

CHAPTER 5

Alternatives

5.1 Introduction

This chapter presents the CEQA alternatives analysis for the Tiscornia Marsh Habitat Restoration and Sea Level Rise Adaptation Project (Proposed Project). The CEQA Guidelines, Section 15126.6(a), state that an EIR must describe and evaluate a reasonable range of alternatives to the project that would feasibly attain most of the project’s basic objectives and would avoid or substantially lessen any identified significant adverse environmental effects of the project. Specifically, the CEQA Guidelines (Section 15126.6) set forth the following criteria for selecting and evaluating alternatives:

- **Identifying Alternatives.** The selection of alternatives is limited to those that would avoid or substantially lessen any of the significant effects of the project, are feasible, and would attain most of the basic objectives of the project. Factors that may be considered when addressing the feasibility of an alternative include site suitability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, economic viability, and whether the proponent can reasonably acquire, control, or otherwise have access to an alternative site. An EIR need not consider an alternative whose impacts cannot be reasonably ascertained and whose implementation is remote and speculative. The specific alternative of “no project” must also be evaluated.
- **Range of Alternatives.** An EIR need not consider every conceivable alternative, but must consider and discuss a reasonable range of feasible alternatives in a manner that will foster informed decision-making and public participation. The “rule of reason” governs the selection and consideration of EIR alternatives, requiring that an EIR set forth only those alternatives necessary to permit a reasoned choice. The lead agency (the City for the Proposed Project) is responsible for selecting a range of project alternatives to be examined and for disclosing its rationale for choosing the alternatives.
- **Evaluation of Alternatives.** EIRs are required to include sufficient information about each alternative to allow a meaningful evaluation, analysis, and comparison with the proposed project. Matrices may be used to display the major characteristics and the environmental effects of each alternative. If an alternative would cause one or more significant effects that would not result from the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project.

Section 5.2 describes the alternatives selection process and the objectives of the Proposed Project; summarizes the significant impacts of the Proposed Project; describes the alternatives selected for detailed analysis; and compares the environmental impacts of each alternative to those of the Proposed Project. Section 5.3 provides a comparison of the alternatives, and identifies the

environmentally superior alternative. Section 5.4 discusses the preliminary alternatives that were considered but rejected from further consideration.

5.2 Proposed Project Alternatives Analysis

This section describes the process of developing a reasonable range of Proposed Project alternatives for analysis in this EIR. Consistent with CEQA, the approach to alternatives selection for this EIR focused on identifying alternatives that: (1) could meet most of the basic objectives of the Project while reducing one or more of its significant impacts, (2) could foster informed decision-making and public participation, and (3) could be feasibly implemented.

The alternatives selection process considered multiple alternatives by the City. Certain alternatives were eliminated from consideration based on their inability to meet most of the basic objectives of the Proposed Project, their infeasibility, or their inability to reduce the Project's environmental impacts. CEQA Guidelines (Section 15364) define "feasible" as "*capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.*" Section 15126.6(f)(1) states that "*the factors that may be taken into account when addressing the potential feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).*"

5.2.1 Project Objectives

As discussed in Chapter 2, *Project Description*, Section 2.1.3, *Goals and Objectives*, the goal of the Project is to enhance the ecological function of the Tiscornia Marsh property and increase flood protection for the Canal neighborhood, while maintaining the community value of the Albert J. Boro Community Center and Pickleweed Park. This goal would be accomplished through the following objectives:

- Restore tidal marsh on the Project site to improve ecological function and habitat quantity, quality, and connectivity (including upland transition zones) for native marsh species and marsh-upland transition species, including special status species.
- Protect Project site marshlands from future marsh edge erosion.
- Increase the level of flood protection for the Canal neighborhood and other nearby communities of central San Rafael.
- Create sustainable benefits that consider future environmental changes such as sea-level rise and sedimentation.
- Maintain and improve public access to passive recreational and outdoor education opportunities (e.g., hiking, jogging, bird watching).

