement and materials disposal/reuse. Monitoring associated with enhancement is also incorporated into the analysis, where relevant, as described in Section 2.9. The three lagoon enhancement alternatives and each of the materials disposal/reuse locations are analyzed at an equal level of detail. This approach allows for comparison of the alternatives under each resource area and will facilitate the ultimate selection of an agency-preferred alternative for the Final EIR. While the analyses for lagoon enhancement and materials disposal/reuse are separate, there may be occasions when activities would occur in similar locations and/or times. For example, replacement of the Carlsbad Boulevard Bridge could occur while the overdredge pit is being created and sand placement is occurring in Oceanside. The analyses have been separated simply to facilitate reading of the document. Where applicable, any combined impacts are identified within the environmental analysis. Consistent with CEQA, direct and indirect impacts, as well as cumulative impacts, are evaluated.

The analysis incorporates the implementation of design components, regulations, and proactive design features into the conclusions. Each alternative analysis addresses short-term impacts associated with construction of the lagoon enhancement project. Permanent impact analyses address impacts resulting from construction, as well as long-term periodic impacts associated with anticipated maintenance and adaptive management of the lagoon.

Each of the Enhancement Project build alternatives would result in removal of material that would require offshore disposal or reuse in the littoral zone. Locations and methodologies for disposal and/or placement are similar across each of the alternatives. Under each enhancement alternative, locations proposed for materials placement include reuse within the littoral zone at beaches (Oceanside and potentially Carlsbad) and the nearshore (Oceanside), and potential off-site disposal in LA-5, depending on the construction approach utilized (e.g., creation of an overdredge pit) and the quality/composition of material. Although currently anticipated volumes placed at each reuse site may differ between alternatives, the largest potential footprints are analyzed to provide a conservative analysis in the event additional suitable material is identified during project implementation. Therefore, identical placement footprints at beach and nearshore sites are evaluated for each of the enhancement alternatives, and analyses between alternatives do not differ. To avoid repetition, this analysis is only presented once. As a result, the materials disposal/reuse analysis under each issue area is organized by location or methodology rather than lagoon enhancement alternative. Analysis of the overdredge pit is generally addressed under the lagoon enhancement analysis since it would be located within the dredged area and is encompassed in the basin disturbance footprint.

For both the lagoon enhancement alternatives and materials disposal/reuse scenarios, the analyses present the expected changes to the environment for each of the project alternatives. The magnitude, duration, extent, frequency, range, or other parameters of an impact are identified, to the extent possible, to discuss the magnitude of the potential effect and determine whether impacts would be significant under CEQA. All potential effects, including direct effects and reasonably foreseeable indirect effects, are considered. An impact may be deemed one of the following: no impact, less than significant impact, significant but mitigable impact, or significant unavoidable impact. In some instances, benefits to a resource may occur due to implementation of the Enhancement Project. Benefits are discussed both within the impact analysis and separately, when relevant. Resources that could benefit from project implementation and have a discrete discussion include Land Use and Recreation (3.1), Hydrology (3.2), Water Quality (3.4), Biological Resources (3.5), and Public Health and Safety (3.15).

The structure of Section 3.12 Global Climate Change, Greenhouse Gas Emissions, and Sea Level Rise, varies slightly from the format described above. To thoroughly analyze the Enhancement Project's resiliency to sea level rise and extreme events, the alternatives have been analyzed for the horizon years of 2050 and 2100, in accordance with guidance set forth by the California Coastal Conservancy, SANDAG and the California Coastal Commission (CCC). This section addresses greenhouse gas emissions as well as effects possibly related to predicted sea level rise.

Mitigation Measures identify the means by which impacts could be reduced or avoided in cases where the analysis determines such impacts to be significant. Standard construction practices, existing regulations, requirements, programs, and procedures, as well as project design features in Table 2-11, are considered in the impact analysis. The Enhancement Project design proactively incorporates a number of design and avoidance features. Upon certification of the EIR, a mitigation monitoring and reporting program would be adopted to ensure implementation of identified mitigation measures. Project design features in Table 2-11 would also be incorporated into final project plans and construction documents.

When impacts cannot be mitigated to a level considered less than significant, they are identified as "significant unavoidable impacts." Under CEQA, the lead agency must adopt a Statement of Overriding Considerations to approve a project with significant unavoidable impacts. In adopting such a statement, the lead agency finds that it has reviewed the EIR, has balanced the benefits of the project against the significant unavoidable adverse environmental effects, and has determined that the benefits outweigh the adverse environmental effects. Thus, the significant unavoidable environmental effects may be considered "acceptable."

3.0.2 THE ENVIRONMENTAL SETTING AND THE CEQA BASELINE

Section 15125 of the CEQA Guidelines provides that “[a]n EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.” The baseline, for the purpose CEQA analysis, must reflect the real conditions on the ground. (*Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310; see also *Neighbors for Smart Rail v Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439.) The lead agency has discretion to define the “baseline physical conditions” that are reflective of the real conditions on the ground in situations where conditions may change or fluctuate over time. (*Neighbors for Smart Rail v Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439.)

The NOP for the proposed Enhancement Project was published in April 2013. Conditions at Buena Vista Lagoon and the adjacent beaches are not static. The dynamic conditions at the lagoon and along the coast require that defining the “real conditions on the ground” for selecting the environmental baseline for the Enhancement Project consider this fluctuation in “existing conditions.” For example, the coastal littoral process is seasonally and annually variable (influenced by environmental circumstances such as tidal fluctuations and storm events). These processes affect beach conditions, including the amount of sand on the beach, beach width and composition (e.g., amount of cobble mixed in with the sand), and beach slope. To capture some of this dynamic nature, some of the analyses within this EIR rely on baseline data that differ from the April 2013 publication of the NOP. Other resources remain relatively static, and baseline information sometimes gathered before 2013 remains valid and can provide longer or more comprehensive data for the EIR analysis. Each issue area section discusses the applicable baseline condition for the analysis if it differs from the publication date of the NOP.

3.0.3 DEFINITION OF KEY IMPACT TERMINOLOGY

Potential direct and indirect, as well as both permanent and temporary, impacts would occur with implementation of the Enhancement Project. These impacts are defined below.

Direct: Direct impacts are caused by the action and occur at the same time and place as the action.

Indirect: Indirect impacts occur later in time or are farther removed in distance but are still reasonably foreseeable and attributable to project-related activities.

Permanent (long-term): All impacts that result in irreversible effects or removal of resources are considered permanent.

Temporary (short-term): Any impacts considered to have reversible effects on resources may be viewed as temporary.

Each impact is also further classified pursuant to CEQA using one of the following phrases:

No impact: A designation of no impact is given when no adverse changes in the environment are expected.

Less than significant impact: A less than significant impact is identified when the project alternative would cause no substantial adverse change in the environment (i.e., the impact would not reach the significance criteria).

Significant impact: A significant (but mitigable or avoidable) impact is identified when the project alternative would create a substantial or potentially substantial adverse change in the physical conditions within the affected resource area. Such an impact would exceed the applicable significance threshold established by CEQA but would be reduced to a less than significant level by application of one or more mitigation measures.

Significant unavoidable impact: A significant unavoidable impact is identified when an impact that would cause a substantial adverse effect on the environment could not be reduced to a less than significant level through feasible mitigation measure(s).

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