The Proposed Project includes restoring Tiscornia Marsh to its 1950s-era extent, constructing a coarse beach along the bayside edge of the restored marsh, and restoring tidal action to the City-

owned diked marsh at the north end of Pickleweed Park. The Proposed Project would also construct a new approximately 600-foot levee on the south side of the existing diked marsh and improve approximately 1,100 feet of shoreline levee to achieve greater flood protection, public access, and habitat benefits. Absent the Proposed Project, it is anticipated that Tiscornia Marsh would continue to erode and the low-lying Canal neighborhood adjacent to Tiscornia Marsh would be further at risk to coastal flooding.

5.2.2 Significant Environmental Impacts

This section summarizes the significant impacts of the Proposed Project, as analyzed in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, and Appendix B, *Topics Not Requiring Detailed Environmental Analysis*, and that were considered during the alternatives identification process. The significant impacts of the Project are limited to effects occurring during construction of the Project; no long-term significant impacts would occur.

Short-Term Impacts

All short-term construction impacts could be mitigated to a less-than-significant level with the implementation of mitigation measures identified in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, and Appendix B, *Topics Not Requiring Detailed Environmental Analysis*. Project construction would result in the following significant short-term impacts:

- **Air Quality.** Project-related construction activities would result in a cumulatively considerable net increase of a criteria pollutant for which the San Francisco Bay Area Air Basin is in non-attainment under applicable federal and state ambient air quality standards. If these impacts are not mitigated, the Proposed Project would exceed the applicable Bay Area Air Quality Management District (BAAQMD) threshold for nitrogen oxides (NO_x). Additionally, the Proposed Project would expose sensitive receptors to substantial pollutant concentration during construction. (Impacts 3.3-2, and 3.3-3; Less than Significant with Mitigation).
- **Biological Resources.** Project construction activities could be disruptive to special-status birds (such as California black rail, Ridgway's rail, northern harrier, salt marsh common yellowthroat, San Pablo song sparrow) and nesting birds protected by the Migratory Bird Treaty Act, as well as salt marsh harvest mouse and salt mouse wandering shrew. Proposed Project construction could also impact the following special-status plant species: Marin knotweed, Suisun marsh aster, congested-headed hayfield tarplant, and Point Reyes bird's-beak. Additionally, in-water construction could have an adverse effect on protected fish or marine mammals. Further, construction effects could conflict with local tree ordinance policies. (Impacts 3.4-1, 3.4-2, 3.4-3, 3.4-4, 3.4-6, 3.4-7; Less than Significant with Mitigation).
- **Cultural Resources.** While no known or recorded cultural resources are present in or near the Project site, Project construction could disturb previously unknown archaeological resources or human remains, if present. (Cultural Resources Impacts b and c; Less than Significant with Mitigation).
- **Transportation.** Project construction activities could generate pedestrian and bicycle activity in the vicinity of the Project site; the introduction of trucks turning into/out of the construction staging area may result in unsafe conditions for pedestrians using the sidewalk and bicyclists traveling in the roadway. Therefore, construction of the Proposed Project could conflict with adopted policies, plans, or programs related to bicycle and pedestrian facilities, or affect the safety of such services/facilities. (Transportation Impact c; Less than Significant with Mitigation).

- **Tribal Cultural Resources.** While the City did not identify any tribal cultural resources listed or eligible for listing in the California Register, nor did they determine any resources to be significant pursuant to criteria set forth in Subdivision (c) of Public Resources Code (PRC) Section 5024.1, should any cultural materials be identified during Project implementation that are determined to be tribal cultural resources, they could be affected by construction activities. (Tribal Cultural Resources Impacts a.i and a.ii; Less than Significant with Mitigation).

Construction of the Project would contribute to cumulative impacts for most of the impact topics listed above. All cumulative impacts would be reduced to a less-than cumulatively considerable level by mitigation measures identified in this EIR.

5.2.3 Approach to Alternatives Selection

The alternatives selection process for the Proposed Project was guided in part by the magnitude and severity of the impacts identified above. Therefore, this analysis focuses on alternatives that could be implemented (i.e., are feasible), meet most of the Proposed Project objectives, and lessen or avoid short-term, construction-phase impacts.

5.2.4 Selected CEQA Alternatives

This section describes the Proposed Project alternatives that were selected and analyzed in accordance with CEQA Guidelines Section 15126.6(a). The three alternatives to the Proposed Project selected for detailed analysis in this EIR are:

- **Alternative 1:** No Project Alternative
- **Alternative 2:** Reduced Project – Reduce Tiscornia Marsh Restoration
- **Alternative 3:** Reduced Project – Eliminate Diked Marsh Restoration

Table 5-1 provides a brief description of these alternatives and highlights how they differ from the Proposed Project. This section also evaluates the impacts of the alternatives relative to those of the Proposed Project. The evaluation is based on the available information and reasonable assumptions about how each alternative would be implemented. For each alternative, this section presents the following:

- A description of the alternative, including the rationale for its selection for analysis, and associated improvements and auxiliary components.
- An evaluation of the alternative's ability to meet Project goals and objectives.
- Analysis of the environmental impacts of each alternative compared to those of the Proposed Project.

**TABLE 5-1
CEQA ALTERNATIVES**

Alternative	How Does the Alternative Differ from the Project?
Alternative 1: No Project.	<ul style="list-style-type: none"> • Tiscornia Marsh would not be restored to its 1950s-era extent, and a coarse beach would not be constructed along the bayside edge of the restored marsh. • Tidal action would not be restored within the diked marsh at the north end of Pickleweed Park. • The existing level would not be improved. • The marsh and surrounding area would continue to operate as they currently do. • The No Project Alternative would not meet Project objectives, other than maintenance of existing public access.
Alternative 2: Reduced Project – Reduce Tiscornia Marsh Restoration	<ul style="list-style-type: none"> • Restore diked and outer marsh, front the new marsh with a beach, but with less fill / created marsh on the south side of the marsh. • Would meet the objectives related to enhanced flood protection of the adjacent areas, and maintaining and improving public access. • Would not meet the objectives related to restoration of tidal marsh and long-term benefits associated with sea level rise to the same extent as the Project.
Alternative 3: Reduced Project – Eliminate Diked Marsh Restoration	<ul style="list-style-type: none"> • Restore eastern marsh but not diked marsh. • Would meet the objective related to maintaining and improving public access. • Would not meet the objectives related to restoration of tidal marsh, enhanced flood protection of the adjacent areas, and long-term benefits associated with sea level rise to the same extent as the Project.

Table 5-2 summarizes the environmental impacts of the alternatives compared to those of the Proposed Project. Neither of the action alternatives (i.e., Alternatives 2 and 3) would avoid any of the Proposed Project’s significant impacts or cumulatively considerable impacts.

**TABLE 5-2
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES**

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Project – Reduce Tiscornia Marsh Restoration	Alternative 3: Eliminate Diked Marsh Restoration
<p>Impact 3.3-2: The Project could result in a cumulatively considerable net increase of a criteria air pollutant for which the SFBAAB is in nonattainment under applicable federal and state ambient air quality standards.</p>	<p>Project-related construction activities would result in a cumulatively considerable net increase of NO_x, resulting in an exceedance of the applicable BAAQMD threshold.</p> <p>(Less than Significant with Mitigation)</p>	<p>No Impact</p> <p>There would be no earth-moving activities or other construction activities that would result in a cumulatively considerable net increase of NO_x, resulting in an exceedance of the applicable BAAQMD threshold.</p>	<p>Reduced</p> <p>Overall construction activities would be less than the Project, but would likely still result in a cumulatively considerable net increase of NO_x, resulting in an exceedance of the applicable BAAQMD threshold.</p> <p>(Less than Significant with Mitigation)</p>	<p>Reduced</p> <p>Overall construction activities would be less than the Project, but would likely still result in a cumulatively considerable net increase of NO_x, resulting in an exceedance of the applicable BAAQMD threshold.</p> <p>(Less than Significant with Mitigation)</p>
<p>Impact 3.3-3: The Project could expose sensitive receptors to substantial pollutant concentrations.</p>	<p>The Proposed Project would expose sensitive receptors to substantial pollutant concentration during construction, resulting in an incremental cancer risk of 12.9 in 1 million, which is above the BAAQMD threshold of 10 in 1 million.</p> <p>(Less than Significant with Mitigation)</p>	<p>No Impact</p> <p>There would be no earth-moving activities or other construction activities that would expose sensitive receptors to substantial pollutant concentrations above the BAAQMD threshold of 10 in 1 million.</p>	<p>Reduced</p> <p>Overall construction activities would be less than the Project, but would likely still expose sensitive receptors to substantial pollutant concentrations during construction, resulting in an incremental cancer risk above the BAAQMD threshold of 10 in 1 million.</p> <p>(Less than Significant with Mitigation)</p>	<p>Reduced</p> <p>Overall construction activities would be less than the Project, but would likely still expose sensitive receptors to substantial pollutant concentrations during construction, resulting in an incremental cancer risk above the BAAQMD threshold of 10 in 1 million.</p> <p>(Less than Significant with Mitigation)</p>
<p>Impact 3.4-1: Construction or operation of the Project could have a substantial effect on special-status birds, common nesting migratory birds, or raptors in the study area.</p> <p>(Less than Significant with Mitigation)</p>	<p>Project construction activities could be disruptive to special-status birds (such as California black rail, Ridgway's rail, northern harrier, salt marsh common yellowthroat, San Pablo song sparrow) and nesting birds protected by the Migratory Bird Treaty Act.</p> <p>(Less than Significant with Mitigation)</p>	<p>No Impact</p> <p>There would be no earth-moving activities or other construction activities that would be disruptive to special-status birds, nesting migratory birds, and raptors.</p>	<p>Decreased</p> <p>Overall construction activities would be less than the Project, but would likely still be disruptive to special-status birds and nesting birds protected by the Migratory Bird Treaty Act.</p> <p>(Less than Significant with Mitigation)</p>	<p>Decreased</p> <p>Overall construction activities would be less than the Project, but would likely still be disruptive to special-status birds and nesting birds protected by the Migratory Bird Treaty Act.</p> <p>(Less than Significant with Mitigation)</p>

**TABLE 5-2 (CONT.)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES**

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Project – Reduce Tiscornia Marsh Restoration	Alternative 3: Eliminate Diked Marsh Restoration
Impact 3.4-2: The Project could have substantial adverse effects on salt marsh harvest mouse and salt marsh wandering shrew.	Project construction could result in impacts on salt marsh harvest mouse and salt mouse wandering shrew. (Less than Significant with Mitigation)	No Impact There would be no earth-moving activities, removal of trees, or other construction activities that would be disruptive to salt marsh harvest mouse and salt mouse wandering shrew.	Decreased Overall construction activities would be less than the Project, but would likely still be disruptive to salt marsh harvest mouse and salt mouse wandering shrew. (Less than Significant with Mitigation)	Decreased Overall construction activities would be less than the Project, but would likely still be disruptive to salt marsh harvest mouse and salt mouse wandering shrew. (Less than Significant with Mitigation)
Impact 3.4-3: Construction or operation of the Project could have a substantial effect on special-status plants.	Project construction could result in impacts on special-status plant species. (Less than Significant with Mitigation)	No Impact There would be no earth-moving activities or other construction activities that would result in a substantial effect on special-status plant species.	Decreased Overall construction activities would be less than the Project, but would likely still be disruptive to special-status plant species. (Less than Significant with Mitigation)	Decreased Overall construction activities would be less than the Project, but would likely still be disruptive to special-status plant species. (Less than Significant with Mitigation)
Impact 3.4-4: The Proposed Project could have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the CDFW, USFWS, or NOAA.	Project construction activities and in-channel maintenance activities could have adverse impacts on protected fish or marine mammal species. (Less than Significant with Mitigation)	No Impact There would be no earth-moving activities or other construction activities that would result in a substantial effect on protected fish or marine mammal species.	Decreased Overall construction activities would be less than the Project, but would likely still be disruptive to protected fish or marine mammal species. (Less than Significant with Mitigation)	Same Overall construction activities would be less than the Project, the same amount of in-water work would occur as the Project. Alternative 3 would be similarly disruptive to protected fish or marine mammal species as the Project. (Less than Significant with Mitigation)
Impact 3.4-6: The Project could interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	While the occurrence of special-status marine species and an impact on marine movement corridors is unlikely, mitigation would be implemented to ensure that construction-related impacts on marine movement corridors and established native wildlife nursery sites would be reduced. (Less than Significant with Mitigation)	No Impact There would be no earth-moving activities or other construction activities that would substantially affect marine movement corridors.	Decreased Overall construction activities would be less than the Project, but would likely still be disruptive to marine movement corridors. (Less than Significant with Mitigation)	Decreased Overall construction activities would be less than the Project, but would likely still be disruptive to marine movement corridors. (Less than Significant with Mitigation)

**TABLE 5-2 (CONT.)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES**

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Project – Reduce Tiscornia Marsh Restoration	Alternative 3: Eliminate Diked Marsh Restoration
Impact 3.4-7: The Project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance and could conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Project construction could require tree removal or tree pruning activities, which could conflict with the City of San Rafael tree ordinance. (Less than Significant with Mitigation)	No Impact There would be no construction-related disruption of trees and thus no conflict with local policies related to tree removal or disturbance.	Decreased Overall construction activities would be less than the Project, but would likely still require tree removal and pruning, which could conflict with the City of San Rafael tree ordinance. (Less than Significant with Mitigation)	Decreased Overall construction activities would be less than the Project, but would likely still require tree removal and pruning, which could conflict with the City of San Rafael tree ordinance. (Less than Significant with Mitigation)
Cultural Resources Impact b: The Project could cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?	While no known or recorded cultural resources are present in or near the Project site, Project construction could disturb previously unknown archaeological resources or human remains, if present. (Less than Significant with Mitigation)	No Impact There would be no earth-moving activities or other construction activities that would result in a substantial effect on archaeological resources or human remains, if present.	Decreased Overall construction activities would be less than the Project, but could disturb previously unknown archaeological resources or human remains, if present. (Less than Significant with Mitigation)	Decreased Overall construction activities would be less than the Project, but could disturb previously unknown archaeological resources or human remains, if present. (Less than Significant with Mitigation)
Cultural Resources Impact c: The Project could disturb human remains, including those interred outside of formal cemeteries.	Same as above.	Same as above.	Same as above.	Same as above.
Transportation Impact c: The Project could substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Project construction activities could generate pedestrian and bicycle activity in the vicinity of the Project site; the introduction of trucks turning into/out of the construction staging area may result in unsafe conditions for pedestrians using the sidewalk and bicyclists traveling in the roadway. Therefore, construction of the Proposed Project could conflict with adopted policies, plans, or programs related to bicycle and pedestrian facilities, or affect the safety of such services/facilities. (Less than Significant with Mitigation)	No Impact There would be no earth-moving activities or other construction activities that would result in unsafe conditions for pedestrians using the sidewalk or bicyclists traveling in the roadway.	Decreased Overall construction activities would be less than the Project, but could result in unsafe conditions for pedestrians using the sidewalk or bicyclists traveling in the roadway. (Less than Significant with Mitigation)	Decreased Overall construction activities would be less than the Project, but could result in unsafe conditions for pedestrians using the sidewalk or bicyclists traveling in the roadway. (Less than Significant with Mitigation)

**TABLE 5-2 (CONT.)
COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE CEQA ALTERNATIVES**

Impact	Proposed Project	Alternative 1: No Project	Alternative 2: Reduced Project – Reduce Tiscornia Marsh Restoration	Alternative 3: Eliminate Diked Marsh Restoration
<p>Tribal Cultural Resources Impact a.i: The Project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)</p>	<p>While the City did not identify any tribal cultural resources listed or eligible for listing in the California Register, or determine any resources to be significant pursuant to criteria set forth in Subdivision (c) of PRC Section 5024.1, should any cultural materials be identified during Project implementation that are determined to be tribal cultural resources, they could be affected by construction activities.</p> <p>(Less than Significant with Mitigation)</p>	<p>No Impact</p> <p>There would be no earth-moving activities or other construction activities that would result in a substantial effect on tribal cultural resources, if present.</p>	<p>Decreased</p> <p>Overall construction activities would be less than the Project, but could disturb previously unknown tribal cultural resources, if present.</p> <p>(Less than Significant with Mitigation)</p>	<p>Decreased</p> <p>Overall construction activities would be less than the Project, but could disturb previously unknown tribal cultural resources, if present.</p> <p>(Less than Significant with Mitigation)</p>
<p>Tribal Cultural Resources Impact a.ii: The Project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in Subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<p>Same as above.</p>	<p>Same as above.</p>	<p>Same as above.</p>	<p>Same as above.</p>

Alternative 1: No Project Alternative

CEQA Guidelines (Section 15126.6(e)) require that EIRs include an evaluation of the No Project Alternative to provide decision-makers the information necessary to compare the relative impacts of approving the Proposed Project and not approving the Proposed Project. The No Project Alternative is defined as a continuation of existing conditions, as well as conditions that are reasonably expected to occur in the event that the Proposed Project is not implemented.

Description of the No Project Alternative

In the event that the City does not approve the Proposed Project, the restoration of Tiscornia Marsh and the City-owned diked marsh would not occur. The eroded area outboard of the existing Tiscornia Marsh would not be reconstructed, and the diked marsh would not be reconnected to tidal activity. The new levee north of the soccer field would not be constructed, and the levees to the west and south of Tiscornia Marsh would not be raised and/or widened. In addition, the coarse beach feature would not be constructed to prevent additional erosion of the marsh. The levee trails would not be resurfaced with asphalt.

Ability to Meet Project Objectives

The No Project Alternative would not meet the Project objectives, which are to: restore tidal marsh on the Project site to improve ecological function and habitat quantity, quality, and connectivity (including upland transition zones) for native marsh species and marsh-upland transition species, including special status species; protect Project site marsh lands from future marsh edge erosion; increase the level of flood protection for the Canal neighborhood and other nearby communities of central San Rafael; create sustainable benefits that consider future environmental changes such as sea level rise and sedimentation; and maintain and improve public access to passive recreational and outdoor education opportunities (e.g., hiking, jogging, bird watching). Further, Tiscornia Marsh would continue to erode, and the low-lying Canal neighborhood adjacent to Tiscornia Marsh would be further at risk to coastal flooding. Under the No Project Alternative, the existing levee trail would be retained, and passive recreation would continue; however, the trail surface would not be replaced and outdoor education opportunities would not be improved.

Environmental Impacts of the No Project Alternative Compared to those of the Project

As summarized in Table 5-2, the No Project Alternative would not result in the direct construction impacts of the Project. However, as noted, Tiscornia Marsh would continue to erode and the low-lying Canal neighborhood adjacent to Tiscornia Marsh would be further at risk to coastal flooding.

Alternative 2: Reduced Project – Reduce Tiscornia Marsh Restoration

Description of Alternative 2

Alternative 2 would include the same Project elements as the Proposed Project; however, the south side of the marsh would be reduced; therefore, reducing the total fill required and the

overall amount of construction activities. Specifically, the portion of restored tidal marsh and constructed coarse beach would not be extended to the location of the tidal channel.

Ability to Meet Project Objectives

Alternative 2 would meet the objectives related to enhanced flood protection of the adjacent areas, because new/raised levees would be created and would protect the adjacent areas. The alternative would meet the objective of maintaining and improving public access, as it would include new trail surfacing along the levees, and other passive recreation components (same as under the Proposed Project).

However, the amount of tidal marsh restoration would be reduced as compared to the Project, and without the extension of the marsh to the south to the tidal channel, a portion of the site would be subject to ongoing marsh erosion and would be vulnerable to the ongoing effects of sea level rise. Further, without the protection of the coarse beach at the southern portion of the Project site, ongoing erosion would extend from the southern portion of the site northward, and it is expected that the overall Project efficacy and timeline would be reduced compared to the Project.

Environmental Impacts of Alternative 2

Because the overall construction activities would be reduced, all significant impacts of the Project would be reduced. However, because all construction activities would be required, other than at the southern edge of the marsh, no area of sensitive habitat would be avoided, air emissions would occur in the vicinity of sensitive receptors, potential for conflicts between construction vehicles and pedestrians/bicyclists still would occur, and the potential to unearth cultural and tribal cultural resources would occur. While the overall impact potential would occur, impacts would remain less than significant with mitigation.

Alternative 3: Reduced Project – Eliminate Diked Marsh Restoration

Description of Alternative 3

Alternative 3 would include most of the same Project elements on the eastern side of the site as the Proposed Project and would include the restoration of Tiscornia Marsh, construction of the coarse beach, raised southern and eastern levee, and constructed southern ecotone. However, the diked marsh would not be converted to tidal marsh; the new levee between the diked marsh and Pickleweed Park would not be constructed, and the new tidal channels at the north end of the site would not be constructed. Alternative 3 would require the least amount of construction, other than the No Project Alternative.

Ability to Meet Project Objectives

Alternative 3 would meet the objective related to maintaining and improving public access, as it would include new trail surfacing along the improved levees, and other passive recreation components (same as under the Proposed Project). However, the amount of tidal marsh restoration would be substantially reduced as compared to the Project, because the diked marsh

would not be converted to tidal marsh. Further, without restoration, the diked marsh would continue to be isolated from bay sediments, which would help marshes accrete (or build up) to keep pace with sea level rise. Without the new levee and ecotone, and restoring tidal action to the diked marsh, the western portion of the site would be more vulnerable to extreme tidal flooding and sea level rise compared to the Proposed Project.

Environmental Impacts of Alternative 3

As noted above, Alternative 3 would require the least amount of construction, other than the No Project Alternative. Because the overall construction activities would be reduced, all significant impacts of the Project would be reduced. However, because all construction activities would be required, no area of sensitive habitat would be avoided other than in the diked marsh, air emissions would occur in the vicinity of sensitive receptors, potential for conflicts between construction vehicles and pedestrians/bicyclists still would occur, and the potential to unearth cultural and tribal cultural resources would occur. While the overall impact potential would occur, impacts would remain less than significant with mitigation.

5.3 Comparison of Alternatives

The CEQA Guidelines (Section 15126.6(e)) require the identification of an environmentally superior alternative to the Proposed Project. If it is determined that the “no project” alternative would be the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other project alternatives (Section 15126.6[e][2]). To determine the environmentally superior alternative, the impacts of all the alternatives were compared to determine which alternative would have the least adverse effects.

Alternative 1 would eliminate the short-term construction effects relative to the Proposed Project. However, under Alternative 1, the restoration of Tiscornia Marsh and the City-owned diked marsh would not occur and the existing levees would not be raised and improved; thus, the adjacent areas would continue to be vulnerable to flooding. Alternative 1 would not meet any of the Project objectives.

Alternative 2 would not avoid the significant effects of the Proposed Project; however, the impacts would be lessened with the reduced construction footprint. Alternative 2 would only partially meet Project objectives, by eliminating restoration of the southern portion of the marsh. Thus, Alternative 2 provides a reduced habitat benefit. Further, without improvement of the southern part of the Project, ongoing erosion would extend into the northern portion of the Project site, affecting the efficacy of the Project, and somewhat reducing the expected lifetime of the improved levees from 2070 (under the Proposed Project).

Alternative 3 includes the least amount of construction activity, other than the No Project Alternative. While Alternative 3 would not avoid the significant effects of the Proposed Project, the impacts would be lessened with the reduced construction footprint. Thus, Alternative 3 is the environmentally preferred alternative. However, Alternative 3 would only partially meet Project objectives, by eliminating restoration of the diked marsh to tidal marsh and eliminating the new northern levee and

ecotone. Thus, Alternative 3 provides the least habitat benefit and smallest flood protection benefit, other than the No Project Alternative. Further, without improvement of the diked marsh, the northwestern part of the Project area would be more vulnerable to extreme tidal flooding and sea level rise, and the expected lifetime of the improved levees would be less than 2070 (under the Proposed Project).

5.4 Alternatives Considered but Rejected from Further Analysis

The following three alternatives were considered in the planning process but rejected prior to additional alternatives analysis. As summarized in **Table 5-3**, these alternatives either do not meet the Project objectives or do not reduce construction-related impacts as compared to the Proposed Project.

TABLE 5-3
ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

Potential Alternative Identified	Description	Ability to Meet Project Objectives and Constraints on Implementation
Option 1. Restore diked marsh only	<ul style="list-style-type: none"> Build new levee at north side of soccer field. Excavate a tidal channel in the currently diked marsh to connect to the creek. Breach/degrade the outer perimeter levee around the currently diked marsh to reintroduce tidal action. 	<ul style="list-style-type: none"> Does Not Meet Most Project Objectives: <ul style="list-style-type: none"> Minimize short-term, construction-related impacts to biological resources and air quality due to smaller construction footprint, but would reduce habitat value and would not meet flood protection objectives. Reasons for Rejection: <ul style="list-style-type: none"> Would not meet most project objectives ^a
Option 2. Restore marsh without coarse beach feature	<ul style="list-style-type: none"> Restore diked marsh as described above. Raise and/or widen levees on western and southern sides of Tiscornia Marsh. Place/dry/condition material in eroded marsh area for restoration. Excavate tidal channels in reconstructed marsh to connect to existing tidal channel. 	<ul style="list-style-type: none"> Partially Meets Project Objectives: <ul style="list-style-type: none"> Slightly minimize short-term, construction-related impacts on biological resources and air quality due to smaller construction footprint, and meet flood protection objectives. Would not meet habitat objectives as the restored marsh would rapidly erode as it is under existing conditions. Reasons for Rejection: <ul style="list-style-type: none"> Does not meet key habitat Project objectives.
Option 3. Sheet pile wall instead of coarse beach feature	<ul style="list-style-type: none"> Restore diked marsh and Tiscornia Marsh as described above. Raise and/or widen levees as described above. Install a sheet pile wall outboard of restored marsh area to contain dredged material placed in the marsh for reconstruction. 	<ul style="list-style-type: none"> Partially Meets Project Objectives: <ul style="list-style-type: none"> Increase some construction effects due to use of pile driver or vibratory hammer. Would meet flood protection objectives and habitat objectives, similar to the Proposed Project. Reasons for Rejection: <ul style="list-style-type: none"> Feasibility issues due to geotechnical concerns. Does not reduce construction-related impacts.

NOTES:

- a. This alternative was initially identified as a potential Alternative as part of the Notice of Preparation process but was rejected after further review as it did not meet the project objectives.

5.4.1 Option 1. Restore Diked Marsh Only

Option 1 would restore the City-owned diked marsh using the same methods as described for the Proposed Project in Chapter 2, *Project Description*; however, the rest of the Project components would not occur. Tiscornia Marsh would not be restored/reconstructed, the coarse beach would not be installed to protect the existing marsh from further erosion, and the levees on the west and south side of Tiscornia Marsh would not be raised and/or widened. Option 1 would minimize short-term, construction-related impacts of the Project by reducing the construction footprint, but this option would not meet the flood protection objectives of the Project nor most of the habitat objectives. Option 1 would not increase the quantity of marsh habitat nor include upland transition zones.

5.4.2 Option 2. Restore Marsh without Coarse Beach Feature

Option 2 would restore Tiscornia Marsh and the City-owned diked marsh in the same manner as described in Chapter 2, *Project Description*, except that the coarse beach feature outboard of the existing mudflat would not be constructed. This option would slightly minimize the short-term, construction-related impacts of the Proposed Project by decreasing the construction footprint (i.e., the area where the coarse beach would be constructed would not be disturbed) and would meet the flood and habitat objectives of the Project in the short term. However, this option would have most of the same construction-related impacts without the long-term habitat benefits provided by the Proposed Project, as without the coarse beach the restored marsh would rapidly erode as it is under existing conditions.

5.4.3 Option 3. Sheet Pile Wall Instead of Coarse Beach Feature

Option 3 would replace the coarse beach feature of the Proposed Project with a sheet pile wall, but all other components of the Project would remain the same as described in Chapter 2, *Project Description*. The sheet pile wall would be narrower than the coarse beach feature, but it would not provide high marsh transition habitat as the coarse beach would, it would not reduce construction-related impacts of the Proposed Project, and it would likely face geotechnical concerns causing feasibility issues.